ABSTRACT

ELIZABETH LAW LEO

MOTIVATION AND SELF-CONCEPT IN PRIMARY SCHOOL CHILDREN

This study was concerned with the identification and development of motivational style and self-concept in primary school children in two National Curriculum core subjects: English and Mathematics. An exploration of the relationship between motivational style and self-concept was of central importance. The study comprised two separate but linked parts spanning a period of two school years, thus allowing a longitudinal element. Part One used an essentially quantitative approach to data collection involving the administration of self-description questionnaires to pupils aged 5 to 10 drawn from two large primary schools, as well as the administration of questionnaires to their teachers. Part Two involved a follow-up ethnographic study of two classes identified following analysis of Part One data, thus attempting to establish a richer and more specific picture of children's motivational styles and self-concepts in a naturalistic setting. The study explored the ecological validity of the constructs of motivational style and self-concept, as well as their usefulness to teachers. Critical issues such as the developmental roots of motivational style and self-concept, the age at which motivational style and self-concept become important, pupils' and teachers' conceptions of the role of difficulty in learning and the impact of curriculum and classroom processes on motivational style and self-concept were examined. Children's perceptions and interpretations of the social practices in their classrooms were inextricably linked to the development of adaptive and continued motivation to learn.

MOTIVATION AND SELF-CONCEPT IN PRIMARY SCHOOL CHILDREN

BY

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DECLARATIONS

This is to certify that the work submitted is the result of the candidate's own investigation, apart from where indicated.

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This is to certify that the work has not already been accepted in substance for any degree, and is not being submitted concurrently in candidature for any other degree.

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SUPERVISOR'S NOTE

Elizabeth Leo worked as a research associate on an E.S.R.C. funded project directed by me and Dr. Colin Rogers of Lancaster University: "Learned Helplessness and Self-Worth Motivation in Children with Special Needs". Her employment started after completion of data collection and lasted for a period of six months in 1993. Subsequently she has assisted on an occasional basis with further analysis of this data-set, funded by the Research Committee of the University of Durham. While the subject of her Ph.D. thesis builds on the theoretical background to the E.S.R.C. project, there is no substantive overlap. In the case of jointly authored articles in which she is the first author, my contribution was limited to advice and minor additions to the text.

Professor David Galloway

STATEMENT OF COPYRIGHT

DEDICATION

To my dearest parents, who taught me to believe in the emancipatory power of education.

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To Professor David Galloway, a supervisor for all seasons.

To Betty Fairley for her kindness, support and unfailing attention to detail during my years at the School of Education.

To the children in this study for they, and others like them, are our future.

To the teachers in this study for their invaluable contribution to my research.

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'I am not the cold-blooded instrument of an error-free objective knowledge-machine that mirrors social reality; but, an historical social analytic composer, and what follows is neither Truth nor Fiction, but a composition.'

(Wexler, 1992, p.2)

PART ONE

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

Greek legends told of sirens whose enchanting music lured passing ships off course and finally, to destruction. Those who heard their singing forgot their business and where they were going, and did not even interrupt their listening to eat and drink, so that in the end they died of want of sustenance. In education, the current political and educational discourse on motivation is as powerful and seductive as the sweet singing of the sirens, but it is also as deceptive.

Far from being helped to develop a better theoretical and practical understanding of the concept of motivation, teachers could be forgiven for thinking that their own intuitive knowledge of motivation is as valid as, and not much different from, that of their academic counterparts. For example, in his presidential address to the North of England Conference, Sir Christopher Ball (1995) cites his own experience as the basis for his new found belief that motivation is the *sine qua non* of successful learning. He reports that 'there are only three things of importance to successful learning: motivation, motivation and motivation' since, 'any fool can teach students who want to learn' (p.5). Sir Christopher Ball's conversion to the significance of motivation in education is exemplified in his regret that:

> I often wish that we had spent as much time and energy and thought on the issue of motivation, as we have on the question of ability...The truth is we all demonstrate that we are brilliant learners before the age of five - because we want to learn to talk and understand. Whatever goes wrong later has much more to do with motivation than ability. For many people the key to faster learning turns out to lie in the strengthening of motivation. (p.6)

It is fair to say that measured ability has been shown to be independent of achievement motivation (Stipek and Hoffman, 1980; Phillips, 1984); however, self-perceptions of ability are likely to be inextricably linked to children's motivation (Dweck and Leggett, 1988). In this respect, a discourse on motivation needs to elucidate the notion of self-concept. Ball demonstrates unwittingly in his commentary a widespread misconception of motivation as a unitary construct. Depicting motivated children simply as those who 'want' to learn belies questions of the ways in which such children *come to* want learn in the first place and, more pertinently, *why* some children want to learn one thing, but not another; in other words, children's underlying reasons for learning are of critical importance in developing an understanding of cognitive-motivational processes (Galloway and Edwards, 1991).

The joy of learning observed in young children does not escape Ball (1995), nor does it escape several prominent motivational theorists (Stipek and Tannatt, 1984; Deci and Ryan, 1985; Nicholls, 1989; Gottfried, 1990). Nicholls (1989) goes as far as to assert that:

> equality of optimum motivation for intellectual development, substantial accomplishment, satisfaction in work, and more

> productive relationships with our fellows will all be more likely if we become more like little children. (p.7)

Observations of young children at work and play point to a face validity in the notion of a 'golden early age' of motivation when learning appears to be enjoyable and compelling. However, surprisingly little is known about cognitive-motivational processes during the critical developmental period of the early primary school years. Gottfried (1990) provides empirical support for the view that children with academic intrinsic motivation in their later years of primary schooling, in other words, those for whom school learning was associated with an inherent pleasure, demonstrated the same motivational orientations up to two years earlier.

According to Ames (1986) 'positive motivation is more than the demonstration of effortful activity or even time spent on task: It is reflected in how students think about themselves, the task, and their performance' (p.236). These cognitions are said to determine their qualitative responses to the various challenges and threats they perceive in situations where success or failure is judged possible (Ames and Ames, 1984; Ames, 1987). Teachers and educational psychologists often make conceptual links between children's motivation and self-concept of ability. A striking example of this phenomena is the way in which teachers use, almost synonymously, the terms 'motivation' and 'self-concept'. In a similar way children perceived by teachers to lack motivation are often presumed to hold low self-perceptions of ability. On a theoretical level, however, a rather enigmatic relationship exists between motivation and self-

concept. School provides young children with a rich source of information and ideas about themselves as learners but the actual processes involved in forming an academic self-concept remain elusive. One reason for this is likely to be the methodological difficulties of working with young children. Nevertheless, if the early years are truly the seed-bed of adaptive motivation and future academic self-concept, then it is vital that motivational theorists pick up the methodological gauntlet of working with young children and their teachers in naturalistic settings. The relationship between motivation and self-concept is in need of elucidation. Much importance is attached to learning in the core curriculum subjects of English and Mathematics in the primary curriculum. Children's performance in these two subjects during the early years commands attention from teachers and parents alike. As a result, the impact of early failure (or success) in English or Mathematics might have lifelong effects on children's self-perceptions of ability and continued motivation to learn.

The notion of 'motivational style' (Galloway *et al.*, 1993) implies a consistency in the pattern of responses to a given achievement context, some classroom contexts promoting different motivational responses to others. Clearly, then, pupils may be motivated to respond differently according to context. It could be thought better to refer to motivational *responses to* a given context: but, consistency of responses *within a context* implicitly justifies the term motivational style. The author's interest lies in *consistent* motivational responses within a given context. Given, also, emerging evidence of higher prevalence rates of maladaptive motivational styles in aspects of English than in

Mathematics (Galloway *et al.*, 1996a), then it seems expedient to consider contextual and process variables and children's differential responses to such variables in a discourse on motivation. Dweck (1991) and others (Cassidy and Lynn, 1991) argue that children's motivational responses stem from both personal and situational factors; children appear to bring to the classroom general motivational orientations which concern the type of goals and self-beliefs they hold, and the resultant ways in which they gain satisfaction from learning. Dweck also identifies children's underlying conceptions of the nature of ability as important. The effect of conceiving of ability as fixed or stable (i.e. an entity concept) or alternatively, as changeable or extendible (i.e. an incremental concept) impacts upon children's goal orientations. In this way children can develop 'performance' or 'learning goals' as a result of their underlying ideas about ability. Nicholls (1989) refers to performance and learning goals as ego involved and task involved respectively. He provides empirical evidence to suggest that adolescents tend more towards an entity concept of ability than younger children, thus undermining the role of effort in their achievement. Put simply: if children think that ability is immutable, then they are less likely to invest a lot of effort in their school work. Those children who accept that the judicious deployment of effort is part and parcel of effective learning are more likely to be task oriented and to enjoy learning for its own sake.

While on one hand, Sir Ron Dearing aims to enhance motivation within the National Curriculum, on the other hand, Professor David Hargreaves (1994) paints a less than optimistic picture of the capacity of teachers to change poor

classroom motivation. He argues that:

> Teachers make poor entertainers of bored and reluctant students. There are severe limits to the capacity of classroom teachers to motivate the substantial minority of young people with little commitment to conventional schooling, who develop a sense of failure and resentment, whose achievement levels are worryingly low and who are destined to be an unemployable and alienated under-class. (p.41)

While such sentiments are likely to strike a chord of dismay in the hearts of many teachers and educationists, there is no question that, from an empirical perspective, motivation is a serious issue in adolescence (Marsh, 1989; Anderman and Maehr, 1994). Declines in attitudes, motivation and achievement are reported during primary-secondary school transfer (Eccles and Midgley, 1989; Rogers *et al.,* 1994). It appears, then, that educational failure does not take its toll until the first year of secondary education. These detrimental effects seem to be more a function of contextual changes from primary to secondary school than puberty (e.g. structural differences between primary and secondary schools). As already stated, conceptions of the nature of ability and competence are cited in theoretical interpretations of this phenomenon (Covington, 1984; Dweck and Leggett, 1988; Nicholls, 1989). For example, as a result of different curriculum and assessment policies and practices in secondary schools, children are more likely to define their worth more in terms of relative performance than individual progress.

These findings raise several interesting questions regarding the possible

effects on motivation of the recent structural changes in the primary curriculum. The introduction of a National Curriculum and associated testing and assessment has necessitated organizational changes in the primary curriculum (e.g. subject focus with specified levels of attainment and subject coordinators). An explicit aim of the National Curriculum is to enhance school achievement. However, the National Curriculum and resultant social and pedagogic practices in classrooms could serve to foster debilitating cognitions among primary children about their abilities if, in practice, ability comparisons among primary pupils become more salient. It is unreasonable to expect teachers to develop effective motivation in their pupils if the strategies they are encouraged to use in attempting to do so turn out to be counterproductive. In his recent inaugural lecture, Professor Peter Mortimore (1995) encapsulates much of the empirical evidence from studies of effective schools about the likely potency of primary education. He states that 'it is (in) the primary sector that schools can make the most difference' (p.21). He advises also that 'we need to attend much more to the key skills of reading and mathematics' (p.22).

In the past experimental paradigms have tended to dominate the corpus of research on motivation and self-concept in education. More recently a number of school-based studies, whilst offering greater ecological validity, have tapped global rather than domain-specific aspects of an individual's perceptions of ability even though these have been shown to be of limited theoretical and practical value (Marsh, 1990); the phenomenology of the constructs of motivation and self-concept have been neglected. In focusing on domain-specific

self-concept, it might be possible to understand better young children's developing achievement motivation. Evidence of a positive English self-concept and a contrasting poor Mathematics self-concept could help to explain a child's differential performance in these subjects. It could also help to prompt key questions about teaching and learning processes across the primary curriculum. So, too, have researchers focused their attention on secondary school and undergraduate populations at the expense of younger subjects. Motivational and self-concept researchers now need to realign themselves with an evolving subject-based primary curriculum in the United Kingdom (UK).

Teachers' evaluations of their pupils' successes and failures at school invariably impute motivation. However, little is known about teachers' understanding of motivational processes in their own classrooms. Any consideration of how best to support teachers to foster adaptive and continued motivation in their pupils, needs first to tap their conceptualizations of motivation in a classroom context, thereby starting with the ways in which teachers operate. Teachers' conceptions of what constitutes educational success and failure are also important. Motivational researchers have tended to treat uncritically the concepts of success and failure, particularly in relation to children (Armstrong, 1994) and school leavers (Nicholls, 1989). However, a highly centralized, assessment-based National Curriculum is likely to lessen differential conceptions among teachers of pupils' successes and failures since, in relation to attainment, these are now defined by nationally set standards.

The roots of effective and continued motivation as well as adaptive behaviour are likely not only to begin early, but also to be more malleable during this time. The contention underpinning this study is that: developmental changes in children's motivation and self-concept of ability cannot simply be understood in terms of cognitive changes; cognitive development is likely to facilitate children's evaluations of ability which in turn, become dependent upon the achievement context (Dweck, 1986; Stipek and Mac Iver, 1989). An investigation of the developmental roots of motivation and its relationship to self-concept, the age at which these factors become important, the impact of curriculum, social and pedagogic processes upon children's motivation and self-concept and the role of primary schools and teachers in developing adaptive and continued motivation in their pupils, is likely to be of considerable theoretical and practical value. Primary children, then, and their motivation and self-concept represent an important field for empirical research. In this way, improving standards of school achievement through enhanced motivation to learn could become a more achievable educational outcome than simply the empty rhetoric of educational and political sirens.

1.2 THE RESEARCH QUESTIONS

Different motivational theorists conceptualize motivation in different ways. For example, traditional perspectives on motivation have focused upon general personality traits and dispositions, arousal levels and time on task (Atkinson and Raynor, 1974, 1978). In contrast, more recent developments in

the study of motivation define a range of cognitive-based processes such as children's attributions for their successes and failures, perceptions of control over their own learning processes, metacognition, perceptions of ability and beliefs about the utility of effort (Weiner, 1979, 1992; Nicholls, 1989; Dweck, 1991). Children's self-perceptions of ability are central in cognitive theories of achievement motivation (Bandura, 1982; Weiner, 1986; 1992). On a theoretical level, these developments signal a move away from quantitative towards qualitative conceptions of motivation. At an empirical level, however, recent work indicates that the different research procedures and instruments, generated by different theorists, tap different motivational constructs (Leo and Galloway, 1996b).

This research is concerned with the identification and development of motivational style and self-concept in primary school children in two National Curriculum core subjects: English and Mathematics. An exploration of the relationship between motivational style and self-concept is of central importance to the study. The study seeks to address the following research questions:

In primary school children:

1. Is domain-specific self-concept a valid and educationally useful construct?

2. Are the theoretically-driven motivational styles of ego- and task

involvement, work avoidance, mastery orientation, learned helplessness and self-worth motivation valid and educationally useful constructs?

3. In what ways can validity in 1 and 2 above be demonstrated?

4. In relation to school, how early do self-concept and motivational style emerge?

5. How early does self-concept become differentiated? Is it possible to demonstrate a relationship between the ability of young children to differentiate between facets of self-concept and the organization and teaching of the curriculum (e.g. teaching subjects separately)?

6. In what ways do self-concept and motivational style develop, and how stable are they:

   across the subject domains of English and Mathematics?

   within the subject domains of English and Mathematics?

7. Is there a relationship between self-concept and motivational style? If, so, what is the nature of this relationship? In what ways can this be demonstrated?

8. How do social practices in the management of classroom tasks influence the development and stability of self-concept and motivational style

across the primary school years?

1.3 THE RESEARCH AIMS

The study has five aims. These are to:

1. contribute to knowledge and understanding by evaluating the usefulness to teachers of the constructs of self-concept and motivational style in primary school children;

2. contribute to knowledge and understanding of the relationship between self-concept and motivational style;

3. develop research procedures for identifying and studying motivational style in pupils aged 5 to 10;

4. provide evidence on the emergence and development of self-concept and motivational style in primary school children and the situational and process variables across the primary school years which might influence these variables;

5. collect a body of information/data on the prevalence of different motivational styles - ego- and task involved, work avoidance, mastery orientation, learned helplessness and self-worth motivation - in three

samples of pupils and to show whether these motivational styles are affected by aspects of the learning environment.

1.4 METHODS OF INQUIRY

Following a pilot study to test specific instruments and procedures, the main study was divided into two parts, Part One and Part Two, spanned a period of two school years, thus allowing a longitudinal element to the study of emergence, development and prevalence of self-concept and motivational style. Part One used an essentially quantitative approach to data collection involving the administration of self-description questionnaires to pupils aged 5 to 10 drawn from two large primary schools, as well as the administration of questionnaires to their teachers. Part Two involved a follow-up intensive study of two classes using classroom observations and interviews with teachers and pupils, thus attempting to establish a richer and more specific picture of a child's self-concept and motivational style in a naturalistic setting.

1.5 STRUCTURE OF THESIS

The thesis is divided into five main parts each containing a set of chapters. Part one sets out the background and rationale to the study including the research questions and aims. Part two reviews the psychological literature on motivation and self-concept in education. It examines critically developments in both motivational and self-concept theory and identifies the different

conceptualizations of motivation among researchers, as well as the variance in research instruments and procedures. Part two also discusses the conceptual links between self-concept and motivational style and their implications for children's learning, behaviour and subsequent achievement. Part three provides a rationale for the methodology underpinning the study as well as a detailed explanation of the methods of inquiry and procedures used. The results of the study are presented in part four and discussed in part five. The concluding chapter provides an overview and considers the implications of the study for teachers as well as for future research in the field.

PART ONE

CHAPTER TWO

BACKGROUND TO THE STUDY

2.1 INTRODUCTION

This chapter summarizes the findings from a research project carried out between the 1st January, 1991 and 30th September, 1993 by a team of researchers from the Department of Educational Research, University of Lancaster and the School of Education, University of Durham. The project entitled Learned Helplessness and Self-Worth Motivation in Pupils with Special Educational Needs was supported by Economic and Social Research Council (ESRC) Award No: R000232296.

The author joined the ESRC project team as a part-time research assistant at the beginning of the data analysis and evaluation phase. At this time, her own doctoral study was in its embryonic phase. The ESRC funded-research project was one of relatively few systematic studies of the relationship between motivational style and special educational needs, and probably the first substantive study to investigate differential motivation in English and Mathematics across the ability range in different age groups. Given, also, that it was the immediate forerunner of, and therefore of special relevance to, the research undertaken for this doctoral thesis, then the project warrants a separate summary chapter.

From now on the ESRC funded-research project is referred to as the 'ESRC research' or alternatively, as the 'ESRC project'.

2.2 THE ESRC PROJECT

Overview

The ESRC research was concerned with the identification, development and prevalence in a school population of three different motivational styles: learned helplessness, self-worth motivation and mastery orientation in two National Curriculum core subjects: English and Mathematics. These three motivational styles are concerned with the ways in which children respond in the face of difficult and challenging tasks. Mastery orientation may be considered adaptive for a child's future learning. In contrast, learned helplessness and self-worth motivation may be considered maladaptive. A central concern of the inquiry was pupils aged 11-16 in the ordinary school identified as having special educational needs. The study compared the prevalence of each of the three motivational styles in English and in Mathematics in children of different abilities. It examined also the impact of a range of biographical, cognitive and contextual variables upon children's motivational styles (e.g. primary-secondary school transfer). For a fuller description of the project and its findings see Galloway *et al.*, (1993, 1995, 1996a, 1996b). Chapter three provides a full discussion of the concept of motivational style.

2.3 KEY FINDINGS

The key findings from the ESRC project can be summarized as follows:

1. Learned helplessness and self-worth motivation were more prevalent in English and in Mathematics among children identified as having special educational needs. Girls with special educational needs were more likely to experience learned helplessness in Mathematics than boys with special educational needs.

2. Mastery orientation was more prevalent in Mathematics than in English irrespective of age, gender, ethic origin, cognitive ability or educational attainment. At the same time, primary-secondary transfer, year group within a secondary school, gender and ethnic origin all appeared to have an impact on motivational style.

In addition, the project added to a body of research on motivation through the accumulation of an extensive data-set that delineates motivational style in two National Curriculum core subjects and the collection of comparative data using questionnaires derived from other approaches to the study of motivation. A final point to note is that Craske's (1988) technique was applied successfully in the identification of three motivational styles in a large sample of pupils in mainstream schools.

2.4 RELEVANCE TO DOCTORAL STUDY

2.4.1 The Development of Motivational Style

An important theoretical question concerns the age at which motivational style develops. The youngest pupils in the ESRC research were in their final year of primary schooling (Year 6) and aged 10-11. Within the total sample in this age group 19.4% were learned helpless, 26.2% were self-worth motivated and 54.5% were mastery oriented in English. In contrast, 14.3% were learned helpless, 14.8% were self-worth motivated and 70.9% were mastery oriented in Mathematics. The findings suggested that at least 45.6% in English and 29.1% in Mathematics of children in Year 6 have either acquired, or started school with, a maladaptive motivational response to educationally challenging tasks.

To date, the question of the age at which motivational style emerges and becomes important is assumed to be around the age of 11 and to coincide with the age at which children transfer from primary to secondary school (Nicholls, 1984a, 1984b; Anderman and Mãehr, 1994). Given that the ESRC project provided empirical evidence that different motivational styles were already established in year 6 of the primary school, then this finding raised the question of how early motivational style emerged prior to year 6. Given, also, evidence of a subject-specific component operating in motivational style, then it seemed reasonable to conclude that children's motivational style might reflect more upon curriculum and pedagogy than simply upon age. Classroom studies of the

development of young children's motivation to learn in designated curriculum areas are rare. Both of these questions were addressed in the doctoral study.

2.4.2 Primary-Secondary Transfer

Transfer from primary to secondary school is an inescapable phenomenon for most children. The findings from the ESRC project indicated a decline, although not for all children, in motivation during primary-secondary transfer. Following transfer, the data showed an increase in the prevalence of learned helplessness and self-worth motivation and a corresponding decrease in mastery orientation. Declines in motivation during primary-secondary school transfer have been associated more with contextual and environmental variables than with puberty (Eccles and Midgley, 1989). The current emphasis in the UK on subject or domain-specific knowledge in the primary curricula and the introduction of national testing and assessment could serve to change the traditional structural and pedagogical differences between primary and secondary schooling. In this way, primary schools are likely to become more structurally akin to secondary schools. The empirical evidence provided in the ESRC project of a higher prevalence of maladaptive motivational styles among secondary than primary pupils suggests that the nature of these changes could fly in the face of the very aims they seek to fulfil. In other words, instead of such changes improving educational achievement, they could depress it further if children feel their self-worth is under threat from unfavourable ability comparisons with their peers.

The advocacy of a traditional subject perspective in the primary curriculum raises important theoretical questions concerning the impact of subject teaching on children's motivational style. The doctoral study addressed the question of how classroom management practices influence the development and stability of motivational style.

2.4.3 Limitations of Craske's (1988) technique

The results suggested that the maladaptive motivational styles of learned helplessness, and to a lesser extent self-worth motivation, were significantly more prevalent in English Comprehension than in Mathematics irrespective of age, gender, ethnic group and non verbal reasoning ability. Correspondingly, mastery orientation appeared to be significantly more prevalent in Mathematics than in English Comprehension. Craske's (1988) technique was interesting inasmuch as it enabled assessments to be made concerning motivational style on the basis of observations of pupil performance on a test; in this respect it was an inferential measure of a singular event (i.e. a behavioural as opposed to a cognitive measure of motivation).

Neither the English Comprehension nor the Mathematics tests investigated all aspects of the subject. The English tests were confined to comprehension questions based on a passage of text. The Mathematics tests contained items based on the schemes in current use in the Local Education Authority, but did not include children's abilities in investigative Mathematics

tasks. In both cases each of the four tests were limited to fifteen minutes. It would be misleading to use the results as evidence that maladaptive motivational styles were more prevalent in pupils' responses to the English curriculum taken as a whole. The evidence does not support such an assumption. Nevertheless, the consistency of the results does raise important questions about pupils' responses to each subject, the nature of the tasks set and about teaching strategies associated with each subject. On a practical level, the technique is time-consuming and likely to be rejected by busy classroom teachers as impracticable for use on a regular basis. On a theoretical basis, the distinction between learned helplessness and self-worth motivation is problematic. For example, pupils for whom educational success is unimportant but nevertheless, who employ strategies to avoid work, are not classified by Covington (1984) as self-worth motivated. A serious limitation of Craske's technique (1988) is that it does not tap pupil perceptions, nor does it illuminate classroom processes.

Other motivational instruments used in the ESRC research indicate low correlations between three different measures of motivation. In spite of common conceptual ground none of the correlations between the three measures reached statistical significance (Leo and Galloway, 1996b). It appears that each measure was tapping different aspects of motivation. In effect, the ESRC research yielded no *consistent* understanding about the nature and relevance of the construct. For these reasons, the ESRC research highlighted a need for researchers to develop approaches to the study of motivation which focus upon contextual and process variables (e.g. children's responses to subject tasks

perceived as difficult and the resultant pedagogic strategies employed by teachers to help them overcome such difficulties). This doctoral study investigated children's motivation in the classroom using observational and interview techniques.

To conclude, the ESRC project provided a strong empirical rationale to underpin the research undertaken herein. This doctoral study aimed to build on, and to contribute further to, a theoretical understanding of motivational style by investigating the phenomenology of the construct of motivation and its development during the primary school years.

PART TWO

CHAPTER THREE

RESEARCH ON MOTIVATION IN EDUCATION

3.1 INTRODUCTION

This chapter combines a review of an extensive corpus of psychological research on motivation in education with a critical appraisal of its implications for teachers and pupils. The author tracks shifts in motivational theory away from quantitative towards qualitative conceptions of motivation, and considers conceptual links between different contemporary motivational theorists. Attention focuses also on a range of fundamental methodological weaknesses and inconsistencies in motivational research. In evaluating research in motivation, the author concludes that motivational research may be generating as much heat as light.

3.2 CONCEPTUALIZING AND STUDYING MOTIVATION

Whilst it would be unfair to describe the current state of motivational theory as hopelessly chaotic, and particularly the most recent developments in social-cognitive theories, major structural changes in the education system (DES, 1988) make it timely to review its practical relevance to teachers generally, and primary school teachers particularly. This section reviews the different ways of conceptualizing and studying motivation and their practical

relevance to schools and teachers.

3.2.1 Personality

The work of Atkinson (Atkinson and Raynor 1974, 1978) offers a theoretical model of motivation rooted in individual personality differences, in other words, one that reflects stable, deep-rooted personality traits. Atkinson's work highlights the complexities of an individual's personality. It also highlights the degree to which an individual is motivated by a desire to achieve or a concern to avoid failure in a situation where success or failure are thought possible. The theoretical significance of Atkinson's work lies in its capacity to offer a qualitative account of motivation; Atkinson suggests that different personalities motivate individuals in different ways. However, in Atkinson's model motivational styles that reflect, for example, anxiety, helplessness and even persistence in the face of difficulties are deemed to reflect underlying personality traits. An obvious implication of this trait view of motivation is that home background and early life experiences are more likely to determine a child's motivation than school or teacher influences. In addition, children would be expected to show similar motivational orientations across a range of settings, both in and outwith school. A corollary of this way of conceptualizing motivation is likely to be that a child's motivation is less malleable or susceptible to outside influences (e.g. classroom interventions). The prognosis is poor, therefore, for children perceived as deficient in motivation.

Additional casualties of this model are likely to be teachers themselves, since it implies poor teacher efficacy. Although motivational theory has recently been recast, little is known about the ways in which teachers conceptualize motivation, past or present. Primary teachers appear to be able to distinguish qualitatively between different types of motivation; however, the extent to which teachers incorporate these conceptualizations into their teaching remains a matter for speculation (Leo and Galloway, 1994). The possible impact of teachers' conceptualizations of pupil motivation on classroom processes is discussed in section 3.6 and later in chapter ten.

3.2.2 Behaviourism

Promoting learning and motivation through reinforcement and reward stems from behaviourist notions of motivation. Behaviourists' views of motivation are the antithesis of trait and cognitive theories of motivation; they do not recognize differences in individuals. The central tenet of behaviourism is that all motivation arises from basic drives, instincts or emotions in ways that are predictable and irresistible. Predicting and controlling behaviour is a matter of relating it to environmental antecedents. Therefore, teachers can plan what they wish children to learn and condition their learning accordingly; the question of whether children see the point in learning is irrelevant. Through reinforcement children can be taught appropriate behaviours and responses. From a behaviourist perspective, the amount of time children appear to be 'on task' is a measure of their level of motivation. There is an extensive critical

literature on the relationship between 'time on task' and pupil achievement (Dweck and Reppucci, 1973; Weiner, 1979, 1992). An important implication here for teachers is that motivation is essentially an observable and quantifiable variable. Through appropriate reinforcement teachers can increase children's motivation. Praise for children's work is almost an educational proverb. Classroom interventions based on a creed of dispensing praise and focusing on increasing 'on task' behaviour are readily accessible to teachers and presuppose teacher efficacy (Wheldall and Merrett, 1985). Interventions stemming from a behaviourist perspective are popular with teachers and are often reported to be effective (Wheldall and Merrett, 1984). Training in these approaches can help teachers to reflect on, and change positively, their own behaviour which, in turn, can precipitate changes in children's behaviour. Some teachers and researchers point to the ethical dilemmas of ignoring the perspective of the child and, in this sense, to aiding and abetting in attempts to control and manipulate children to conform to the values and expectations of the school. Cognitive-motivational theorists need not claim the moral high ground in this respect for reasons which are discussed later in this chapter. Children's meta-perceptions of their peers' and teachers' assessments have no bearing within a behaviourist paradigm.

Behaviourists' interventions to promote learning and motivation have been the subject of concern focused on their widespread use of rewards (Cameron and Pierce, 1994). Deci (1975) highlights the potentially detrimental effects of external rewards and reinforcement upon children's interest in

learning and continued (intrinsic) motivation to engage in classroom tasks. There is also evidence to suggest that competition for rewards promotes a surface approach to learning where children attempt to maximize their rewards at the expense of time and effort invested in learning (Condry and Chambers, 1978). There is an extensive literature to testify to the potential cost to human endeavour - whether work, play or education - of extrinsic rewards (Kohn, 1993). To sum up: the literature on motivation was for some years generally perceived as suggesting that rewards were always under-mining and antithetical to intrinsic motivation. However, the contention that the use of reinforcement and reward is simply a curtain raiser to an assault on children's intrinsic motivation needs closer examination. An epitaph to behaviourism, composed mainly by cognitive theorists, is possibly premature. In a meta-analysis of the effects of reinforcement and reward on intrinsic motivation, Cameron and Pierce (1994) distinguish studies involving *reward* from those based on *reinforcement.* They provide a clear rationale for this distinction in stating that:

> A reinforcer is an event that increases the frequency of the behaviour it follows. A reward, however, is not defined by its effects on behaviour. Rewards are stimuli that are assumed to be positive events, but they have not been shown to strengthen behaviour. (p364)

Cameron and Pierce's (1994) study has served more to cast a methodological shadow on the ability of motivational theorists to operationalize the concept of intrinsic motivation, than on the effect of incentives and rewards in educational settings. The contention here surrounds the lack of covariance in

measures of intrinsic motivation. Methodological issues associated with intrinsic motivation are discussed more fully in section 3.2.6. According to Bandura (1986), the concepts of intrinsic motivation and self-determination are unclear and motivational theorists would be better advised to concentrate on the impact of rewards and reinforcement on behaviour. It would appear that it is not rewards *per se* that hinder the development of intrinsic motivation but the nature of the rewards. Whether rewards are contingent upon task completion or level of performance, and as a result are perceived to be informational or controlling, is important (Cameron and Pierce, 1994). In other words, if children are rewarded merely for participation in a task it could be perceived by them to be controlling, thus diminishing intrinsic motivation. On the other hand, if rewards are linked to competence in completing a task, the reward is of a more informational nature in providing children with feedback about their performance or ability to complete a task.

The upshot then of behaviourists' approaches to the study of motivation is that they can easily be implemented in classrooms by teachers; however, the resultant long term prognosis of continued motivation or intrinsic interest in learning is reported to be poor if external incentives diminish. As in Atkinson's model, the unit of analysis here is the individual child.

3.2.3 Social Learning Theory

Reinforcement is also a central concept in social learning theory.

Bandura's (1977) theory is central to what has been referred to as cognitive-behaviourism. It is also rooted in the notion that individuals behave in an attempt to secure desired reinforcements. Bandura (1986) like Rotter (1966) contends that children do not simply respond to learning situations as suggested by behaviourists; rather they interpret them. In this way, children's cognitions of the learning environment give rise to their behaviour. Reinforcement occurs since learning outcomes resulting from past behaviours create expectations in children about the likelihood of these outcomes happening again which, in turn, determine their future actions. Bandura (1982) describes self-efficacy as our ability to organize and to regulate events in our lives. Essentially, it is about feeling adequate and efficient in running our lives. Bandura and Schunk (1981) refer to 'self-motivation' but this should not be confused with cognitive-evaluation theories of intrinsic motivation and self-determination. Self-motivation and efficacy expectations in social learning theory are extrinsic concepts in that feelings of efficacy bring about reinforcement. When applied to learning, a sense of control enables children to gain the necessary reinforcement they strive for (e.g. task completion, teacher praise or a high mark), whereas a sense of control, as it relates to intrinsic motivation, refers to the need for competence where the rewards are inherent to the activity (e.g. mastery). In other words, 'even though there may be secondary gains, the primary motivators are the spontaneous, internal experiences that accompany behaviour' (Deci and Ryan, 1985, p.11).

Social learning theory deals mainly with overt behaviours. It does not

help teachers to understand either how different cognitive variables affect children's behaviour or children's underlying reasons for learning. Research within a self-efficacy framework has typically addressed itself to changing maladaptive motivation through strategy instruction (Schunk, 1989), and by interventions designed to alter debilitating cognitions (Schunk and Swartz, 1993). In other words, it has trodden the traditional path of motivational researchers in seeking to understand and change *maladaptive* motivation. A recurrent theme in motivational theory, albeit in different guises, is the notion of perceived personal control. The problematic nature of this concept is discussed in section 3.2.6.

3.2.4 Locus of Control

Like Bandura, Rotter deals with underlying cognitive processes and their influence upon children's behaviour. Rotter (1966) claims that if reinforcement (e.g. passing a mathematics test) is not perceived by children to be contingent upon their own behaviour, then it will not increase an expectation that their behaviour will be reinforced in the future (i.e. that they will continue to pass their mathematics tests). In other words, if children believe that their successes and failures are contingent upon their own behaviour, then they are deemed to hold an internal locus of control. On the other hand, if they believe they are not contingent upon their own behaviour, then they are deemed to hold an external locus of control. Such generalized expectancies or beliefs influence the likelihood of academic success. Rotter (1975) clarified further his

conceptualization of a 'locus of control' by highlighting the importance of the value of the expected reinforcement. In effect, children can understand that they need to study to obtain high marks but they might not value this potential reinforcer.

Measures of 'locus of control' have usually used different types of questionnaires (e.g. agree/disagree, open-ended, choice of attribution). Low reliability is reported in many of these questionnaires (Stipek and Weisz, 1981). Analyses have focused mainly upon the relationship between children's scores on a questionnaire and global measures of achievement. However, it remains speculative whether 'locus of control' is a cause or an effect of school achievement or an artifact of the measuring instruments and procedures (Stipek and Weisz, 1981). Given that children appear to accept more responsibility for success than for failure (Butler, 1994), then those who are more successful at school are more likely to attribute it to themselves (i.e. to internal causes). In this way, an internal locus of control could result from high achievement. Studies conducted within this theoretical framework offer little explanation of the underlying psychological processes involved in children's learning. Neither do they illuminate developmental nor contextual issues.

3.2.5 Attribution Theory

In contrast with the generalized expectancy model of 'locus of control' outlined above, attribution models emphasize the importance of situational

variables. Attribution theorists place children's causal perceptions about their learning outcomes at the heart of motivational processes (Weiner, 1992). Learning outcomes also play a central role in determining how children respond to present and future classroom tasks. An important distinction is drawn in attribution theory between *contingency* and *control* since children who perceive failure as resulting more from a shortfall in ability than from effort are likely to respond differently in achievement situations. In contrast, in social learning theory attributions to ability *and* to effort signify an internal locus of control. In attribution theory, attributing failure to lack of ability is likely to be more devastating to future success because ability is often perceived as stable (i.e. unchangeable), whereas "there is always room for more effort". For Weiner, then, differences in children's motivational patterns result from differences in their attributions.

Attributions for success or failure such as effort, ability, task difficulty, and luck or chance are cited in theoretical formulations and structured questionnaires. Analyses focus upon children's perceptions of control and expectancies for success or failure. However, major assumptions frequently made in attributional research have been shown to be inadequate (Weiner, 1983). Two such assumptions are that children have clear ideas about reasons for their learning outcomes and that the experiments upon which the evidence is based offer choices that are representative of how children behave in "real life" situations. Attribution theory has also failed to investigate the causal distinctions that adults and children themselves make in providing explanations of their

successes and failures (Kelley and Michela, 1980). Carr, Borkowski and Maxwell (1991) indicate that attributions to luck or chance can mask a truer picture that many children do not understand the reasons for their learning outcomes. These researchers point to a need for explicit teacher feedback to children about the reasons for their successes and failures. Attribution theory fails also to address crucial developmental issues such as young children's perceptions of difficult tasks and, therefore, their experiences of success and failure. Nicholls (1984) claims that concepts of ability and effort are less differentiated in younger than older children. Whether attributions are consistent across subjects or tasks is also unclear. For teachers, a critical question about the developmental roots of children's attributional patterns remains unanswered.

Rogers (1990) conducted a study of the developing attributions of primary school children in relation to success and failure on different types of classroom tasks. He found twenty one categories of explanation. He claims that:

> the developing attributions of primary school children are related to both the curriculum area that they are concerned with and the ways in which that work is presented. (p.106)

An examination of the impact of curriculum content and pedagogy on cognitive-motivational processes has been conspicuously absent from much of the discourse on motivation. The possible interplay between subject content and the processes of teaching and learning have largely been ignored.

Armstrong (1994) cautions that, in attributional analyses, motivational researchers are taking for granted children's perceptions of 'success' and 'failure' in relation to school tasks and, as a result, are reproducing their 'own construction of the meaning of those concepts' (p.6). It is critical that motivational theorists leave no conceptual stone unturned for fear of legitimizing inequalities of motivation. Nicholls (1984) counsels that approaches to the study of motivation 'that obscure the fact that inequality of motivation is inevitable in a society preoccupied with "who is on top" are hardly value free' (p.203). The possible impact of the advent of a National Curriculum for schools on both teachers' and children's conceptions of educational 'success' and 'failure' is discussed in chapter ten.

3.2.6 Intrinsic Motivation

A motive for competence or self-determination is central in theories of intrinsic motivation. Deci (1975) defines intrinsic motivation as innate, in other words, when children involve themselves in activities or tasks because they enjoy doing them for their own sakē, and not because of any extrinsic rewards. In contrast, extrinsic motivation refers to children who are motivated by external controlling variables (e.g. incentives). Learning outcomes and their causes are likely to affect intrinsic motivation.

Successful mastery of problems induces feelings of efficacy which in turn, act as reinforcers. Harter (1978) suggests that feelings of efficacy arise

from an acceptance of responsibility for successful mastery. However, the intrinsic/extrinsic distinction is problematic for many reasons not least because it is difficult to ascertain when behaviour is intrinsically motivated and not prompted by hopes for future benefits (Bandura, 1977). Deci and Ryan (1985) found that under certain conditions some types of rewards reduce intrinsic motivation and interfere with future motivation. They distinguish between 'performance-contingent' and 'task-contingent' rewards (p.79). Situations that enable children to feel competent by providing information that helps them to improve their skills (i.e. task-contingent rewards) are seen to facilitate intrinsic motivation. In contrast, situations which are seen to be controlling and designed to determine behaviour (i.e. performance-contingent rewards) undermine intrinsic motivation. Many of the studies of intrinsic motivation use attitudinal scales such as a five-point Likert scale (e.g. Gottfried, 1985; 1990). The question of whether research instruments are sensitive enough to determine children's underlying reasons for working towards mastery is discussed more fully in chapter ten. In essence, a child's experiences and perceptions of classroom tasks and activities are likely to be crucial.

Verbal praise and positive feedback can enhance intrinsic and continued motivation; rewards can be detrimental to children's intrinsic motivation if they are not linked to the achievement of a specified standard of performance (e.g. successfully completing a piece of work) (Cameron and Pierce, 1994). A methodological strength in Cameron and Pierce's meta-study is that they differentiate between the various measures of intrinsic motivation and types of

rewards, as well as the definitions and measures of intrinsic motivation used in the different studies. For this reason they avoid an underlying assumption that motivational researchers are measuring much the same thing in much the same way. They conclude that the concept of intrinsic motivation is unclear and difficult to operationalize and that it needs to be clarified and suitable measures developed. For example, different studies have used different measures of intrinsic motivation such as 'on task' behaviour, performance and attitude scales. Rigby *et al.,* (1992) agree and point to a possible solution. They advise researchers to forget the intrinsic/extrinsic motivation dichotomy in favour of the concept of self-determination.

Like Deci, deCharms (1984) conceptualizes motivation in terms of self-determination. He distinguishes between children who perceive themselves as origins from those who perceive themselves as pawns. 'Origins' perceive themselves as having choice about work, or, working because they *want to*, unlike pawns who work because they *have to* as a result of coercion. Deci and deCharms' concept of self-determination is different from that of personal causation. Studies based upon social learning theory and attribution theory study children's perceptions of who controls the outcomes of events; self-determination concerns children's perceptions of who controls their behaviour. deCharms' conception of control differs from Weiner's since deCharms suggests that by becoming an 'origin' (primarily through the influence of classroom environment), children then take more responsibility for their learning outcomes. Most people would agree that choosing to do something is likely to be more

enjoyable than being required to do it. Equipping children with the ability to overcome difficulties independently assumes that they will choose to work in this way. It also has considerable implications for classroom management practices and traditional teacher-pupil relationships. It is not clear either whether young children's emotional and social needs have been given careful consideration in the studies cited.

Motivational researchers do not seem to have addressed themselves to the notion that children generally, and young children particularly, do not necessarily understand the strategies their teachers deploy in helping them to learn. For some young children, teacher behaviours designed to foster independence in learning could be perceived as neglectful for the simple reason that they do not understand the teacher's motives. It is almost paradoxical that the unit of analysis of much of the research on motivation in education is the individual, and yet so little is known about the phenomenology of the subject (i.e. the pupil). Teaching strategies and their impact on children's motivation are discussed in chapter four.

3.2.7 Cognitive Theories

More recent research in motivation has focused on children's thoughts, beliefs and perceptions. Weiner (1986; 1991) must receive some credit for kick starting this new paradigm through attributional analyses. Not only has it concentrated the collective mind of motivational theorists on developmental

issues such as children's changing conceptions of ability and effort, but these shifts in thinking have served to entice motivational theorists out of the laboratory and into schools and classrooms. Context has become central as a new wave of cognitive-motivational research gets under way.

Social-cognitive research has focused upon children's responses to failure or perceived failure situations (Dweck, 1986, 1991). It has also begun to illuminate ways in which the classroom context can influence the development of motivational processes (Maehr, 1984; Eccles and Midgley, 1989; Eccles *et al.*, 1993). Children can have different reasons for learning, either because they wish to improve their ability, or because they want to demonstrate it to others (Nicholls, 1984). Nicholls (1984) conceptualizes these differing reasons for learning as 'task involvement' and 'ego involvement' respectively. There are clear conceptual links between what is referred to by Dweck as mastery orientation and by Nicholls as task involvement. A full description of mastery orientation now follows.

Mastery Orientation

Children whose motivational responses can be described as mastery oriented or task involved are concerned with *learning* and not *performance*. In other words, in the face of difficult tasks they persist in an attempt at mastery. They enjoy learning for its own sake and perceive failure as an opportunity for further learning. Such children strive to achieve success rather than to avoid

failure. They tend to focus on effort as opposed to ability in overcoming difficulties and, as a result, engage in thinking about their successes and failures in ways that promote the development of effective strategy use. In other words, they are more likely to solve problems for themselves and develop their awareness of how they did it. For example, when children who are mastery oriented realize they are having difficulty learning something they are more likely to ask themselves why, and thus develop their levels of metacognitive awareness. This pattern of response is among the reasons why these children make productive use of their teacher's help, the latter being characteristic of a mastery style. It appears that children who develop this motivational style are likely to have been encouraged by their teachers to focus on effort, use appropriate learning strategies, make choices which are challenging and engaging and develop a propensity for learning (Ames and Archer, 1988; Meece, Blumenfeld and Hoyle, 1988). A key characteristic of children who are mastery orientated is that they demonstrate considerable control over their own learning processes. The notion of perceived personal control also lies at the heart of the contrasting responses to failure noted in children described as learned helpless.

Learned Helplessness

Seligman and Maier hatched the term 'learned helplessness' in the 1960s while studying the condition of animals which became submissive and physically ill when subjected to experiences in which they were not in control of their

environment; their motivation to respond was undermined. In education this model has been developed by a number of researchers (Craske, 1985, 1988; Dweck and Leggett, 1988; Johnson, 1981; Phillips, 1984). The conceptualization of the individual's sense of personal power or control is described by Seligman (1975) and Diener and Dweck (1978) as 'learned helplessness'. Pupils who perceive failure as inevitable are deemed 'learned helpless'. From an attributional perspective (Abramson, Seligman and Teasdale, 1978), learned helplessness develops from attributing a lack of success to a lack of ability and this deficit is, therefore, beyond personal control. Children who are learned helpless are characterized by a lack of persistence in the face of failure because they do not see themselves as capable of success (Diener and Dweck, 1980). Following failure, therefore, children who adopt a learned helpless motivational style are characterized by their avoidance of challenge, as well as deterioration in performance. When faced with work they find difficult they tend to give up quickly, abandoning effort in the belief that they will not be able to succeed no matter how hard they try. It is likely that they have a poor academic self-concept. Phillips (1984) reports the prevalence of an 'illusion of incompetence among academically competent children' (p.2000). Thus children who construe failure as a result of their lack of ability are likely to experience negative and debilitating feelings about their ability and invariably perform even worse in future. In short, if children do not perceive themselves as capable of success they are likely to cease trying. Self-worth motivation resembles learned helplessness only inasmuch as children demonstrating either of these motivational styles share a concern with levels of ability.

Self-worth Motivation

Establishing and maintaining a positive self-concept has been described by Covington and his colleagues (Covington and Beery, 1976; Covington, 1984) as the self-worth motive. Children who present a self-worth motivated style are more likely to be concerned with the impact of their performance on a task on their self-esteem than with the performance itself. Difficult tasks are more likely to generate feelings of high anxiety resulting in work avoidance behaviours. In other words, these children might claim that the work is boring or irrelevant and hence not worth doing. Whatever strategies are employed by children adopting this motivational style, the underlying motive is to prevent them from having to conclude that poor performance corresponds to low ability. These children believe that high ability equates with high levels of future performance. Their concern with demonstrating high ability might originate from, and be perpetuated by, particular kinds of classroom environments. For example, classrooms where children perceive their teacher to place a high value on ability and where social comparison information is salient could foster a self-worth motivational style. Overall, these avoidance strategies serve only to minimize any chances of success.

Children who are learned helpless differ from those who are self-worth motivated in their responses to failure. The role of anxiety in self-worth motivation also differs from that of learned helplessness. Learned helplessness is characterized by an acceptance of a lack of ability whereas self-worth motivation

is characterized by anxiety as to whether the individual has sufficient ability to succeed on the task in hand (Covington and Omelich, 1979; Covington, 1984). There is, therefore, a clear theoretical distinction between the two types of motivational styles. Children who are self-worth motivated still believe they have the ability to conquer difficult tasks but are not prepared to run the gauntlet of self-exposure in the event of failure. In other words, they fail to persist when presented with difficult tasks in which they recognize the risk of losing self-esteem. Their goal is to maintain an illusion of competence and in doing so, maintain feelings of self-worth.

Mastery orientation is seen as an adaptive motivational style that is likely to promote effective and successful learning in the classroom. In contrast, learned helplessness and self-worth motivation are both maladaptive motivational styles originating from children's debilitating cognitions about their ability and lead to self-defeating responses to tasks which the individual perceives as difficult. Within the literature maladaptive motivation is understood in terms of conventional perceptions of school success. The theoretical distinction between learned helplessness and self-worth motivation is important albeit problematic. As noted earlier, the concept of different styles of motivation has been shown to be relevant to teachers; however, they are not necessarily able to perceive a clear distinction between learned helplessness and self-worth motivation (Leo and Galloway, 1994). On a theoretical level, it is important for teachers to be able to distinguish between these two types of motivational styles in designing interventions.

Craske (1988) notes differences in the responses of children with a learned helpless style compared with those adopting a self-worth motivated style during attribution retraining; interventions of this type postulate that emphasizing effort mediates improved performance. Following training, ability evaluations and performance among children who were self-worth motivated did not concur with improvements documented in children with a learned helpless style. The design and implementation of the intervention is important. In contrast, Reid and Borkowski (1987) report improved performance in children with a self-worth style by changing their effort attributions through enhanced metacognitive skills, as well as a belief in the value of effort. Children who accept responsibility not only for their learning outcomes but also for failure resulting from shortfalls in effort, and who perceive themselves to be unsuccessful even when they try hard, might have greater reason to protect their self-worth (Butler and Orion, 1990). Advising such children to try harder does not provide them with vital enhanced strategic knowledge. Indeed it is likely to be counterproductive. The harder such children try, the greater the threat to their sense of self-worth if they fail. A key objective of this study is to examine the theoretical distinction between these two maladaptive motivational styles and how teachers might operationalize them. Metacognitive-motivational models are discussed in section 3.2.9.

Covington (1984) argues that ability is a highly valued and desirable attribute in our society. As a result, being seen to have ability is a desirable goal. Children's confidence in their own ability is a key factor in self-worth motivation. In contrast with learned helpless children, who perceive their ability

levels as beyond their control, self-worth motivated children wish to maintain a positive view of their ability levels. Difficult tasks are likely to generate high levels of anxiety resulting in work avoidance strategies. For some children withholding effort is a powerful weapon in an armoury of self-defensive strategies. Self-worth theory contends that much of these children's behaviour belies a goal of maintaining a favourable academic self-concept (i.e. of high ability), or at least of guarding against judgements of lacking in ability. For these children it appears that "it is better *not* to have tried and failed" (Thompson, 1994). Equating personal worth with the ability to succeed in competitive situations is likely to underpin such behaviours. The cognitions underpinning a learned helpless style differ qualitatively from those ascribed to a self-worth motivational style; children who are learned helpless do not believe that striving will make a difference and that they will fail irrespective of the expenditure of effort.

On a theoretical level, self-worth motivation is complex and warrants careful scrutiny. A temptation to oversimplify the pattern of responses that self-worth motivation elicits is likely to mask important questions relating to the distinction between self-worth motivation and learned helplessness, and the possibility of a relationship between them. For example, are self-worth motivation and learned helplessness discreet motivational styles and, if not, is it possible that self-worth motivation simply precedes learned helplessness on a sliding scale of maladaptive cognitions? Empirical evidence indicates that the prevalence of self-worth motivation diminishes in favour of learned helplessness

as children progress through secondary school (Galloway *et al.*, 1993). In other words, the eventual outcome of failure-avoidance (as reported in self-worth motivation) could be to accept the inevitability of that failure, thereby becoming learned helpless. It seems reasonable to conclude that a possible genesis of learned helplessness is self-worth motivation. A different strand of an investigation into the distinction between these two styles concerns the extent to which both are artifacts of the instruments and procedures used to identify them. Methodological concerns relating to a distinction between learned helplessness and self-worth motivation are raised in chapter ten.

Thompson (1993) points to the importance of identifying different types of failure-avoidance strategies. He cautions that 'self-worth protection is not, invariably, manifest in chronic underachievement' (p.483). Covington (1984) also cautions that there are pupils who 'remain doubtful of their abilities despite an enviable record of accomplishments' (p.12). Such children are described as 'overstrivers' who invest inordinate amounts of effort into their work in the pursuit of success. They appear to ignore their own previous record of successes and perceive new tasks and challenges as holding the same degree of threat to their self-worth. To be inoculated against success, never mind failure, is likely to be a worrying phenomenon for teachers. Many teachers will recognize the devastation apparent in some children following an isolated incident of poor performance. It is even more perplexing when some pupils, given a past history of successful performance, continue to be undermined by feelings of inadequacy about their abilities. For these pupils the psychological cost of failure is likely to

be great. Along these lines, Thompson (1993) advises that:

> Attributional retraining might more profitably focus on encouraging self-worth (motivated) students to reasonably accept credit for their successes rather than concentrating on training students to substitute ability attributions following failure for lack of effort. (p.484)

High and poor classroom performance, then, could be underpinned by a low self-concept of ability.

Social-cognitive paradigms focusing on children's perceptions, thoughts and beliefs highlight a need for classroom-based studies that offer an opportunity to test theoretical formulations in naturalistic settings. Classroom settings that are familiar to children can help researchers to explore the influence of process and situational variables. Crucial questions can be examined such as how teachers respond to children experiencing difficulty on particular tasks, what teachers say and how children respond at such times, how peers respond to other children's failures or difficulties, and the subject- and situation-specificity of these responses. In other words, motivational research needs to illuminate 'live' classroom events; an understanding of such phenomena is important if teachers are to develop strategies which help to foster adaptive motivational responses in their pupils. The methodological implications of investigating children's underlying beliefs and cognitions should not be underestimated. These issues are discussed in section 3.5.

3.2.8 Goals and Cognitions

Dweck (1991) and Blumenfeld (1992) illustrate the different cognitions associated with the motivational styles outlined above. Dweck identifies children's conceptions of ability as important. As previously discussed, the effect of conceiving of ability as fixed or stable (an entity concept) or alternatively, as changeable or extendible (an incremental concept) impacts upon children's goal orientations (performance or learning goals). Performance goals reflect comparative referential criteria where children compare their performance with others. Learning goals manifest themselves in striving for improvement based on self-referential performance information. Learning goals, then, are the desiderata of goal theorists. Children adopting a mastery oriented motivational style would be expected to hold learning goals. Urdan and Maehr (1995) have considered the ways in which children's social goals might impact on their motivation and behaviour in school. For example, these researchers suggest that children's motivational responses could reflect social goals whereby children seek to gain affiliation with, or acceptance by, their teachers, peers or parents. The interplay between learning and social goals could be of critical importance in an investigation of motivational processes in the classroom. It is not one which has been addressed adequately in the literature. Chapter ten provides a critical appraisal of the role of social goals in relation to the results of this study.

Dweck (1991) argues that an incremental view of ability and associated

learning goals, leads to mastery orientation. She argues also that factors within the school environment influence, if not determine, motivational style. A useful corollary of this model for teachers is that, through an understanding of pupils' theories of ability, it should be possible to predict and influence their motivational style. Whether teachers hold incremental or entity concepts of ability and how these views could affect their teaching strategies is discussed in section 3.6.

It has been stated earlier that Nicholls (1989) posits that conceptions of ability and effort underpin children's motivational orientations. He provides empirical evidence to suggest that adolescents tend more towards an entity concept of ability than younger children, thus undermining the role of effort in their achievement. Developmental work by Nicholls suggests that young children's conceptions of effort and ability change as they progress through schooling. He relates this phenomenon to structural aspects of school and classroom organization. A critical discussion of Nicholls' contentions is provided in section 3.5. A number of other studies demonstrate consistently that children's self-perceptions of ability affect their achievement motivation (Nicholls, 1984a; Covington and Omelich, 1981; Elliott and Dweck, 1988; Craske, 1988). Chapter four reviews recent developments in research into self-concept and their implications for research on motivation.

3.2.9 Metacognitive-Motivational Theories

Joining the chorus of cognitive-motivational theorists are those focusing on metacognitive-motivational processes (Carr, Borkowski and Maxwell, 1991; Borkowski and Peck, 1986). Variations in metacognition are reported to underpin school achievement (Borkowski, Johnston and Reid, 1987). Metacognition refers to 'one's knowledge and control over the domain cognition' (Brown *et al.,* 1983, p.106). Children's metacognition is believed to interact with their attributions and self-concepts in relation to school performance (Borkowski, Johnson and Reid, 1987). The concept of metacognition needs careful scrutiny; problems of definition and measurement are documented in the literature (Brown *et al.*, 1983; Robinson, 1983; Wellman, 1983). A concern surrounds first the shortcomings of measuring instruments and procedures that rely on children's verbal responses to either hypothetical or direct classroom tasks and, second, the construct of metacognition. Most approaches to the study of metacognitive knowledge present problems to children and ask them to explain the strategies they might use to find a solution, or, to ask children during, or directly following the completion of, a task to report how they tackled it. Inferences about the children's metacognitive knowledge are then drawn by researchers. Children's knowledge of strategies does not necessarily mean that they will apply them. In a similar vein, asking children to report on the strategies they are using (or have used) to complete a task does not necessarily tap whether those identified are the only ones at their disposal. Nelson *et al.*, (1986) points to the impact of children's judgements

about task difficulty and predictions about performance and memory on their deployment of strategies. It is also important to consider the condition under which some investigations take place. Metacognition is not a single construct, rather a 'general term used to identify a disparate range of higher level cognitive skills which, at least in the primary school years, appear not to be statistically related' (Thorpe and Satterly, 1990, p.19). Whilst it is not within the scope of this thesis to trace the historical roots and problematic nature of the concept of metacognition, it is necessary to clarify the ways in which it is being defined and studied by motivational theorists.

Recent metacognitive-motivational models focus on affective and motivational components of the development of metacognitive knowledge or strategy-based cognition (Borkowski, Johnston and Reid, 1987). These models resonate with many of the concerns of other social-cognitive motivational theorists. However, in a number of ways they are more sophisticated and help to illuminate previous work. Of central concern here are children's attributional beliefs about the role of effort which, in turn, are said to affect their self-esteem. Carr, Borkowski and Maxwell (1991) state that:

> Inappropriate attributional beliefs impede the acquisition of strategic knowledge because children with external attributional orientations have little reason to learn or to use strategies that they feel will not help them achieve. From this perspective, dysfunctional attributional beliefs may alter the effectiveness of the entire metacognitive-motivational system, especially as it relates to acquiring, applying, and modifying strategies. (p.115)

In their study of motivational components of underachievement, these researchers used multiple measures of ability, attributions, self-esteem, reading awareness and reading performance. A strength of this study is that it is domain specific; the study focuses on children's reading. The attributional questionnaire used asked specific questions relating to children's everyday experiences of reading tasks (e.g. "You got all the words right on the spelling test. Why did this happen?"). Children made attributions to luck, ability, help, effort and task difficulty. A reading awareness questionnaire assessed children's metacognitive knowledge on four scales: evaluation (ability to evaluate components of reading tasks and one's own skills), planning (anticipating improved comprehension), regulation (ability to regulate reading according to task and comprehension demands) and conditional knowledge of reading (knowledge about the usefulness of specific strategies for particular problems) (Carr, Borkowski and Maxwell, 1991, p.110). A reading comprehension task was also administered. Prior to reading the comprehension passages the children were given lined paper and told that: "you can use this paper to write down anything that will help you remember the paragraphs for a test later on". The researchers report that 'strategy use was assessed by checking evidence of planful approaches to reading comprehension: topic word, topic sentence and question and summarization strategies' (Carr, Borkowski and Maxwell, 1991, p.111). While the definition and identification of underachievers in this study warrants scrutiny, for the purposes of this thesis only methodological issues of direct relevance are discussed. The contention here is that the researchers introduced a potentially confounding condition in executing their experiment: a future 'test'.

In effect, success in a future comprehension test depended on the children's ability to draw up a strategic plan on paper prior to the test. It is possible that under different conditions certain children would have responded differently. For example, on hearing the word "test", children who are self-worth motivated are likely to feel under threat. Defensive strategies come to the fore (e.g. they may not bother to listen to, or engage cognitively with, the passage being read aloud to them and, as a result, fail to record on the paper provided their strategy use). In this way the children can attribute poor performance on a test to a lack of effort. Indeed the findings from this study support such a scenario. However, the contention here is that the experimental conditions used in this study were likely to induce a range of debilitating cognitions associated with a self-worth motive and, as a result, to confound the assessment of strategic knowledge. If within the day-to-day activities of the classroom a teacher had announced to her class that she was going to read them a "very interesting and exciting story", and to "help them to remember" what it was about they should listen carefully or write down or draw things about it as she read, then their responses might have been different. Without having to run the gauntlet of a test, children who are self-worth motivated are more likely to engage with the task in hand thereby offering researchers an opportunity to examine strategic behaviour under different conditions.

A second fundamental question here relates to the children's ability to 'write down' their strategies. Some children find it difficult to listen and write simultaneously. Given that these were children in the third, fourth and fifth

grades with an average age of 9.5 years, then this contention seems reasonable. There is a possible danger here of assessing children's writing skills as opposed to metacognitive knowledge. Metacognitive researchers have been criticized for an over-reliance on children's linguistic skills in explicating their findings (Thorpe and Satterly, 1990). Overall, the findings from the above study are complex and of considerable interest, however, they need to be understood within the limitations of the research design.

Findings from metacognitive-motivational models indicate that: a learned helpless motivational style would prevent children from behaving strategically, first because they do not believe they have control over their learning outcomes and, second, because they are unlikely to have developed a rich bank of strategies in the first place. Mastery orientation, on the other hand, promotes the effective development and deployment of learning strategies. Children who are mastery oriented appreciate the need to survey problems and deploy strategies.

Although no age-related differences were found in the study cited above, developmental differences between children might be important determinants of pupils' selection of learning strategies. Nolen and Haladyna (1990) report that, for younger children only, task involvement in science was related positively to a belief in the utility of 'surface-level' strategies such as rote memorization of facts, as opposed to 'deep-processing' strategies such as the integration of new information with prior knowledge. The question arising here seems to be not whether young children are behaving strategically, but does strategic behaviour

differ qualitatively and, if so, how do these differences relate to curriculum and pedagogic processes? It could be that some strategies have a short 'shelf-life' (i.e. copying other children's ideas) as the demands of the curriculum change or, that they are not transferable to other areas of the curriculum. Children with fully developed strategy knowledge seem to understand that effort is needed if they are to select and survey problem-solving strategies while engaged in complex or difficult tasks (Borkowski *et al.*, 1990). However, recognizing that a new problem in one area of the curriculum is similar to that encountered in another is a necessary pre-requisite for applying previously learned knowledge and problem-solving strategies. It implies that children have control over their own learning processes and, therefore, that they are mastery oriented. Children who are learned helpless believe that they have no control over learning outcomes.

3.3 SUBJECT-SPECIFICITY

Studies of children's motivation at school in designated curriculum areas are rare, particularly in the UK. Traditionally, secondary curricula in the UK have always emphasized subject or domain-specific knowledge and this modus operandi is now advocated increasingly widely in the primary curricula (Murphy *et al.*, 1995; Alexander, 1992). Declines in motivation in English and Mathematics during primary-secondary transfer have been documented (Rogers *et al.*, 1994; Eccles & Midgley, 1989). Many studies attribute the detrimental effects of primary-secondary transfer to a variety of structural differences

between primary and secondary schooling (Anderman & Maehr, 1994); however, little direct attention has focused on differential motivational responses associated with specific subjects.

Marsh (1990) provides empirical evidence of a domain-specificity in children's self-perceptions of ability. Other studies demonstrate consistently that children's self-perceptions of ability affect their motivational style (Nicholls, 1984a, 1984b; Elliott & Dweck, 1988). Taken together these findings support theoretical analyses that distinguish between curriculum subject. Further research is needed into the ways in which curriculum and pedagogic processes associated with particular subjects influence, and are influenced by, the motivational responses of pupils. The ways in which children respond to difficult and challenging educational tasks from one subject in the curriculum to the next is an important, and to date neglected, consideration. Interventions designed to modify maladaptive motivational styles attempt to restructure children's attributions following success (Craske, 1988; Thompson, 1993). However, given that children's motivational style might vary across subjects, the appropriateness of classroom interventions directed towards changing global rather than domain-specific maladaptive motivational styles is unclear. Pedagogic practices in Mathematics could foster more adaptive responses in pupils in the face of difficulty, since pupils are likely to be more practised in Mathematics than in English at working towards the correct answer or resolution to a problem. In this way, their metacognitive awareness of identifying and applying appropriate strategies is likely to be more developed in

Mathematics (Nolen, 1988). Metacognition is likely to be specific to the task (Thorpe and Satterly, 1990).

3.4 VALUES AND CONCEPTIONS OF ABILITY AND EFFORT

On being elected thirtieth President of the United States, Calvin Coolidge announced that:

> ...Nothing in the world can take the place of persistence. Talent will not: nothing is more common than unsuccessful men with talent. Genius will not: unrewarded genius is almost a proverb...persistence and determination alone are omnipotent.

Given that he was the first ever President born on the fourth of July (1872), then perhaps destiny, as well as effort, had a hand in his path to the White House. On one level, his views illustrate a common sense validity in associating persistence with goals and tasks which are perceived to be difficult and, therefore, which require intense or sustained effort to master. On another level, it could be argued that ability is indirectly proportional to effort, thus undermining the utility of effort.

Different discourses on motivation are characterized by a set of underlying beliefs about the nature of ability and effort which, in turn, belie a powerful repertoire of social, political, economic, cultural and religious values. Western society has always placed a high value on ability, and particularly intellectual ability. Ability is said to be universally valued among pupils of all

ages (Harari and Covington, 1981), even more that virtue (Covington and Omelich, 1981). Nicholls (1984b) sees 'conceptions of ability as the key to the understanding of achievement motivation' (p.41).

In Japan 'competence is defined partly as talent or genius, but partly as the capacity for hard work' (Vogel, 1963, p.156). Cultural emphasis on commitment and perseverance has been linked with Japanese economic success (Holloway, 1988). Effort, and not ability, is also seen as the major determinant in academic performance (Holloway *et al.*, 1986). Educationists and economists alike point to the strong work ethic evident in the Japanese workforce (Holloway, 1988; McRae, 1995). In Chinese and Japanese schools, pupils spend more time on content-oriented learning and homework than their counterparts in American schools (Stevenson *et al.*, 1986). This phenomenon can also be perceived in religious terms, inasmuch as Buddhism celebrates work and labour since it is believed to help its followers to become closer to God. In a similar vein, Confucian philosophy stresses hard work and discipline. It places a higher value on fostering morality than cultivating intellectual excellence and personal gains (LeVine and White, 1986; Wong, 1984).

In a comparative study of Hong Kong and American students' goals in education and causes of success in work, Lau and Nicholls (1993) report that the results fail to confirm the typical cultural expectations. For example, Chinese students were found to be less oriented towards intrinsic aspects of education, or the moral goal of being useful to society, than American students

and, more pertinently, to be oriented towards the extrinsic rewards that education can offer such as wealth and status and the ability to get the best jobs or attend the best colleges. They state that:

> What they (Chinese students) demand of school is rather unrelated to what they see as the ingredients for success in work. This may create a different type of expectation toward school learning. Indeed it was found that although Chinese students regard showing interest and effort as vital to success in work (more so than American students), they did not see the cultivation of the ability to think critically and to work hard as important goals for school - in fact less so than American students... American students espoused task goals related to understanding and achievement more so than Chinese students. (p.16)

Hatano (1982) validates further these findings in relation to Japanese reliance on procedural knowledge and the repetitive practising of procedural skills during the early years at the expense of fostering a deep understanding of concepts. In her comparative study of the concepts of ability and effort in Japan and the United States, Holloway (1988) concludes that:

> the Japanese appear to ensure later academic and professional achievements by developing in the early years qualities of perseverance and commitment which will provide the motivational framework for acquiring whatever skills are necessary to obtain success. (p.341)

It is argued here that her analysis is problematic for she conflates 'task involvement' and 'the qualities of perseverance and commitment' in Japanese children and, as a result, portrays a degree of conceptual sloppiness. It is worth pausing for a moment to consider this point. Asch (1952) describes task

orientation as a state where 'the task becomes of central concern. We may speak here of intrinsic interest, in contrast to that which grows solely out of the rewards reached at the end of the task' (p.303). Latter-day motivational theorists like Nicholls (1989) conceptualize task involvement in a similar way where 'performing, understanding, or completing tasks is important in its own right, not as a means of establishing one's superiority over others' (p.88). Holloway (1988) assumes the mantle of task involvement without crucial empirical evidence of children's underlying reasons for learning. Japanese children might well appear to demonstrate 'qualities of commitment and perseverance' but appearances can be deceptive. It is possible that these 'qualities' are linked to a goal of maintaining family approval (i.e. social goals). Bandura (1977) would interpret Lau and Nicholls' (1993) findings as evidence of the impact of external rewards on motivation (i.e. hopes for future benefits). In relation to notions of task-contingency and performance-contingency responses (Deci and Ryan, 1985), it would appear that Hong Kong students are oriented towards a performance-contingent response.

While the Japanese economy has thrived on its citizens' culturally-based capacity to adapt and change in the workplace, global markets are changing and the education system is reported to be failing to generate original research according to McRae (1995). In commenting on the present inadequacies of the Japanese education system, McRae also concludes that it is failing to deliver creativity or inventiveness. 'Creativity' is defined here in relation to the values of wealth creation and an economic imperative. He states that:

> the education system has produced excellent line-workers and talented middle-managers, it has not produced the original thinkers that the best of US universities have. The result is that while Japanese companies are excellent at incremental advance, in particular the development of inventions made abroad, they have made few great leaps forward...Japan is well aware of the problem and is seeking to encourage creativity in schools, and putting more resources into post-graduate work. (p.86)

The day-to-day realities of the classroom require children to develop adaptive strategies and persistence across a wide range of curriculum areas and contexts during the primary years. In motivational research, adaptive motivational orientations like 'mastery orientation' or 'task involvement' are often treated uncritically in relation to the nature and demands of different types of tasks. In cross-cultural studies such as Holloway, competencies and skills learning is not differentiated from other learning demands (i.e. those of a problem-solving or inventive nature), where the strategies required to succeed on a task might be quite different.

Barnett (1994) comments that, in higher education, the 'value orientation of operational competence is that of economic survival' (p.183). The point here is simply this: motivational research might be well advised to rethink its focus in relation to the types and nature of tasks given to children within a broad curriculum area. An emphasis on operational competency might well be at the expense of other types of learning (e.g. conceptual understanding and deep-processing).

3.5 DEVELOPMENTAL ROOTS OF MOTIVATION

Young children's criteria for assessing ability change during the primary years from effort, social reinforcement and mastery to objective and normative information (Stipek and Mac Iver, 1989). However, it is unclear how far this is as a result of possible idiosyncrasies in primary school classrooms where children are more likely to receive indiscriminate praise for work, effort and social behaviour, so that normative information becomes muted. Both Harter (1982) and Stipek and Mac Iver (1989) note that, on commencement of primary school, initially high school-related expectations and perceptions of ability in younger children begin to reflect actual achievement. Whether these findings indicate that young children's self-evaluations are unrealistic or reflect more upon a changing school environment, where normative information becomes more conspicuous as children progress through the primary years, is also unclear.

Contrary to Nicholls' (1984a) claim that young children do not differentiate between effort and ability, other evidence suggests that their ability evaluations are not invariably high. Stipek and Daniels (1988) found that young children can compare their performance accurately with that of older children in nursery schools where normative information - positive and negative - is salient. These studies did not examine young children's attributions for their successes or failures and therefore, although they appear able to perceive their capabilities in relation to their peers, they might not be able to perceive reasons for these

capabilities. Further evidence to support the notion that young children are able to make sense of normative information is offered by Morris and Nemcek (1982) who demonstrate that pre-school children are able to differentiate ability or performance on a concrete, observable dimension such as running.

It is not the presence of social comparison information *per se* that is in question, it is whether this information is meaningful to young children (Stipek and Hoffman, 1980; Stipek, Roberts and Sanborn, 1984; Stipek and Mac Iver, 1989). For example, visual as opposed to verbal information might be more understandable to young children; similarly concrete rather than abstract information could make a difference (e.g. ticks or marks out of ten might not be as meaningful to young children as the number of smiling faces on a chart). The contention here is that classroom environments dispensing predominantly concrete, visual social comparison information might foster unwittingly early concepts of ability or social competence (high or low) in children. The critical success factors, therefore, in the development of early adaptive motivation or mastery orientation remain elusive. There is a need for studies that illuminate the impact of primary school practice on the development of children's motivational responses.

School level practices that emphasize, and focus upon, ability comparisons can interfere with classroom-level practices that foster task-related or mastery goals (Maehr and Midgley, 1991), thus undermining task oriented classrooms. Orienting classrooms and pupils towards individual and not ability

evaluations has been claimed to increase and sustain motivation (Elliott and Dweck, 1988). It follows that school and classroom environments are likely to be important determinants of children's ability evaluations (Chapman, Lambourne and Silva, 1990). Few studies investigate the developmental roots of motivational processes during the critical developmental period of the primary years. As stated earlier developmental changes in children's motivation cannot simply be explained in terms of cognitive changes; cognitive development is likely to facilitate children's self-evaluations which, in turn, become dependent on the achievement context (Stipek and Mac Iver, 1989).

3.6 TEACHERS' CONCEPTS OF ABILITY AND MOTIVATION

Teachers' expectations of children's ability centre on their assessment of the children's strategic behaviour (Carr and Kurtz, 1991). In other words, children's responses to classroom tasks such as their planning, thoughtfulness, level of independence, whether, and how they seek out help or make productive use of their teacher's time are active ingredients which influence teachers' assessments of pupil ability. There is evidence to suggest that while teachers use such factors in their judgements about pupils' ability, they do not teach pupils to behave or respond in such strategic ways. Such findings highlight the mediating role of teacher's conceptualizations of ability.

Teachers who hold entity concepts of ability are unlikely to perceive the crucial role of effort in children's learning. In this way, they could foster

unwittingly similar conceptions of ability in their pupils by not highlighting the mediating role of effort in classroom performance. In addition, an entity concept of ability is likely to undermine teachers' own sense of efficacy. For example, if teachers perceive their abilities as stable and unchangeable (i.e. an entity concept of 'professional ability'), then it could undermine their professional development. In a similar vein, whether schools and teachers are oriented towards performance- or learning goals is likely to have implications for pupil motivation. This point raises a range of issues relating to human resource management practices in schools. Children's and teachers' motivation, then, are likely to be inextricably linked.

Teacher feedback has also been implicated in the effective development of metacognition (Butler and Orion, 1990). Explicit and on-going information about the reasons for success and failure on tasks helps children to understand better such reasons and, therefore, to develop mastery skills. In this way, children can begin to understand their role in their own learning and in turn, exercise more control over their own learning processes. Teachers who hold entity concepts of ability might behave in ways which impede effective development of mastery learners. If metacognitive awareness is a product of teaching strategy, then the importance of teachers' conceptualizations of ability and motivation cannot be underestimated.

3.7 DESIGN LIMITATIONS

There is need to develop substantive knowledge of the ways in which teachers operate. While there are clear conceptual links between different contemporary motivational theorists, the extent to which current approaches to the study of motivation can help teachers to clarify and operationalize the concept of motivation is not encouraging. It is contended here that part of the confusion stems from the ways in which motivational theorists conceive of themselves and their work. It could be helpful to ask whether motivational researchers perceive the classroom as a field laboratory, an ecological haven or as part of a wider education system driven by an economic imperative to enhance individual performance? Fundamental questions need to be clarified about the nature of their research activities and to whom they are addressing their findings.

A dominant theme in motivational research is the individual. In addition, most studies attempt to change *maladaptive* motivational orientations. Other studies have focused on individual classrooms while failing to acknowledge that they, too, are part of a wider social system, not least of a school. Only recently have motivational theorists in North America placed the impact of the school environment at the heart of their investigations and in this spirit, they have begun to scrutinize the ways in which school-level practices can promote *adaptive* motivation (Maehr and Midgley, 1991). However, it is important to bear in mind here that school effectiveness research has found greater

differences between classes in the same school than between schools (Mortimore *et al.*, 1988).

The importance of motivation in children's learning is universally accepted by teachers and other researchers in the field of education and yet there is little evidence of its impact on either group. A prime example of this phenomena is found in the work of school effectiveness and improvement researchers in this country. Evidence from school effectiveness and school improvement research highlights differences between effective and ineffective schools but fails to illuminate underlying cognitive-motivational processes at classroom or school level. Research designs in this field appear to exist in a 'behavioural time-warp' using performance indicators such as time on task, attendance and examination results or learning outcomes. Similarly, value-added frameworks which track academic progress do little more than describe observable behaviours associated with motivation. Studies that do recognize the importance of pupils' attitudes and self-concepts tend to use simple global measures of self-concept (Mortimore *et al.*, 1988) that have been shown to be of limited theoretical and practical value (Marsh, 1990). A weak conceptual framework, evident in many of these studies, belies misconceptions of motivation as a single construct. However, given the restricted psychological designs and differing theoretical perspectives among motivational theorists, then it is hardly surprising that school effectiveness studies have conceptualized motivation more as a generalized trait than as situation-specific responses.

For teachers and other researchers in education social-cognitive paradigms could herald a new era in motivational research whereby the findings from such studies might be of direct practical relevance to them. It could also bring in its wake new approaches to the study of motivation that open up a dialogue with teachers, as well as other researchers in the field of education.

3.8 Conclusions

This chapter has sought to review developments in the study of motivation and their implications for teachers and pupils. To date, narrow psychological perspectives and a variety of different approaches to the study of motivation could have served to confuse and mislead teachers. In effect, research in motivation has yielded no consistent understanding about the nature or relevance of the construct. In spite of conceptual common-ground, the empirical evidence suggests that different measures tap different aspects of motivation.

The recent distinction between quantitative and qualitative conceptualizations, whilst offering a fuller understanding of motivational processes, has also brought with it a different set of challenges for motivational researchers in the field. First, rather than using motivation as a global term, it would make better sense for researchers to delineate aspects of motivation under investigation. Second, research efforts should be directed towards situational variables and children's differential responses to such variables. For example,

little is known about the ways in which young children respond to difficult and challenging classroom tasks from one area of the curriculum to the next, and yet, unless they develop adaptive strategies and persistence across a wide range of curriculum areas and contexts during the primary years, then there is a danger that early failure in some subjects becomes a lifelong disadvantage.

In acknowledging the potential contribution of schools and teachers to the development of effective motivation in their pupils, it is important to recognize approaches to the study of motivation which focus upon situational and process variables (e.g. children's responses to subject tasks perceived as difficult and the resultant pedagogic strategies employed by teachers to help them overcome such difficulties). In this way, research can focus upon gaining an understanding of the relationship between school and classroom management practices. This includes the relationship between motivational components of pupil-teacher interactions at curricular levels.

Allusions to children's self-concepts in cognitive theories of motivation are rife. The terms motivation and self-concept are also used almost synonymously by teachers. However, like motivation, its educational value is 'in danger of being subverted in the deadening process of popularisation' (Kenway and Willis, 1990, p.x). Chapter four moves to the arena of research in self-concept and assesses its explanatory power in motivational research.

PART TWO

CHAPTER FOUR

RESEARCH ON SELF-CONCEPT IN EDUCATION

4.1 INTRODUCTION

This chapter examines a recent resurgence of research on self-concept in educational settings. The author assesses first its explanatory power and educational value for teachers and pupils and, second, the nature of its symbiotic relationship with motivational research. Primary school children and their developing sense of themselves as learners provide the backcloth to the discussion. The chapter concludes that self-theorists need to address themselves to a much wider constituency of researchers in education and in particular, to motivational researchers.

4.2 DEFINITIONS AND CONCEPTUALIZATIONS OF SELF-CONCEPT

The 'self' construct is among the oldest in psychology (Marsh, 1990). Early self-theorists identify it as a social interactionist construct (James, 1890; Cooley, 1902; Mead, 1934). For them, and others since, self-esteem is linked to the notion of control or the ways in which pupils feel about their influence on, and control over, specific situations. However, there are no 'good old days' as far as research on self-concept is concerned. There is only a distant and best forgotten memory of theoretical and methodological shortcomings. Historically,

research on the construct of self-concept has been undermined by inaccurate measuring instruments of dubious validity and weak theoretical formulations. A mini-renaissance of psychological research on self-concept in educational settings seems to have occurred in the past decade or so. Whether this phenomenon simply mirrors an ideology of individualism in our society or has its genesis in a series of conceptual and methodological shifts is an interesting and compelling debate. Epistemological issues relating to the study of self-concept are discussed in chapter ten.

Following an extensive and classic review of construct validation research, Byrne (1984) recommends first that more 'within-network' research is needed to examine the relationship between different facets of self-concept (e.g. general self-concept and academic self-concept) and, second, that researchers must endeavour to establish the causal predominance between self-concept and academic achievement. 'Within-network' studies are concerned with the internal structure of self-concept while 'between-network' studies focus on the nature of relationships between self-concept and other constructs (e.g. academic achievement or motivation). Correlation techniques such as factor analysis and multitrait-multimethod (MTMM) analysis dominate much of the construct validation studies (Shavelson and Stuart, 1981). Multitrait refers to facets of self-concept (e.g. English and Mathematics academic self-concepts) and multimethod refers to the instruments used to measure self-concept (e.g. different questionnaires or self-other agreement on the same questionnaire). These analyses attempt to establish convergent and discriminant validity. For

example, it might be hypothesized that attainment scores in English would correlate highly with English academic self-concept (convergent validity) and poorly with Mathematics academic self-concept (discriminant validity).

Much of the assessment of self-concept over the past decade has relied on different types of self-description questionnaires that distinguish between broad curriculum areas, as well as between academic and social facets of self-concept (Harter and Pike, 1984; Wylie, 1984). Studies documenting the psychometric properties of self-concept dominate the literature (Marsh, 1989, 1990a; Marsh, Craven and Bolus, 1991). A plethora of different types of questionnaires has been administered by various researchers in the field to large samples of pupils across different age and ability groups, as well as across a host of educational settings; there is a vast literature to testify to the reliability and validity of many of these instruments (Silon and Harter, 1985; Wylie, 1984). Marsh and his colleagues (Marsh *et al.*, 1983; Marsh and Gouvernet 1989; Marsh and O'Neill, 1984; Marsh, 1989, 1990a) have sought to underpin the construct validity of their self-description questionnaires (i.e. SDQ1, SDQ2 and SDQ3) with a powerful set of statistical analyses. However, seduction by statistics is not necessarily the most fruitful way of helping classroom teachers to understand and apply new self-theories.

The multidimensionality of the self-concept has been established in the psychological literature and is now widely accepted among self-theorists. No universal operational definition of self-concept exists; however Shavelson and

Bolus (1982) attribute a number of characteristics to the self-concept, all of which are central to a definition of the construct. They contend that it is:

1. organized or structured in the sense that individuals categorize different information about themselves and relate the categories to one another;

2. multidimensional and the particular facets reflect the category system of a particular individual or group;

3. hierarchical with perceptions of behaviour at the base moving into subareas (e.g. academic - English and Mathematics), then into broader areas such as academic and nonacademic, and finally to a general self-concept;

4. In addition to 1-3 above, they suggest that it is stable, developmental where it becomes increasingly differentiated with age, evaluative and differential (p.3).

Marx and Winnie (1978) concur with this conceptual framework and highlight three central aspects in self-concept formation: the impact of significant others; that it comprises different facets relating to situations (i.e. academic, social, physical, emotional); that the relationship between self-concept and other external variables is non-recursive. Marsh (1986, 1987) and others have developed Shavelson and Bolus' (1982) original model described above.

These refinements are discussed in subsequent sections of this chapter. A corpus of research on self-concept accumulated over the past fifteen years and attributable to Herbert Marsh and his colleagues has focused almost exclusively on the construct validation of a multidimensional self-concept.

For self-theorists, demonstrating a relationship between academic achievement and self-concept is akin to searching for the holy grail. The crusade to establish whether self-concept precedes, or results from, academic achievement has dominated much of the empirical work. General or global self-concept is uncorrelated with academic achievement and academic self-concept is only moderately correlated with academic achievement (Marsh and Peart, 1988; Byrne, 1984; Hansford and Hattie, 1982). In their meta-study of self-concept and achievement, Hansford and Hattie (1982) consider only 'between-network' studies of self-concept and point to the problems in this research generally of variations in, and specificity of, self-concept measures, as well as to variations in the type of academic achievement measures used. There appears to be a need to reconceptualize the role of research on self-concept in education; the pursuit of relations between academic self-concept and academic achievement is no more than an empirical stranglehold. It has little explanatory power for teaching and learning processes at a curricular level.

4.3 SELF-CONCEPT AND PRIMARY SCHOOL CHILDREN

On commencing school young children experience a major life change.

With few exceptions, sociological research has steered clear of studying the impact of these life changes on young children for fear of the methodological madness therein (Entwisle *et al.*, 1987). Developmental theorists, too, seem to have neglected the possible impact of such dramatic life changes on young children (Piaget, 1936). Nonacademic, physical and social factors are more likely to continue to be influenced by factors beyond the school (Chapman, 1988); however, school factors are likely to have a significant impact on children's motivation and behaviour at school (Mortimore *et al.*, 1988). School factors are also likely to be the principle determinants of the ways in which children evaluate their own abilities (Entwisle *et al.*, 1987). For example, schools and classrooms which place a high value on academic achievement could undermine children's achievements in non-academic areas of the curriculum. Sir Ron Dearing's (DfEE, 1996) recent recommendations for the 16-19 curriculum have an explicit aim to break down the academic-vocational divide which has placed vocational in the shadow of academic qualifications for older pupils.

In pre-school children and infants, an understanding of the concept of ability is likely to be related more to social than academic competence (Graziano, 1986). Harter (1982) found that young children's global self-concept of ability includes social behaviour, conduct and work habits. Other studies that elicit predictions for future performance from young children, tend to focus exclusively on academic concepts of ability (Heller and Berndt, 1981). This focus limits available evidence regarding their reasons for predicted outcomes

(i.e. young children might conceptualize ability in terms of social rather than academic competence) (Stipek, Roberts and Sanborn, 1984). In effect, questions tapping general competencies such as "how good are you in school" are more likely to elicit erroneous information from young children (Stipek and Mac Iver, 1989). It is not simply the nature of the question that warrants scrutiny, it is also whether researchers are clear about the ways in which children understand evaluative terms such as "good". A cautionary note from Stipek and Tannatt (1984) states that:

> In studies of children's self-concepts of ability, it is important to consider the child's definition of the terms being used. When pre-school children, for example, claim that they are smart, they may mean that they behave appropriately; if they claim that another child is smart, they may mean that the other child is someone they like...we cannot assume that evaluative terms in measures of self-concept have the same meaning for all children. It is also clear that the criteria children use to evaluate competence change dramatically as the children advance in grade in school. (p.83)

Nicholls (1984b) indicates that children's overall assessments of competence are unaffected by domain-specific skill level, whether high or low. Additionally, young children appear to engage in 'across time' as opposed to 'across domain' changes in their assessments of level of skills (Harter, 1982). Both Nicholls and Harter conclude that young children are unlikely to have the cognitive capacity to integrate the various self-assessments. However, more recent research on self-concept indicates that global self-concept in young children is likely to reflect less on the integration of evaluations in specific domains, than on momentary salience; it is more likely that 'mood at the time is

used as a judgemental shortcut or heuristic device for inferring subjective well-being' (Marsh, Craven and Bolus, 1991, p.391). Hence, global self-concept measures in young children are not likely to be dependent on cognitive capacity to integrate information from a variety of domains. It seems reasonable to conclude, therefore, that the failure of previous research to demonstrate the ability of young children to differentiate among facets of self-concept is likely to be an artifact of the difficulties of constructing and using data collection instruments, as well as of designing appropriate methods and procedures to use with young children (Marsh, Craven and Debus, 1991).

Harter and Pike (1984) developed an instrument to measure different areas of self-concept each defined by six bi-polar items that included written statements and pictures. The areas represented were physical, cognitive, peers and maternal. According to the researchers, the significance of this instrument was that it was: developmentally appropriate, in a pictorial format, did not simply focus on global measures of self-concept and offered a range of responses. However, it is likely that the most significant aspects of their research were the administrative procedures they used to gather the data. The instrument was administered individually to children thus helping to clarify for them any difficulties with the meaning of items. Factor analysis supported only two factors: Competence (i.e. physical and cognitive scales) and Social Acceptance (peer and maternal scales). Silon and Harter (1985) concur with a similar two factor model; however, their study involved older 'educable mentally retarded' children with a mental age of eight years. The validity of a

direct comparison with children whose chronological age is eight and who are developing normally is problematic.

Harter and Marsh disagree about the age at which a global self-concept evolves and the associated cognitive processes. On one hand, Harter contends first that global self-concept does not exist in children younger than eight years old and, second, that specific facets of self-concept are poorly differentiated. On the other hand, Marsh, Craven and Debus (1991) provide empirical evidence to the contrary. They administered a self-description questionnaire (i.e. SDQ1) using two different procedures, individual and group administration to children aged five to eight years old. The group procedures were administered to the same children two weeks following the individually administered procedure. This instrument assesses three areas of academic self-concept (i.e. Reading, Mathematics and General School self-concept), four areas of nonacademic self-concept (i.e. Physical Ability, Physical Appearance, Peer Relationships and Parent Relationships), and a General self-concept. The SDQ1 comprises a total of seventy six questions. Different questions tap the different areas of self-concept. Children respond to a five-point Likert scale (i.e. false, mostly false, sometimes false sometimes true, mostly true and true). The results were analysed using, first, factor analysis and, second, confirmatory factor analysis techniques. In factor analysis factors are generated from the data, whereas confirmatory factor analysis investigates the goodness of fit of *a priori* models chosen by the researchers (e.g. an eight-factor model). The factor loadings for all eight scales were statistically significant and substantial for the total sample.

The eight-factor *a priori* model fitted the individually administered responses better than the group administered responses. The outcomes of this study suggest that general self-concept evolves much earlier than previously thought and that young children can differentiate between facets of self-concept.

The differences between Harter and Marsh's results could reflect less on the power of their individual instruments and more on the organization of the curriculum in the different schools in which they conducted their research. The classification of knowledge into subject domains could be more salient in some primary classrooms than in others. In a similar way, different aspects of a particular subject could be more differentiated; for example, there is evidence to suggest that, for some primary classes, within-subject differentiation is occurring (refer to chapter ten). There is a need for researchers to investigate the impact on children's academic self-concept of a curriculum even more differentiated than simply Reading and Mathematics. There is now sufficient empirical evidence to call into question the reliability and validity of research findings founded on global self-concept measures in young children. Global self-concept measures, then, are likely to be of limited value.

The significance of the studies cited above lies not so much in their direct relevance to teachers, as in their potential value to the study of other self-related constructs. On a theoretical level, they lend weight to subject-specific analyses generally and on a practical level, they point to a pressing need to reappraise and design appropriate methods of inquiry for use with younger

children. For example, instruments designed by motivational researchers could be adapted to incorporate these theoretical and practical developments (e.g. Nicholls' Scales of ego- and task involved).

If the formation of an academic self-concept begins early in schooling and serves as the seed-corn for future school performance, then self-theorists need to focus more attention on the emergence and development of self-concept in primary school children, as well as on the nature of its relationship to a range of other factors in the achievement context. In recent years, new theoretical formulations and methodological developments have been developed by self-theorists like Shavelson and Bolus (1982), Marsh (1990a) and Byrne (1984) and with them a range of empirical studies to underpin such future work. Marsh (1990a) suggests that there is a need to pursue an all-embracing theory of self that integrates other self-constructs.

4.4 SELF-CONCEPT AND INTERNAL AND EXTERNAL FRAMES OF REFERENCE

On first appearances the notion that different areas of academic self-concept (e.g. English and Mathematics) have been found to be uncorrelated (Marsh, 1986, 1990b) is likely to seem counter-intuitive to many teachers, more so to primary than secondary teachers. Secondary teachers are not necessarily aware of how individual children behave and perform across different subject areas of the curriculum. In contrast, primary teachers usually hold responsibility for teaching children in most subject areas, or at least in core curriculum

subjects. Leo and Galloway (1994) note that, in relation to children's behaviour and motivation, primary teachers do not appear to differentiate between subjects; they tend to generalize their assessments of pupils' motivation and behaviour across subjects. Shavelson, Hubner and Stanton (1976) posited that different areas of academic self-concept would not only be correlated, but also that these subareas could be incorporated into an overarching academic self-concept. Recent empirical evidence indicates that, whilst English and Mathematics achievement is correlated, English and Mathematics academic self-concepts remain relatively uncorrelated (Marsh, 1986). In addition, English and Mathematics academic self-concepts cannot be embraced under one higher order facet of Academic self-concept; it appears that two higher order facets of self-concept are required: verbal/academic and mathematics/academic self-concept (Marsh, 1990b). These findings point to a need to replace a general academic self-concept measure with separate English and Mathematics academic self-concept measures in future studies.

A more recent study incorporating a construct specificity level that reflected the actual subjects pupils studied at school (e.g. English literature, English language, foreign language, computer studies, industrial arts and arts), found that correlations among the achievement scores (i.e. standardized school grades) were substantially higher than those reported among the different areas of self-concept. (Marsh, 1992). Since subject specific and general measures of achievement in motivational research are mostly uncorrelated (Stipek and Weisz, 1981; Norwich, 1987), then these findings merit further consideration.

On a practical level, these findings imply that pupils could achieve similar marks across a range of subject areas (e.g. nearly all Bs or marks in a sixty to sixty five per cent range) and yet hold distinct self-concepts across the same range of subject areas. Therefore, it is not the marks or grades *per se* that count, rather the ways in which they are perceived by pupils (i.e. performance evaluations). It appears also that achievement within a subject area has no direct impact on other areas of self-concept. To this extent, 'self-concept' and 'achievement' are distinct constructs (Marsh, 1992). It has also been argued that these findings lend weight to his argument that academic self-concepts 'are affected by different processes than are the achievement scores' and 'contribute beyond what can be explained by prior achievement, to the prediction of subsequent achievement, subsequent coursework selection, subsequent educational aspirations and eventually, university attendance' (Marsh, 1992, p.41).

Marsh (1990b) theorizes that there are two inter-related processes at work here: he refers to these processes as an internal and external (I/E) frames of reference model. An external frame of reference relates to a social comparison process where pupils compare their performance with that of their peers, whereas an internal frame of reference is an internal comparison process where self-perceptions of ability in one subject are compared with those in another. Marsh (1990a) states that:

> academic self-concepts are influenced substantially by the ability levels of other students in the immediate context in addition to

> one's own ability level...students compare their own ability levels in different academic subjects in addition to comparing their own ability levels to those of other students in order to formulate their own academic self-concept. (p.123)

Taken together both processes serve to ensure that English and Mathematics self-concepts remain uncorrelated. It appears that the impact of a positive self-concept in Mathematics undermines that in English, irrespective of achievement in English and vice versa. From a theoretical and methodological perspective the impact of the relative strength of an internal versus an external frame reference on self-concept is problematic. Marsh (1992) appears to conceptualize these effects in a more quantitative than qualitative way. In other words, he discusses the impact of the I/E frames of references in terms of an increase in academic self-concept in English and a corresponding decrease in academic self-concept in Mathematics; it appears rather like a simple operation of 'checks and balances' between English and Mathematics academic self-concepts.

Even in surmising that Marsh is correct in his assumption that an internal self-audit system is in operation, it is still difficult to accept that the cognitive mechanisms by which it operates are linear. Nicholls' contention that conceptions of ability and effort are central to an understanding of achievement motivation casts serious doubt on Marsh's explanation of the I/E frames of reference model. The genesis of the model lies in a pupils' external comparisons with peers of normative assessment information derived from each of the subject areas (i.e. grades in English and Mathematics). According to Marsh, an internal audit would likely result in a rise in pupils' academic Mathematics self-concepts

and a corresponding drop in their academic English self-concepts if, following external comparisons, they conclude that they have performed better in Mathematics than English. However, if conceptions of effort and ability are taken into account and the pupils perceive themselves to have invested more effort in Mathematics than English and, as a result, conclude that their efforts were disproportionately rewarded, then an internal comparison could swing their academic Mathematics and English self-concepts in the opposite direction. For some pupils high effort equates to low ability. Further research on a hypothesized I/E model would need to tap pupils' conceptions of ability and effort.

Proximal external frames of reference such as pupils' English or Mathematics achievements do not exist in a vacuum. They are only two examples amongst a set of possible others. Nor are they inoculated against the wider influences of the school and beyond. For some children, older siblings or older children around the school could provide an influential frame of reference. So, too, a small group within a class and a class within a school into which children are assigned could also be important frames of reference. It is not clear either whether young children use quantifiable indicators as frames of reference such as the number of workbooks they have completed in Mathematics compared with English (Stipek and Tannatt, 1984), rather than using qualitative judgements about the developmental level of their work in either or both subjects. 'Cold' measures of self-concept, differentiated or not, convey little to teachers about the intra- and inter-personal processes underpinning them. There

is dearth of research on how primary children assess their own and their peers' abilities.

Stipek and Tannatt (1984) used an open-ended interview technique with four to eight year olds to study their own and their peers' academic competence. These concepts were operationalized by asking the children to explain how they knew who was best and worst in their class at tasks and in thinking ability. Children also rated themselves according to "smartness" and "thinking" and explained their ratings. Unlike Marsh's (1989, 1990a) SDQ1 procedures that tap children's evaluations using a predetermined set of questions, Stipek and Tannatt's (1984) approach documents the children's spontaneous responses in the familiar setting of their classrooms. An interesting finding was that ratings for peers were lower than self-ratings and did not change as a function of age. Self-ability ratings in children from four through to eight, as well as their ratings of peers, were significantly correlated with teacher ratings of the children's relative academic standing. A limitation of this study is that it is not subject-specific and some of the responses are ambiguous. For example, a response such as "he's good at spelling" fails to illuminate the active ingredient in the evaluations. It could refer to his strategic behaviour in spelling tasks, or it could mean in comparison with "me", his immediate spelling group or the rest of the class, or even compared with yesterday or last week (Stipek and Tannat, 1984). The researchers categorized ambiguous questions under 'relative performance' and indicate that 'further probing of such responses invariably implicated social comparison' (p.78). However, with these limitations in mind,

the research still serves to illustrate that, for all age groups in the study, proximal external frames of reference such as peers' ability can be influenced by children's metaperceptions of their teachers' evaluations of peer ability, and their management of social practices within the classroom. In rating the ability of their peers lower than their own ability, children could simply be demonstrating a self-serving bias effect (Covington, 1984). However, for young children it is more likely that they can judge other children's performance much more easily than their own. Self-reflection is likely to be more difficult for younger pupils (Stipek, 1984). This contention lends further weight to the notion that teachers can play a powerful role in shaping children's assessments of their peers' ability.

Research on academic self-concept concerned with children's more distant than immediate frames of reference shows that frames of reference can also influence their academic self-concept (e.g. school attended). Using an input-output model, Marsh (1990) states that:

> the value added by higher-ability schools is negative compared to that of the lower-ability schools...the academic outcomes produced by higher-ability schools are not as good overall as one would expect on the basis of the quality of students who attend these schools. (p.132a)

The term Big-Fish-Little-Pond Effect (BFLPE) has been coined by Marsh (1987) to describe a phenomenon whereby pupils' academic self-concepts change as a result of changes in the average academic ability of a school population. In

effect, a high school-average ability is likely to lower equally able pupils' academic self-concepts and correspondingly, a low school-average ability is likely to enhance equally able pupils' academic self-concepts (Marsh, 1987; Marsh and Parker, 1984). For this reason Marsh (1987) concludes that school type is likely to be a critical variable in pupils' self-perceptions of ability. In a similar vein, high-ability pupils are more likely to have poor self-concepts if taught in streamed classes with equally high-ability peers than if they were taught alongside peers in non-streamed classes. However, pupils of low ability appear to benefit from ability streaming; they were found to hold a higher self-concept in streamed than unstreamed ability classes (Kulik and Kulik, 1982). The BFLPE is operationalized using a school-average ability; crude averages of global measures of achievement and self-concept have been used in many of the studies that report BFLPE. One study that investigated subject-specific BFLPE provides evidence to support the content specificity of BFLPE in Mathematics and English (Marsh, 1990a). There are no studies that the author is aware of that study BFLPE in primary schools. A more 'fine-grained' approach to this type of research is necessary to illuminate children's phenomenological responses in different types of schools and the ways in which these relate to their academic self-concepts. At present, an understanding of the BFLPE remains at a rudimentary level.

4.5 SELF-OTHER AGREEMENT ON SELF-CONCEPT

Controversy and confusion surround the study of self-concept as inferred

by others (Marsh and Craven, 1991; McGuire, McGuire and Cheever, 1986) . Contemporary self-theorists seem to be recycling longstanding controversies in the usefulness of research on self-other agreements on self-concept. For example, within the literature generally there are different approaches in use to elicit ratings from 'others' about subjects. One approach requires the respondent to infer what the subjects think about themselves (e.g. "Helen thinks she is easy to like"), whilst a different approach requires them to make an objective judgement (e.g. "Helen is easy to like"). Even where researchers agree about the type of approach, they do not necessarily agree about its theoretical relevance. Coombs (1963) contends that inferred self-concepts are preferable to self-reports, since they are likely to be less biased than those completed by the subject. However, Crandall (1973) and Marsh and Craven (1991) assert that self- and other- ratings are theoretically separate and their usefulness lies in helping to establish construct validity. Unless the subjects are well known to the observer across a variety of domains, then self-other ratings are likely to be of limited or no value (Marsh, Parker and Smith, 1983). In a review of research on self-other agreement, Shrauger and Schoeneman (1979) report that 'there is no consistent agreement between people's self-perceptions and how they are actually viewed by others' (p.549). Only recent self-other research has focused on a multidimensional model of self-concept (Marsh, Craven and Debus, 1991), the principle aim of which has been to establish construct validity. In addition, few of these studies focus on primary-aged children.

In a recent study of self-other agreement on multiple dimensions of self-

concept involving children aged eight to eleven years, both mothers' and fathers' assessments of children's self-concepts were found to be more valid than teachers' in all areas of self-concept (Marsh and Craven, 1991). It would not be remarkable for parents to infer more accurately than teachers' a child's self-concept in a number of areas, however, it does seem surprising that parents' ratings were more highly correlated than teachers in the area of academic self-concept. The findings are even more remarkable given that the children were attending primary school where their teachers are with them for most of the time. The results could largely reflect the homogeneity of the sample. The children were predominantly middle-class and drawn from a single school in a suburb of Sydney; strong parental knowledge and interest in their children's education could explain the results. It is also possible that the parents discussed the questions with their children during completion. The researchers point to a limitation in the study of a poor rate of return of questionnaires from parents since only thirty six per cent of fathers and forty seven per cent of mothers replied. The poor rate of return could simply reflect the lack of time parents had available to complete the data collection instrument. The SDQ1 comprises seventy six items. However, in analysis the researchers used a casewise deletion for missing data, thus guaranteeing that only a complete set of responses for the same children were used. Further analysis was conducted using a pairwise deletion of missing data. Convergent validities were similar for both sets of analysis (i.e. casewise and pairwise deletion). No analysis is reported for the possible differences between father-child and mother-child agreement.

Given the limited number of self-other studies available for primary-aged pupils, and the inconclusive nature of much of the self-other agreement research for older pupils and adults, then it is difficult to make generalizations about its value to teachers. However, if as the above study suggests parents are more in tune with their children's academic and nonacademic self-concepts than are their teachers, then perhaps teachers need to seek even more information than is usual from parents about their children's perceptions of themselves as learners. These findings could be interpreted to imply that significant positive correlations of inferred and expressed academic self-concept by parents and children results from sensitivity of parents to children's comments about themselves. In this case a question for researchers is how far the methods themselves (i.e. methods used to investigate children's self-concept) construct the output of knowledge? This is not a trivial point. Pre-determined questions on a questionnaire constructed by a researcher offer limited, if any, information about how the child constructs his or her self-concept.

Young children could feel freer to express themselves and their concerns about school to their parents in the relative safety of their own homes. Parents are also likely to have more time than teachers to listen to individual children, thus providing a rich source of reliable information for teachers. Since parents' time in school is invariably limited and sporadic, then it seems less likely that academic self-concept, as expressed by children, results from children's metaperceptions of their parents evaluations of them at school. There is no implicit criticism of teachers here, it is simply that there could be a mismatch

between teachers' and pupils' perceptions of their progress, or lack of progress. Perhaps, too, self-theorists need to involve parents more in seeking to understand the processes involved in the formation of young children's academic self-concepts. These contentions do not contradict previous findings citing school as the principle determinant of academic self-concepts (Mac Iver, 1988). They simply call for the involvement of parents by researchers and teachers in helping to illuminate the development of children's academic self-concepts.

4.6 Enhancement of Self-Concept

Self-concept appears immune to interventions designed to enhance it. Scheirer and Kraut (1979) and Byrne (1984) undertook a review of studies purporting to enhance academic achievement through interventions designed to improve self-concept. They concluded that there was no evidence to support such a connection. Most of the studies were underpinned by a multitude of theoretical and methodological weaknesses. It is salutary for teachers to note a study by Marsh and Peart (1988) that aimed to improve pupils' Physical Ability self-concepts through two different physical-fitness training programmes, one competitive the other cooperative. Both programmes significantly improved Physical performance and fitness in the pupils involved. However, the competitive programme served to lower the average level of Physical Ability self-concept among the group. The researchers contend that this result stemmed from pupils in the competitive group having to compare themselves with the most physically able pupils in their group (i.e. the operation of a dominant

external frame of reference). Improved Physical Ability self-concept does not necessarily follow on from enhanced physical performance (Marsh, 1990a). In a similar vein, increased performance in an academic area will not necessarily lead to a corresponding increase in self-concept in that area.

In learned helplessness, it has been reported that, by changing children's attributions away from ability and in favour of effort, teachers can change positively children's helpless responses to difficult tasks (Craske, 1988). The reason for children's more adaptive response relates to corresponding changes in their underlying cognitive processes; it is posited that through the mechanism of changed effort attributions children come to conceive of themselves as more in control of their own learning outcomes. In other words, effort is a variable that can be controlled whereas ability is one that is fixed and stable and, as a result, is outwith the children's own control. On a theoretical level, following attributional retraining, a corresponding improvement in children's academic self-concept could also be reasonably expected (e.g. the children would be expected to think that their poor performance was due to a lack of effort not ability). However, a new set of cognitions, as well as an increase in classroom performance, will not necessarily herald an improved academic self-concept.

By changing ability in favour of effort attributions, children gain a sense of control over their own learning outcomes. Evidence of such changes could be gauged by behavioural indicators such as changes in their responses to challenging work (e.g. they would no longer make statements such as "I can't

do it, it's too hard for me" or "I'm not brainy enough to do this"). They are also likely to appear more confident in tackling new and challenging classroom tasks. Assuming that the children's immediate frame of reference does not change (i.e. they continue to be taught in the same class with the same group of children), and that they continue as before to compare their performance with their peers using normative assessment information, then it is possible that their perceptions of the differences between their improved performance in comparison with that of their peers' could still remain in deficit. Changing children's attributions does not necessarily guarantee that they will cease to evaluate their achievements against an external frame of reference. It simply means that they come to believe more in the utility of their own efforts. It is also possible that, by activating cognitions about effort, children will start to make unfavourable judgements about the amount of effort required to narrow a perceived achievement gap between them and their peers. There is a danger of assuming that changes in attributional beliefs coupled with increased performance equate with an enhanced self-concept. Improved performance could be short lived if the underlying self-perceptions of ability (i.e. academic self-concept) have at best remained static and at worst, diminished. Craske (1988) does not appear to have considered the long term prognosis for her attribution retraining programme. Motivational researchers would be well advised to incorporate measures of self-concept into their research designs.

Attending only to children's effort attributions in a highly competitive classroom with few 'winners' could be problematic. It would be reasonable (i.e.

an adaptive response) for a child to conclude that whilst increased effort would certainly improve their personal performance, no amount of effort would catapult them to the top or even to the middle ranks of their class. For such children effort could be conceptualized as compensating for a lack of ability. Fundamentally, their self-perceptions of ability have not changed. Even assuming that their conceptions of ability and effort have changed and that they perceive ability as incremental (Dweck and Leggett, 1988), and responsive to the agency of effort, it still does not guarantee that they will strive to succeed. In this case success is defined by an external frame of reference (e.g. the best grades). If the design of the physical-fitness training programme (Marsh and Peart, 1988) had also accounted for a need to enhance academic self-concept, as well as to alter attributions, then the long term prognosis could have been better. In this respect, self-theorists can offer motivational researchers a useful conceptual tool for further exploration of motivational interventions. The hypothetical case cited above should not be confused with children described in section 3.2.7 as 'overstrivers' (Thompson, 1993, 1994). Children for whom the maintenance of self-worth is manifest in the public demonstration of their ability, use effort as part of their armoury; effort serves as a defence against others having to conclude that they lack ability. Such children will invest any amount of effort required to maintain feelings of self-worth.

4.7 TEACHERS' AND PUPILS' SELF-CONCEPTS

In the light of recent theoretical and methodological developments

illuminating the multifaceted nature of self-concept, a question for teachers becomes not simply does self-concept impact on academic achievement but rather, does the curriculum and its related pedagogy impact on self-concept and, if so, in what ways. For example, a fundamental question relates to teachers' professional self-concepts and whether these are differentiated in similar ways to those found in children. In other words, in pupils, does a high self-concept in Mathematics accompanied by a poor self-concept in English correlate with teachers' self-perceptions of ability to teach either or both of these subjects? If all of the children in one class are found to have similarly high or poor self-concepts in the same subject domain (i.e. the majority of the class hold high self-concepts in Mathematics), then this phenomenon could relate to their teacher's professional self-concept in that subject domain. The unit of analysis in research on self-concept is the individual and much of the focus of the analysis is on construct validity; as a result, teacher and school level variables are virtually ignored. Therefore, the possible impact of teachers' professional self-concepts on their pupils' academic self-concepts is masked. This question is likely to be even more pertinent to primary than secondary teachers, since not all primary teachers are specialists in all the subjects they are expected to teach.

Recent reports on primary education suggest that differential levels of subject knowledge (e.g. Mathematics and Science) among primary teachers are associated with poor standards of pupil achievement in core curriculum subjects. For example, a recent survey of new teachers in schools carried out by the Office for Standards in Education (OFSTED) (1991) suggests that 'when one of

the (primary) teachers's own specialist subjects was part of the lesson, the level of performance was enhanced' (p.18). It should be stressed here that this aspect was only part of the story. While the opposite case cannot be assumed, some teachers could feel deskilled by a lack of specialist subject knowledge. It is conceivable, therefore, that some teachers hold a high professional self-concept in subject areas where they perceive themselves to have specialist knowledge. It is also possible that teachers who perceive themselves to have a knowledge deficit in particular subject areas hold a poor professional self-concept in these areas. The same survey indicates that for secondary teachers:

> a good depth of knowledge was not by itself enough to ensure successful knowledge...a specialist modern language teacher with a Year 7 class failed to motivate the children and lost control of the lesson as a result of not consolidating prior learning before introducing more advanced ideas. (p.19)

The notion that motivational processes are intertwined with prior and new knowledge has face validity. However, the assumption that adaptive motivation and behaviour in children in the face of new and challenging learning tasks results from a failure on the teacher's part to muster the children's prior learning or knowledge is misleading.

First, on a theoretical level, it is more likely that children's prior knowledge is activated by, or results from, an adaptive motivational response (i.e. children whose motivational style is mastery orientated); linking prior with new knowledge is likely to be mediated by cognitive-motivational processes. For

example, children who hold learning goals (Ames and Archer, 1988); a belief in their own ability (i.e. a healthy academic self-concept) and demonstrate control over their own learning processes (Carr, Borowski and Maxwell, 1991), are more likely to understand the need to survey and apply their prior learning to new and challenging learning situations. Children with a poor academic self-concept and no faith in their ability to succeed in work that is difficult would not appreciate a need to call up prior knowledge. They do not necessarily understand their teachers' reasons for discussing and referring back to things they have already learned. For many children teaching strategies remain a mystery to them; they have little awareness of their teachers' goals. Second, the children's apparent lack of motivation could have been more to do with the teaching strategies used to introduce the 'more advanced ideas', and less to do with whether or not prior knowledge was invoked. Some teaching strategies are threatening to pupils whose goals are to ensure that they avoid unfavourable ability evaluations. The nature of the interrelationship between knowledge, pedagogy, and teachers' and pupils' self-concepts is an important question for motivational researchers.

In primary schools, the advent of a National Curriculum has precipitated the introduction of 'subject coordinators' with responsibility for overseeing the work throughout the school in a particular area of the curriculum (e.g. English, Mathematics, Science or Technology). However, this arrangement could serve unintentionally to undermine and deskill further the efficacy of class teachers in teaching the full spectrum of core curriculum subjects. Teachers' perceptions of

the role of curriculum coordinators are likely to vary with the skill and knowledge of the different coordinators. However, there is a danger that primary subject coordinators could depress unwittingly their colleagues' professional self-concepts in specific subjects.

It cannot be assumed that structural changes in the organization and management of the curriculum influence teachers' professional self-concepts. Nor can it be assumed that teachers' professional self-concepts influence their teaching ability and, in turn, pupil performance. However, it seems reasonable to suggest that school and teacher as well as pupil factors are likely to be active agents in the construction of children's academic self-concepts and, therefore, warrant attention. The argument here is not for studies that compare teachers' with pupils' perceptions of pupils' self-concepts (i.e. self-other agreement on dimensions of self-concept), it is for investigations of possible links between teachers' professional self-concepts' and pupils' academic self-concepts. Through recent theoretical and methodological advances in this field, researchers might now have the means by which to investigate such questions.

4.8 SELF-CONCEPT AND PEDAGOGY

In running the gauntlet of different teaching strategies, pupils are likely to respond in different ways. The potency of different teaching strategies in relation to children's academic self-concepts is unclear. While great strides have been made in establishing the construct validity of self-concept, the same cannot

be said for knowledge and understanding of its possible mediating role in teaching and learning processes. These processes have not been a focus of empirical investigation. Self-theorists need to begin to explore the possible ways in which children's academic self-concepts affect, and are affected by, different teaching strategies. This section opens a discussion of self-concept and teaching strategies in the context of three selected empirical studies on learning. It is important to note that the researcher was not involved at any level or in any capacity with the studies cited below.

These studies have been selected for discussion here for a variety of reasons. The first reason is simple enough: each one of them captured the imagination of the researcher during her studies. There are many 'critical incidents' in the course of a research project. For the author, studying the work of these researchers ranks among the critical incidents in her project. In different ways the work of these researchers is exciting and evocative. There is a clear curriculum focus in the work of Adey and Shayer and Desforges and Bristow cited below and an opportunity to consider different teaching strategies and their possible impact on motivational processes. In particular, the case studies documented by Desforges and Bristow (Desforges and Bristow, 1992; Bristow and Desforges, 1992) offer a ring side seat to researchers interested in observing the ways in which particular teaching strategies can help children to overcome difficulties. To put this point from a motivational perspective: how they foster adaptive motivation. The work of Lave and Wenger (1991) is provocative in the sense that it challenges deep-rooted ideas in western culture

about teaching and learning. Whether her work has much to offer classroom teachers in the UK remains a matter for speculation.

In the following sections clear conceptual links between self-concept and motivation and the foci of the studies are drawn out. Methodological issues are also raised. The three studies do not represent the vast array of teaching strategies found in schools; however, what they do offer is a rich bank of data and ideas to help develop the field of motivational research in classrooms both conceptually and methodologically. During the course of her studies the researcher was able to meet and to share ideas with Philip Adey, Stephen Bristow and Jean Lave cited below. Two of the studies are drawn from the field of psychology and one from the field of anthropology.

The first study emanates from Philip Adey and Michael Shayer's research into cognitive acceleration through science education (CASE) with early adolescents. The second relates to the work of anthropologist Jean Lave on situated learning, and the third from a study of the application of subject knowledge (ASK) by primary school children in three core subjects English, Mathematics and Science undertaken by Charles Desforges and Stephen Bristow. A fuller discussion of the conceptual links between CASE and motivational style is provided by Leo and Galloway (1996a).

Cognitive Acceleration through Science Education (CASE)

In an intervention programme designed to accelerate the rate of cognitive development in science of early adolescents (CASE) (Shayer and Adey, 1992; Adey and Shayer, 1994), a set of systematic teaching techniques referred to as concrete experience, cognitive conflict, metacognition and bridging are used. These techniques involve children in problem-solving activities aimed at developing their capacity to find their own solutions to scientific problems and increase their awareness of how they did it; hence the children gain control over their own thought processes. The central tenet of CASE is that a particular set of teaching strategies can accelerate children's intellectual development and, in the longer term, procure enhanced academic achievement. Successful intervention is reported for at least twenty five per cent of pupils. For children failing to respond to CASE teaching strategies, no adequate theoretical explanation is provided. Social-cognitive theories of self-concept and motivation could help to explain further these findings. Adey and Shayer (1990) contend that:

> if effectiveness of learning is determined by the general strategies available to the child, then training in those strategies will allow him to leapfrog over detail into a higher level of abstraction, from which rapid assimilation of detail becomes possible. (p.268)

CASE activities demand 'much more class discussion than is usual' in order that individual children 'contribute to collaborative reflective learning' (Shayer and Adey, 1992, p.19); the starting point is the individual learner. The

teaching strategies involved, however, in 'concrete experience', and 'exploratory discussion of a proposed investigation', require considerable self-exposure by children of their existing ideas (Watts and Bentley, 1987). The willingness or otherwise of children to express their ideas is likely to be dependent on their academic self-concept and their perceptions of the prevailing classroom environment (e.g. whether the teacher's social practices in the management of classroom work favour ability comparisons). Children who hold a poor academic self-concept and who do not believe in their ability to succeed are likely to be vulnerable in such situations, to display helplessness and a loss of persistence, and thus avoid the challenge. In this way, children's underlying cognitions could undermine these teaching strategies.

Cognitive conflict is underpinned by theories of conceptual change. The theoretical model of conceptual change in CASE presupposes teachers' skills first, in enabling children to articulate and explore their own conceptions of the world, and, second, in introducing anomalous features which induce conflict and dissatisfaction with the pupil's own theories. Children who are mastery oriented enjoy challenges and perceive them as central to their own learning. They hold a positive view of their own abilities. For them the introduction of new and challenging concepts will not threaten their self-concept and therefore, is likely to be a successful strategy. For other children cognitive assault (Watts and Bentley, 1987) is likely to be a more appropriate term (e.g. those children with the goal of maintaining a positive academic self-concept and protecting their self-worth); the notion of eliciting intentionally 'wrong' answers in order to

present the 'right' ones could be not only counterproductive to learning but also devastating to some children's self-worth. Such children do not necessarily understand that this strategy is perceived by their teacher as useful in engaging their 'thinking', thereby helping them to learn. Children who are learned helpless and hold a poor academic self-concept are unlikely to persist having got the wrong answer, thus undermining the technique and the subsequent stage of CASE.

CASE teachers were trained to engage children in 'thinking about thinking'. For example, one approach involved asking questions of pupils such as 'How did you solve that problem?' Given that beliefs about the value of effort and a feeling of control over ones own learning outcomes help in the development of metacognitive awareness (Borkowski *et al.*, 1990), the impact of low self-perceptions of ability cannot be underestimated. Children who hold such beliefs are unlikely to be able to perceive or articulate their role in their own learning processes. CASE teachers are also likely to have been affected by the training. By highlighting the importance of metacognition and providing them with a set of teaching techniques, the training could have altered their awareness of the children's levels of strategic behaviour and, in turn, their perceptions of the children's abilities. In other words, if learning difficulties are recast as deficits in metacognitive awareness and not ability, then teachers could change positively their views about some children. In this way children's metaperceptions of the ways in which their teachers and peers perceive their ability could influence positively their responses to difficult tasks. Increasing

teachers' knowledge and understanding of the role of metacognitive awareness in learning could serve to change positively their underlying conceptions and evaluations of ability.

The assumption underlying the 'bridging' technique is that children need to be taught how particular principles apply in new situations. A corollary of this assumption is that children need first to be able to recognize problems from one area of the curriculum to the next before they can apply problem-solving strategies (Brown *et al.*, 1983). Successful bridging implies that children have control over their own learning processes (i.e. they have an adaptive motivational orientation). Unless interventions are targeted at changing those devastating cognitions and feelings attached to a low self-concept and associated helpless responses in new situations, then such children are unlikely to have the confidence to call up prior knowledge in the belief that failure is inevitable. Teaching strategies need to take full account of children's underlying reasons for learning for fear of leaving a great many children behind on their 'starting blocks'.

Situated learning in 'communities of practice'

The concept of possible or future selves encapsulates schemata of what an individual is fearful of becoming or alternatively, would like to become (Markus and Nurius, 1986). These self-schemata are important in defining personal goals and can play a powerful role in shaping an individual's future

aspirations and ambitions (Markus and Nurius, 1986). In school the impact of future selves schemata could be devastating for children's motivation since they could define themselves in terms of present failure, rather than on future possibilities (Anderman and Maehr, 1994).

Anthropologists such as Lave and Wenger (1991) are critical of approaches to the study of learning that focus on cognitive and constructivist theories such as those cited above. They contend that:

> Learning...is neither wholly subjective nor fully encompassed in social interactions, and it is not constituted separately from the social world (with its own structures and meanings) of which it is part. (p.64)

However, this work offers an unusual, yet powerful, example of the possibility of future self schemata in operation. These researchers invite a radically different view of learning and one that is constituted by person, situation and action. For them, knowledge cannot be divorced from the situation in which it is formed and to which it is applied. Her work draws heavily on apprenticeship models of learning. In this way identity is also formed and shaped within the community of practitioners within which an individual learns. Lave and Wenger (1991) see 'mind, culture, history, and the social world as interrelated processes that constitute each other, and intentionally blurs social scientists' divisions among component parts of persons, their activities, and the world' (p.64). When asked how her findings could help schools in their understanding of learning, Lave recognized the difficulties of applying her

perspective to the formal educational setting of a school and replied that: 'I don't touch schools, they're too difficult' (Lave, 1995). Perhaps the closest analogy in formal educational settings of 'situated learning in communities of practice' is that of the 'apprentice' academic or research student harnessed to the 'expert' supervisor. In other words, the research student is developing their knowledge and identity through a social process of moving towards participation in the academic 'community of practice'. Another example, could relate to the current trends in school-based teacher education practices in England and Wales, whereby student teachers spend the majority of their time in 'communities' of practising teachers (e.g. schools). It is contended here that the 'apprentices' in Jean Lave's studies could have been motivated by a conceptualization of themselves in the future; the future 'experts' that they are working towards becoming. It seems reasonable to speculate that given such a salient external frame of reference, then an individual is likely to develop or have a clear vision of their future occupational self. Whether primary school children hold, or are influenced by, future or possible self schemata raises interesting questions about peer support schemes in schools. Many secondary schools have schemes whereby older pupils support their younger counterparts.

Application of Subject Knowledge (ASK)

There is a dearth of research into the ways in which primary-aged children use their previously acquired subject knowledge in future learning. The National Curriculum is predicated on the notion that children use their

previously learned knowledge to underpin new learning (Desforges and Bristow, 1992). The introduction of new subject knowledge and ideas, as well as novel and challenging educational tasks, and the ways in which children respond to them, is relevant to gaining an understanding of children's developing sense of themselves as learners. In a recent study of the application of subject knowledge by children aged seven to eleven in English, Mathematics and Science, Desforges and Bristow (1992) define knowledge broadly as: 'domain knowledge (concepts and skills); strategic knowledge (general approaches to learning, problem solving) and contextual knowledge or the children's knowledge of the social practices of their school work' (p.4). Most metacognitive-motivational research focuses only on one aspect of the application of knowledge (i.e. strategic or metacognitive knowledge). A clear strength of this study is its subject specificity, as well as the potential archive it offers other researchers of children's phenomenological responses to a set of difficult and challenging educational tasks (i.e. their responses to learning situations where failure is judged possible). Children's responses to failure or the threat of failure, has been of central importance in motivational research (Covington, 1984; Ames, 1984; Ames and Ames, 1984a, 1984b, 1985, 1989). Perceived personal control has also been a recurrent theme linking self-concept and motivational theories. For example, children who are mastery oriented show considerable control over their own learning processes. Of key importance to an examination of the ASK study is the way in which the role of the children was conceptualized in the research. The children were made aware of the aims and purposes of the study and 'their collaborative role was emphasised and

practised' (p.5); they were not simply subjects of the research, their involvement as 'mini-researchers' was central to the research process.

The researchers devised a series of new and challenging curriculum-based tasks in each of the subject areas of English, Mathematics and Science. They introduced and taught the children themselves; they did not involve the class teachers. Observations and interview data were gathered during and following on from the activities. The question of whether their findings would have been different had the class teachers been responsible for introducing the new tasks does not appear relevant to the focus of this study. The researchers' interests lay in finding ways of gaining access to, and an understanding of, children's strategies for applying prior knowledge, and not in evaluating a particular set of teaching approaches. Desforges and Bristow (1991) contend that:

> in essence we use methods of critical exploration to establish what they know about a topic or issue and then set them tasks which create a point of difficulty for them. We then discuss how they tackle these difficulties, what knowledge, skills, strategies, attitudes they bring to bear on the matter' (p.6)

On a theoretical level, motivational researchers are also interested in the 'critical exploration' of 'a point of difficulty' for children in their learning. By gauging children's responses under such conditions, motivational researchers make inferences about children's motivational orientations. On a methodological level, motivational researchers have used mainly self-report instruments with

predetermined questions (Marsh, 1990a; Harter and Pike, 1984), or procedures that infer pupils' motivational orientations from a one-off measure of a singular event (e.g. a test) (Craske, 1988). The limitations of such measures and procedures is that they fail to illuminate the phenomenology of the constructs of self-concept and motivation. To this extent the direct involvement of children's class teachers in motivational research is vital. The data discussed here are drawn from case studies (Desforges and Bristow, 1991, 1992; Bristow and Desforges, 1992). The research process throws up critical incidents of children's responses to potentially threatening situations. Two extracts are examined for their possible descriptive and methodological value to self- and motivational-theorists. Key phrases have been emboldened by the author.

Extract 1

> In one instance for example, we established what a particular 9 year old knew about writing: her grammar, handwriting, story schema, tastes and commitments were explored. The girl was a good author. She had a powerful grasp of both structure and sense of audience. **With her permission we made her life difficult.** She agreed to write a story following a first line provided by the researcher. The line was, 'And they all lived happily ever after'. Her difficulty, which she announces, was that, "this is not a beginning - it is an end" ... but ... "it really would interest people." To tackle this challenge she would have to decontextualise a strongly framed aspect of her knowledge. She would have to make mobile a phrase which, in her conception, was static. In this minor example, we were asking the child to force the limits of context. (p.6)

Extract 2

> **We told Zoe that we expected her to find the task hard.** In addition, we reminded her of our previous conversations with her and suggested that she might find the contents of those conversations helpful. Zoe's response was to make sure that she put something down as an answer...to demonstrate that she had at least made some attempt at the question... she appeared to make no attempt to engage with the problem...Following further questioning by the researcher Zoe went on to solve the problem. She then said that: I only thought of this. I didn't know this. I just used my brains...I learnt something. It may suggest that the working practices for mathematics in this classroom were so influential that, given any hint of a problem, Zoe's dominant strategy for coping with that problem was to try and enlist the help of the teacher whilst maintaining an impression of having made an effort. (p.13-19)

Both extracts illustrate the ways in which subject knowledge, teaching strategy and the notion of difficult and challenging educational tasks are inextricably linked. The researchers and their pupils seem to have reached a shared understanding of the central role of difficult work in future learning. They appear to conceptualize 'a point of difficulty' (Desforges and Bristow, 1992, p.13) as an active ingredient in the successful application of prior knowledge and learning. This characteristic is associated with children who hold learning goals and a mastery oriented motivational style. It is conceivable that by asking children's permission to give them difficult tasks, the researchers were giving pupils a sense of control in the situation and a get out clause should they fail; in other words, to fail on a 'difficult' task as legitimized by the researchers might be expected and so, a child can still try and fail, and yet preserve their sense of self-worth. The question posed by the ASK study is whether motivational

researchers need to rethink the focus of their work. Focusing on children's conceptualizations of 'difficulty' in motivational interventions, rather than on effort and ability could be more productive. The high ecological validity of this study also portrays the need to work alongside children in classrooms.

In extract 1, by asking the pupil's permission to present her with a difficult writing task, she could respond in a number of ways. She could feel extremely threatened and decide not to try in case she fails. She could think that it would not matter if she fails because the task is difficult and you cannot be judged as lacking in ability if you fail on a difficult task, and if you succeed on difficult tasks then you stand to gain all the more. In this case she took up the challenge because 'it really would interest people' thus suggesting a genuine interest in the task (i.e. a learning goal). In extract 2, the pupil appears only to try to avoid having to do any work by simply providing 'any answer'; it does not seem to matter to her. Only after the researcher had asked her further questions did she proceed to overcome her difficulty and to solve the problem. She seemed pleased and surprised at the eventual outcome. The researchers point to the role of the 'working practices' in the classroom which they suggest could have played a significant part in her strategic behaviour.

In motivational analyses, the likelihood is that the pupil's responses would be interpreted more as a sign of learned helplessness than of work avoidance and would be linked with the social practices in the classroom. The pupil thinks she cannot do this work, but that the teacher will tell her to try

harder if she is not seen to be producing an answer. If she gets it wrong, it does not matter because the teacher will think she has tried and proceed to help her. The pupil's comments suggest that she was surprised to have 'used her brains' and to have 'learnt something'. This could infer that the further questioning by the researchers prompted her to apply her prior knowledge; however, without further details it is not possible to know. The point here is that the ways in which teachers respond to pupils at 'a point of difficulty' could foster mastery orientation rather than helplessness. In addition, the way 'a point of difficulty' is conceptualized by pupils could also help to foster learning and not performance goals.

This study provides rich observational and interview data on primary school children in a naturalistic setting. It offers a contrasting methodological approach with Marsh, Craven and Debus' (1991) study cited in section 4.3. While the research questions underpinning both studies are different, it is nevertheless useful for researchers working with primary school children to consider the appropriateness and vantage point of such different approaches in relation to their own research questions. Desforges and Bristow analysed their work by examining the ways in which children used their prior knowledge to tackle challenging tasks and the teaching strategies used to tap into and engage this knowledge. In this study the researcher analysed her data by tapping the children's self-perceptions of their ability to overcome a point of difficulty.

4.9 VALUES AND THE FORMATION OF IDENTITY OR SELF

A powerful, if enigmatic, influence on pupils' self-concepts and behaviour is likely to be the actual school they attend (Galloway, 1985; Marsh, 1990a; Mortimore *et al.*, 1988). Therefore, for a leading American academic such as Philip Wexler to portray schools as on the 'leading edge' of a fundamental crisis of identity in society is a serious charge. Wexler (1992) advises that 'educators...have concentrated on cognitive skills, curriculum or 'knowledge', to the neglect of identity' (p.156). Instead he advises that a pupil's identity or self is formed by the culture and values of the school. Cognitive theories of both self-concept and motivation have conceptualized the dominant value in education as the striving for academic success (Covington, 1984; Nicholls, 1989; Marsh, 1992). For example, Covington (1984) states that:

> Given our society's tendency to equate the ability to achieve and human value, it is not surprising to find that many students come to believe that they are only as good as their accomplishments, and that to fail makes them unworthy of the approval of others. (p.81)

Wexler could be described as epistemological poles apart from Covington, Marsh and Nicholls; nevertheless, in common with them, Wexler's empirical work is underpinned by a 'concern with theory as the goal of research' (Henwood and Pidgeon, 1992, p.18). Given, also, that teachers, as well as an army of other researchers in the field of education, hold little more than a rudimentary understanding of self-concept and its impact on classroom performance, then it could be helpful if self-theorists were to align any

methodological tussles with the pressing concerns of researchers generally, and teachers particularly.

Wexler (1992) and his research team undertook an extensive ethnographic study of how pupils formed their identities in a series of different metropolitan high schools in America. They spent three years conducting structured interviews with over three hundred pupils, teachers and parents. On being asked by him what they were doing in school, some pupils replied that they were "becoming somebody". Wexler (1992) argues that:

> they were not struggling to become nobody...they wanted to become somebody, a real and presentable self, and one anchored in the verifying eyes of the friends whom they came to meet. (p.7)

Wexler rejects the language of social reproduction and subcultures in which dissension from school is viewed as class affirmation (e.g. Willis, 1977). Instead, he suggests that the 'education crisis' is more to do with social affirmation; he contends that 'subcultures and individual identities' are the result of a 'system of social interaction' and are 'compensatory reactions to an interactional relational lack' (p.34). He concludes that 'the education crisis' arises from an absence of a sense of mutual commitment at an emotional level, of caring as the basis of relationships; in other words, it does not stem from an economic or cognitive 'crisis' but a crisis in social relationships. For him, the supreme relationship in a school is the pedagogic one, the interaction between teacher and pupil. He describes this sense of shared commitment between pupils

and teachers as the 'emotional dynamics of identification, attachment and caring' (p.36). The struggle of the pupils in his study is one of establishing their identity through social relationships. For Wexler maladaptive motivation and poor self-concepts would likely be perceived as arising from a lack of reciprocal committed social relationships, referred to by pupils as the 'likewise principle'. The dynamics of these relationship problems between pupils and teachers are illustrated in the following statement made by one of the pupils:

> So, it's likewise, you know. The teacher doesn't want to teach the kids who don't want to learn. Kids don't want to learn because they don't like the teacher. (p.40)

On a methodological level, like the empirical work of Desforges and Bristow (1992) discussed earlier, the centrality of Wexler's (1992) characters transforms his study in a vital and powerful way; the narrative is replete with the 'voices' of the pupils and teachers. In much of the research on self-concept presented in this chapter children's 'voices' are conspicuously absent; placing children's personal accounts of their school experiences at the heart of the research process has not been the traditional modus operandi of self-theorists. To this extent knowledge and understanding of the interrelationships between curriculum, pedagogy and self-concept is limited. For teachers, Wexler's study documents the ways in which the relationships in schools and classrooms can have a profound and transformative effect on children's identities and learning. The first point to make here is that Wexler seems to be saying that teaching and learning take place in a social context; tasks set by teachers have a social and

academic dimension which are inextricably linked. The second point is on a methodological level. Through observations and interviews Wexler is able to document graphically the underlying perceptions and feelings of pupils and teachers by studying them in the naturalistic setting. Through him they speak to the reader. In this sense the data is alive; the actors seem to be in 'free flow' mode. Leaving aside for a moment the argument that in ethnographic studies the researcher is engaged in a process of selection and sifting of data first at the point of collection and, second, at the point of communication, nevertheless, Wexler illustrates a clear link between teacher and pupil motivation. He shows (sometimes poignantly) how the pupils themselves can have a profound impact on teacher motivation and behaviour. The actors in his study seem to be caught up in a reciprocal dynamic of social neglect. It is difficult to see how a predetermined questionnaire could generate such powerful and rich data. Wexler's starting point is the pupils and teachers themselves. From the point of view of this study, Wexler's work is useful in informing the development of a methodology which seeks to examine the phenomenology of the constructs of motivation and self-concept. In other words, in contributing to the development of knowledge about motivation and self-concept, researchers should consider the role played by social relationships in the classroom.

4.10 Conclusions

In the wake of a new economic imperative in education, school management 'spin-doctors' are busy creating a corporate self-image for their

schools. Schools have begun to take seriously the business of image-making and self-presentation. While national newspapers continue to deck their columns with unitary performance indicators such as public examination results, then the pursuit of academic excellence seems unstoppable. It is commendable that parents seek to provide the best educational opportunities for their children, and schools strive to improve themselves, but the impact of these performance related goals on children's developing sense of themselves as learners is far from clear (Meece, Blumenfeld and Hoyle, 1988; Elliott and Dweck, 1988). Enhancing teachers' motivation and professional self-concepts has not been an explicit focus of policy-makers and change-agents in schools. Nor has it been the focus of research generally on self-concept and motivation in education. The so-called 'crisis in schools' has tended to be conceptualized as a crisis of pupil and not teacher motivation and self-concept.

Primary school children are not the passive recipients of education. They make choices about how they will behave and learn (Galloway and Edwards, 1991). Marsh, Craven and Debus (1991) have provided empirical support for the early emergence of a differentiated self-concept. From the studies cited in this chapter, it seems reasonable to conclude that self-concept and motivation are inextricably linked. However, there is a pressing need to disentangle the nature of this apparently symbiotic relationship. While recent theoretical and methodological developments provide new horizons for self-theorists, their explanatory value for teachers is at present limited. They have contributed little to an understanding of the impact of teaching and learning processes in

classrooms. Future research in this field needs to bring together the knowledge and understanding from self- and motivational-theorists for the benefit of teachers, and the wider community of researchers in education.

PART THREE

CHAPTER FIVE

METHODOLOGY

5.1 INTRODUCTION

In asking others to challenge common sense notions about motivation and self-concept, the researcher set out to do the same with her role. Therefore, in developing a critique of the methodology serving this study, it was also legitimate to develop a self-critique (Lacey, 1993). This chapter examines critically the methodology underpinning this study in relation to a range of key theoretical, epistemological and ontological issues. It also includes a detailed account of the methods of inquiry used. Chapter ten provides a critical appraisal of the methods of inquiry used in relation to the results of the study.

5.2 RATIONALE FOR THE METHODOLOGY

Distinctions between quantitative and qualitative methods

Historically, the distinction between quantitative and qualitative methods has been associated with lineage. That is to say, quantitative methods are descended from the natural sciences; however, they have also been the dominant paradigm in psychology. Much of the criticism of the use of quantitative methods in the social sciences has focused on the appropriateness of the

'ubiquitous experimental model' in developing an understanding of human relations (Hammersley, 1990). Quantitative inquiry has been characterized by a quest for objective knowledge; in this sense, researchers working within this paradigm have been seen to hold fast to a realist ontology. In contrast, qualitative methods have descended from the fields of anthropology and sociology. They have been located within an interpretative or naturalistic paradigm. A vivid watchword often used to describe data from an interpretative paradigm is 'thick descriptions' (Geertz, 1973), in other words, knowledge claims within this paradigm arise from one person's (the researcher's or subject's) interpretation of another person's (the object's) view of the world. The question of whether it is possible for one individual to know what events mean to another person is considered in subsequent sections. Whilst it is acknowledged here that there are different types of qualitative research (e.g. symbolic interactionism, sociolinguistics, neo-markist ethnography), each of which can be associated with different groups of researchers, much of the qualitative research in the UK combines elements of all of them (Atkinson, Delamont and Hammersley, 1993).

Quantitative and qualitative methods have been, and in some cases continue to be, seen as epistemological poles apart. The development of theory is of concern to both paradigms; nevertheless, the ways in which methodologists from each paradigm go about the business of formulating theory are different (Henwood and Pidgeon, 1992). Put simply, quantitative methods serve to test existing or prior theories, whereas qualitative methods serve as a basis for

generating theory *from* data (i.e. generating grounded theory). The development of theory in relation to quantitative and qualitative methods and its implications for this study are discussed later. The point to note here is that, irrespective of technique, they have a shared goal: to develop theory (Henwood and Pidgeon, 1992).

The notion that quantitative and qualitative methods are incompatible is far from clear cut. While the potency of a mixture of quantitative and qualitative methods accords well with the nature of the research questions driving this study, the decision to combine them was more than simply a technical matter. Even pragmatism has an epistemological case to answer. First, it is helpful to ask what issues lie at the heart of the tensions between quantitative and qualitative inquiry and, second, in what ways are these justified by their respective methodologists? Of concern, too, and particularly in relation to research in education, was the matter of whose interests were being served by keeping this particular debate alive.

Underpinning the rationale for the methodology used in this study was that all choices of methods belie a set of views about knowledge, as well as about the development of theory in educational research. Not to mince matters, it was contended that all inquiry is founded on a set of concepts and hypotheses. To mix methods does not assume a state of conceptual or ideological innocence, or that it is possible for any researcher to occupy a sort of 'no man's land' when collecting data. Far from it. The upshot of this position is a contention that

neither quantitative nor qualitative methods have an exclusive claim to knowledge. Along these lines, Ratcliffe (1983) argues that:

> Most research methodologists are now aware that all data are theory-, method-, and measurement-dependent. That is, 'facts' are determined by the theories and methods that generate their collection; indeed, theories and methods create the facts. And theories, in turn, are grounded in and derived from the basic philosophical assumptions their formulators hold regarding the nature of and functional relationship between the individual, society, and science. (p.148)

Knowledge and objectivity in quantitative and qualitative methods

Contemporary epistemologies contest the notion that knowledge can be based on some irrefutable foundation; in this sense they embrace neither empiricist (e.g. Locke) nor rationalist (e.g. Descartes) claims to knowledge. However, it would be wrong to surmise that in abandoning the comfort of 'true and certain knowledge', so, too, is the notion of 'objectivity' necessarily discarded. For many researchers working within a positivist paradigm, objectivity has become a methodological proverb (Phillips, 1993). For ethnographers, however, it is more akin to having a millstone round their neck from which they cannot escape (Gitlin, Siegel and Boru, 1993). There are even those who believe it to be no more than a false god (Eisner, 1991). On the question of 'objectivity', the researcher aligns with Phillips (1993) who proposes that:

> in all types of inquiry, in so far as the goal is to reach credible

> conclusions, there is an underlying epistemological similarity (therefore) what is crucial for objectivity of any inquiry - whether qualitative or quantitative - is the critical spirit in which it has been carried out. (p.71)

If, underlying much of the family feuding between quantitative and qualitative inquiry, is the notion of objectivity, and there is plenty of evidence to suggest that it is (Gitlin, Siegel and Boru, 1993), then it is worth pausing for a moment to consider this issue. Karl Popper (1968) stated that:

> The question about sources of our knowledge...has always been asked in the spirit of: 'What are the best sources of our knowledge - the most reliable ones, those which will not lead us into error, and those to which we can and must turn, in case of doubt, as the last court of appeal?' I propose to assume, instead, that no such ideal source exist - no more than ideal rulers - and that all sources are liable to lead us into error at times. And I propose to replace, therefore, the question of the sources of knowledge by the entirely different question: 'How can we hope to detect and eliminate error?' (p.25)

Popper's revised question is useful, however, it is possible to go much further in challenging the status quo. There is a danger that quantitative and qualitative methodologists continue to run along their parallel tracks, each set seeking separately to 'detect and eliminate error' as they see fit. Instead of an opening up of methodologists to common concerns such as the development and testing of theory in education (Hammersley, 1992) or, the relation between research method and purpose (Carr and Kemmis, 1986), the debate becomes side-tracked into one of whose knowledge is the most credible.

The author has attempted to state the case for a nonfoundationalist epistemology, and a conceptualization of 'objectivity' in educational research as an opening up to critical scrutiny. However, a defence of a methodology combining quantitative and qualitative methods should not rest there. So far, the author has attempted to establish a level playing field between them. It is now important to address the question of what each method has to offer the other generally, and this study particularly.

The politics of method

Methodology has become politicized, in the sense that qualitative methods are being used increasingly for ethical, political and emancipatory reasons. Whilst it is not possible within this thesis to provide an in-depth critique of different types of ethnographic research, it is important to recognize that there are tensions among ethnographers themselves about the method and purpose of their work. For example, it seems that emancipatory ethnography has become the dominant methodology of the left in its attempt to expose the inequalities in schools (Gitlin, Siegel and Boru, 1993). Gitlin and colleagues have gone as far as to suggest that 'an uncritical acceptance of ethnography contributes to the impotence of the American educational left' (p.191). Feminist research has also openly embraced an emancipatory goal (Roberts, 1981). In this respect, Weiler (1988) contends that:

> feminist research is politically committed. In rejecting the possibility of value-free research, feminists instead assert a

> commitment to changing the position of women and therefore society' (p.59).

Emancipatory research has as an explicit goal: the development of egalitarian and democratic relations. Gitlin, Siegel and Boru (1993) explain these goals as follows:

> Emancipatory change is concerned with the productive aspects of schools as well as the particular sets of relations found within...(it) reflects a movement away from oppressive relations of all kinds - relations that limit people's control over their work, deny certain groups access to debates, and obstruct opportunities for a quality of life. (p.195)

It is interesting that these researchers contend that the passive stance of interpretive methods which separate knowledge from action has limited the extent to which these emancipatory goals have been achieved. Wexler (1987) seems to agree with this viewpoint and suggests that ethnographers have been hoist by their own petard. In other words, by using a methodology that treats the subjects of the research 'as if (they) were simply absent' (p.82), the emancipatory purpose is lost. However, it could also be said that the purpose of generating theory is also in danger of being lost here. For this reason ethnographers need to realign their purpose with one of developing theory. They need to reconceptualize their emancipatory goals in terms of the development and testing of theory in education. The author will return to this point later.

Gitlin, Siegel and Boru (1993) point to a need to reconceptualize the role

of method in emancipatory research and contend that ethnographers have lost sight of the relation between method and purpose. Instead, these researchers suggest that ethnographers have been sidetracked into attempts to legitimize their work in terms of its trustworthiness (i.e. establishing reliability and validity of data such as in the ways proposed by LeCompte and Goetz, 1982). To pit an egalitarian ideal against a quest for reliable and valid data seems unreasonable. A solution proposed by Gitlin, Seigel and Boru (1993) is for researchers to come clean, to own up to their political agenda. Along similar lines to Habermas (1987), they argue that researchers should not be formulating 'problems' on behalf of teachers for reasons that:

> consciousness-raising or change of any sort is not likely to occur unless researchers formulate problems through a dialogue that considers and critiques both the 'subject's' and the 'researcher's' view of reality. (p.199)

Underlying these sentiments is an assumption about the ways in which to bring about emancipatory change in schools: put simply, teachers need to construct their own understand of problems and seek to change schools and classrooms for themselves. To cast teachers and researchers in the role of gate-keepers of the curriculum is a battle fought and lost. That is not to say that the tensions in schools should not be recognized and challenged.

The study of motivation in education has as much a political as a research agenda: to improve children's learning, behaviour and subsequent academic achievement. Of central importance to this study is the exploration of

children's understanding of motivational processes in their own classrooms, and the ways in which children come to construct their views of themselves as learners. It is about trying to make sense of children's responses to the different educationally challenging tasks set for them in classrooms. Therefore, part of the study can be conceptualized as interpretive ethnography. The researcher is not planning to enter into a dynamic and reciprocal critique with her subjects. Her interests lie in generating and testing a theory of self-concept and motivation. She contends that it is the accumulation of theoretical knowledge that is needed if teachers are to make sense of motivation.

Theory in this context is more about testing than explaining ideas. Hammersley (1990) explains this difference in the following way:

> The focus is not on given events, but rather on a particular theoretical idea, and those aspects of any events whose investigation might facilitate the development and testing of that idea; the identification of indicators for those variables; and the testing of predictions derived from the theoretical idea, and those aspects of any events whose investigation might facilitate the development and testing of that idea. (p.104)

Chapter two argues that the overriding problems in motivational research are essentially conceptual ones.

Emancipation comes in different forms. For example, if a motivational researcher is working within a change paradigm in a classroom, and in a way which involves an open and reflexive dialogue with a teacher, then it could be

difficult to generate a theory about motivation, let alone test one, that was not inextricably linked to teacher change (e.g. changing teachers' metacognitive awareness, self-efficacy or related cognitive processes). It could be argued that this method is a useful way to generate change theories about teachers' beliefs specifically or in relation to education generally, however, that is not the focus of this study. To conclude: no attempt is being made here to argue that the goals underpinning this study are emancipatory. They clearly are not. However, these ideas can serve to challenge researchers in the field to examine their own goals, values and beliefs about the purpose of their research.

The role of theory in quantitative and qualitative methods

Traditional classroom ethnographers are beginning to raise critical questions about the role of theory in ethnography, as well as about the relative contributions of qualitative and quantitative methods in ethnographic research (Hammersley, 1990). Whilst each approach offers potentially different information, taken together quantitative and qualitative data have much to offer each other. Part of this study has been concerned to use quantitative methods as a model of theoretical sampling.

Systematic theoretical sampling as opposed to naturalistic sampling is not a new idea in ethnography, however, it is uncommon. Nor is the idea of using quantitative indices novel to ethnographers in schools (Lacey, 1970; Ball, 1981). Ball (1993) develops a number of arguments to support the potency of

combining these approaches.

In this study, the researcher used quantitative data in the first instance as a method of theoretical sampling: to identify classes for further study. Following an ethnographic study of two classes in Year One, systematic triangulation of quantitative and qualitative data was used to formulate and develop a theoretical understanding of motivational processes. In Year Two, this conceptual understanding was then tested empirically. In this way, it was possible to link quantitative and qualitative methods in the exposition of motivational and self theory. To plunge into what Ball (1993) refers to as the 'unknown' (p.32) in choosing classes for an ethnographic study would have been naive.

In addressing a powerful criticism often levelled at ethnographic research, that of its inadequate attention to the testing of theory, a longitudinal element was introduced to this study incorporating both quantitative and qualitative methods. In this way the theoretical understanding generated at the end of Year One was put 'to the test' during Year Two. In other words, the researcher was in the business in Year Two of testing and developing further theory formulated in Year One.

5.3 THE STUDY: A DETAILED ACCOUNT

The research design incorporated a two-year longitudinal study using a combination of quantitative and qualitative methods. A longitudinal element

allowed for the development and testing of theories about changes in children's motivational style and self-concept from one class/year to the next. By tracking three cohorts of pupils of different ages, it was also possible to investigate changes across the primary school years. The design involved two linked Parts which were carried out in Year One and repeated in Year Two. Quantitative data gathered in Part One enabled the researcher to identify two classes for a follow-up intensive study. In this way, the choice of classes for further study was based on a model of theoretical rather than naturalistic sampling as discussed in the previous section. Qualitative methods used in Part Two not only enabled the researcher to investigate pupil perceptions in the classroom, but it was also then possible to analyse the quantitative and qualitative data using systematic triangulation to ensure a strong degree of validity.

Over a period of two years, the study involved three parallel cohorts of pupils in years 1-2, 3-4 and 5-6 of primary school (i.e. aged 5-6, 7-8 and 9-10 years respectively). The pupils were drawn from two large primary schools recognized for a breadth in socio-economic factors relating to pupil intake. Part One concerned the identification, emergence, development and stability of motivational style and self-concept across a large sample of primary school pupils aged 5-10 years. It drew on quantitative data gathered from self-description questionnaires administered to pupils, as well as on two sets of questionnaires completed by their teachers. The questionnaires focused on two core subject domains of the National Curriculum: English and Mathematics.

Part Two involved a complementary ethnographic study of classes illustrative of adaptive/maladaptive motivational style. It involved two separate classes of pupils in year 3 (i.e. aged 7 years) from the same school and drawn from the initial sample of fifteen classes. Part Two used observational and interview techniques. Taken together Parts One and Two spanned a period of one school year. To provide longitudinal and comparative data, both Parts One and Two were repeated in the second year of the study. In the following sections Year One and Year Two refer to the first and second years of the longitudinal study and *not* to the school year to which a pupil belonged. To avoid confusion school years are presented in a numerical format (i.e. year 1 or Y1). The two schools involved in the study are designated as School A and School B respectively.

5.4 PARTICIPANTS

Schools

The aims of the study required at least two large primary schools evincing a breadth of socio-economic factors relating to pupil intake. All primary schools in a local education authority (l.e.a.) with a number on roll of over three hundred pupils, and covering the full age range of five to eleven years, were identified and invited by letter to participate in the study (i.e. total number of schools identified N= 15). The l.e.a. covered a twenty mile radius. Please refer to Appendix 1 for a copy of the letter sent by the researcher to the

headteachers of the fifteen schools.

The researcher followed up all letters with a telephone call one week later to the headteacher of each of the fifteen schools to offer further information about the nature of the research project and to arrange an appointment to visit the school. Out of the total number of fifteen schools contacted only four expressed a willingness to participate in the research. Many of the headteachers contacted stated that their staff was already overburdened by the commitments required by the National Curriculum and its associated testing and assessment requirements. So, too, did OFSTED inspections, as well as a multitude of other pressures feature in their reasons for not wishing to take part. For example, two schools were involved in a separate l.e.a. wide research project, a further six schools were involved in a new and extensive programme of school-based initial teacher education, and one school was in the process of appointing a new headteacher. In effect, many of the headteachers felt unable to presume further on their colleagues' time and goodwill. Ten of the fifteen headteachers were apologetic and, although unable to participate, expressed a genuine interest in the research topic. Without exception the headteachers stated that it was a field they believed to be of pressing concern in education and of particular relevance to schools at that time.

All headteachers requested information about the findings emanating from the study. It seemed ironic that these headteachers acknowledged wholeheartedly the need for such research, but, as a result of a host of other

pressing needs in the day to day running of schools, coupled with a deep concern about the level of demands on their colleagues, they felt unable to participate. The sentiment was clear, even on the telephone. It was captured by one of the headteachers when she reported that: "We just can't cope with yet another demand, I am so sorry".

It is of fundamental importance in evaluating the findings of this study to bear in mind a backcloth of educational reforms and unprecedented changes in schools. To divorce the research process herein from the impact of such changes would be to tell half a story. Suffice to say, that the impact of these changes was considerable not only on the ability of the researcher to gain initial and on-going access to schools and classrooms over a two year period, but also on the research process generally and the subsequent interpretation of the findings.

On the basis of her information about the four schools that had expressed a willingness to participate in the study, the researcher visited two of them; she visited the two schools that best matched the criteria for sample selection. The aim of the visits was two-fold: to offer further information about the project to the schools and to explore further the suitability of the schools to participate in the project. Both headteachers were welcoming of, and supportive to, the aims and requirements of the research project. They each escorted the researcher on an extensive tour of the school and introduced her to all members of staff. The researcher had requested that she be introduced to the staff as a qualified and experienced teacher who was now involved in research on the development of

children's motivation to learn in English and Mathematics.

It was fortuitous that, en route through the school, the researcher learned that she knew key members of staff in both schools (e.g. the special needs coordinators and the English and Mathematics subject coordinators). Serendipity was at work here, for these contacts were to turn out to be instrumental in many ways to the smooth running of the project. The question of whether it was exploitative to be capitalizing on her shared background as a teacher, as well as on her relationships with key staff in each of the schools, did not occur to the researcher at this time. It was only when the study progressed that this issue came to the fore. Ethical dilemmas arising from the study are discussed in chapter ten. In the event, both of these schools were considered to be suitable to the project's aims and, therefore, formed the sample of schools.

School A

School A was a large grant-maintained, voluntary aided Catholic primary school located in the centre of a main town, and serving a wide catchment area across the county. The school had only recently opted for grant-maintained status in an l.e.a. where only one other primary school had chosen grant maintained status. The number of pupils on roll on commencement of the study was approximately 400 pupils. The majority of pupils were transported to and from school from out of town locations and were drawn from a wide range of socio-economic backgrounds. There were two parallel classes in every year

group including two classes of rising five year olds, a total of fourteen classes. The infant and junior aged pupils were taught in different parts of the school buildings. A recent policy decision taken by the governors and headteacher of this school was to employ additional numbers of classroom assistants to work throughout the school. Only one of these assistants had a formal qualification (i.e. N.N.E.B. certificate). The school gained grant-maintained status only nine months prior to the commencement of the study.

School B

School B was a large primary school designated Church of England (C.o.E.) and situated on the edge of a small market town. In close proximity to the school was a large council estate housing many families described by the headteacher as having a range of social and economic disadvantages. Many of these families had been decanted there from other areas for a variety of reasons. The school catchment area also included pupils from residential and affluent backgrounds. The number of pupils on roll on commencement of the study was 309 pupils. During the early months of the research project the headteacher retired and a new headteacher was appointed. This was a worrying change for the researcher so early in the project; however, it did not adversely affect the continuation of the study. Due to falling rolls and a backcloth of financial cuts in the l.e.a. the school had also recently moved away from traditional classes comprised of pupils of the same age, in favour of a composite class structure involving three parallel classes of years 1 and 2, 3 and 4 and 5 and 6. Given the

large numbers of children of different ages in each class, for example the three parallel combined year 1-2 classes each comprised 32 pupils (i.e. 17 year one pupils and 15 year two pupils), then the composite class structure offered an advantage of working with a larger sample of teachers in each year group. A composite class structure was thought to be more advantageous than otherwise to the study. On a pragmatic level, choice of schools was limited anyway. In contrast with School A where the two year one classes each comprised a total of 22 pupils only, School B had nearly as many year one pupils in a composite class of 32 pupils.

Pupils

To investigate the emergence, development and prevalence of motivational style and self-concept during the primary school years, all pupils in year 1, 3 and 5 in School A and School B were involved in Year One of the study. The initial sample comprised approximately equal numbers of boys (n=145) and girls (n=153). Table 1 below shows the number of pupils drawn from School A and School B.

The same pupils were tracked by the researcher into Year Two of the study. They were now in years 2, 4 and 6 respectively. Pupils in the longitudinal sample comprised all those involved in Year One of the project, with the exception of those who were absent on the days that the questionnaires were completed, or those who had left the school. Approximately ten per cent

of the initial sample were missing from the longitudinal sample.

TABLE 1: TOTAL NUMBER OF PUPILS IN SAMPLE

	School A	School B	Total
year 1	44	51	95
year 3	65	39	104
year 5	51	48	99
Total	160	138	298

Two classes of pupils were involved in Part Two, the intensive follow-up study. The two parallel year 3 classes (aged 7) were drawn from School A. These pupils were also tracked into year 4, with the exception of pupils who had left the school (n=3).

Teachers

Part One

Class teachers of pupils in years 1, 3 and 5 in both schools were involved in Year One of the study (N=15). Class teachers of pupils in years 2,

4 and 6 in both schools were involved in Year Two of the study (N=15). The special educational needs coordinators (N=2) from each school were also involved. In School A only one out of the twelve teachers involved was male. In School B two out of the nine teachers involved were male.

Part Two

A total of four teachers were involved in Part Two of the study over a two year period: two teachers in Year One and a further two in Year Two. All four teachers were drawn from School A.

5.5 DESIGN

Data were collected over a period of two years in the following sequence:

Year One

Part One:

In the late autumn and spring terms pupil self-concept and motivation questionnaires were administered by the researcher to all pupils in the sample; teacher questionnaires were also administered to all teachers in the sample. Pupils completed three questionnaires in total, one on self-concept, one on motivation in English and the other on motivation in Mathematics. Teachers

completed two questionnaires for each pupil in their classes. The data were then analysed prior to the Summer term to enable classes to be identified for a more intensive study in Part Two.

Part Two:

In the Summer term a follow-up intensive study of two year three classes was conducted by the researcher using observational and interview techniques. This study involved twelve half day visits to each of the classes. The timing of the visits was arranged to coincide with English and Mathematics lessons. These lessons took place mainly in the mornings on most days of the week. Extensive field notes of observations and interviews with pupils were made. Separate tape-recorded interviews were also made with each of the teachers.

Year Two

In Year Two of the study Parts One and Two were repeated using the same design as above.

5.6 MEASURES

Identification of Self-concept using Marsh's Self-Description Questionnaire (SDQ1)

To address the question of whether domain-specific self-concept is a

reliable, valid and useful construct various dimensions of self-concept were assessed using an adapted version of Marsh's Self-Description Questionnaire (SDQI) (Marsh, 1989, 1990a). Few other measures of self-concept were available for use with young children. One possible instrument (Joseph, 1979) was rejected on the basis that it would not assess whether young children could differentiate between different facets of self-concept. The researcher also considered using an instrument designed by Harter and Pike (1984) which combines a simple pictorial format with individual interviews of young children. Harter and Pike's instrument measures physical, cognitive, peers and maternal areas of self-concept. The researcher decided that Harter and Pike's instrument, whilst acceptable to younger children, might not be taken as seriously by older children because of its pictorial format. Since it was important to be able to compare like with like across the age range of the primary school, then the same instrument had to be used for all pupils.

As discussed in chapter three, during the past decade Marsh and his colleagues have developed instruments for assessing multiple dimensions of self-concept, with strong support for the construct validity of responses to the instruments. More recently they have developed a new procedure using the SDQ1 for use with young children aged five to eight. These procedures involve individual administration of the SDQ1 to younger children. The advantages of the SDQ1 were that: it could be administered individually or in small groups to all ages of pupils across the primary school years; it had strong construct validity for young children and provided a measure of multiple dimensions of

self-concept. For these theoretical and practical reasons the researcher decided to use the SDQ1 rather than alternative measures of self-concept. The procedures adopted in this study are discussed in the next section.

Marsh, Craven and Debus (1991) report information attesting to the reliability and validity of the SDQ1 when used with a total of five hundred and one children aged five to eight, predominantly from middle class families, and attending kindergarten-third-grade elementary schools in New South Wales, Australia. However, it was decided to conduct a separate principal components factor analysis of data arising from the present study. The rationale was that there were likely to be relevant cultural and structural differences between schools in Australia and the UK. Simply adopting Marsh's factors without generating and examining those identified in the data from this study might obscure such differences. It was also thought useful to explore whether a UK study could validate further Marsh's findings.

The SDQ1 comprises nine items for each of the following eight dimensions of self-concept: English, Mathematics, Physical Ability, Physical Appearance, Peer Relationships, Parent Relationships, General Self and General School. The SDQ1 has a total of seventy six items. In this study all items referring to dimensions of Reading were changed to English since the aim of this study was to examine the broad curriculum areas of English and Mathematics. As in the Marsh study, all negatively worded items were removed on the premise that they can be difficult for young children to understand and to

respond to appropriately.

In Year Two of the study all items referring to Physical Appearance and Parental Relationships were also removed from the instrument before administration. The reason for their removal from the instrument stemmed from a complaint from a parent at one of the schools involved in the project. The parent contacted the headteacher to complain that the questions relating to 'Physical Appearance' and 'Parental Relationships' were unsuitable for children of this age. She reported to be representing several other parents. It was a difficult and potentially serious situation since one of the teachers had also been approached by an angry parent whilst attending church at the weekend. A different parent also told a member of staff that she should have been more responsible and not permitted the children to be questioned in this way. Naturally the teacher was most upset.

The incident was the basis of open discussion in the staffroom. Given, also, that the headteacher had only recently been appointed to the school, and subsequent to the commencement of the research, it was of concern that he had been placed in a position of defending something he had not been party to. On his commencement at the school, the researcher had briefed him in full about the project. The researcher was keen to be supportive to him and to the school. Her working relationships with the staff and pupils at the school were excellent, nevertheless, she was concerned that the incident would undermine or jeopardize the longitudinal component of the project.

The upshot of the matter was that, following consultation with her supervisor, the staff and headteacher, the researcher wrote a personal letter only to those parents who had complained. It appeared that only six or seven parents in total were involved. The headteacher sent a copy of the letter to these parents (please refer to Appendix 2) with a covering letter. The researcher's letter attempted to both inform and reassure parents about the nature of the research generally, and the questions relating to children's self-concept particularly. She also invited them to meet her to discuss further any issues of continuing concern and to see first hand the instruments being used in the study. Only one parent took up this invitation and met with the researcher at the school. It was a productive meeting and having seen the instruments and discussed the research, the parent was actually supportive to it. She was then able to reassure other parents informally and in one respect the matter was closed.

The incident had raised a number of issues for the continuity of use of the self-description questionnaire. It had also served to alert the researcher to the potential problems raised by seemingly innocuous questions. In setting up the project, the researcher had consulted fully the staff in both schools and provided them with open information about the project and access to the instruments being used. Both headteachers were satisfied that everything was in order and assured the researcher of parental and governor support. They did not think that it was necessary for the researcher to contact parents directly to seek permission to administer the questionnaires. Had the researcher been more sensitive to the possible problematic nature of the questions relating to Parental

Relationships and Physical Appearance, then the incident might have been averted. A possible reason for this oversight could have been that her focus was on academic self-concept. Therefore, the questions relating to other dimensions of self-concept were of interest to her only inasmuch as they could be shown to be differentiated from dimensions such as English, Mathematics and General School.

There were no repercussions for the researcher with staff or pupils at the school who continued to support her as before. The researcher removed the items in question from the instrument before administration in Year Two. A total of forty four items remained. For ethical reasons, the responses to 'Parental Relationships' and 'Physical Self' collected in Year One have not been used in any analysis or results reported in this thesis. Please refer to Appendix 3 for a copy of the SDQ1 instrument used in the study.

Identification of Motivational Style using Nicholls' Motivational Orientation Scale

Nicholls' Motivational Orientation Scale (Nicholls, 1989) was used to address the question of whether ego- and task involvement and work avoidance responses are reliable, valid and useful constructs in primary-aged pupils. The instrument was used to assess motivational orientation in English and Mathematics separately. The researcher had previous direct knowledge and experience of Nicholls' instrument from working on the ESRC-funded research

project summarized in chapter two. Nicholls' instrument offered an advantage of a cognitive measure of motivational orientation. In this way, the data from the Nicholls' questionnaires could be validated against observational and pupil interview data. A possible alternative to Nicholls' instrument would have been to use Craske's (1988) technique. However, given that this study was aiming to tap pupils' perceptions in the classroom, then a cognitive rather than a behavioural measure of motivation was more appropriate. The validity of using Craske's (1988) technique with young children is problematic as they have little experience of 'test' situations. On a practical level, Craske's (1988) technique would also have been time-consuming and impracticable for use in a primary classroom.

Nicholls' scale measures individual differences in task orientation and ego orientation in English and Mathematics. Ego involvement connotes a motivation to increase self-worth by demonstrating superiority over peers whereas task involvement suggests that pupils are concerned to master a task or skill rather than demonstrate competence to, or over, others. Two identical but separate instruments were prepared each comprising sixteen items tapping children's motivational responses in English and in Mathematics. Each item was prefixed by a question: "I feel really pleased in English when...". Pupils were asked to respond to each item in turn. Nicholls has used this instrument extensively with older pupils and undergraduates and provides strong support for the construct validity. To test the validity of the instrument with younger children and to identify adaptive and maladaptive motivational responses in the

broad curriculum areas of English and Mathematics, the researcher used administration procedures akin to those adapted for the SDQ1 and reported below. Please refer to Appendix 3 for a copy of the Nicholls' Motivational Orientation Scales used in this study.

Identification of Motivational Style using Teacher Motivation Questionnaire

The researcher was not aware of any published instrument that tapped teachers' perceptions of their pupils' motivational styles in English and Mathematics. To triangulate the data from the SDQ1 and the Nicholls' Motivational Orientation Scales, a questionnaire for use with teachers was developed (Leo and Galloway, 1994) (refer to Appendix 4 for a copy of the questionnaire). In this way the data could be scrutinized further. Items tapping different theoretically-driven motivational styles (i.e. mastery orientation, learned helplessness and self-worth motivation) were constructed. Other questions tapping teachers' perceptions of pupil behaviour and attainment were also constructed. During the process of construction the researcher tested individual items for relevance and levels of ambiguity on a group of teachers on an M.Ed. course. From their comments she was able to improve the clarity of each item. She included statements illustrative of each of the motivational styles in the question (e.g. "In Maths this pupil: Often does not make any serious attempt to tackle a difficult task in order to avoid the risk of failure (e.g. "it's boring" or "who wants to do that anyway"). A total of nine questions remained and these were set out as far as possible in a 'respondent-friendly' format. The

researcher then designed a booklet comprising a front cover with instructions for completion and a set of thirty five questionnaires in the booklet (i.e. one page per pupil). Two booklets were made for each teacher, one for English the other for Mathematics.

A pilot study was then conducted using the questionnaire. It involved six primary teachers of Year 6 classes who were drawn from five different primary schools in a different l.e.a. from that used in the main study. The pilot schools were located in an urban area of high levels of social disadvantage and unemployment. All pupils were in their final year of primary schooling. One booklet contained all the questions for English and the other contained those for Mathematics. Each booklet comprised a set of identical questionnaires (i.e. one for each pupil in the class). Teachers were asked to respond to a nine-item questionnaire which asked about pupil motivation and behaviour in English or Mathematics. All items in the questionnaires were prefixed by the statement, "In English this pupil...", similarly all items in Mathematics were prefixed by the question"In Mathematics this pupil...". Four of the nine items in the questionnaire presented a statement describing a typical example of a response pattern of behaviour associated with a particular motivational style. For example, "often gives up or won't try in the belief that she or he lacks ability to tackle the task (e.g. 'I can't do this, it's too hard for me')" indicates Learned Helplessness. Five of the nine items tapped teachers' perceptions of a pupil's classroom behaviour and attainment. As a result of analyses of data from the pilot study it was not necessary to alter the content of any items on the

questionnaire. The results of the pilot study were published (Leo and Galloway, 1994). The teachers also reported that they found the instrument easy to complete. The minor changes that were made to this instrument are reported below. Following these changes, the instrument was used in the main study.

5.7 PROCEDURES

Pupils' questionnaires

Since the project involved primary-aged pupils, the SDQ1 and the Nicholls' Motivational Orientation Scales in English and Mathematics were presented to the pupils in the form of a personalised booklet. All pupils in the sample had separate booklets for Years One and Two. A pilot study to identify problems in the administration of the instruments (i.e. amount of time required for administration) was carried out using a class of rising fives who were not involved in the project. From this pilot work, the researcher decided to present the questionnaires in a booklet form. In this way the task could be personalised to the children. The pupils were also more likely to perceive the questionnaires as meaningful and important if they were in this form, rather than simply as a collection of unrelated and separate worksheets. A self-contained booklet was also much more manageable for the researcher given the volume of quantitative data collected for the study (i.e. two booklets per pupil (n=596 booklets) each containing three different instruments and four booklets per teacher (n=92 booklets) each containing thirty five copies of the same instrument over the two

year period

All of the responses had to be coded against each individual child's code number, then scored and entered into a data base. The researcher had to negotiate with the headteachers and secretaries of both schools to gain access to their pupil data-base. Only in this way could she obtain class lists and personal details such as date of birth and gender of all pupils in the study. One of the secretaries was reluctant to give out this information even though the headteacher had agreed to the request. To satisfy the secretary the researcher was required to sign a written agreement to keep confidential any information received. At the beginning of the project the researcher set up a data base in SPSS (SPSS, 1992). The data file included a total of two hundred and sixty variables per case on completion of the field work.

The pupil booklets were designed to look attractive. They were A4 sized with a front cover entitled 'My Progress at School' and with a set of short 'bullet points' or instructions for completion. For example, two of the instructions stated: 'I should try to answer all of the questions carefully' and 'I should now listen carefully to the teacher. She will read each question aloud before I tick the box'. The booklet contained five pages in total. Page one contained Nicholls' Motivational Orientation Scale for English, page two contained Nicholls' Motivational Orientation Scale for Mathematics and pages three to five contained the SDQ1. All three instruments and the cover page were spiral bound. A full copy of the pupil booklet is provided in Appendix 3. The

questions in each instrument were individually numbered and designed to offer maximum accessibility to younger pupils. Code numbers, year and class were entered on each page.

The questionnaires were completed during lesson time and as close to English and Mathematics lessons as possible. The researcher was able to work with small groups of pupils in quiet rooms or areas adjoining the classrooms. Marsh, Craven and Debus (1991) adapted his procedures for using the SDQ1 from whole class groups to individual pupils. As far as possible the procedures described below matched those used by Marsh. However, during piloting of the instrument and procedures the researcher decided that it was more productive to work with pupils, even the youngest ones, in small groups. The children seemed much more relaxed and less anxious if they were with peers. It was also helpful to the youngest pupils who could ask questions together and help each other to understand the task in hand. They seemed more interested in completing the questionnaire if they were with peers.

On a number of occasions during the piloting of the procedures the researcher felt that some pupils were keen to get it over with to return to the familiarity of the classroom. Rather than undermining the quality of data collected, being with peers seemed to help the process of questionnaire completion in a range of important ways. In addition, the children did not wait to ask peers how they had answered the question before responding themselves. The researcher told the children that it was important to answer for themselves.

She also permitted them to cover their answers with a book if they wanted to. She would say: "These questions are all about you and particularly what you think about yourself at school. It is perfectly understandable if you would like to cover your answers and we will all respect your privacy."

Each pupil had their own booklet which was lodged with the researcher. These would be distributed before administration and collected in again after completion. Where possible different questionnaires were administered on different days. Class teachers were not present during administration. During administration the researcher would talk to the children about the purpose of the questions and what she would like them to do. She would say things like: "You've just done some Maths work. I would like to talk to you about this work. I would like you to put your answers to the questions in this booklet. You all have you own booklet and I will keep it safe with me until you have completed all the pages. You will need a pencil and a ruler." She would then remind the children about the lesson by asking a few questions such as: "What do you call the work you have just been doing?" Without exception, the pupils, even the youngest ones, could tell her that they were doing English or Mathematics. Many of the younger children could differentiate further and might say "we were doing our problem-solving maths" or "our creative story writing".

The researcher would then describe how they were going to complete their booklets. This procedure was time-consuming in the first instance but it

was worth making sure that the children were comfortable and happy about the task and had as much support as possible. The researcher was careful to point out to the children that it was not a test and that the booklets were for her project and not for their teachers' use. She invited the children to be as honest as they could in responding to the questions as this would make the project worthwhile. It was noteworthy that the children never complained and were always cooperative. They actually seemed to enjoy doing this task. Occasionally, a child would make an interesting comment prompted by the question (e.g. "my dad says I am good at drawing, but I don't think so"). The comments provided evidence that not only had they understood the question, but that they were thinking carefully about it.

The pupils were given five possible responses on the SDQ1 and on each of the Nicholls' Scales. The SDQ1 responses ranged from False, Mostly False, Sometimes False Sometimes True, Mostly True to True and were scored 1 to 5 respectively. The Nicholls' responses ranged from YES, yes, not sure, no to NO and were scored 5 to 1 respectively. In both cases a high number represented a strong agreement with the question. The researcher explained the terms to the pupils and discussed examples of things which might be "true" or "mostly true" and vice versa. She explained the differences between a bold or "big NO" and "YES", and a weak or "little No" and "Yes". The pupils were encouraged to think carefully and to try to use the definite categories rather than the "not sure" unless they really needed to.

Following their first experience of completing a questionnaire subsequent administration was much more straightforward. The pupils were invited to line up their rulers under a question using the emboldened number at opposite ends of the line as guidance. In this way they could read the question and make sure their ticks were placed on the correct line. When they were ready the researcher would read the question aloud twice and ask the children to read it as she spoke. She would then ask if anyone had any questions or did not really understand particular words or phrases. It was surprising how quickly the children mastered this task. The children were encouraged to seek clarification of any items. The researcher would paraphrase questions with the youngest pupils from time to time to help in this process.

If the children did make a mistake, then they were permitted to put a circle around the incorrect response and try again. From time to time the researcher asked the children to give her an example to show their reasons for answering in a particular way. In this way she could tap their understanding of the question. She would say: "that is a very interesting answer, why do you think you "work hard all the time" or "what makes you think you know more than the others" ? Even though pilot work had been carried out, the administration of the questionnaires took much longer than anticipated particularly in Year One of the study. There were a number of reasons for this. On a practical level, day-to-day life in a primary classroom can be unpredictable. The researcher had to fit in as much as possible with the routines of each teacher. Withdrawing children from important classroom work cannot

simply be treated as an unavoidable penalty of classroom research. It is important to consider the implications for children's progress of interrupting their normal lessons.

On a methodological level, the children were younger and less familiar with the researcher in Year One. She herself was unfamiliar with the schools, teachers, lesson routines and was only beginning to establish her relationships with staff and pupils. More pertinently, her skills in administering the questionnaires were not as honed in Year One as in Year Two. The Year One data will testify to this, particularly the data collected from children in year 1. In Year One the researcher tended to enter into conversations with the children, particularly the youngest children. These were legitimate conversations inasmuch as they were focused on the questions, but it made the data collection process much less efficient. However, talking and listening to the children during Part One helped to pave the way for Part Two.

The children were used to seeing the researcher in their classrooms and to having her talk to them about their work. There were also opportunities to go to assembly with them, read stories, hear reading and become 'part of the furniture' so to speak. A measure of trust had been established. The upshot was that although the very early stages of quantitative data collection in Year One were more problematic than she had expected, the follow-up intensive study got off to a flying start with the children from day one.

Teacher questionnaires

Teachers were given four responses to each item "YES, yes, no NO" which were scored from 4 to 1 respectively. These responses were defined as follows: "YES" a definite yes; "yes" a probable yes; "no" a probable no and "NO" a definite no. During the development of the instrument a fifth "don't know" response category was shown to be unnecessary, since all of the teachers involved at the pilot stage were able to respond using either a positive or negative option. It appears that primary teachers perceive themselves to know their pupils well enough not to need a "don't know" clause. Discussions with teachers during the development stages, indicated that it would be more of a 'get out' clause than a genuine "don't know".

The results and conclusions from the pilot study (Leo and Galloway, 1994) suggested that the concept of motivational style was relevant to primary teachers since all of the teachers were able to differentiate in a qualitative way between a maladaptive and adaptive motivational response. Taken together the quantitative data from the teacher and pupil questionnaires served as a basis for theoretical sampling of classes for an intensive study. During Part One systematic triangulation took place using self-concept and motivational measures from pupils and teachers.

5.8 STATISTICAL ANALYSIS

SDQ1

Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett Test of Sphericity were conducted before analysis of data. Both tests indicated that the factor model was appropriate.

A principal components factor analysis (pca) with orthogonal rotation (varimax method) was conducted separately for Years One and Two data. A total of forty eight items relating to six different dimensions of self-concept were included in the pca. Scree tests were used to select the number of factors with eigenvalue < 1 . Pair-wise analysis was used in the event of missing data. Factors extracted from the pca were used to construct subscales for further analysis. All items loaded positively on the factors. Criteria used to identify items for subscale construction were: (1) the loading of an item was > 0.4; (2) items which appeared in more than one factor were eliminated from both; (3) subscales with fewer than three items were excluded.

Table 2 shows the eigenvalues, percentage of total variance, the items in each subscale derived from a pca of Year One data and the internal consistency reliability (Cronbach's alpha) of each subscale. Table 3 shows the eigenvalues, percentage of total variance, the items in each subscale derived from a pca of Year Two data and the internal consistency reliability (Cronbach's alpha) of each scale.

TABLE 2: FACTOR SUBSCALES DERIVED FROM A PRINCIPAL COMPONENTS ANALYSIS OF MARSH'S SDQ1 USING ONLY YEAR ONE DATA (YEAR 1, YEAR 3 AND YEAR 5 IN BOTH SCHOOLS)

Factor 1, Eigenvalue 10.68, Percentage of Total Variance: 22.7% Cumulative Variance: 22.7%		**Loading**	**Communality**
	Mathematics		
SDQ35	I am interested in Maths	0.823	0.771
SDQ68	I enjoy doing work in Maths	0.82	0.771
SDQ51	I like Maths	0.81	0.754
SDQ20	I look forward to Maths	0.779	0.66
SDQ13	Work in Maths is easy for me	0.703	0.625
SDQ59	I am good at Maths	0.695	0.648
SDQ43	I learn things quickly in Maths	0.669	0.688
SDQ27	I get good marks in Maths	0.623	0.623
	Internal reliability alpha = 0.90		
Factor 2, Eigenvalue 4.13, Percentage of Total Variance: 8.8% Cumulative Variance: 31.5%			
	English		
SDQ41	I enjoy doing work in English	0.828	0.698
SDQ11	I like English	0.816	0.720
SDQ25	I am interested in English	0.808	0.721
SDQ57	I look forward to English	0.771	0.696
SDQ39	I am interested in all school subjects	0.596	0.624
SDQ49	Work in English is easy for me	0.589	0.581
SDQ09	I enjoy doing work in all school subjects	0.585	0.567
SDQ18	I'm good at English	0.561	0.683
SDQ73	I learn things quickly in English	0.512	0.545
SDQ71	I like all school subjects	0.508	0.660
	Internal reliability alpha = 0.89		

TABLE 2: CONTINUED

Factor 3, Eigenvalue 3.7, Percentage of Total Variance: 7.9% Cumulative Variance: 39.4%		Loading	Communality
	Peer Relationships		
SDQ52	I have more friends than most other children	0.716	0.612
SDQ69	Most other children like me	0.706	0.656
SDQ44	Other children want me to be their friend	0.687	0.608
SDQ60	I am popular with children of my own age	0.664	0.643
SDQ14	I make friends easily	0.587	0.560
SDQ36	I am easy to like	0.569	0.546
SDQ70	Other people think that I am a good person	0.555	0.502
SDQ72	A lot of things about me are good	0.494	0.567
SDQ07	I have lots of friends	0.502	0.598
	Internal reliability alpha = 0.85		
Factor 4, Eigenvalue 2.16, Percentage of Total Variance: 4.6% Cumulative Variance: 44.0%			
	General School		
SDQ67	I can do things as well as most other children	0.729	0.642
SDQ74	I'm as good as most other people	0.686	0.578
SDQ76	When I do something I do it well	0.502	0.578
SDQ53	Overall I have a lot to be proud of	0.464	0.519
	Internal reliability alpha = 0.83		

TABLE 2: CONTINUED

Factor 5, Eigenvalue 1.89, Percentage of Total Variance: 4.0% Cumulative Variance: 48.0%		Loading	Communality
	General Self		
SDQ4	I get good marks in English	0.665	0.662
SDQ2	I'm good at all school subjects	0.627	0.555
SDQ16	I get good marks in all school subjects	0.573	0.652
	Internal reliability alpha = 0.66		
Factor 6, Eigenvalue 1.59, Percentage of Total Variance: 3.4% Cumulative Variance: 51.4%			
	Physical Ability		
SDQ10	I like to run and play hard	0.713	0.631
SDQ40	I am good at sport	0.660	0.665
SDQ56	I am a good athlete	0.622	0.700
SDQ03	I can run fast	0.442	0.672
	Internal reliability alpha = 0.69		

TABLE 3: FACTOR SUBSCALES DERIVED FROM A PRINCIPAL COMPONENTS ANALYSIS OF MARSH'S SDQ1 USING ONLY YEAR TWO DATA (YEAR 2, YEAR 4 AND YEAR 6 IN BOTH SCHOOLS)

Factor 1, Eigenvalue 14.22, Percentage of Total Variance: 30.3% Cumulative Variance: 30.3%		**Loading**	**Communality**
	Mathematics	0.821	0.790
SDQ51	I like Maths	0.812	0.768
SDQ35	I am interested in Maths	0.784	0.711
SDQ20	I look forward to Maths	0.780	0.772
SDQ68	I enjoy doing work in Maths	0.761	0.746
SDQ59	I am good at Maths	0.648	0.714
SDQ43	I learn things quickly in Maths	0.639	0.735
SDQ27	I get good marks in Maths	0.580	0.677
SDQ13	Work in Maths is easy for me		
	Internal reliability alpha = 0.92		
Factor 2, Eigenvalue 4.10, Percentage of Total Variance: 8.7% Cumulative Variance: 39.0%			
	Physical Ability		
SDQ56	I am a good athlete	0.762	0.697
SDQ40	I am good at sport	0.747	0.694
SDQ03	I can run fast	0.742	0.692
SDQ48	I can run a long way without stopping	0.712	0.659
SDQ24	I enjoy sports and games	0.602	0.693
SDQ10	I like to run and play hard	0.591	0.552
SDQ64	I'm good at throwing a ball	0.526	0.621
	Internal reliability alpha = 0.88		

TABLE 3: CONTINUED

Factor 3, Eigenvalue 2.99, Percentage of Total Variance: 6.4% Cumulative Variance: 45.4%		Loading	Communality
	Peer Relationships		
SDQ36	I am easy to like	0.696	0.594
SDQ60	I am popular with children of my own age	0.670	0.618
SDQ69	Most other children like me	0.636	0.688
SDQ52	I have more friends than most other children	0.626	0.506
SDQ28	I get along with other children easily	0.569	0.586
SDQ70	Other people think that I am a good person	0.563	0.627
SDQ07	I have lots of friends	0.554	0.679
SDQ14	I make friends easily	0.544	0.608
SDQ44	Other children want me to be their friend	0.537	0.505
	Internal reliability alpha = 0.87		
Factor 4, Eigenvalue 2.04, Percentage of Total Variance: 4.3% Cumulative Variance: 49.7%			
	English		
SDQ57	I look forward to English	0.827	0.757
SDQ41	I enjoy doing work in English	0.808	0.722
SDQ25	I am interested in English	0.749	0.606
SDQ11	I like English	0.729	0.673
SDQ18	I'm good at English	0.517	0.588
SDQ73	I learn things quickly in English	0.515	0.649
SDQ49	Work in English is easy for me	0.504	0.607
	Internal reliability alpha = 0.86		

TABLE 3: CONTINUED

Factor 5, Eigenvalue 1.75, Percentage of Total Variance: 3.7% Cumulative Variance: 53.4%		Loading	Communality
	General School		
SDQ09	I enjoy doing work in all school subjects	0.715	0.666
SDQ39	I am interested in all school subjects	0.702	0.715
SDQ55	I can do things as well as most other children	0.699	0.69
SDQ71	I'm as good as most other people	0.652	0.681
SDQ31	When I do something I do it well	0.416	0.608
	Internal reliability alpha = 0.83		
Factor 6, Eigenvalue 1.42, Percentage of Total Variance: 3.0% Cumulative Variance: 56.5%			
	General Self		
SDQ74	I'm as good as most other people	0.692	0.621
SDQ67	I can do things as well as most other people	0.613	0.669
SDQ72	A lot of things about me are good	0.591	0.673
SDQ45	In general I like being the way I am	0.553	0.629
SDQ76	When I do something I do it well	0.43	0.624
	Internal reliability alpha = 0.83		

Six subscales were derived from Year One data. Six subscales were also derived from Year Two data. In both Years the subscales matched those found by Marsh; however, the Year Two subscales were a closer match. Pearson product-moment correlations were conducted to examine the relationship between subscales. Tables 4 and 5 show a correlation matrix of subscales derived from Years One and Two respectively. Correlations between the factor subscales were positive and low in both Years on every item.

A one-way analysis of variance was used to test for differences between the mean ratings of selected groups of children and teachers. When a significant result was obtained Tukey-B multiple comparison tests were conducted to show where the differences lay. Independent and paired t-tests were used as appropriate to test for differences between two samples.

Nicholls' Motivational Orientation Scale

Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett Test of Sphericity were conducted before analysis. Both tests indicated that the factor model was appropriate.

A principal components factor analysis (pca) with orthogonal rotation (varimax method) was conducted separately for Years One and Two data on all sixteen items. Scree tests were used to select the number of factors with eigenvalue < 1 . Pair-wise analysis was used in the event of missing data.

TABLE 4: CORRELATION MATRIX OF SDQ1 FACTOR SUBSCALES DERIVED FROM YEAR ONE DATA

	Mathematics	English	Peer Relationships	General Self	General School	Physical Ability
Mathematics	X					
English	0.348	X				
Peer Relationships	0.241	0.314	X			
General Self	0.172	0.279	0.536	X		
General School	0.316	0.506	0.362	0.350	X	
Physical Ability	0.285	0.188	0.324	0.234	0.165	X

$p < 0.02$ for all correlations two-tailed

TABLE 5: CORRELATION MATRIX OF SDQ1 FACTOR SUBSCALES DERIVED FROM YEAR TWO DATA

	Mathematics	English	Peer Relationships	General Self	General School	Physical Ability
Mathematics	X					
English	0.501	X				
Peer Relationships	0.433	0.527	X			
General Self	0.292	0.213	0.313	X		
General School	0.472	0.305	0.318	0.541	X	
Physical Ability	0.533	0.587	0.633	0.418	0.438	X

$p < 0.01$ for all correlations two-tailed

Factors extracted from the pca were used to construct subscales for further analysis. All items loaded positively on the factors. Criteria used to identify items for subscale construction were: (1) the loading of an item was > 0.4; (2) items which appeared in more than one factor were eliminated from both; (3) subscales with fewer than three items were excluded.

Tables 6 and 7 show the eigenvalues, percentage of total variance and the items in each subscale derived from a pca of data from Nicholls' English and Mathematics respectively for Year One only. The internal consistency reliability (Cronbach's alpha) of each subscale are also shown. Tables 8 and 9 show the eigenvalues, percentage of total variance and the items in each subscale derived from a pca of data from Nicholls' English and Mathematics respectively for Year Two only. Three subscales were derived in all cases and matched those found by Nicholls. Pearson product-moment correlations were conducted to examine the relationship between subscales. Tables 10 and 11 show a correlation matrix of subscales derived from Year One data in English and Mathematics respectively. Tables 12 and 13 show a correlation matrix of subscales derived from Year Two data in English and Mathematics respectively. Where a significant result was indicated, the correlations between the factor subscales were very low in both Years.

A one-way analysis of variance was used to test for differences between the mean ratings of selected groups of children and teachers. When a significant result was obtained Tukey-B multiple comparison tests were conducted to show

TABLE 6: FACTOR SUBSCALES DERIVED FROM A PRINCIPAL COMPONENTS ANALYSIS OF NICHOLLS' MOTIVATIONAL ORIENTATION SCALE IN ENGLISH USING ONLY YEAR ONE DATA (YEAR 1, YEAR 3 AND YEAR 5 IN BOTH SCHOOLS)

Factor 1, Eigenvalue 3.24, Pecentage of Total Variance: 20.3% Cumulative Variance: 20.3%		**Loadings**	**Communality**
	Ego Involved		
Q12	I get more answers right than my friends	0.775	0.606
Q03	I know more than the others	0.712	0.609
Q09	I am the only one who can answer the question	0.707	0.596
Q04	I finish before my friends	0.625	0.576
	Internal reliability alpha = 0.69		
Factor 2, Eigenvalue 2.30, Pecentage of Total Variance: 14.4% Cumulative Variance: 34.7%			
	Work Avoidance		
Q13	All the work is easy	0.696	0.599
Q16	The teacher doesn't ask hard questions	0.683	0.589
Q05	I don't have to work hard	0.640	0.463
	Internal reliability alpha = 0.63		
Factor 3, Eigenvalue 1.39, Pecentage of Total Variance: 8.7% Cumulative Variance: 43.3%			
	Task Involved		
Q02	Something I learn makes me want to find out more	0.714	0.531
Q10	Something I work out really makes sense	0.662	0.628
Q11	I keep busy	0.597	0.556
Q06	The problems make me think hard	0.540	0.639

TABLE 7: FACTOR SUBSCALES DERIVED FROM A PRINCIPAL COMPONENTS ANALYSIS OF NICHOLLS' MOTIVATIONAL ORIENTATION SCALE IN MATHEMATICS USING ONLY YEAR ONE DATA (YEAR 1, YEAR 3 AND YEAR 5 IN BOTH SCHOOLS)

Factor 1, Eigenvalue 3.81, Pecentage of Total Variance: 23.8% Cumulative Variance: 23.8%		**Loadings**	**Communality**
	Ego Involved		
Q03	I know more than the others	0.836	0.708
Q09	I am the only one who can answer the question	0.808	0.668
Q12	I get more answers right than my friends	0.753	0.580
Q04	I finish before my friends	0.734	0.577
	Internal reliability alpha = 0.81		
Factor 2, Eigenvalue 2.75, Pecentage of Total Variance: 17.2% Cumulative Variance: 41.0%			
	Task Involved		
Q02	Something I learn makes me want to find out more	0.729	0.551
Q11	I keep busy	0.723	0.572
Q07	What the teacher says makes me think	0.671	0.491
Q15	Something I work out makes me want to keep doing more problems	0.610	0.473
Q06	The problems make me think hard	0.512	0.551
	Internal reliability alpha = 0.74		
Factor 3, Eigenvalue 1.32, Pecentage of Total Variance: 8.2% Cumulative Variance: 49.2%			
	Work Avoidance		
Q13	All the work is easy	0.843	0.783
Q16	The teacher doesn't ask hard questions	0.779	0.709
Q05	I don't have to work hard	0.739	0.631
	Internal reliability alpha = 0.77		

TABLE 8: FACTOR SUBSCALES DERIVED FROM A PRINCIPAL COMPONENTS ANALYSIS OF NICHOLLS' MOTIVATIONAL ORIENTATION SCALE IN ENGLISH USING ONLY YEAR TWO DATA (YEAR 2, YEAR 4 AND YEAR 6 IN BOTH SCHOOLS)

Factor 1, Eigenvalue 2.77, Pecentage of Total Variance: 17.3% Cumulative Variance: 17.3%		**Loadings**	**Communality**
	Ego Involved		
Q12	I get more answers right than my friends	0.842	0.715
Q09	I am the only one who can answer the question	0.788	0.656
Q04	I finish before my friends	0.680	0.636
Q03	I know more than the others	0.638	0.548
	Internal reliability alpha = 0.73		
Factor 2, Eigenvalue 2.27, Pecentage of Total Variance: 14.2% Cumulative Variance: 31.5%			
	Task Involved		
Q14	I work hard all the time	0.708	0.562
Q07	What the teacher says makes me think	0.702	0.571
Q11	I keep busy	0.644	0.602
Q6	The problems make me think hard	0.612	0.502
	Internal reliability alpha = 0.67		
Factor 3, Eigenvalue 1.55, Pecentage of Total Variance: 9.7% Cumulative Variance: 41.2%			
	Work Avoidance		
Q05	I don't have to work hard	0.758	0.656
Q13	All the work is easy	0.740	0.618
Q16	The teacher doesn't ask hard questions	0.614	0.683
	Internal reliability alpha = 0.61		

TABLE 9: FACTOR SUBSCALES DERIVED FROM A PRINCIPAL COMPONENTS ANALYSIS OF NICHOLLS' MOTIVATIONAL ORIENTATION SCALE IN MATHEMATICS USING ONLY YEAR TWO DATA (YEAR 2, YEAR 4 AND YEAR 6 IN BOTH SCHOOLS)

Factor 1, Eigenvalue 3.45, Pecentage of Total Variance: 21.5% Cumulative Variance: 21.5%		**Loadings**	**Communality**
	Ego Involved		
Q03	I know more than the others	0.792	0.629
Q09	I am the only one who can answer the question	0.788	0.622
Q12	I get more answers right than my friends	0.781	0.628
Q04	I finish before my friends	0.736	0.552
	Internal reliability alpha = 0.79		
Factor 2, Eigenvalue 2.57, Pecentage of Total Variance: 16.1% Cumulative Variance: 37.6%			
	Task Involved		
Q02	Something I learn makes me want to find out more	0.737	0.572
Q11	I keep busy	0.698	0.583
Q15	Something I work out makes me want to keep doing more problems	0.685	0.512
Q07	What the teacher says makes me think	0.536	0.295
	Internal reliability alpha = 0.64		
Factor 3, Eigenvalue 1.43, Pecentage of Total Variance: 8.9% Cumulative Variance: 46.5%			
	Work Avoidance		
Q13	All the work is easy	0.809	0.689
Q05	I don't have to work hard	0.783	0.693
Q16	The teacher doesn't ask hard questions	0.770	0.608
	Internal reliability alpha = 0.76		

TABLE 10: CORRELATION MATRIX OF NICHOLLS' ENGLISH FACTOR SUBSCALES DERIVED FROM YEAR ONE DATA

	Ego Involved	Task Involved	Work Avoidance
Ego Involved	X		
Task Involved	0.008	X	
Work Avoidance	*0.184	-0.294	X

*p < 0.02 two-tailed

TABLE 11: CORRELATION MATRIX OF NICHOLLS' MATHEMATICS FACTOR SUBSCALES DERIVED FROM YEAR ONE DATA

	Ego Involved	Task Involved	Work Avoidance
Ego Involved	X		
Task Involved	0.023	X	
Work Avoidance	0.069	*-0.481	X

*p < 0.001 two-tailed

TABLE 12: CORRELATION MATRIX OF NICHOLLS' ENGLISH FACTOR SUBSCALES DERIVED FROM YEAR TWO DATA

	Ego Involved	Task Involved	Work Avoidance
Ego Involved	X		
Task Involved	-0.079	X	
Work Avoidance	0.101	*-0.277	X

*p < 0.01 two-tailed

TABLE 13: CORRELATION MATRIX OF NICHOLLS' MATHEMATICS FACTOR SUBSCALES DERIVED FROM YEAR TWO DATA

	Ego Involved	Task Involved	Work Avoidance
Ego Involved	X		
Task Involved	0.024	X	
Work Avoidance	0.066	*-0.392	X

*p < 0.001 two-tailed

where the differences lay. Independent and paired t-tests were used as appropriate to test for differences between two samples.

Teacher Motivation Questionnaire

Pearson product-moment correlations were conducted to examine the relationship between items. A one-way analysis of variance was used to test for differences between the mean ratings of selected groups of children and teachers. When a significant result was obtained Tukey-B multiple comparison tests were conducted to show where the differences lay. Independent and paired t-tests were used as appropriate to test for differences between two samples.

5.9 Ethnographic studies

Identifying classes for a follow-up ethnographic study

Following analysis of statistical data arising from Part One, two classes were identified for an intensive study using observational and interview techniques.

Participants

The follow-up study took place in only one of the two schools involved in the project. The classes were two parallel, year 3 classes comprising pupils

aged seven to eight years. One class comprised fourteen girls and twenty boys (n=34), while the other class comprised thirteen girls and eighteen boys (n=31). Both classes were mixed ability classes. They were taught in adjoining classrooms. The two class teachers were supportive of each other and, although they tended to work independently in their separate classrooms, they planned their teaching and assessment practices together and discussed openly their pupils' behaviour and progress. The two class teachers were experienced primary school teachers, both of whom had worked in the present school for over ten years. Prior to taking over the year 3 classes, one had worked extensively with the juniors in year 6, the other had worked with the infants in years 1 and 2 in a different part of the school. A longitudinal study took place using the same classes the following year. Both year 4 classes had a different class teacher from those of year 3. The pupil composition of both year 4 classes remained the same as in the previous year with minimal differences, only the addition of one new pupil who had enrolled in the school and the absence of three pupils who had left the school. Both year 4 teachers worked closely together. One was a probationary teacher, the other an experienced teacher who had taught at the school for a number of years and across different age groups.

Design and Procedures

Twelve half day visits were made to each of the two classes during the summer term. In addition, the researcher attended lessons in other areas of the curriculum and educational visits out of school with both classes, as well as a

variety of other general school activities (e.g. school and class assemblies, library visits, physical education and sports lessons). The researcher made extensive field notes both during and following the classroom visits. These field notes were based on her observations of, and interviews with, pupils and teachers in both classes. Prior to the study, it was explained to the children that the researcher was interested in their views about what they were learning in English and Mathematics. The specific foci of the classroom observations and interviews were:

1. children's phenomenological views of, and responses to, difficult and challenging educational tasks in English and Mathematics;

2. children's strategies at a point of difficulty, or perceived failure;

3. children's perceptions of their peers' responses to their difficulties;

4. children's perceptions of their teacher's responses to their difficulties;

5. teaching strategies and teacher assessment feedback to children in the face of difficulty;

6. the management of the social practices in the classroom.

Observational and interview data were gathered during class lessons in English and Mathematics. These lessons took place mainly during the mornings on most days of the week, with the exception of one morning when the classes had swimming lessons. In addition to those made in English and Mathematics lessons, field notes were made of general observations and conversations with pupils, teachers and classroom assistants.

Individual interviews with each of the class teachers were also undertaken. Although comments were elicited from each of the two class teachers throughout the duration of the twelve half day visits to their classes, both teachers were also interviewed individually as part of the intensive study. The interviews with the class teachers lasted between one hour and one and a half hours and took place in a quiet room at the end of a school day. With the permission of the class teachers, these interviews were tape-recorded. The questions focused on the teachers responses to the teacher motivation questionnaire which they had completed for each pupil in their classes for English and Mathematics separately (please refer to Appendix 4). In this respect the interviews could be described as semi-structured. The teacher interview data helped to provide richer and more detailed information about the different motivational orientations of small groups of pupils, as well as of individual pupils as perceived by the class teachers. Classroom observational and interview data were analysed according to a range of categories arising from the ethnographic data.

Systematic triangulation was carried out using classroom observational and interview data with pupils and teachers and semi-structured interview data from teachers. The results arising from the observational and interview data are presented separately for each of the two classes. They are then discussed in relation to the differences in the prevalence of maladaptive and adaptive motivational styles between both classes. Longitudinal data were used to test theoretical formulations made in Year One and to examine changes from year 3 to 4 in each of the two classes.

PART FOUR

CHAPTER SIX

RESULTS: SELF-CONCEPT AND MOTIVATIONAL ORIENTATION IN THREE AGE GROUPS

6.1 Structure of the four results chapters

Chapters seven to nine present the results of the study in full. The complete data-set included both quantitative and qualitative data spanning two years. In presenting the results, the author was keen to provide the reader not simply with a sense of a story unfolding, but also with an appreciation of the relationship between the different phases of the data collection. Separately the quantitative and qualitative data are of interest, but they are rather like bread without yeast. Taken together, they offer the reader a much richer and more robust insight into the lives of the children and teachers in this study.

Chapter six presents the results from Part One of the research in Year One involving quantitative data from the questionnaires. Chapter seven presents the results from the follow-up ethnographic study in Year One of the two year 3 classes selected on the basis of the questionnaire data. Chapters eight and nine present separately the results of an analysis of the quantitative and qualitative data gathered in Year Two. Each of the four chapters provides a summary section at the end which draws together the key findings presented in the chapter. Chapter ten provides a full discussion of the results taken as a whole.

6.2 INTRODUCTION

This chapter presents the results of a statistical analysis of the quantitative data arising from Year One Part One of the study. Five different questionnaires were administered by the researcher over the duration of two school terms, three questionnaires to pupils and two questionnaires to teachers. Pupils in Years 1, 3 and 5 completed Marsh's Self-Description Questionnaire 1 (SDQ1) and Nicholls' Motivational Orientation Scales in English and Mathematics. Class teachers completed the Teacher Motivation Questionnaire in English and Mathematics. Details of the methods of inquiry and statistical procedures used in the study were provided in chapter five. Subscales derived from the principal components analyses of pupil questionnaires were reported in chapter five. Following statistical analysis of the quantitative data collected by questionnaires, two classes were identified for an intensive follow-up study. The results for Year One Part One are presented separately for each instrument. Since the results were similar for English and Mathematics for both the Nicholls' Motivational Orientation Scales and for the Teacher Motivation Questionnaire, only selected data for English are presented in the text. All other data are presented in the appendices.

Section 6.3 and 6.4 set out the differences between schools, year groups, classes and girls and boys on each of the two pupil questionnaires respectively. Section 6.5 presents the results of the Teacher Motivation questionnaire and section 6.6 discusses how the researcher selected two classes for the follow-up

ethnographic study using the questionnaire results. Section 6.7 discusses the key findings from the chapter.

6.3 NUMBER OF PUPILS IN EACH CLASS IN YEAR ONE OF THE STUDY

Table 14 shows the number of pupils in each class in Year One of the study. As discussed in chapter five, it is important to note that the data set was incomplete for year 1 pupils. Only data from two year 1 classes were available (i.e. classes A1 and B1). Classes in School A or School B are prefixed with the letter "A" or "B" respectively.

6.4 MARSH'S SELF-DESCRIPTION QUESTIONNAIRE (SDQ1)

Differences between schools on each of the six factor subscales

Independent t-tests were conducted to compare the mean score of School A with that of School B. Separate t-tests were conducted for each of the six factor subscales. The degrees of freedom (df) and estimate of t are based on pooled or separate variance as appropriate. The df for groups with significantly different variances have been adjusted so that the resultant statistic is approximately distributed as a *t*, with reduced df. As Table 15 shows there was only one significant difference between School A and School B. A more positive General Self self-concept was found in School A than School B.

TABLE 14: NUMBER OF PUPILS IN EACH CLASS IN YEAR ONE OF THE STUDY

School A						School B								
Year 1 Classes		Year 3 Classes		Year 5 Classes		Year 1 Classes			Year 3 Classes			Year 5 Classes		
A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6	B7	B8	B9
n=22	n=22	n=34	n=31	n=25	n=26	n=17	n=17	n=17	n=13	n=12	n=14	n=15	n=16	n=17

TABLE 15: DIFFERENCES BETWEEN SCHOOLS ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Independent t-tests)

	Mean Scores		t-value	df	significance
	School A n = 128	School B n = 98			
Factor 1: Mathematics	3.52	3.59	-0.43	224	ns
Factor 2: English	3.13	3.13	-0.01	224	ns
Factor 3: Peer Relationships	3.69	3.44	2.15	224	ns
Factor 4: General Self	3.93	3.82	0.91	224	$p < 0.04$
Factor 5: General School	3.21	2.96	1.88	224	ns
Factor 6: Physical Ability	3.98	4.09	-0.93	224	ns

Differences between year groups on each of the six factor subscales

A one-way analysis of variance (ANOVA) to test for differences between the mean ratings of years 1, 3 and 5 was conducted. When a significant result was found Tukey-B multiple comparison tests were conducted to show where the differences lay. Tukey-B multiple comparison tests control for type 1 errors by setting the experimentwise error rate at the error rate for the collection for all pair-wise comparisons. There were significant mean differences between different year groups on four out of six subscales. Table 16 shows that years 1 and 3 were more positive than year 5 on both Mathematics and English self-concepts. Year 1 was more positive than years 3 and 5 on Peer Relationships self-concept and more positive than year 5 on General School self-concept.

Differences between classes on each of the six factor subscales

A one-way ANOVA to test for differences between the mean ratings of all classes was conducted. When a significant result was found Tukey-B multiple comparison tests were conducted to show where the differences lay. Table 17 shows overall significant differences between classes on Mathematics, English, Peer Relationships and General School self-concepts. Classes B1, A1 and A3 were more positive than B9 on Mathematics self-concept, classes B5, B1 and A1 were more positive than B7 on English self-concept and class A1 was more positive than B7, B9, A4 and A6 on Peer Relationships self-concept. Overall significant differences between classes were found on General School self

TABLE 16: DIFFERENCES BETWEEN YEARS ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES

	Mean Scores			ANOVA		Multiple Tests
	Year 1 n=39	Year 3 n=92	Year 5 n=95	F Ratio	F Prob.	Tukey-B p<0.05
Factor 1: Mathematics	3.97	3.68	3.25	7.69	p<0.001	1,3>5
Factor 2: English	3.60	3.19	2.87	7.76	p<0.001	1,3>5
Factor 3: Peer Relationships	4.01	3.55	3.44	6.16	p<0.01	1>5,3
Factor 4: General Self	4.11	3.80	3.86	1.79	ns	
Factor 5: General School	3.40	3.15	2.94	3.25	p<0.04	1>5
Factor 6: Physical Ability	4.00	4.07	4.02	0.24	ns	

TABLE 17: DIFFERENCES BETWEEN CLASSES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES

	Mean Scores												ANOVA		Multiple Tests
	School A					School B							F Ratio	F Prob.	Tukey-B
	Y1	Y3		Y5		Y1	Y3			Y5					
	A1 n=22	A3 n=30	A4 n=29	A5 n=22	A6 n=26	B1 n=17	B4 n=10	B5 n=11	B6 n=12	B7 n=15	B8 n=15	B9 n=17			p < 0.05
Factor 1: Mathematics	3.93	3.86	3.36	3.02	3.36	4.02	3.30	4.00	4.04	3.25	3.88	2.82	3.05	p < 0.001	B1,A1,A3 > B9
Factor 2: English	3.53	3.26	2.94	2.74	3.13	3.68	3.01	3.80	3.20	2.41	3.25	2.72	2.84	p < 0.01	B5,B1,A1 > B7
Factor 3: Peer Relationships	4.27	3.77	3.34	3.67	3.43	3.68	3.30	3.87	3.39	3.02	3.85	3.16	3.21	p < 0.001	A1 > B7, B9,A4,A6
Factor 4: General Self	4.26	3.98	3.53	3.83	4.09	3.92	3.65	4.11	3.88	3.48	4.18	3.60	1.81	ns	
Factor 5: General School	3.24	3.19	3.50	2.88	3.10	3.60	2.43	3.30	2.61	2.80	3.29	2.59	2.57	p < 0.01	ns
Factor 6: Physical Ability	4.11	3.99	4.14	4.00	3.71	3.76	4.03	3.98	4.21	4.13	4.53	3.94	1.13	ns	

-concept, but Tukey-B multiple comparison tests showed that no two classes were significantly different at the $p < 0.05$ level.

Differences between girls and boys on each of the six factor subscales

Independent t-tests were conducted to compare the mean scores of girls with those of boys. There was only one significant difference between girls and boys. Girls were higher than boys on English self-concept (refer to Appendix 5).

6.5 NICHOLLS' MOTIVATIONAL ORIENTATION SCALE IN ENGLISH AND MATHEMATICS

Differences between schools on each of the three factor subscales

Independent t-tests were conducted to compare the mean score of School A with that of School B. Table 18 shows significant differences between School A and School B on two out of three subscales in English. School A was higher than School B on ego involved and work avoidance orientations. Taken together these results indicate that School A has a higher maladaptive motivational orientation than School B in English. School A was also higher than School B on ego involved orientation in Mathematics (refer to Appendix 6). To sum up: school level analysis indicates that overall School A has a higher maladaptive motivation than School B.

TABLE 18: DIFFERENCES BETWEEN SCHOOLS ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Independent t-tests)

	Mean Scores		t-value	df	significance
	School A n = 127	School B n = 98			
Factor 1: Ego Involved	3.76	3.29	3.53	223	$p < 0.005$
Factor 2: Work Avoidance	3.82	3.47	2.42	223	$p < 0.02$
Factor 3: Task Involved	3.48	3.67	-1.64	223	ns

Differences between year groups on each of the three factor subscales

A one-way ANOVA to test for differences between the mean ratings of years 1, 3 and 5 was conducted. While no significant age differences were found in English (refer to Appendix 7), there were significant differences on two out of three subscales in Mathematics. Year 3 was more task involved than year 5 and years 1 and 5 were more work avoidant than year 3 in Mathematics (refer to Appendix 8).

Differences between classes on each of the three factor subscales

A one-way ANOVA to test for differences between the mean ratings of all classes was conducted. When a significant result was found Tukey-B multiple comparison tests were conducted to show where the differences lay. Overall significant differences between classes were found on one subscale in English. Class A1 scored higher than classes B6 and B7 on ego involved (refer to Appendix 9). It appears that a class of younger children in School A are more ego involved than their older counterparts in two classes in School B. In Mathematics class B5 was more task involved than class B9 (refer to Appendix 10).

Differences between girls and boys on each of the three factor subscales

Independent t-tests were conducted to compare the mean scores of girls

with those of boys. No significant gender differences were found in English or Mathematics (refer to Appendices 11 and 12).

6.6 TEACHER MOTIVATION QUESTIONNAIRE

Correlations between teachers' responses in English and Mathematics

Pearson product moment correlations were computed to examine the relationship between teachers' perceptions of their pupils' motivational style in English with that of Mathematics. Correlations between teacher responses in English and Mathematics were positive and high on every item shown in the correlation matrix in Table 19. It appears that primary teachers' perceptions of their pupils' motivational styles in English, irrespective of the age of the pupils whom they teach, were significantly related to those in Mathematics.

Paired t-tests were conducted to compare the mean scores in English with those in Mathematics for all nine items. Table 20 shows significant differences for three items: *Q03 Socially Isolated*, *Q05 Learned Helplessness* and *Q09 Difficult to motivate*. Teachers perceived higher social isolation, learned helplessness and difficulty in motivating pupils in Mathematics than English.

TABLE 19: CORRELATION MATRIX OF TEACHERS' PERCEPTIONS OF PUPILS' MOTIVATIONAL STYLES IN ENGLISH AND MATHEMATICS

English / Mathematics	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q01 Low Ability	0.844	0.428	0.429	0.363	0.581	0.568	-0.588	0.409	0.569
Q02 Underachieving	0.498	0.726	0.324	0.271	0.421	0.354	-0.449	0.407	0.479
Q03 Socially Isolated	0.449	0.301	0.858	0.321	0.451	0.412	-0.359	0.270	0.463
Q04 Troublesome Behaviour	0.413	0.309	0.375	0.891	0.548	0.575	-0.575	0.612	0.624
Q05 Learned Helplessness	0.530	0.335	0.475	0.454	0.874	0.798	-0.689	0.526	0.626
Q06 Self-Worth Motivated	0.517	0.322	0.434	0.461	0.843	0.863	-0.689	0.561	0.606
Q07 Mastery Oriented	-0.575	-0.363	-0.447	-0.502	-0.715	-0.706	0.821	-0.609	-0.744
Q08 Peer Esteem	0.374	0.446	0.295	0.595	0.595	0.559	-0.661	0.845	0.683
Q09 Difficult to Motivate	0.534	0.401	0.474	0.514	0.603	0.594	-0.716	0.601	0.872

$p < 0.001$ two-tailed

TABLE 20: DIFFERENCES BETWEEN ENGLISH AND MATHEMATICS ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	English	Maths				
Q01 Low Ability	1.91	1.96	232	-1.12	231	ns
Q02 Underachieving	1.79	1.83	231	-0.89	230	ns
Q03 Socially Isolated	1.44	1.49	232	-2.01	231	$p < 0.05$
Q04 Troublesome behaviour	1.70	1.72	232	-0.60	231	ns
Q05 Learned Helplessness	2.01	2.13	232	-3.22	231	$p < 0.002$
Q06 Self-worth Motivated	1.88	1.94	232	-1.84	231	ns
Q07 Mastery Oriented	2.92	2.94	232	-0.56	231	ns
Q08 Peer-Esteem	1.66	1.63	231	0.98	230	ns
Q09 Difficult to motivate	1.73	1.82	232	-2.99	231	$p < 0.005$

Correlations between items

A correlation matrix of items is shown in Table 21. Learned helplessness and self-worth motivation were correlated highest of all items. Conversely, mastery oriented was negatively correlated with learned helplessness, self-worth motivation and difficult or impossible to motivate. Although the relationship between troublesome behaviour and learned helplessness and self-worth motivated was significant and positive, troublesome classroom behaviour was most highly correlated with peer-esteem. From these results it seems that teachers can distinguish between adaptive and maladaptive motivational styles, but not between the two maladaptive motivational styles of learned helplessness and self-worth motivation. It is also interesting that troublesome behaviour and peer-esteem are highly correlated. One possible interpretation of this result is that for some children troublesome behaviour earns them social acceptance from peers.

Differences between schools on each of the nine items

Independent t-tests were conducted to compare the mean scores of schools on each of the items. Table 22 shows the results for English only. Refer to Appendix 13 for Mathematics results. There were significant differences between School A and School B in teachers' perceptions of pupils with low ability in both English and Mathematics. Overall teachers in School B more than those in School A perceived their pupils to be behind their peers as a result of

TABLE 21: CORRELATION MATRIX OF TEACHER QUESTIONNAIRE ITEMS FOR ENGLISH

English English	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q01 Low Ability	X								
Q02 Underachieving	0.496	X							
Q03 Socially Isolated	0.468	0.319	X						
Q04 Troublesome Behaviour	0.390	0.305	0.365	X					
Q05 Learned Helplessness	0.557	0.447	0.471	0.541	X				
Q06 Self-Worth Motivated	0.535	0.403	0.457	0.574	0.902	X			
Q07 Mastery Oriented	-0.524	-0.471	-0.389	-0.545	-0.732	-0.734	X		
Q08 Peer Esteem	0.374	0.439	0.331	0.626	0.607	0.662	-0.680	X	
Q09 Difficult to Motivate	0.567	0.464	0.468	0.594	0.623	0.656	-0.738	0.706	X

$p < 0.001$ two-tailed

TABLE 22: DIFFERENCES BETWEEN SCHOOLS ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE IN ENGLISH
(Independent t-tests)

	Mean Scores		t-value	df	significance
	School A n = 132	School B n = 101			
Q01 Low Ability	1.64	2.26	-4.56	231	$p < 0.001$
Q02 Underachieving	1.63 (n = 131)	1.98	-2.89	230	$p < 0.005$
Q03 Socially Isolated	1.37	1.53	-1.72	231	ns
Q04 Troublesome Behaviour	1.72	1.67	0.37	231	ns
Q05 Learned Helplessness	1.93	2.11	-1.22	231	ns
Q06 Self-worth Motivated	1.82	1.95	-0.97	231	ns
Q07 Mastery Oriented	2.95	2.88	-0.57	231	ns
Q08 Peer-Esteem	1.68 (n = 131)	1.62	-0.48	230	ns
Q09 Difficult to motivate	1.72	1.74	-0.20	231	ns

low ability and underachievement.

Differences between year groups on each of the nine items

A one-way ANOVA to test for differences between the mean ratings of all classes was conducted. When a significant result was found Tukey-B multiple comparison tests were conducted to show where the differences lay. Table 23 shows the results for English only. Refer to Appendix 14 for Mathematics results. Significant differences were found on two out of nine items in English and three out of nine items in Mathematics. Teachers perceived higher underachievement in English in year 5 than in year 1 and higher underachievement in Mathematics in year 5 than in years 1 and 3. Teachers also perceived higher self-worth motivation in both English and Mathematics in year 3 than in year 1. In Mathematics, mastery orientation was perceived higher in year 1 than in year 3.

Differences between girls and boys on each of the nine items

Independent t-tests were conducted to compare the mean scores of girls and boys on each of the items. Table 24 shows the results for English only. Refer to Appendix 15 for Mathematics results. There were significant differences on seven of the nine items in English and five of the nine items in Mathematics. In English, boys were rated significantly higher than girls on underachievement, troublesome behaviour, learned helplessness, self-worth

TABLE 23: DIFFERENCES BETWEEN YEARS ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE IN ENGLISH

	Mean Scores			Anova		Multiple Tests Tukey-B
	Year 1 n = 36	Year 3 n = 100	Year 5 n = 97	F Ratio	F Prob.	p < 0.05
Q01 Low Ability	1.78	1.86	2.01	0.82	ns	
Q02 Underachieving	1.50	1.71	1.97	4.14	p<0.02	5>1
Q03 Socially Isolated	1.28	1.41	1.54	1.86	ns	
Q04 Troublesome Behaviour	1.92	1.73	1.59	1.69	ns	
Q05 Learned Helplessness	1.75	2.06	2.05	1.17	ns	
Q06 Self-worth Motivated	1.53	2.02	1.86	3.12	p<0.05	3>1
Q07 Mastery Oriented	3.08	2.77	3.02	2.27	ns	
Q08 Peer-Esteem	1.40	1.75	1.65	2.13	ns	
Q09 Difficult to motivate	1.58	1.81	1.70	0.97	ns	

TABLE 24: DIFFERENCES BETWEEN GIRLS AND BOYS ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE IN ENGLISH
(Independent t-tests)

	Mean Scores		t-value	df	significance
	Girls n = 116	Boys n = 117			
Q01 Low Ability	1.82	2.00	-1.30	231	ns
Q02 Underachieving	1.53	2.03 (n = 116)	-4.30	230	p < 0.001
Q03 Socially Isolated	1.41	1.48	-0.77	231	ns
Q04 Troublesome Behaviour	1.41	1.98	-4.81	231	p < 0.001
Q05 Learned Helplessness	1.85	2.16	-2.16	231	p < 0.04
Q06 Self-worth Motivated	1.69	2.06	-2.79	231	p < 0.01
Q07 Mastery Oriented	3.09	2.75	2.74	231	p < 0.01
Q08 Peer-Esteem	1.38 (n = 115)	1.92	-4.97	230	p < 0.001
Q09 Difficult to motivate	1.49	1.97	-4.29	231	p < 0.001

motivation, peer-esteem and difficult to motivate, and lower than girls on mastery orientation. In Mathematics, boys were rated significantly higher than girls on underachievement, troublesome behaviour, peer-esteem and difficult to motivate, and lower on mastery orientation.

Differences between classes on each of the nine items

A one-way ANOVA to test for differences between the mean ratings of all classes was conducted. When a significant result was found Tukey-B multiple comparison tests were conducted to show where the differences lay. Significant differences were found on all nine items in both English and Mathematics. Table 25 shows the results for English only. Refer to Appendix 16 for Mathematics results.

There were significant and systematic differences between the same two classes on six out of nine items on the questionnaires in both English and Mathematics. Both classes were in the same year group in the same school. They were classes A3 and A4. Class A3 was significantly higher than A4 on all items referring to maladaptive motivational responses (e.g. learned helplessness, self-worth motivation, peer-esteem and difficult to motivate) and significantly lower than A4 on the item referring to mastery orientation. Class A3 was also significantly and systematically higher than a number of other classes across the sample on items referring to maladaptive motivational responses. In contrast, class A4 was also significantly and systematically lower than a number of other

TABLE 25: DIFFERENCES BETWEEN CLASSES ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE IN ENGLISH

	Mean Scores												ANOVA		Multiple Tests
	A1	A3	A4	A5	A6	B1	B4	B5	B6	B7	B8	B9	F Ratio	F Prob.	Tukey-B
	n=21	n=33	n=29	n=24	n=26	n=15	n=13	n=11	n=14	n=15	n=16	n=16			p < 0.05
Q01 Low Ability	1.24	1.91	1.28	2.00	1.77	2.53	2.00	2.18	2.57	2.33	2.31	1.81	3.65	p<0.001	B6,B1,B8>A1 B6,B1,B7,B8>A4
Q02 Underachieving	1.24	1.85	1.32	1.88	1.85	1.87	2.15	1.55	1.86	2.27	2.13	1.88	2.38	p<0.01	B7>A1,A4
Q03 Socially Isolated	1.19	1.55	1.07	1.38	1.73	1.40	2.00	1.36	1.29	1.53	1.56	1.44	2.37	p<0.01	B4,A6>A4
Q04 Troublesome Behaviour	1.33	2.39	1.07	2.00	1.73	2.73	1.31	1.27	2.29	1.40	1.19	1.31	9.25	p<0.001	B1,A3,B6,A5>A4 B1,A3,B6>B8 B1,A3>B5 B1,A3>A6 B1,A3,B6>B4,B9,A1,B7
Q05 Learned Helplessness	1.24	2.67	1.28	2.08	2.27	2.47	2.15	1.82	2.43	1.20	1.94	2.56	5.90	p<0.001	A3,B9,B1,B6,A6>B7,A1 A3,B9,B1,B6,A5>A4
Q06 Self-Worth Motivated	1.19	2.67	1.24	1.79	1.92	2.00	1.92	1.73	2.36	1.20	1.94	2.38	6.31	p<0.001	A3,B9,B6>A1,B7,A4 A3>A5,A6
Q07 Mastery Oriented	3.57	2.27	3.28	3.17	2.73	2.40	2.77	3.09	2.64	3.20	3.44	2.69	4.67	p<0.001	A1,B8,A4,B7,A5>A3 A1>A6
Q08 Peer Esteem	1.10	2.20	1.17	1.83	1.92	1.80	1.77	1.00	2.43	1.07	1.56	1.56	6.92	p<0.001	B6,A3,A6>B5,B7,A1,A4 B6,A3,A6,A5>A1 B6,A3,A6,A5>A4
Q09 Difficult to Motivate	1.19	2.15	1.38	1.58	2.15	2.13	1.77	1.73	2.00	1.47	1.56	1.50	3.52	p<0.001	A6,A3,B1>A1 A6,A3>A4

classes across the sample on items referring to maladaptive motivational responses.

6.7 SELECTION OF CLASSES FOR A FOLLOW-UP ETHNOGRAPHIC STUDY IN PART TWO

Correlations between different instruments

On completion of the Year One Part One analyses it was necessary to select two classes for further intensive study in Part Two. Pearson product moment correlations were computed to examine the relationship between factor subscales on Marsh's SDQ1, Nicholls' Motivational Orientation Scales and the items on the Teacher Motivation Questionnaire. Any significant correlations found were very low. Therefore, it was not possible to carry out a systematic triangulation of data from the three different instruments in order to place classes in one of the broad categories of adaptive or maladaptive motivational style. For this reason the results from each instrument were considered separately.

Identifying two classes for a follow-up ethnographic study

Marsh's SDQ1 and Nicholls' Motivational Orientation Scales showed few systematic differences between classes. However, on examination of the Teacher Motivation Questionnaire a different story emerged.

As reported earlier in the chapter, School A was significantly higher than School B on Nicholls' motivational orientations of ego involvement and work avoidance in both English and Mathematics. In addition, there were significant and systematic differences between classes A3 and A4 and the other classes in the sample. Therefore, it was of considerable interest that the two teachers A3 and A4, both of whom were class teachers of year 3 pupils in School A, and taught in adjacent rooms, served simultaneously to confirm and to disconfirm the results of the school level analysis of children's responses to Nicholls' Scales. Whilst on one hand, teacher A3 served to confirm a maladaptive orientation in the school, on the other hand, teacher A4 served to disconfirm it. Teacher differences have been shown to be greater than school-level differences in school effectiveness research (Mortimore *et al.*, 1988) and in this sense these results were unsurprising. In this case school-level analysis could have served simply to mask teacher differences. However, given also the results not only from a comparison of teachers A3 and A4 with each other, but also with all other teachers in the study, then further investigation of these two classes seemed compelling. The results of the ethnographic studies of the two year 3 classes are presented in chapters seven and nine.

6.8 SUMMARY

The results of the principal components analysis of Marsh's SDQ1 were consistent with the claim that young children have differentiated self-concepts;

analysis of the questionnaire data lends validity to Marsh's findings for a UK sample of young children. Given, however, that the core subjects of the National Curriculum were taught as discrete subjects, then it was not surprising that the children in the study, even the youngest, were able to differentiate between the broad curriculum areas of English and Mathematics. In one of the year 1 classes the researcher noted that all of the children were able to differentiate between different aspects of English and Mathematics and would use terms like "investigations", "number bonds" and "creative writing" with considerable understanding of the content and processes associated with each of these types of subject tasks. Nevertheless, what is useful about these findings is that they raise key questions about the primary curriculum and the ways in which it is organized and taught. For a year 1 child to say that she or he is good at Mathematics but not English, or more specifically, good at "number bonds" but not "investigations", raises a number of questions about children's perceptions of the demands of different types of tasks and the processes involved in completing these different tasks. The children's differential performance from one task to the next within a broad curriculum area and from subject to subject remains a matter for speculation. These questions provided a useful foci for the follow-up ethnographic study (reported in the next chapter). The points raised here are developed and discussed further in chapters nine and ten.

It appears also that Nicholls' well documented motivational orientation scales produced the same factor subscales when administered to primary-aged children as they had previously done with older pupils in his studies. On a

methodological level, these findings suggests that primary children are responding to sets of questions on a questionnaire in a similar way; children who reply to one question (e.g. I know more than the others) in the affirmative are likely to be replying to a set of related questions in the same way (e.g. I finish before my friends). In other words, Nicholls' motivational orientations of ego- and task involvement and work avoidance were found in a UK sample of primary-aged pupils. That no relationship was found between the factor subscales on Marsh's and Nicholls' instruments has theoretical and methodological implications for research in this field. Further discussion of the implications of a lack of covariance between instruments is provided in chapter ten.

From the results so far it appears that the younger pupils generally had more positive self-concepts than the older pupils in all facets of self-concept. The only gender differences found were in English, where girls had more positive self-concepts than boys. Whilst it is often perceived by teachers that girls are more confident than boys in English tasks, these results show that girls' and boys' self-perceptions of ability in English differ in a similar way. How far pupils' metaperceptions of their teachers' evaluations of their ability in Mathematics are at work here is discussed later. In contrast, few age differences and no gender differences were found on the motivational orientation scales. An anomalous finding was that School A, despite having a higher general self-concept than School B, had a higher maladaptive motivational orientation. For now no more needs to be said about these results, except to say that the teacher

motivation questionnaire served as a useful tool for theoretical sampling: using the results from the teacher motivation questionnaire, the researcher was able to identify two classes for further intensive study. Chapter seven presents the results from the ethnographic study in Year One. Chapter ten appraises critically the validity of teacher assessment of pupil motivation.

PART FOUR

CHAPTER SEVEN

RESULTS: ETHNOGRAPHIC STUDY OF MOTIVATIONAL STYLE AND SELF-CONCEPT IN TWO YEAR THREE CLASSES

7.1 INTRODUCTION

This chapter presents the results of Part Two of Year One of the study. It was a follow-up ethnographic study of two of the fifteen classes in the total sample of classes involved in Part One. The classes were two parallel year 3 classes drawn from the same school. Chapter six reports the findings emanating from the pupil and teacher questionnaire data gathered during Part One of Year One of the study. The findings from Part One indicate significant differences between the prevalence of maladaptive and adaptive motivational styles in one year 3 class, compared with those found in a range of other classes in the total sample, including the parallel year 3 class in the same school. To investigate further these differences, and to compare pupils of the same age and from the same school, the researcher undertook an ethnographic study of the two classes using observational and interview techniques. Details of the methodology underpinning Parts One and Two of the study are described and discussed in chapter five. For the purposes of this chapter only a summary of the method is provided. The results presented throughout this chapter are based on a triangulation of pupil and teacher questionnaire data, pupil and teacher interview data and classroom observational data. The data were analysed and interpreted

in the light of previously discussed theoretical constructs. Both confirmatory and disconfirmatory examples are presented and examined critically. Fictitious names of teachers and pupils are used throughout the chapter.

7.2 ECOLOGICAL VARIABLES

Physical Environment

The school is a fusion of old and new buildings. Extensive renovations were made to the old buildings during the course of this study. As a result, the physical environment in this part of the school changed dramatically from Year One to Two of the study. The older pupils from Years 3 to 6 were housed in the old part of the school buildings; the pupils in this part of the school are known as the 'juniors'. Rose's and Ann's classes were the youngest pupils in the juniors. The classrooms in Year One of the study were large and draughty. High ceilings merged with walls of small-paned windows on two sides of the room. In both classrooms an old-fashioned, wall-sized roller blackboard on a third wall seemed to dominate the rooms. Groups of tables and chairs were set out in the middle of the rooms with an array of cupboards, library book shelves and other general classroom furniture round the perimeter of the rooms. The wooden floors resonated unremittingly with children's footsteps and chairs moving in and out from under desks. A passage-way running the length of all the rooms in the corridor served to carry human traffic past the rooms at all times of the day. Although there were doors at each end of the passage-way

opening into the rooms, they tended to be left permanently open to assist passers-by to walk past less conspicuously.

Environmental Distractions

The question of the impact of peripheral noise and general levels of environmental distraction in a primary classroom is one that is often taken for granted and simply dismissed as an inescapable phenomenon of classroom life. However, such interruptions can interfere with the ebb and flow of teaching and learning processes and, in turn, with some children's educational progress. From time to time the researcher noted that the teachers would become mildly irritated by the friendly intruders traversing the passage-way adjoining their classrooms and, as a result, would close both doors. However, it was often to no avail, for no sooner had they closed them, than someone would need to come through and it was even more distracting when the doors needed to be opened and closed on either side of the room. At first, the pupils seemed inured to these interruptions; however, over the duration of the intensive study it became apparent that many of the children were not inoculated fully against these unavoidable distractions. On several occasions Rose and Ann would just be getting under way with a lesson, or with an explanation of a difficult operation in Mathematics, when someone would walk through the classroom; pupils would turn to look, the teacher would call them to attention, and the moment was lost for the teacher and many of the pupils. It is unreasonable to suggest that the children would not have been distracted had they been fully engaged with the

lesson for at times whole classes or groups of pupils or visitors would trespass noisily along the passage-way and through the classrooms. Although both classes were exposed to these distractions, different classroom management practices can accommodate noise to a greater and lesser extent. Formal class teaching by its very nature was more likely to be disturbed by anyone entering the room than classrooms where children were working in small groups, or where a permitted level of noise could absorb background human traffic. The impact, too, of a classroom assistant entering a room to withdraw individual children during whole-class lessons was intrusive.

Classroom Assistants

The school had recently implemented a decision taken by the headteacher and school governors to employ a higher than usual number of classroom assistants. As a result, all of the class teachers had a classroom assistant for at least half a day every day of the week. Only one of the classroom assistants in the school held a recognized nursery nurse qualification. The classroom assistants featured prominently in a number of ways in the children's daily lives at school. They were often seen working individually alongside a pupil both in and outwith the classrooms. They were closely involved with children deemed to have special educational needs, including those children for whom statutory assessment had taken place and a statement of special educational needs had been issued.

The centrality of classroom assistants in the educational progress of pupils generally, and those with special educational needs particularly, should not be treated uncritically. There was an underlying assumption in the school that this policy was an effective mode of learning support. As the intensive study progressed, the impact of the role of classroom assistants for children experiencing difficulty with English and Mathematics, not least those with special educational needs, could not be ignored. Given their prominence in relation to helping children of all abilities to overcome difficulties in their work, then the role of classroom assistants in the development of motivational style was an issue of direct relevance to the study. Issues such as the planning and management of learning support, classroom assistants' relationships with children, children's and teachers' perceptions of the role and their own perceptions of their role came to the fore. For example, the planning and management of their work often seemed to intrude into lesson time and in particular, into important class lessons in English and Mathematics at the start of the school day. The researcher noted that on several occasions, individual pupils would be interrupted whilst engaged in a class lesson in core subjects and extracted to work with the classroom assistant. Not only did this practice serve to distract the individual pupil in question, but it also interrupted the rest of the children who were listening carefully to the teacher. Invariably this procedure for removing individual children involved a few minutes of dialogue between the teacher and the classroom assistant. In the meantime, the class became noisy and the continuity in learning seemed to be lost. In the 'field life' of a researcher, such interruptions can also frustrate the data collection process and,

in turn, the subsequent interpretation of the findings.

7.3 Gaining access to the two classes

Neither Rose nor Ann was keen to have a researcher in her classrooms for an extended period of time. Rose felt that her class had a range of serious behavioural and motivational problems. She repeated on several occasions that "they're a difficult class, strange motivationally...a very bright class, but they need a very formal approach. I am very strict with them". While visiting the school one day she said to the researcher "I don't want you in my class". It was apparent that the prospect of having a researcher in the class made her feel anxious. Ann was not so explicit in her concerns, but she too seemed uncomfortable with the idea. Rather than simply glossing over their concerns, the researcher felt it was important to open up a dialogue with them to explore their reluctance to the ethnographic study. That Rose had described her class as having serious motivational problems was enticing to the researcher. Rose had also been conscientious and careful in her completion of the motivational questionnaires. She was among the first to return them and commented on how interesting she found the whole exercise. From her comments it was clear that she had been thinking about the theoretical issues encapsulated in the questionnaires. She pointed out some ambiguity in one particular question. From a researcher's point of view Rose was a joy to work with; on an academic level, she was highly qualified. From her conversations with the researcher, it was apparent that she reflected carefully on her teaching.

From the outset the research process was of central concern to the researcher. The headteacher was always welcoming towards, and candid about his views of the school to, the researcher. Regular written and verbal information was provided by the researcher for all of the teachers (refer to Appendices 17 and 18), she also spent time in the staff-room at breaks and dinner-time, attended school assemblies and attempted to take a genuine interest in the day-to-day life of the school. Many hours were spent simply listening to, and talking with, teachers at the school about a range of educational and professional aspects of their work that were of interest and concern to them. The teachers were committed to their pupils; however, they appeared pressurized and reactive. Conversations between them often seemed snatched and functional.

An underlying issue in the school that was likely to have had some bearing on the teachers' reactions to the researcher was concerned with an Office for Standards in Education (OFSTED) inspection. During Part One of Year One of the project, the headteacher by his own volition commissioned a team of school inspectors to carry out a mock inspection. The purpose of this action was to prepare the school for an imminent inspection by OFSTED. Following the pronouncements arising from the mock inspection the headteacher was left swimming against a tide of staff resentment. For a while the staff reactions seemed to lurch from cold war to high drama. They were feeling bruised and angry by a sharp and critical inspection report. It was a difficult time for all of them, not least the headteacher. In some ways the way the

headteacher and his staff recovered from this event was admirable; that they did and were the stronger for it, reflects a certain amount of skill on the headteacher's part, but mostly sprung from their deep sense of commitment to the job. The process highlighted deep-seated tensions between the infant and junior parts of the school concerned with their fundamental differences in the management of children's learning and behaviour. As this research project unfolded the researcher was drawn more and more towards the question of the impact of teachers' professional self-concepts on their teaching, as well as to their individual and collective response to failure, or the perceived threat of future failure (i.e. a forthcoming OFSTED inspection).

To describe the researcher's approach to the management of her relationships with the staff at the school as instrumental to access to the two classes tells only half a story. The researcher knew that she would be spending nearly two years working in the school and, therefore, was keen to make it a worthwhile experience for the teachers and pupils, as well as for herself. She wanted the commitment of colleagues at the school with whom she would be working closely, rather than the reluctant cooperation of teachers who felt obliged or coerced into participating in a study that they cared little or nothing about. There was no question that the researcher was asking a lot of these two teachers. Following the mock inspection they were feeling vulnerable and exposed. The longitudinal aspect of the study necessitated a follow-up intensive study of the same two classes the following year. The chances were that the children would have different class teachers in Year Two of the study;

nevertheless this change was not guaranteed. Even if they did have two different teachers, it would be helpful to the study if the teachers from Year One were supportive to the research aims. They would invariably be asked what the researcher actually did in the classrooms by the teachers involved in Year Two. In this sense, it was vital to the study for the researcher to proceed only on the basis of mutual trust and agreement.

There was an interesting paradox in that the teachers perceived the researcher as having a powerful role in relation to them, while the researcher felt powerless and perceived the teachers to hold a great deal of power in relation to the future of her study. The researcher was facing 'a point of difficulty'. She decided to meet informally with each of the two teachers to discuss her role and the foci of her observations in the classroom (e.g. how children's respond to challenging tasks), as well as to clarify the days and times she would need to visit. The meetings were amicable and open. Both teachers were experienced and had a direct manner of questioning. In some ways it was refreshing to be challenged about the purposes of the research, in other ways it was daunting to think about any future outcomes of the study and the teachers responses to them. These were not issues which the researcher had considered before this point.

In her informal meetings with the teachers, the researcher attempted to paint a picture of herself blending in with the day-to-day lives of the teacher and pupils and of being prepared to be flexible and supportive where possible. The

most difficult questions centred on the issue of confidentiality of findings. The researcher invited the teachers to say what they would prefer she did about this issue in the context of a few imaginary situations which could arise. She discussed with them how such situations might be resolved. Following these informal conversations the teachers agreed to participate in the study. After a few days, when they had seen how the researcher related to them and to the children, there were no difficulties. It was enjoyable to discuss their work with them and to hear their views on school life generally, and on their pupils particularly. It appeared that the informal discussions, as well as the clarification of the researcher's role and the research foci secured access to the two classes. The more time that the researcher spent in the classrooms, the more relaxed the research process seemed to become for everyone concerned.

7.4 EXAMPLES OF DIFFERENT MOTIVATIONAL STYLES IN EACH CLASS

This section examines in the naturalistic setting of the classroom the validity of findings emanating from Part One of the study.

Mastery Orientation

Rose described nine out of thirty four pupils in her class as "model pupils". She perceived these children as being highly motivated in both English and Mathematics, as well as in a range of other areas of the curriculum. It was curious that she gave herself no credit for their motivation, indicating instead

that "they were like that when I got them" and that they had continued to be so. Her perceptions of them would fit a classical description of task involvement or mastery orientation. Although she did not conceptualize the children's goals as 'learning goals', she described admirably the nine pupils' responses as characteristic of mastery orientation.

> "They are the model pupils. Those children are definitely very highly motivated and would learn no matter who was teaching them. They have just got some kind of inner motivation: it takes nothing (from me), they just have to see a piece of work and they go for it. They always do the very best they can. I don't understand why, it's just in the child. They were like that before they came to me. They are very open about problems."

Observational and interview data from pupils bore out the perceptions of their teacher. A frequent question asked of the children by the researcher while she was working alongside them was "How are you getting on with this work?" At face value, in both Mathematics and English tasks, responses from the "model pupils" accorded with their teacher's perceptions of their motivational styles. Typical responses from these pupils would be:

> "I'm good at all my work in class."

> "It's easy work. Yes it's easy. I find most of the work easy. I like it better when we get hard work"

> "I like work, especially this Maths. I like it when we get tests. It's good fun seeing if you can get them (the answers) right."

Ann, too, referred to a group of "model pupils" whom she said "worked hard in all subjects". She went on to describe them as follows:

> "They get on with their work. Okay, so a couple of them are still a little bit chatty but they still get it done. It doesn't make them fall behind in any way. And the presentation of their work is always very good."

On being asked about their responses to difficult tasks, she replied that:

> "They won't sit there and say I can't do this or just wait for me to spot it. In one case, Gemma, she is probably the best at coming out straight away (to the teacher). Because when she gets a piece of work she knows straight away whether it's going to cause her problems or not. And she will come out straight away and say I really didn't understand this. She is very forthcoming. That's very nice to see in a child because a lot of them sit back and pretend I can't see them. Of course I can see them. It's nice to see a child who is able to realize straight away that they're going to have difficulty or that they haven't just quite understood something."

Gemma's comments about her work in English concurred with her teacher's perceptions, but they differed from those in Mathematics. Gemma said about herself that:

> "I'm good at Mathematics, it's in my report. Reading is my hobby. I'll read for an hour at a time. It's my best subject English, and writing too. But definitely not Mathematics."

The "model pupils" were clearly identifiable to both class teachers and characterized as children who responded consistently across all areas of the

curriculum (e.g. they were mastery oriented in class). The similarities in Rose's and Ann's responses to the children who were mastery oriented in each of their classes were marked. These responses are discussed later in the chapter.

Learned Helplessness

Rose described one of her pupils named Pauline as totally lacking in confidence in all subjects. Her description of Pauline resonated with that of a child who did not believe in her ability to succeed on classroom tasks. The teacher was quite sure that Pauline enjoyed coming to school. She intimated that Pauline had difficulties at home and that this was part of her confidence problem:

> "She comes from a one parent family and her brother is disturbed. He's in a special school and is often violent towards Pauline. So, Pauline has quite a hard time at home and enjoys school. She's got a good reading age but she lacks confidence. She doesn't do the same work as everyone else (in the class). She's not very able but I'm sure she's average. If she could get her confidence up she could do better."

Both teachers were also able to discern children who displayed mastery orientation in one subject area and learned helplessness in another. Rose described a pupil called Jo in ways which were indicative of mastery orientation in Mathematics, but not in English. She perceived Jo with a singular goal at school of "getting one over on the teacher". She said:

> "His aim is to see what he can get over on the teacher. He finds me a challenge and I find him a challenge. He's very short tempered. He's very interested in Mathematics and knows he's good at it. He hates to put pen to paper because his handwriting and spelling are very, very poor, so, story writing he just absolutely hates. He has serious problems in English".

Jo expressed a view of his performance in English in a way that reflected his poor self-perceptions of ability and indicated that even with the added ingredient of effort, he would most likely fail. He said: "I just can't do it (a piece of English work). I've tried Miss but it's too hard. I like Maths, it's easy for me".

A pupil who appeared to be demonstrating mastery orientation in English and learned helplessness in Mathematics was Mary. The description of Mary's responses in Mathematics at first seemed to portray a classical learned helpless response to a point of difficulty. However, Rose's assessment of the underlying reasons for Mary's responses was that she was reluctant to fail, thus indicating a possible motive of protecting her self-worth.

> "Mary sees Maths and says "I can't do it" because she thinks she's not able to do it. She is very reluctant to try. In the end I had to get quite cross with her and say go and try it and she can do it when she tries. She's got ability but she is very, very reluctant to fail and, therefore, will not try. Her English is good, she has a very high reading age. She was like that from the beginning. She wouldn't attempt Mathematics. As soon as we go on to a new topic and before we've even drawn breath, Mary says "I can't do that". I think she's probably not good at Mathematics. She hasn't got the ability but she won't give herself the chance to improve. It's holding her back quite seriously."

Mary's beliefs about her Mathematics ability did coincide with her teacher's

beliefs. From Mary's comments it was not possible to tease out precisely whether she was demonstrating learned helplessness or self-worth motivation. She seemed to accept the inevitability of failure. "I can't do this. I know I can't do this work". Her anxiety levels were high and in this case it might indicate further a sense of threat to her self-esteem if she failed. On the other hand, there was evidence generally in the class to suggest that many of the children were anxious about the teacher's responses to their mistakes or problems. What was clear, however, was that not only did Mary and her teacher share the viewpoint that Mary lacked ability in Mathematics, but so too did many of Mary's peers.

Rose had a pupil whose responses seemed to indicate learned helplessness in both English and Mathematics. She described Helen as a lovely girl who completely lacked self-confidence.

> "She has problems with her written work...she has improved this year but very slowly. Her Maths again is poor. She's terribly lacking in confidence. She can do it when she's one to one with me, but when she goes back to her table you can see she gets flustered and gives up. We do number bonds, as you know, every morning, and I do have to watch she's not looking over her shoulder (at other children's work). It does her no good and the other children complain. They'll say: Helen is looking at my work. Helen will turn the colour of beetroot and I'll say: No, no, it's alright she wasn't looking. I don't want to put her in an embarrassing situation. I just say to Helen: keep to your own work."

Rose went on to describe Helen's responses to a point of difficulty.

> "She cannot think where she's gone wrong. She's not forthcoming in saying I can't do it. She excels in swimming but she knows that she isn't as clever as the other children.

Issues of situational responses are discussed later in this chapter.

Self-worth Motivation

There were no clear illustrations among the teacher's or pupils' perceptions and beliefs that concurred wholeheartedly with the theoretical formulation of self-worth motivation. However, along these lines Rose described two boys in her class as "always looking over their shoulder to see what the other one is doing". She stated that:

> "Rob is desperate to keep up with Jim. Some of the children seem to have individual friends in the class that they see out of school. These are the people they seem to compete with. I don't think they want to be top of the class or anything. The class is too large for them to be able to see a pecking order. I don't have that kind of competition (in my class). I don't like it. I would rather they tried to beat their last mark."

It seemed to the researcher that whether Rose liked it or not, their were pupils in her class who were competing with their peers. There was also some indication of peer influence on motivation that manifested itself in work avoidance strategies:

> "There is a clique of boys in the class who seem to think that it's cool to get off with not doing something and yet the same group, if they are interested in something, they will vie with each other

to get it finished first. It depends on the piece of work."

A lack of clear and lucid examples of self-worth motivation did not necessarily cast doubt on its existence. Other issues needed to be confronted here. For example: were the children too young to have developed a 'fully fledged' self-worth motive; were pupils' motivational profiles simply too complex to discern self-worth motivation from work avoidance strategies or learned helplessness; did the skills of the researcher need to be more finely tuned to uncover underlying motives which served to protect the children's self-worth? Year Two's intensive studies attempted to address these questions.

Differences between the two classes

Whilst it is possible to perceive statements made by teachers and pupils in each of the two classes as indicative of different motivational responses, including those which could be perceived as mastery orientation, learned helplessness and self-worth motivation, there is a danger of trying to fit children into conceptual straight-jackets. Bearing in mind that the earlier empirical work presented in chapter six had thrown up significant differences between the two classes in the prevalence of maladaptive motivational styles, then there was a pressing need to probe further the nature and development of these responses in the context of the different situations in each of the classes. A great many pupils in both classes appeared to be responding strategically to classroom tasks and a range of other situational variables (e.g. according to their perceptions of the

task in hand, their self-perceptions of ability, the broad curriculum area, the teacher and the peer group). The patterns of responses in many of the pupils in both classes were indicative of the development of adaptive and maladaptive motivational responses, but these patterns needed to be unravelled further before the collective motivational profile of each of the two classes could even begin to make sense. In a similar vein, the motivational profiles of individual children were also complex and did not fall easily into the theoretical categories of mastery orientation, learned helplessness or self-worth motivation. However, it is of concern that many of these pupils seemed to have developed so early in their schooling such debilitating cognitions about their ability in one or other (or in some instances both) of the two subject areas under investigation. In the face of such stark evidence that many of these year 3 pupils had indeed begun to respond in ways which served to undermine and undervalue the role of effort in their work, the aim for the rest of this chapter was simple. Its focus was teacher and pupil interactions at a curricular level, and its purpose was to ask first what was going on within each of the two classes and, second, what were the differences between them?

In the early chapters of this thesis the researcher criticized other motivational researchers for a seeming obsession in their work with children for whom motivation was problematic. It is, therefore, a key objective of this thesis to try to understand further adaptive as well as maladaptive responses to classroom tasks. There were two classes in this study, one of which appears to have had considerably greater motivational problems than the other. However, it

is important not to lose sight of the fact that, in each of the classes, there were children for whom adaptive and maladaptive responses were in evidence. Both the questionnaire and ethnographic data indicate this phenomenon. For this reason the next section opens with a perspective on the "model pupils" or pupils who responded in adaptive ways when challenged by their work.

7.5 TEACHER'S STRATEGIES AND PUPILS' RESPONSES TO A POINT OF DIFFICULTY

Teacher's strategies and adaptive motivational responses

In Rose's class there was a commonality in each one of the nine model pupils' responses to a point of difficulty. They seemed to respond in one of two ways. Either they would seek out direct help from the teacher, or they would sit quietly and thoughtfully and try to resolve any problems for themselves. When probed by the researcher at these times and asked what they were doing, typical responses were:

> "I'm just trying to think about what I did yesterday."

> "We've had work like this before."

> "I'm looking at my book 'cause I think we had some of this the other day."

"I'm trying to work it out."

An interesting feature of their responses, however, was that they seemed to be able to decide immediately which route to pursue. It was notable that if they chose to ask questions of the teacher, then these tended to be specific rather than general questions. In the main their questions focused on seeking confirmation from their teacher about a strategy they had thought of independently but, nevertheless, needed some reassurance about. Essentially, they seemed to be seeking clarification of the demands of the task; they were checking out that they had understood what was being asked of them. Examples of such questions to the teacher were as follows:

"I think you need to add 'ed' to the end of all these words, is that right Miss?"

"You can't do that can you because the five on the bottom is bigger than the one on the top line, you need to go to the tens column first don't you?"

"If I tried putting all the capital letters in the sentence first would it be easier to understand?"

"Do you mean...?"

"Could you say that (a sentence or an instruction) again Miss?"

On several occasions Peter would seem frustrated and agitated in the face of a difficult problem, especially in Mathematics. He would say to himself in loud stage whispers "it's too hard". When asked about the problem by the researcher he would invariably say "Normally I can do this kind of thing but today I'm having trouble. It's a bit more difficult than usual". However, he would persist until he had mastered it by himself. In his case it was a genuine wish to overcome the challenge and not simply a goal of self-protection by using 'task difficulty' as an excuse. In a similar way these pupils did not seem to be using their questions simply to elicit answers from the teacher to save them from doing any work; on the contrary, they seemed to want to complete their work for themselves and perceived the teacher's role as instrumental in helping *them* to succeed. In most cases the teacher would simply reply "Yes, that's right" or "Perhaps you need to think about..." or "Good thinking Lucy". These children were not frightened or anxious to approach her. It was as if they understood their role in their own learning processes. They were providing their teachers with clues about the ways in which she could help them further. For these children challenges were exciting and fun.

Although Ann also valued this type of response from her model pupils, she did not demonstrate awareness of the ways in which her own teaching methods could encourage or discourage it in the pupils. She did not relate any of their adaptive responses to their possible perceptions of 'difficulty' as productive to their future learning. However, she did explain the ways in which the children's behaviour affected her own teaching. When asked whether or not

such responses as those associated with her "model pupils" affected her teaching, she thought carefully and said that they did. She then explained that:

> "I angle my lesson differently when I know they are having problems and then I ask them if that (the lesson) was okay. I know they will give me an honest answer...Neil is prepared to say I did not understand. And I'll say "Were you listening properly Neil, come on what did we say?" and he'll tell me and then he'll say "oh yes, I know". Because he's told me, he then understands and he'll say he knows and off he goes."

Like Rose, Ann expressed the view that these particular pupils, although they had matured a lot, had responded in this way when she first got them. If Rose and Ann's perceptions about the "model pupil" were valid, and it was not possible to validate them from the children's comments, they nevertheless beg the question of how these children came to respond in this way in the first place? It was a question which could be examined in the longitudinal study.

Teacher's strategies and maladaptive motivational responses

On being asked about her strategies for helping Jo with his difficulties and poor motivation in English work, Rose explained that she had set clear expectations of him with a withdrawal of play-times if he failed to comply. Jo had developed a full suite of work avoidance strategies. It seemed to the researcher that he was not so much operating strategically in trying to 'get one over on the teacher' as she perceived it, but rather trying desperately to avoid her 'getting one over' on him. In this sense it seemed more likely that his goal

was to avoid being pilloried by negative comments about his behaviour.

> "I had to make Jo complete his English tasks. He thought that by doing a little and then stopping that he would get off with that. So, earlier on I had to say you don't go out to play until this is finished. He accepted then that he had to do it."

A class lesson in number bonds was the first order of every day in Rose's class. The pupils were seated at their tables. She would begin by putting a list of number bonds on the black board. For example, two columns on the board would comprise tasks such as 'Decrease 18 by 16' and 'Decrease 36 by 14'. During this daily ritual the researcher would be seated at the side of the classroom, out of view of the children but able to scan them and listen to the ensuing proceedings. Some children were allowed to have 'table books' to help them to calculate the answers. On several occasions she would tell particular pupils that they "did not need table books because the work was not difficult". In general, the children were reluctant to use the 'table books'. If Rose noticed that they were not in front of them she would call out loudly "Andy and Sally use your 'table books'." Frequently these pupils were actually trying to work out an answer by themselves and without the aid of the 'table books'. Rose appeared not to notice this important aspect. She made no attempt to address these pupils quietly or discreetly. Without exception every pupil in the class was able to explain to the researcher who was and was not, allowed to use 'table books' to help them with their number bonds. More pertinently, they were quite clear about the reasons for this. Their explanations revolved around their perceptions of their peers' abilities in each subject.

Each day the format was the same. Rose would complete an example on the board for the whole class. They would then be instructed to complete individually the two columns of number bonds on the board in their exercise books. While the class got on with this task she would call the register of names and then announce that "we're going to mark them (the number bonds) now". Rose used to clap her hands to signal to the children that she was ready at the board to begin. Invariably many of then would be chatting and, as a result, would fail to sit to attention. She would then clap her hands loudly again and again. She was convinced of the need to be "strict". Rose said that she had told the class that "they were a bright class, but they were naughty and noisy." In her attempts to manage their behaviour she said she asked them how they wanted to be treated "strictly or softly" and that they had asked to be treated "strictly".

For some of the children in this class life seemed to be like living on a knife edge of praise and wrath. At times, the researcher found it stressful to sit through these lessons. There was no sense of calm or equanimity. On one level, Rose could see the anxiety experienced by many of the children in relation to their classroom performance; however, she was convinced of the need to be strict with them. She rarely seemed relaxed. She said of Thomas that "I have to handle him with kid gloves, he cries otherwise. He's good at Mathematics and English but he's lazy and doesn't want to do it. He only likes drawing". In another case, she described Sarah as reluctant to go to her about work. She explained that:

> "She's not low ability or behind in her work but she will not come near me if she has problems. At the beginning of the year, she was the one child who was very, very scared of me because of my formal approach. So coming from an infant class where there's a more relaxed atmosphere and coming into the strict atmosphere of the junior class Sarah was very upset and there were tears. Her mother came to see me about how upset she was, and I wasn't even directing my comments to her, I was just trying to calm the class down and she found that very hard. Now she will come to talk to me about her drama but she will not come near me about work."

It seemed that the pupils were more concerned to avoid negative feedback than to elicit positive responses from the teacher. Praise was valued by them simply because it meant not being reprimanded. Rose's high expectations of her pupils' levels of performance were laudable. However, in attempting to realize these expectations her strategies appear to have been counterproductive in cultivating what she hoped for, such as "an interest", "some joy" or "some pleasure out of it".

These pupils were only in their final term of their third year at school. They were aged between seven and eight years old. Overall their self-perceptions of ability in English and Mathematics were breathtaking not only in their clarity, but in the ways in which they coincided with their teacher's beliefs about them. So, too, were the myriad of examples of maladaptive responses to points of difficulty in these subject areas. The researcher was unable to compare to any great extent the differences in children's responses to different types of tasks. The main reason for this limitation related to the lack of variety both in the nature of the tasks required of pupils as well as in the mode of presentation.

For the most part whole-class lessons were followed by individual worksheets. Whole-class teaching was the dominant pedagogy in Rose's class. Rose herself explained the rationale behind her approach in terms of the children's behaviour and associated need for strict discipline. Whole-class lessons offered the greatest possibility of control.

Life in Ann's class was a different story. She would stop the class immediately if several of the children expressed problems with the work and then she would revise the demands of the task carefully and supportively. She seemed to take more personal responsibility for children's apparent lack of understanding than was obvious in Rose's class. When Ann talked about the children her comments seemed to focus more on their cognitive abilities and less on their behaviour than Rose's commentaries about her class. This classroom had a quietude about it which did not seem to be oppressive to the pupils in any sense. The children from both classes would greet the researcher on each visit in a very warm and welcoming way. They used almost to bounce into the classroom each morning typifying any group of lively young children. On the days of her visits the researcher made a point of slipping into the room prior to the arrival of the pupils. In this way it was possible to observe pupil-teacher interactions in a relatively informal atmosphere, at least in a less formal context than a class lesson. Discipline was a private affair in Ann's class. She was certainly assertive with the children but she did not confront them in public. She would take them to one side or out to her desk to discuss with them her concerns about their behaviour. The children seemed to have a great deal of

respect for her. They perceived that she was interested in their learning and educational progress. Comments such as: "she helps you to understand the work", "she really listens to you and helps you" and "she explains things to you" gave testimony to her approach. There were clear social and academic dimensions embedded in teaching and learning. There was no aggression in her manner or in her voice. It was a matter of fact approach to the management of behaviour and always couched in non-confrontational language handing back responsibility to the children for their behaviour. Ann's strategies in the face of maladaptive motivational responses were qualitatively different from those of Rose.

One boy in Ann's class was mastery oriented in English and learned helpless in Mathematics. Ann perceived this lack of motivation as "extreme laziness". She complained that, following a class lesson, all the children would go off to get on with their work but Luke would "just sit there". However, her approach to Luke was always very supportive and encouraging. She would monitor him carefully and discreetly and keep prompting him to complete the work and to recall the ways in which he had done the sums already. She went on to say that:

> "He'll start doing a sum and then he'll just stop. And I'll go and look at it and say: Luke are you alright? What have you done here? So, we'll go through his sums and I'll say: You know how to do this. What do you do here? He'll tell me (what he should have done) and I'll say: Well why haven't you done it? His response is to say I don't know and to shrug his shoulders. He's not motivated in Maths at all. I think he thinks it's boring".

A different pupil in Ann's class for whom reading was a serious problem received additional support from the classroom assistant and from the area special needs support service. Ann did not perceive that this child, Neil, had motivational problems at all.

> "Neil does have a lot of problems mainly because he does not know his phonetic sounds. He can't relate letters to sounds. He puts a lot of effort into writing...he is improving very very slowly. Maths is his best subject. He is very quick with his number work but his problem is he can't read the question. This is going to hold him back terribly. So our main job is to help him with his written work. He is motivated in his own way. He does the work, he sits down and tries hard no matter what I give him. I don't have to say: 'Neil get on with that.' He has improved terrifically since September and his confidence has grown".

Ann's approach acted to encourage the children to be open about their experiences of difficulty and failure in their work. By attributing their difficulties to a range of factors such as "not listening carefully", "being silly" or even intimating to the children that "perhaps I didn't explain that very well", rather than to their deficiencies in ability, she seemed to foster (unwittingly) a set of more mastery oriented responses. The children did, in the main, seek help.

Teachers' responses to failure

To describe Rose's perceptions of the children's abilities as an 'open secret' would not be unfair. She would publicize openly her assessments of a

pupil's performance in English and Mathematics. It was not unusual for her to elucidate further to the entire class a child's performance in relation to her perceptions of the children's underlying reasons for their failures. Mary (refer to section 7.4) portrayed all the characteristics of learned helplessness in Mathematics. She simply did not believe she could do Mathematics. On several occasions while the researcher was sitting at Mary's table with her and a small group of five other pupils, Mary would say quietly to the researcher: "I can't do this. I feel sick". She was extremely anxious. On one such occasion the teacher overheard her comments to the researcher, picked up her worksheet and called her out to the front of the classroom. She then announced to the class that: "Mary is scared of these (the Mathematics tasks). I've told you all not to be scared." Finally, she turned to the researcher and said that:

> "All the children have the same worksheet. It's an assessment for the next teacher. It's to show what the children can and cannot do. I know it's not good to get the children doing things they can't do but I want her (the class's next teacher) to see this on paper. It's no good just telling her. She needs evidence."

The case of William is an interesting one for Rose considered herself to have failed to motivate him or to improve his behaviour. He was perceived to be by far the most disruptive child in the class. There was a lot of anxiety both in school and at home surrounding his behaviour. Rose summarized his short past life at school as highly problematic:

> "He does not get on with other children. He gets on much better with adults than children. From reception to first year infants he

was in constant trouble. In year two the teacher took the attitude that any time he did anything wrong she just sent a note home. Last year he seemed to spend his entire life outside of the headteacher's office because it's so difficult to control a class and William at the same time."

Her strategy for managing William was to try to keep him in class to work in conjunction with his peers. This approach was apparently successful for the first two terms but had broken down in the third term. She explained that:

"We managed the first two terms but this last term he's gone back again. I don't know why, so I had to ask him to work outside and he hates that. He much prefers to be in the classroom. He's missing teaching again. He needs a very formal teacher and someone who understands him...If we could just find a way of getting him to cooperate, he'd be alright."

It is almost paradoxical that Rose suggested his needs could be met by a formal approach to teaching since her practice was precisely that. Given also that this *modus operandi* had apparently failed, then it is possible that she did not "understand him" or his needs. Rose did not seem to conceptualize William's difficulties as cognitive problems stemming from a lack of understanding of the work he was being set. Nor did she appear to question the effectiveness of her teaching practice in relation to children's learning progress generally. Underlying her narrow suite of teaching strategies there was a fundamental assumption that a particular approach to the management of classroom behaviour (i.e. teacher controlled) *necessarily* lent itself to effective teaching and learning.

On the few occasions that William was working in the class he was

seated at a small table with one other child at the front of the room near the teacher. His comments to the researcher about his difficulties revealed that he perceived them to relate to his lack of understanding of the work being asked of him. An example of this belief was evident in his answer to the researcher when she asked him why he could not do the task in front of him. He replied "I don't listen". The researcher probed further "Is that always the case William?" He then said "No, because actually I do listen. It's just that I don't always understand." William attributed his lack of progress in learning to a lack of understanding. The researcher got to know William very well since they both spent much time seated in the perimeter area of the classroom. He would often ask the researcher to help him with his work. It appeared that he really wanted to learn and to understand and became frustrated if he could not understand the questions in his text book. On one or two occasions the researcher would explain the questions being asked of him. It was expedient to intervene directly at times in the classroom. At other times, it was possible to direct a child gently to the teacher for assistance or to repeat the instructions given by the teacher. There are tensions set up for any researcher working in classrooms around the issue of level of involvement. Being asked directly by a child or a teacher for help is a matter for a researcher's good judgement at the time.

Asking children about their work raises issues about the impact of the researcher's questions on their metacognitive processes. In a similar way, asking teachers questions about their work could raise their metacognition. Providing the researcher is attuned to the implications for her research outcomes of her

actions and behaviour in the classroom, then these issues can be considered when interpreting the data. The methodological and ethical implications of turning away a child or a teacher requesting help are discussed in chapter ten. When William had grasped the demands of the task in hand (usually quite quickly), he would work happily and independently for long periods of time. When he asked the teacher for help she would often send him back to his seat and tell him to read the questions more carefully. For many of the children this type of response only served to frustrate them further. It was not necessarily a work-avoidance strategy on their part, as perceived by the teacher; rather, it was a genuine request for further explanation. It was interesting that Rose perceived different reasons for children not seeming to understand their work. She expected her class to accept her differential responses to different children in the face of difficulty: "There's got to be some negotiation and the children must realize that I accept a certain type of behaviour from one child, yet I demand better from another". She went on to explain further her strategies in the face of children's difficulties:

> "Sometimes I accept this child cannot do this work, so I just make a comment and move them to something else. I just accept that the child is not able to do that. I had to do that with Simon. He just did not have enough understanding to go on. We didn't make a fuss about it. At one time, I had given Alan a difficult piece of work and he was able to come to me and say this is too hard for me and I just accepted that. I knew it was very difficult, but I just accepted that they haven't got enough background. But with people like Mary, I know that she can do it but that she hasn't tried so I'm making the decision all the time (about their reasons for saying the work's too hard)."

Her decisions about individual children were based on her assessment of their abilities. There was little evidence to suggest that she conceptualized children's learning difficulties in terms of the curriculum or her effectiveness as a teacher. She explained some pupils' learning difficulties in terms of their individual cognitive deficits. Teachers' conceptions of ability are discussed in the next section.

Ann's conceptions of ability focused on children's lack of effort when discussing those for whom she perceived herself as having failed to teach. Hugh had serious difficulties and according to Ann was underachieving in Mathematics due to his laziness. Ann was honest in her feelings towards Hugh whom she found it difficult to like. She described him in the following way:

> "He is an extremely lazy little boy. Thoroughly lazy I have to say. I said this to his parents and they just laughed and agreed. He's a strange boy and not one that I warmed to which is an awful thing to say, but I've tried all year there and I can't do it. There's something about him. Whether our personalities clash I do not know."

Ann felt that Hugh was deliberately manipulative to avoid doing any work in Mathematics. From Hugh's point of view, he simply found Mathematics "hard and boring". He used all sorts of work avoidance strategies from "I didn't go to bed until late", "I'm not really feeling well", to constantly sharpening his pencils. It was frustrating even for the researcher to observe him let alone his teacher. It is understandable when teachers experience frustration when children thwart their considerable efforts to teach them. However, it was obvious that

Hugh, too, was frustrated and seemed to have simply given up. A strategy to which he did respond well was that of going out of the class with the classroom assistant. He would actually ask to go out of the class with her. Ann felt that this was just another one of his "tactics":

> "He likes going out of the classroom. He doesn't see it as something awful. He likes one to one and to be taken away from the class so that he's not having to get on."

From her observations and Hugh's comments it seemed that he liked going out *precisely* to get on with something. He produced more work in this situation than elsewhere. Ann continued to believe in Hugh's capacity for learning. And, even though she perceived herself to have failed with him, she continued patiently to encourage him. Hugh seemed to the researcher to be in a state of helplessness. He would sit looking anxious. When asked about his work, he would always reply: "I just try to work it out and if I can't I ask the teacher". It was a serious state of affairs. He did not present any serious behaviour problems and seemed resigned to his predicament. Ann also seemed resigned:

> "Hugh has always struck me as a cunning child in the sense that I do feel I'm being conned by what he's giving me. He could do a lot better. He'll come up and say "how do you spell ...?" and I'll say "but you know how to spell it, don't you"...I have still to fathom him out. He's very different. I've never met one like him before."

Children's understanding of, and attributions for, success and failure

For children in Rose's class, short tests were common practice. These tests could be in number work or spelling and would usually involved the whole class. Rose was always telling the children that the tasks were 'easy'. Typical comments from her were "If I catch anyone leaving out 'how many centimetres in a metre' or 'how many days in a week', then I will be very cross. We have done these (tasks) many times before and they are easy" and "You should have no problems and everyone should get every one right". The fact that many children did experience difficulty seemed unimportant to her. While the class were busy doing their work, the researcher would sit among them listening to their conversations and ask them questions when appropriate. Over the duration of the field work there were many opportunities to talk to the children about the sorts of things that helped them to feel pleased and happy at school generally, and in their English and Mathematics work particularly. Children with a high self-concept in both of these subjects would invariably attribute doing well to their ability. They would smile and say that:

> "I am good at Maths and English, but definitely not sports...it's because I'm bright."

> "You are just good at work. Some of the them (the other pupils) are silly. They haven't got brains, so they just mess about."

> "The good ones, I mean, can do this work, but the poor ones can't. They have to have easy work or help from the teacher. We

don't because we're cleverer than them."

Having help from the teacher was perceived by many of the pupils in Rose's class as evidence of "being poor at your work". Performance evaluation was part of the culture in Rose's classroom. Pupils with a poor self-concept in Mathematics or English were quite clear that their poor performance resulted from a lack of ability. Typical comments were:

"I can't do this work...because I'm stupid."

"I'm not very brainy."

"It's too hard for me. I can only do very easy work."

In Rose's class, success and failure were inextricably linked to teacher approval and disapproval. Success elicited approval, but it was more than this. Completing your work successfully was an effective strategy for avoiding disapproval as the following characteristic statements of pupils in this class demonstrated:

"When we do good work, the teacher doesn't get angry with us."

"I like when I get it (the work) right because Miss doesn't shout at me then."

Ann's pupils had a far greater range of attributions for success and failure than Rose's pupils. In Ann's class all of the pupils would comment openly about how helpful Ann was when they did not understand something. Typical comments from Ann's class were:

> "Miss always helps us to understand".

> "I didn't used to work hard. Then Miss said I had to work much harder and use the tables more to help me. I just did and it worked. I'm getting better at these (points to number tasks on table)".

Ann's class just did not have conversations which centred on whether they were "slow" or "brainy". If they had problems, then it was fitting to ask for help. Help was always forthcoming in the form of information, clarification or reminders of similar work completed successfully.

7.6 TEACHERS' UNDERSTANDING AND BELIEFS ABOUT MOTIVATION

Teachers' perceptions of cognitive abilities

When asked about the differences in the ways in which they perceived the pupils in their classes from the beginning of the school year until now (the third term), it was remarkable how the two teachers' views coincided. Rose seemed to think that pupil ability and behaviour were reasonably stable and

immutable. She realized the hopelessness for teachers of this view, but remained steadfast in her opinion.

> "I'm afraid that's the way it is. The children are like that from reception. We either mend the problem or it will be carried on up the school. The children are what they are from reception. I don't think they change suddenly, quite the reverse. They're the same child now that came to school in reception."

Her profile of one particular pupil in her class named Tracy encapsulated Rose's underlying perceptions of children's cognitive abilities. Not only did the teacher transmit these perceptions to the child, but she saw fit to point them out to the child's mother.

> "She wants individual attention. She is very much attention seeking. Her mother had a totally wrong idea about her ability. She (the mother) thought she was bright and yet at the end of the interview with me (the teacher) she said: I knew all the time she wasn't bright. It was the health visitor who said she was."

In a similar way she described the variations in the abilities of a set of twins called Patrick and Paul as though cognitive ability was fixed. It was interesting to note that Rose used behavioural indicators most of the time in her assessment of children's cognitive abilities. She also used the term 'ability' when she was actually referring to level of classroom performance. On Patrick she said: "Patrick is so pathetically immature. That is his main problem. I'm quite pleased with his ability now." In contrast, she assessed Paul as "the brightest of the two, no doubt about it. He's got brains there but he's just not achieving."

Ann focused more on children's effort than ability. The following extract exemplifies her view that effort mattered:

> "Colin's English work isn't too bad now. It has taken a while for him to have the confidence to write more. I mean half a page. I'm saying to him: "This isn't enough Colin. Think more about what you can say. You've been to such and such a place, you've done this and this. Let's have it in your writing". He'll say "yes" and he'll go away and make an attempt. So, he does try hard but he's a very big boy, very tall. He's conscious (of this) because he stoops. He doesn't want to be noticed. He finds it difficult because of his height...no-one has ever made fun of him because of it."

Although Ann focused on children's effort in helping them to overcome difficulties, she did not make this point explicit to the children. She was sensitive to the children's social and emotional needs. In the case of a pupil (Eric) who was responding in Mathematics in a manner which suggested learned helplessness, she attributed his difficulties to the amount of time he took to complete his work. Eric was also appraising his performance by the number of workbooks he could complete compared with his peers. He would say: "Oh no, I've got all this to do", and then he would simply give up because it seemed like an impossible feat to keep up with the others. Eric's response called into question the distinction between learned helplessness and self-worth motivation. To the researcher he seemed to want to keep up with his peers to maintain his sense of self-worth; however, when he had failed persistently to keep abreast of the other children, he began to believe that there was no point in trying because he could not succeed anyway.

The results from the quantitative data presented in the previous chapter showed a decrease in social (and to a lesser extent physical) self-concepts as children got older. Both teachers' and children's comments in this chapter illustrate the impact of these facets of self-concept on children's social relationships and behaviour in class.

Teacher's conceptions of motivation

Rose and Ann appeared to concur that motivation was concerned with children's cognitions or perceptions, as well as about pupil interest in learning and work. They were also clear about the centrality of their own role in fostering children's motivation or interest in their classroom tasks. However, their comments reflected underlying differences in how this might be achieved. These differences seemed to stem from the salience of their prior teaching experiences and classroom management practices associated with different age groups of children. Rose had come from a prolonged period of teaching year 6 older pupils in the junior part of the school, while Ann had been working with younger pupils in years 1 and 2 in the infant part of the school. In the wider arena of the school, there was a division between the infant and junior ends of the school, not least a physical one. The juniors were taught using more formal, traditional teaching methods than those used in the infants. Discipline was also more authoritarian and strict in the juniors and there was strong pressure on the class teachers of the junior children to conform to these expectations. These expectations to conform were articulated by several of the newer younger class

teachers in this part of the school. This issue is discussed further in chapter nine.

On being asked to define motivation, Rose stated that:

> "Motivation is encouraging the children to participate in whatever task has been set for them; they develop an interest and they want to do well: they almost get some joy from it, some pleasure out of it...I am convinced that success encourages motivation and so, the aim all the time with me is to give the children work that they can cope with and then push it up. But, very often you get children who are simply not interested, they do not want to work. Perhaps because they found it difficult at the beginning or, because they're lazy or not interested, but it is amazing if a child does a piece of work and gets praise for it how they are motivated to go on."

Rose had a clear view of her own role in fostering children's motivation. Through her encouragement and praise she wanted the children to develop an interest and a joy in learning. For her, motivation seemed to be conceptualized as malleable and responsive to the experience of success. However, she did not seem to have thought about whether it was praise *per se* that motivated the children to go on, or their perceptions that they had overcome some difficulty in their work. Along similar lines, Ann defined motivation as:

> "A means or a method of encouraging children to have an interest in their work. Obviously some children have no idea how to set about work, or how to approach it, their attitude is completely wrong. So, my aim as a teacher, is to really encourage them in a sense through interest. I don't think they can learn without any interest at all. That is my main aim through motivation to get their interest first. Hopefully, that will motivate them to get an interest in whatever we're doing and to want to do the work."

While Ann focused on developing children's interest to motivate them, her teaching strategies were more akin to those used in infant classes and in stark contrast with those employed by Rose. Ann often collected her pupils together on the floor and held class discussions with them. She described this approach herself in her interview as her prime method of motivating her class. She stated that:

> "My prime method is discussion with the children no matter what we're doing. I want their responses, I want to gain interest by my asking questions and them throwing things back at me. I do this more in English, but other subjects as well, because I can sit them down in front of me and we can have a good discussion. Everybody hopefully will participate. I think that then gets their interest going, they want to know more judging by the questions they ask me."

Rose, however, who had previously taught year 6, made frequent reference to her formal classroom management approach. She always explained this approach in terms of the general behavioural problems in the class and the needs of her class for firm discipline. Her views were summed up in the following lines:

> "I generally have a formal class and I can see and pinpoint anyone who is giving bother. They are generally a bright class. I know I have four remedial children but they can all read now so they are all capable of doing a certain amount of work. There's no one who we just have to give pictures to draw to. They are all capable, they are full of ideas, it's just that they are a bright class and the mixture of characters amongst those boys (a particular group of boys) is mischievous. They're not bad boys they're just full of mischief. Then there's another group of boys that are very immature and they mess about: they just do not want to work; they are uninterested. But generally the ability of the class is very high."

There appeared to be some underlying tensions between Rose and Ann in their contrasting approaches to classroom management. They were both aware of the differences in their classroom management practices. Ann was careful to explain and defend her approach:

> "I know they are still first year juniors but in many senses a lot of them are still young and they're used to doing a lot of the sitting on the floor aspects (of work) in the infants. I don't think that they're too old at this stage to not do that. I think it's important because I can stand in front of the blackboard and I can preach to them but you're not getting their interests because they're distracted by pencils and this and that. I find with certain lessons it's good to sit them in front of you and just talk to, and with, them and see what response you get. I can hopefully judge from that who is being motivated by what they are doing. Maths is a little bit different because you need (to use) the blackboard for examples. There again bringing them out to the blackboard to help you to do an example of a sum gains their interest; they all want to come out. They can show off because they can show that they can do it. I hope that will motivate them again to want to get on then with whatever work I then give them as a follow up."

Given that Rose and Ann taught year 3 pupils in the same school in adjoining classrooms, then they appeared to have different notions of the developmental levels of the pupils. In some senses this phenomenon is not surprising given that one had been teaching top juniors and the other infants, for a number of years prior to taking over the year 3 classes. In their own ways each of them portrayed a degree of uncertainty and a lack of confidence in their different approaches to the classroom management of year 3 pupils. Their perceptions of the children's academic capabilities as well as their emotional and social needs were also different. These issues are discussed more fully later in this chapter.

Teachers' attributions for success and failure

To a greater extent than Rose, Ann attributed children's progress (or lack of progress) to factors under her control. It was evident from the observational and interview data that Rose held an entity concept of ability. As has been shown throughout this chapter Rose's teaching strategies were underpinned by a belief in the effectiveness of formal teaching approaches coupled with strong discipline and control in the classroom. In contrast, Ann's teaching strategies were underpinned by a desire to foster productive social relationships in her classroom and a perception that these were central to learning. She was concerned to develop supportive relationships not only between teacher and child but also between child and child. It was evident, too, that both teachers were responding to children's strategic behaviour and to this extent, there was a reciprocal dynamic between child and teacher evident in the motivational processes in both classes. Rose attributed children's successes to a formal approach to the management of behaviour and learning. However, she attributed children's lack of success to a lack of ability and, in some instances, to home background factors. For her, success was derived from strong discipline and control. A caveat for Rose seemed to be that teachers were working within the limits of children's abilities.

Ann attributed children's successes to the development of confidence (e.g. confidence to work in groups, tackle difficult work, ask questions of her and other pupils). Rose had a clear focus on learning. She seemed to

conceptualize children's problems in terms of their learning strategies (e.g. their responses to the demands of a task and their understanding of the work set). Ann was confident that her class would work well with their next teacher. She stated that:

> "As a whole class they get on very well...They'll work well with a new teacher. Their attitudes should be very good. I shall miss them. Most of them have matured an awful lot. It's lovely to see their little personalities grow."

From the observational and interview data, it seemed that Ann's pupils attributed successes and failures to factors other than ability; for example, to a lack of understanding, a good teacher, a lack of effort or other external factors. Feedback from Ann was mostly positive and focused on attainments, as well as social behaviour. In Rose's class, with few exceptions, children (including the "model pupils") attributed their successes and failures to their ability (or lack of ability). Negative feedback dominated Rose's interactions with pupils.

7.7 SUMMARY: THEORETICAL FORMULATION

From the results of the questionnaire data presented in chapter six, Rose and Ann's classes were identified for a follow-up intensive study using observational and interview techniques. The questionnaire data indicated that there were significant differences between the two classes on Nicholls' Motivational Orientation Scales. Significant differences were also found between the two classes, as well as between each individual class and the other classes in

the study. To sum up: Rose's class had a maladaptive motivational profile and Ann's class had an adaptive motivational profile. An intriguing aspect of these results was that both classes were located in the same school (School A) and comprised year 3 pupils (i.e. aged 7). As a result, the researcher embarked on a follow-up ethnographic study of the two classes with the goal of examining children's and teacher's understanding of motivational processes at a curricular level.

Subject-specificity

Analysis of the interview and observational data provided further evidence of the subject-specificity of pupil motivation and self-concept. However, there were anomalies between the findings from the Teacher Motivation Questionnaire and the observational and teacher interview data; contrary to their responses on the questionnaires, teachers appeared to distinguish between children's motivational responses in English and Mathematics in the naturalistic setting of the classroom. On a methodological level, the instruments or the procedures used in the questionnaire data collection (or both) might not have been sensitive enough to tap teachers' perceptions of subject differences in their pupils' motivation and behaviour. It could also be that teachers' perceptions are inconsistent with that of their practices in a classroom. The data suggested that Rose and Ann were responding to the situational and contextual factors in the classroom, particularly children's behaviour and motivational responses to difficult tasks. In this sense, it was

more likely that the anomalous findings, rather than being an artifact of the instrument, served to illustrate that situational and contextual factors were of considerable importance in the construction of knowledge about motivation and self-concept.

Perceptions of ability

There were similarities between the children's and teachers' perceptions of children's ability in English and Mathematics. While social comparative information in Rose's class focused on pupil ability, the comparative information in Ann's class highlighted variations between children in effort, listening skills, organizational skills, the ways in which they supported each other and worked together on their tables (i.e. factors which could be changed). This phenomenon is evident throughout the data presented in this chapter. In both classes, the children appeared to be using the teacher's evaluations of their abilities in constructing views about themselves as learners.

Teaching, learning and behaviour

The children in Ann's class could seek help without a penalty of fear: fear of reprimand in the public domain of the classroom. In other words, Ann's class was a safe haven for children to take risks and to make mistakes. She fostered a constructive view of difficulty and failure in the learning process. To experience difficulties in educational tasks in the context of a supportive social

relationship with a teacher and one's peers encouraged mastery orientation. Sanctuary was not an option in Rose's class. For children who understood how to make good use of a teacher (i.e. the "model pupils" who were receiving systematic and consistent messages about their 'exceptional' ability when Rose would repeatedly and explicitly tell them "they were bright children"), life was a lot easier. Knowledge about children's abilities and attainments in this class was public property.

There was no question that both teachers were concerned with children's learning and performance. However, while Rose's priority was responding to children's behaviour, Ann's priority was responding to learning. On the face of it, this idea might seem over-simplistic. To polarize matters in this way also masks the complexities and richness of classroom life. Further discussion of the process of theorizing in research is provided in chapter ten. An observation about the "model pupils" which depicts a possible theoretical stranglehold of an ability versus effort dichotomy relates to the issue of children's goals. It was evident from the data that the "model pupils" were mastery oriented, in the sense that they enjoyed challenges and made every effort to overcome them. However, the question of *why* they responded in this way was problematic. At times, it seemed to the researcher that it was not simply because they enjoyed learning for its own sake (although they did seem to); they were also very keen to receive praise from, and acceptance by, the teacher and, in turn, from their parents. The interplay of social and learning goals could have been at work here. This question needed to be investigated further in the longitudinal study.

A recurrent theme emerging from the data was the contrasting underlying views held by the two teachers about what constituted effective teaching and learning. During the course of the intensive study the link between teacher's theories about learning and the ways in which these influenced their practice became of central interest (e.g. Ann's practices could be characterized as falling within a social constructivist approach to teaching and learning). Furthermore, the same class tests were used by both teachers; however, the tests were used for different purposes. While Rose used class tests for summative assessment purposes, Ann used them to help her to formulate future teaching strategies. The children's perceptions of these tests were also quite clearly different as exemplified by one of Ann's pupils who stated that: "They help you to learn things, Miss". The longitudinal ethnographic studies have been used to investigate further the theories developed above. The points raised in this section are discussed further in chapter ten.

PART FOUR

CHAPTER EIGHT

RESULTS: CHANGES IN SELF-CONCEPT AND MOTIVATIONAL ORIENTATION IN THREE AGE GROUPS

8.1 Introduction

This chapter presents the results of a statistical analysis of the quantitative data arising from Year Two Part One of the study. Pupils in years 2, 4 and 6 formerly years 1, 3 and 5 respectively completed Marsh's Self-Description Questionnaire 1 (SDQ1) and Nicholls' Motivational Orientation Scales in English and Mathematics in a repeat of the Year One study. Similarly, class teachers in Year Two completed the Teacher Motivation Questionnaire in English and Mathematics. Details of the methods of inquiry and statistical procedures used in the study were provided in chapter five. Data derived from years 2, 4 and 6 were compared with years 1, 3 and 5 respectively to examine changes in self-concept and motivational orientation. Data are presented separately for each of the three longitudinal samples of pupils.

8.2 Number of pupils in each class in year two of the study

Table 26 shows the number of pupils in each class in Year Two of the study. The data set was complete for Year Two.

TABLE 26: NUMBER OF PUPILS IN EACH CLASS IN YEAR TWO OF THE STUDY

School A						School B								
Year 2 Classes		Year 4 Classes		Year 6 Classes		Year 2 Classes			Year 4 Classes			Year 6 Classes		
A7	A8*	A9	A10	A11	A12	B10	B11	B12	B13	B14	B15	B16	B17	B18
n=24	n=21	n=31	n=32	n=23	n=24	n=17	n=14	n=15	n=15	n=17	n=16	n=13	n=17	n=12

* Only Year Two data available for this class

8.3 AGE-RELATED CHANGES IN SELF-CONCEPT IN EACH OF THE THREE LONGITUDINAL SAMPLES

Paired t-tests were conducted to compare the mean scores of pupils in year 1 with their mean scores in year 2 on each of the six SDQ1 factor subscales. Table 27 shows significant decreases in Physical Ability, Peer Relationships, English, General School and General Self self-concepts for pupils moving from years 1 to 2 (aged 5 to 6) of the primary school. In other words, for the youngest pupils in the sample five out of six facets of self-concept had decreased over the school year. Interestingly, no significant changes were found in Mathematics self-concept for these pupils.

No significant changes were found in any of the six facets of self-concept for pupils moving from year 3 to 4 (aged 7 to 8) of the primary school (refer to Appendix 19). However, significant decreases in Physical Ability, Peer Relationships and General Self self-concepts were found for pupils moving from year 5 to 6 (aged 9 to 10) (refer to Appendix 20). Physical, social and general facets of self-concept decreased whilst academic facets remained unchanged among the older pupils in the sample.

TABLE 27: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Mathematics	4.07	3.94	34	0.78	33	ns
Factor 2: Physical Ability	4.30	3.99	34	2.16	33	$p < 0.04$
Factor 3: Peer Relationships	4.31	3.77	34	4.57	33	$p < 0.001$
Factor 4: English	4.01	3.52	34	3.16	33	$p < 0.004$
Factor 5: General School	4.29	3.31	34	5.75	33	$p < 0.001$
Factor 6: General Self	4.19	3.76	34	2.62	33	$p < 0.02$

8.4 GENDER-RELATED CHANGES IN SELF-CONCEPT IN EACH OF THE THREE LONGITUDINAL SAMPLES

Changes in girls

Paired t-tests were conducted to compare the mean scores of girls in years 1, 3 and 5 with their mean scores in years 2, 4 and 6 respectively in each of the six SDQ1 factor subscales. Table 28 shows significant decreases in Peer Relationships, General School and General Self self-concepts from year 1 to 2. While no significant differences between years 3 and 4 were found, there were significant decreases in Physical Ability, Peer Relationships and English self-concepts between years 5 and 6 (refer to Appendices 21 and 22). Overall, several facets of girls' self-concepts decreased as they progressed through the primary school years.

Changes in boys

Paired t-tests were conducted to compare the mean scores of boys in years 1, 3 and 5 with their mean scores in years 2, 4 and 6 respectively on each of the six SDQ1 factor subscales. The results for years 1 to 2 are shown in Table 29. As with girls of this age, significant decreases in Peer Relationships and General School self-concepts were found. In boys, a significant decrease in English self-concept was also found. As with girls in years 3 to 4, no significant changes were found from years 3 to 4 (refer to Appendix 23). As with girls in

TABLE 28: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Mathematics	4.11	4.14	19	-0.15	18	ns
Factor 2: Physical Ability	4.30	4.05	19	1.26	18	ns
Factor 3: Peer Relationships	4.25	3.77	19	2.90	18	$p < 0.02$
Factor 4: English	4.14	3.77	19	2.02	18	ns
Factor 5: General School	4.39	3.50	19	4.01	18	$p < 0.002$
Factor 6: General Self	4.23	3.62	19	2.71	18	$p < 0.02$

TABLE 29: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Mathematics	4.01	3.69	15	1.13	14	ns
Factor 2: Physical Ability	4.29	3.93	15	1.85	14	ns
Factor 3: Peer Relationships	4.37	3.76	15	3.59	14	$p < 0.004$
Factor 4: English	3.82	3.21	15	2.41	14	$p < 0.05$
Factor 5: General School	4.16	3.07	15	4.04	14	$p < 0.002$
Factor 6: General Self	4.13	3.93	15	0.87	14	ns

years 5 to 6, significant decreases in Physical Ability and Peer Relationships self-concepts were found. In addition, a significant decrease in General Self self-concept was also found in boys (refer to Appendix 24).

8.5 AGE-RELATED CHANGES IN MOTIVATIONAL ORIENTATION IN ENGLISH AND MATHEMATICS IN EACH OF THE THREE LONGITUDINAL SAMPLES

Separate paired t-tests for English and Mathematics were conducted to compare the mean scores of pupils in years 1, 3 and 5 with their scores in years 2, 4 and 6 on each of the three Nicholls' factor subscales. Table 30 shows that there was a significant decrease in ego involvement in English from year 1 to 2. Table 31 shows that while there was no change in ego involvement, there was a significant increase in task involvement and decrease in work avoidance in Mathematics. It appears that pupils in this age group are responding differentially to English and Mathematics as they move from year 1 to 2 of the primary school years. In contrast, there were no significant changes in either English or Mathematics from year 3 to 4 or year 5 to 6 (refer to Appendices 25 to 28).

TABLE 30: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Ego Involved	3.83	3.25	36	3.28	35	$p < 0.003$
Factor 2: Task Involved	3.75	3.74	36	0.05	35	ns
Factor 3: Work Avoidance	3.87	3.52	36	1.70	35	ns

TABLE 31: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Ego Involved	3.80	3.49	36	1.60	35	ns
Factor 2: Task Involved	3.37	3.92	36	-2.96	35	$p < 0.01$
Factor 3: Work Avoidance	3.99	2.89	36	4.41	35	$p < 0.001$

8.6 GENDER-RELATED CHANGES IN MOTIVATIONAL ORIENTATION IN EACH OF THE THREE LONGITUDINAL SAMPLES

Changes in girls

Separate paired t-tests were conducted to compare the mean scores of girls in years 1, 3 and 5 with their mean scores in years 2, 4 and 6 respectively on each of the three Nicholls' factor subscales in English and Mathematics. Table 32 shows that there was a significant decrease in ego involvement in English from year 1 to 2. While there was no change in ego involvement, there was a significant increase in task involvement and decrease in work avoidance in Mathematics (refer to Appendix 29). It appears that girls in this age group are responding differentially to English and Mathematics as they move from year 1 to 2 of the primary school years. In contrast, there were no significant changes in either English or Mathematics from year 3 to 4 or year 5 to 6 (refer to Appendices 30 to 33).

Changes in boys

Separate paired t-tests for English and Mathematics were conducted to compare the mean scores of pupils in years 1, 3 and 5 with their scores in years 2, 4 and 6 on each of the three Nicholls' factor subscales in English and Mathematics. There were no significant changes in either English or Mathematics from year 1 to 2, year 3 to 4 or year 5 to 6 (refer to Appendices

TABLE 32: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Ego Involved	3.89	3.34	21	2.51	20	$p < 0.03$
Factor 2: Task Involved	3.57	3.89	21	-1.42	20	ns
Factor 3: Work Avoidance	3.81	3.44	21	1.21	20	ns

34 to 39).

8.7 Changes in self-concept and motivational orientation across the primary school years

Mean scores of pupils aged 5 to 10 and spanning years 1 to 6 of the primary school years were available for Marsh's SDQ1 and for Nicholls' Motivational Orientation Scales in English and Mathematics. The number of pupils in each year group, their mean scores and standard deviations on the SDQ1 and Nicholls' Motivational Orientation Scales in English only are shown in Appendices 40 and 41. Figures 1 and 2 show the trend across the primary school years on each of these instruments respectively. Since the data were not completely longitudinal from years 1 to 6, then the trend shown must be interpreted with caution. Nevertheless, there was a consistent downward trend in pupils' self-concepts. It is interesting that children were generally more task involved and less ego involved and work avoidant in year 2 than year 1. From year 2 to 6, motivational orientation was stable.

8.8 Differences in class teachers' perceptions of girls' and boys' motivation across the primary school years

In all cases class teachers in the study changed from one school year to the next. In other words, every class of pupils in Year One had a different teacher in Year Two of the study. In School B the constituent group of pupils in

Figure 1: Trend across the primary school years of Marsh's SDQ1 facets of self-concept

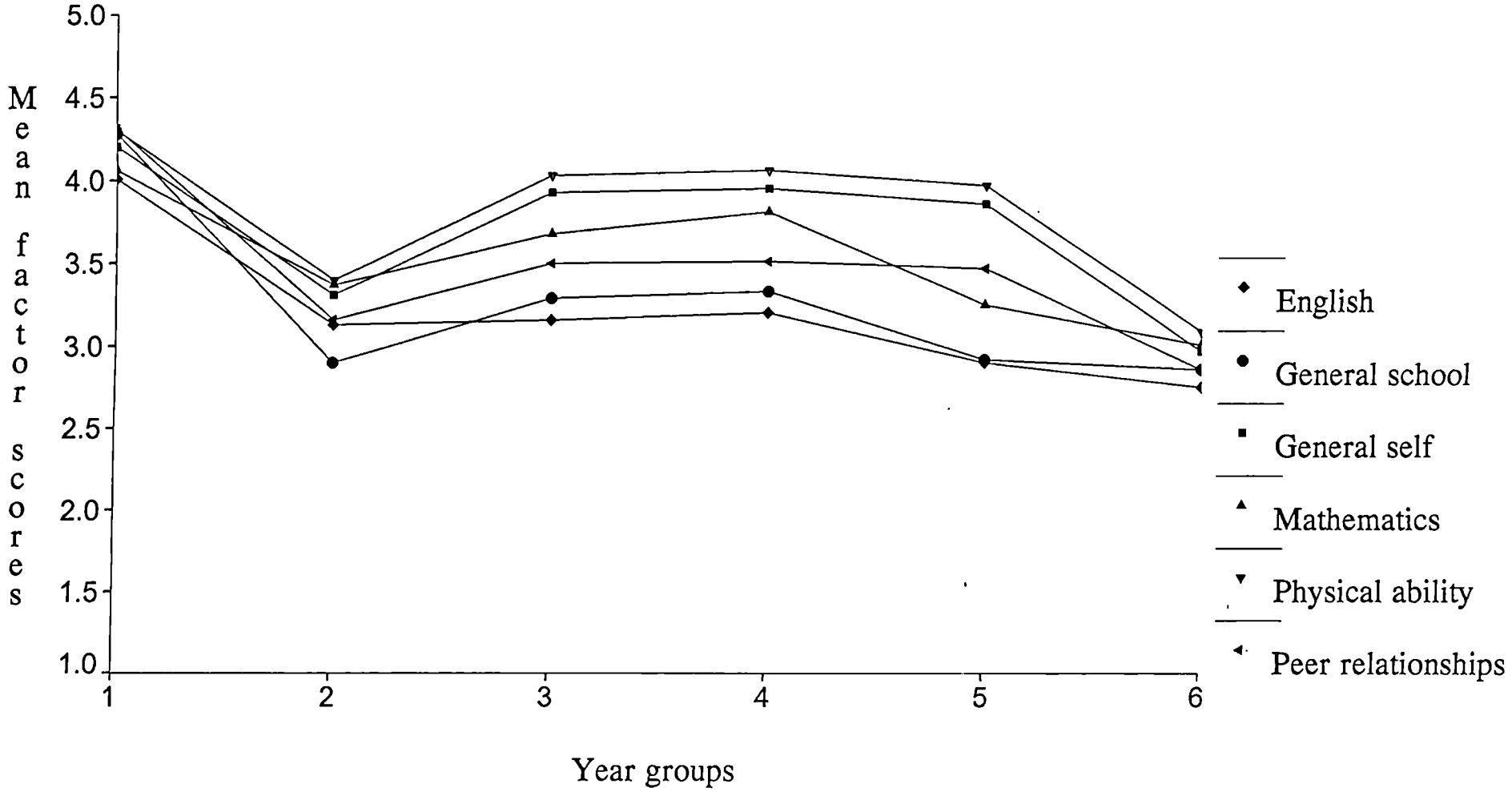
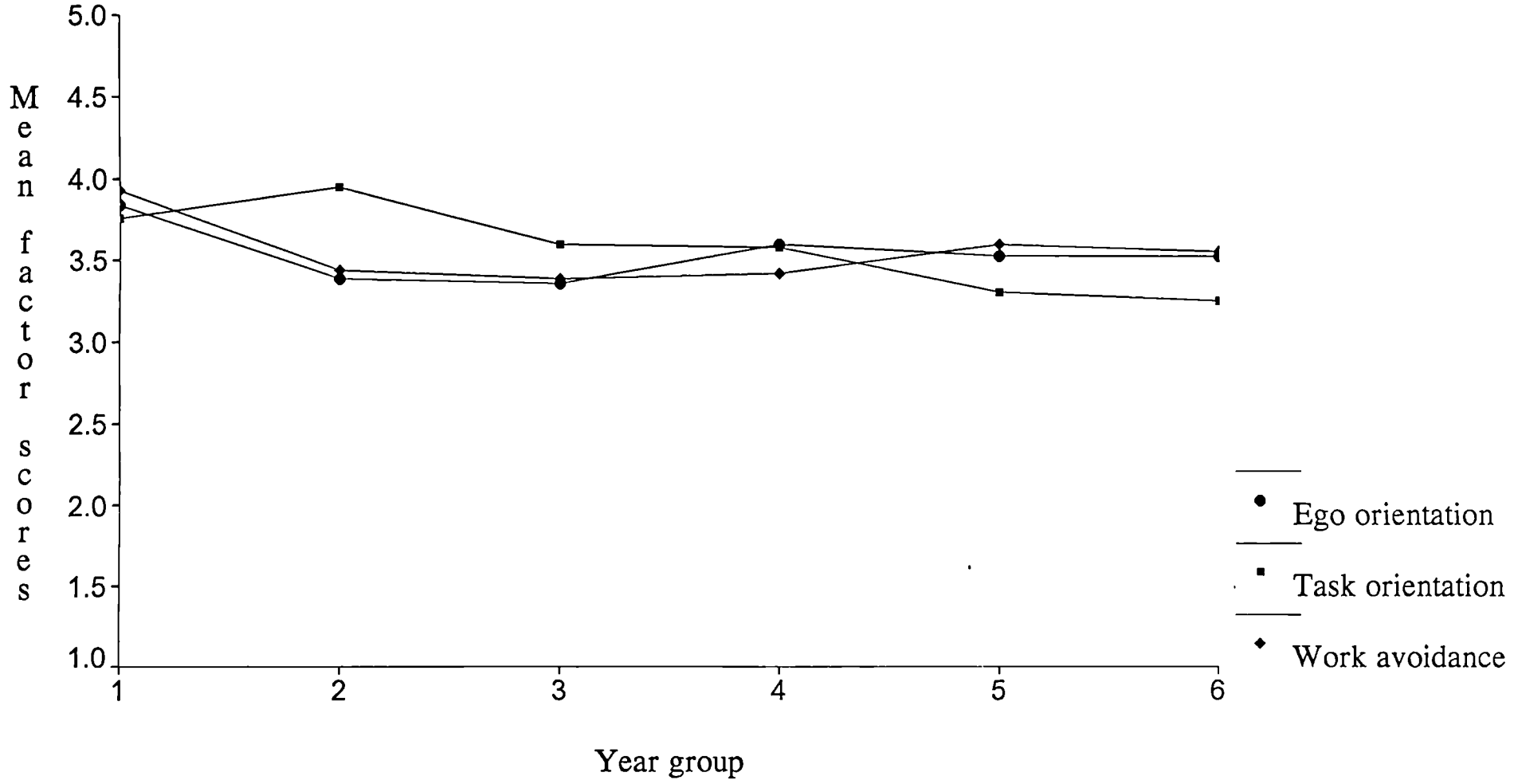


Figure 2: Trend across the primary school years of Nicholls' Motivational Orientations in English



each class also changed from Year One to Year Two. For this reason it was not possible to examine longitudinal changes in any one teacher's perception of the same class. However, since each teacher in Years One and Two of the study had completed two questionnaires for each pupil in her or his class, one for English and the other for Mathematics, then it was possible to compare teachers' perceptions of girls with those of boys for each year group (i.e. year 1 to 6).

Independent t-tests were conducted to compare the mean scores of girls with those of boys on each of the nine items on the Teacher Motivation Questionnaire in English. As shown in Table 33 teachers' perceptions of girls' ability, motivational styles and behaviour were significantly more positive than those of boys.

8.9 SUMMARY

The key findings reported in this chapter are broadly consistent with those arising from the questionnaire data in Year One of the study (refer to chapter six). Analysis of the longitudinal questionnaire data examined changes from Year One to Year Two of the study in the three longitudinal samples of pupils. Findings from Nicholls' questionnaires were mostly non-significant except in the youngest sample of pupils (i.e. pupils aged 5 to 6); there was an increase in adaptive motivation in Mathematics and a decrease in maladaptive motivation in English for the youngest pupils. There were also significant

TABLE 33: DIFFERENCES BETWEEN GIRLS AND BOYS ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE IN ENGLISH
(Independent t-tests)

	Mean Scores				t-value	df	significance
	Girls	n	Boys	n			
Q01 Low Ability	1.75	254	2.00	255	-2.91	507	$p < 0.005$
Q02 Underachieving	1.47	254	1.97	254	-7.12	506	$p < 0.001$
Q03 Socially Isolated	1.45	254	1.48	255	-0.46	507	ns
Q04 Troublesome Behaviour	1.39	254	1.93	254	-7.08	506	$p < 0.001$
Q05 Learned Helplessness	1.71	254	2.03	255	-3.63	507	$p < 0.001$
Q06 Self-worth Motivated	1.53	253	1.87	255	-4.33	506	$p < 0.001$
Q07 Mastery Oriented	3.20	254	2.89	254	3.90	506	$p < 0.001$
Q08 Peer-Esteem	1.35	253	1.81	255	-6.84	506	$p < 0.001$
Q09 Difficult to motivate	1.39	254	1.83	255	-6.35	507	$p < 0.001$

changes found for girls aged 5 to 6. Given that these results were not longitudinal across years 1 to 6, then it cannot be assumed that motivational orientation is stable across the primary school years. The results need to be interpreted in the light of other evidence.

Overall, Marsh's SDQ1 yielded a number of significant changes from one year to the next on several facets of self-concept in both the youngest and the oldest pupils. All the changes found indicated a decrease in self-concepts. It is interesting that no significant changes were found for pupils aged 7 to 8. This result is discussed further in the next chapter in relation to the follow-up ethnographic study. A striking feature of the decreases found on the SDQ1 was that they were on social, physical and general rather than academic facets of self-concept with one exception: boys' English self-concepts decreased from years 1 to 2 and from years 5 to 6. The Teacher Motivation Questionnaire showed that, across the primary school years, teachers perceived boys compared with girls as having significantly higher maladaptive motivational profiles, more disruptive behaviour and lower ability in English and Mathematics. Given recent concern generally in the UK about boys' poor academic performance compared with that of girls, these results will be appraised critically for any possible explanatory power. Teachers' perceptions of boys and girls are discussed in chapter ten. Gender differences provided an additional foci for the longitudinal component of the Year Two intensive classroom studies. Before embarking upon the longitudinal component of the ethnographic study of two classes, the researcher analysed the quantitative data separately for each of the two classes.

The results of this analysis are presented at the beginning of the next chapter.

PART FOUR

CHAPTER NINE

RESULTS: LONGITUDINAL STUDY OF MOTIVATIONAL STYLE AND SELF-CONCEPT IN TWO YEAR FOUR CLASSES

9.1 INTRODUCTION

This chapter presents the results of the longitudinal component of an intensive study of two primary school classes; the study focused on two parallel year 3 classes and followed them through to year 4 over a period of two school years. During this time the researcher established close working relationships with the class teachers and their pupils. The methodological implications of these relationships for the research are discussed in chapter ten.

Analyses of two sets of complementary data are presented in this chapter: questionnaire data from Part One and observational and interview data from Part Two of Year Two of the study. Analyses focused on changes in self-concept and motivational style from one school year/class to the next. Details of the methodology and procedures used in the study were provided in chapter five. Different class teachers from those in year 3 were involved in year 4. The pupil composition in both classes remained the same with one additional new pupil and the absence of three pupils who had left the school.

Using a confirmatory and disconfirmatory model of analysis, the

researcher investigated changes in motivational styles in each of the two classes separately from year 3 to year 4. Teacher and classroom management differences were analysed in relation to changes in pupil motivational styles. The key questions examined were: do children's motivational styles change from one class to the next class and, if so, in what ways? And, how might such changes be understood in the light of pupil-teacher interactions at a curricular level? Fictitious names of teachers and pupils are used throughout the chapter. The classes are referred to as Sue's class and Tim's class. Sue's class had previously been taught by Rose and Tim's class by Ann. The results of the questionnaire data are presented first, followed by the results of the observational and interview data.

9.2 Changes in self-concept and motivational orientation

Changes from year 3 to 4 on each of the six SDQ1 factor subscales in each of the two classes

Paired t-tests were conducted to compare the mean scores of Rose's class in year 3 with their mean scores in Sue's class in year 4 and similarly, with Ann's class in year 3 and Tim's class in year 4. As shown in Appendices 42 and 43 no significant changes were found in either class on any of the six facets of self-concept.

Changes from year 3 to 4 on each of the three Nicholls' factor subscales in English and Mathematics in each of the two classes

Paired t-tests were conducted to compare the mean scores of Rose's class in year 3 with their mean scores in Sue's class in year 4 and similarly, with Ann's class in year 3 and Tim's class in year 4. Tables 34 and 35 show that, in Rose's class, there was a significant increase in task involvement and a corresponding significant decrease in work avoidance in English, but no significant changes in Mathematics. Tables 36 and 37 show that, in Ann's class, there was a significant increase in work avoidance in English, but no significant changes in Mathematics. From these results, it appears that motivational orientation in English had changed from *maladaptive* to *adaptive* on moving from Rose's to Sue's class. In contrast, motivational orientation had changed from *adaptive* to *maladaptive* on moving from Ann's to Tim's class. The results show a clear differential subject response by pupils to the questionnaires.

9.3 ECOLOGICAL VARIABLES

Physical Environment

The school environment did not change from Year One to Two of the study. Even the classroom environments in Year Two were much the same as they were in the previous year. Teachers in the school did not change classrooms, only pupils were required to move. For the two classes in this study

TABLE 34: LONGITUDINAL CLASS-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES CLASS A3 TO CLASS A10
(Paired t-tests)

	Mean Scores school year 3 to year 4		n	t-value	df	significance
	Rose's class	Sue's class				
Factor 1: Ego Involved	3.84	4.18	27	-1.72	26	ns
Factor 2: Task Involved	3.36	3.92	27	-2.86	26	$p < 0.01$
Factor 3: Work Avoidance	3.84	3.07	27	2.25	26	$p < 0.05$

TABLE 35: LONGITUDINAL CLASS-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES CLASS A3 TO CLASS A10
(Paired t-tests)

	Mean Scores school year 3 to year 4		n	t-value	df	significance
	Rose's class	Sue's class				
Factor 1: Ego Involved	4.04	4.29	28	-1.35	27	ns
Factor 2: Task Involved	3.71	4.12	28	-2.03	27	ns
Factor 3: Work Avoidance	2.74	2.27	28	1.75	27	ns

TABLE 36: LONGITUDINAL CLASS-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES CLASS A4 TO CLASS A9
(Paired t-tests)

	Mean Scores school year 3 to year 4		n	t-value	df	significance
	Ann's class	Tim's class				
Factor 1: Ego Involved	3.19	3.32	24	-0.46	23	ns
Factor 2: Task Involved	3.43	3.10	24	1.60	23	ns
Factor 3: Work Avoidance	3.19	4.10	24	-3.46	23	$p < 0.003$

TABLE 37: LONGITUDINAL CLASS-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES CLASS A4 TO CLASS A9
(Paired t-tests)

	Mean Scores school year 3 to year 4		n	t-value	df	significance
	Ann's class	Tim's class				
Factor 1: Ego Involved	3.35	3.51	24	-0.48	23	ns
Factor 2: Task Involved	3.72	3.49	24	0.90	23	ns
Factor 3: Work Avoidance	2.92	3.58	24	-2.05	23	ns

the move was fairly unremarkable. It involved a short walk along the corridor to rooms that both looked and felt much as those they had left behind. An exception was an area of Tim's room which housed the computers for the school. Tim and the headteacher had bid successfully to an external body for a substantial sum of money to equip the school with computers. Just inside the doorway to his room, Tim had two tubular, free-standing coat rails with coat pegs at the top and a short wooden bench running along the bottom. An assortment of coats, bags, shoes and brightly coloured lunch-boxes littered these contraptions and gave the class an untidy appearance. Both year 4 classrooms were next door to one another. When all of the children were seated in their respective classes, the rooms seemed busy, even cluttered, with little space to move between tables and chairs. Both rooms were set out in a similar fashion with tables grouped together for about six to eight children. These were placed centrally then encased in a variety of book shelves, cupboards and items of classroom equipment. In stark contrast to the open passage-way adjacent to the classrooms in year 3, both year 4 classrooms were designed more conventionally with their own door. It was a welcome feature for the researcher. However, while Tim always kept his classroom door closed, Sue preferred to have hers permanently open. Tim and Sue had a good working relationship; they shared a professional interest in music and discussed and planned work together. They both appeared to the researcher to share similar viewpoints about classroom management, particularly in relation to matters of discipline and pupil behaviour.

Classroom Assistants

As in year 3, a classroom assistant played a central role in the children's working lives in both year 4 classes. It was a different classroom assistant from that of year 3 and so, not only did the pupils have a different class teacher, but they also had a new classroom assistant with whom to form a relationship. The classroom assistant shared her time equally between both classes. She had a warm and friendly manner and was always supportive to the pupils. The researcher was able to spend time interviewing the classroom assistant about her role, as well as to observe her work with each class as a whole and with individual pupils. The classroom assistant confided to the researcher that there was little time for her to plan work. She responded to whatever the class teachers required of her on a day to day basis. She said she simply used her own judgements about how best to support children experiencing reading and number problems. The classroom assistant worked alongside the children in a way that an untrained parent might do when helping a child with her or his homework. The children appeared to like the year 4 classroom assistant and were always willing to seek and to accept help from her.

9.4 Gaining access to the two year four classes

In some respects, matters of access to the year 4 classes were more straightforward than in year 3. There was a number of likely reasons for the willingness and openness of the year 4 teachers to take on board the researcher.

First the researcher had become a familiar face in the school to teachers, parents and pupils alike. She had been visiting the school for a year and had participated in a variety of events. She had also had many informal and interesting conversations with individuals and groups of staff about a range of issues related to teaching, learning and assessment. Most of these discussions with staff were spontaneous and often arose from their day-to-day concerns. Often the researcher would follow up these discussions by taking in a published paper on the topic or by recommending some materials or approaches for use in the classroom. It was also significant that the mock OFSTED inspection reported in the previous chapter had served to raise the staff's awareness of specific aspects of teaching and learning in need of consideration and improvement in the school generally. However, it would be unfair to suggest that the staff's interest was simply strategic and borne of OFSTED, for many of these teachers were continually asking questions of themselves and their practices in an attempt to improve teaching and learning in their classrooms. In the aftermath of the mock inspection there was a collective call from the staff for professional development, particularly in respect of the management of pupil behaviour. At the behest of the staff, the researcher was invited by the headteacher to run short professional development courses for them. To avoid possible confounding effects on her research, she declined this invitation. Instead, she recommended colleagues who could undertake the staff development programme for the school. This decision was understood and supported fully by the staff and headteacher. They went ahead and organized the staff development programme without the involvement of the researcher. It was perceived to be a productive

programme by everyone involved. It seemed to the researcher that the staff had recovered from the disappointment they had experienced following the mock inspection. There was a new determination among them to get on and to look forward. It certainly seemed that relationships generally were less tense and more supportive.

Both year 4 teachers were welcoming and supportive to the researcher. Tim was an experienced teacher who had worked at the school for a number of years and with a variety of age ranges including infants. He held responsibility for information technology and music throughout the school. He was a talented teacher who wrote and produced school plays and organized many other extra-curricular activities and school-wide events. In contrast, Sue was in her probationary year of teaching. She had recently completed a P.G.C.E. course after working for nearly five years outside of education. She was always welcoming and candid about her teaching, particularly the management difficulties she experienced with the class. Most of these problems related to the management of pupil behaviour. Her class carried with them a reputation of being disruptive and badly behaved and there was considerable disapproval from other staff that they were given to a probationary teacher.

To sum up: the researcher had open and flexible access to the two year 4 classes. Both teachers and pupils were welcoming and cooperative at all times. Taken together, it was considerably easier to gain access to year 4 than to year 3 classes.

9.5 Comparison between year three and year four classes

From Rose's to Sue's class

Sue's class often seemed much like an action replay of lessons in Rose's class with one significant difference: there was never any talking in Rose's class during lessons, unless, of course, it was to answer a question posed by the teacher. Not so in Sue's lessons. In general, the children were more relaxed with Sue and could be heard talking quietly and whispering about work during lessons. Particular table groupings seemed more work focused than others. One particular group of seven boys in Sue's class, some of whom were frequently in trouble in and outwith the classroom, appeared to the researcher to do very little work in English or Mathematics. They were noisy, disruptive and deployed a range of work avoidance strategies skilfully. They were seated on a table furthest away from the teacher. These children seemed to have lost interest in their work and were having a debilitating effect on one and other. It was almost impossible for one of them to get on with their tasks without incurring the wrath and disapproval of the others. It was difficult to credit their work avoidance to any motive other than a need for peer approval. There was also evidence of peer influence on motivation in year 3: a "clique of boys who seem to think it's cool to get off with not doing something" (refer to section 7.4). This point is developed and discussed later in the chapter in the light of specific examples.

An aspect of work that these boys did seem to enjoy was the daily

number work. When asked why they liked it, they all said independently that "it was easy". Two of them claimed that work was "boring" generally, and that "they hated" any work involving writing. Given their attitude and behaviour, it was surprising that they were allowed to continue to sit together at the same table. There was no question that they were capable of the work being asked of them, they had simply lost interest in it and were unwilling to put the effort in to overcome any difficulties with tasks. They were accustomed to a strict regime in year 3 where the teacher kept a close rein on their behaviour. The new combination of children at this table appeared counterproductive to effective learning. Individually only three out of seven of these boys could have been described as disruptive in their previous class. It appeared that this group of boys could not cope with the more relaxed classroom management style in year 4. This is not to say that Sue did not set clear expectations for behaviour; she stated explicitly and regularly to the pupils her expectations of their behaviour. It was simply that this particular table-grouping militated against the effective management of learning and behaviour. Most of the time the boys on this table were simply not listening. When the researcher was seated at the table, they would constantly ask her to repeat instructions or to elucidate points made by the teacher. There was a sense among some of these boys that they were failing. Comments such as: "I don't seem to be able to concentrate this year, Miss", "I don't do good work" and "We don't work so hard as that lot (a nearby table of boys)" were made frequently by them to the researcher.

Sue's description of the boys on this table was that they "were hard

work". She had called in the parent of one of the pupil's named Patrick, in an attempt to get him to work. In year 3 Patrick was described by Rose as "pathetically immature". Sue's statement revealed her concern about such pupils and her lack of knowing what to do about the situation. In relation to Patrick she said:

> "Patrick wasn't producing any work at one stage. So I said: 'right, every Thursday you're Mum is coming in and is going to look at the work you've done in the week'. I don't know what to think about him. He's immature and very excitable and you could put it down to a lot of things. He's from a family of five children. The mum works nights and the Dad works all hours...so they have to fend for themselves...He is motivated at number. Again he can get it right, he likes to see all the ticks on the page, he doesn't have to think too much because he knows the strategies. He's average but he thinks he's pretty good at Maths. English is a massive effort. He's not interested in presentation. He can't be bothered to think. He has no imagination which a lot of them (the pupils) don't have nowadays. He doesn't read at home. It's all videos and computers. There's not much talking or interaction, not much discussion. A lot of children these days haven't got discussion skills. They can talk to you and you can answer them, but it's very hard to get them to listen and respond to other children. My year 4 can't do it."

It was difficult to judge whether the experiences Sue was having in relation to pupil behaviour were a legitimate reflection of her lack of experience and skill, or, a result of taking over a class used to a strict regime. The problems were located mainly with the boys. Sue questioned her own behaviour management skills. She was a probationary teacher who had been given a reputedly difficult class, and one that was used to a high level of teacher control. It was hardly surprising, therefore, that she was having problems. Her comments to the researcher illustrated the ways in which she tackled these difficulties. She

confided that:

> "I wonder whether I was strict enough at the beginning. It's very difficult to stop him (the pupil mentioned above) from doing things. I've been positive and encouraging saying if you don't call out you'll get points. It works for some of them, but for others it just washes over them. It's not enough. The headteacher is all for the positive strategies rather than negative ones which is right. It's very easy for me to slip into the negative and go on at them and perhaps not praise them enough,but it's hard to be with a child like that all day every day. But that's what I've learned from this year..."

Sue reported to the researcher on several occasions that she found the behaviour of her class difficult to manage. Sue also stated that she had a sense that other, more experienced colleagues in the junior school did not approve of her classroom management strategies. She said that she thought they would prefer her to be more strict with the pupils, "more of a disciplinarian". Sue's difficulties presented an ethical dilemma for the researcher who was an experienced teacher with knowledge and skills in the area of behaviour management. The resolution of this dilemma is discussed in chapter ten in the context of a wider critique of the research process.

Like Rose's classroom, the blackboard held centre stage in Sue's room. Whole-class lessons were the order of the day on most days. Pupils were seated at tables in anticipation of being called to answer the teacher's questions. Often the teacher would ask the researcher to sit with a particular group of pupils and to help them if necessary. Once the ritual of the daily number lesson got under way the class settled down and most of the pupils seemed to enjoy this work. It

was a familiar and comforting drill. They were used to it from the previous year. Sue perceived these whole-class number exercises as universally motivating because she thought all of the pupils could do them. She stated that:

> "Those table exercises that I do with all of them (the pupils), I would say that they'll all have a go and they're quiet. They're highly motivated."

A comment by a pupil in Sue's class encapsulates the general perceptions of the children of the difference between her class and Rose's class if they got something wrong:

> "It's fun in this class because the teacher laughs when you get something wrong."

It was paradoxical that there had been so many similarities between Rose and Ann in the types of tasks they set for the children and in some of their underlying beliefs about ability and motivation, and yet for the children and the researcher the experience in one class was completely different from that of the other class.

When asked if she thought that telling the children the exercises were tests (as Sue frequently did) had any effect on their responses to them, Sue raised the notion of competitiveness and its role in motivation. Sue explained that:

"Competitiveness is quite a good way of motivating children to a certain extent. Although you don't want to over do it, but they do like to compete. I try to make them compete against themselves and to avoid setting one up against the other. Even so, there's always a little bit of that. You've got to have a little bit of competitiveness with everybody. So that's (the number test) a very good way of motivating them. But there again it's easy questions, quick mental arithmetic that they can do. You certainly couldn't do a problem-solving activity against the clock. They wouldn't be motivated in that way."

A daily plan of work was displayed on the blackboard. It was the same plan for every pupil. It usually included equal doses of number work, English work books, story writing, spelling practice, as well as a variety of practical activities. The class were divided into groups for different tasks. For example, in spelling there were four groups dispersed around different tables. Table groupings were not based on the teacher's assessments of pupil ability or attainment levels. The teacher would call out different spellings for the different groups. The children knew which group they were in and would record only those spellings applicable to their group. When asked about the differences between the groups, without exception the children stated that it was associated with their "ability" or "intelligence". A typical conversation was as follows:

Researcher: "What are the differences between the groups?"

Pupil: "Group 1 get the hardest spelling. Group 4 get the easiest."

Researcher: "Why do Group 1 get the hardest spelling?".

Pupil: "Group 1 are the cleverest."

Researcher: "How are you allocated to groups?".

Pupil: "You get an initial test and then if you do well, you're in Group 1. I used to be in Group 2 and then I was moved up."

Following the spelling tests the children marked their own work. They were instructed to tick it if it was correct and write it out if it was wrong. Many children would mark them wrong but fail to write it out again in the belief that the teacher would rarely check it.

The girls in Sue's class were seated together on separate tables from the boys. There had not been such a stark separation of girls and boys in Rose's class. Sue stated that "the most motivated children in her class were the bright ones". Interestingly, she did not perceive their motivation to be linked to her teaching strategies. She seemed to associate their motivation with their intelligence/ability. She perceived the "bright" children to be mostly girls. Her view of the girls generally was extremely positive. She stated that:

> "The girls motivate each other. They'll be in their little groups of four and they'll discuss the work quite maturely and they'll help each other if they get stuck. And, it's not just telling each other the answers, they will take the trouble to explain. Whereas the boys aren't mature enough for that. They'll either just say an answer or copy from someone else. On the whole the girls are more motivated, more mature, they work harder, they are less silly in class and more inclined to put their hands up if you want something done in class. The boys are not all bad, but they are

not as good as the best girls."

On being asked whether she had encouraged the children to work in single-sex groups, Sue expressed a view that it was easier to foster supportive friendship among girls than boys. She said of the boys that: "You can't push them together and negotiate a friendship, but you can with the girls." Sue also pointed out that the girls seemed competitive within their group (on the table) and boys seemed competitive across groups (from table to table). Sue actively promoted and fostered the development of productive social relationships among the girls, but *not* among the boys; she did not perceive that it was possible for her to achieve this happy state of affairs with the boys. She did not appear to recognize her own strategic role in the development (or lack of development) of supportive relationships between pupils. Sue's comments seemed to offer a powerful and explanatory clue to understanding the changes away from work avoidance in girls. The girls were being taught a range of learning strategies such as sharing and discussing ideas, gathering information together, listening to each other and taking turns to speak. Asking each other for help had become a powerful learning strategy for them. There was also evidence among the girls particularly of the positive impact of peer acceptance and approval on self-concepts. One girl said that "I do good work in this group because we all like each other" and that "I couldn't do this kind of work in my last class, but I'm good at it now". On hearing this conversation, other pupils at the table without any prompting seemed to agree and one said "She is Miss, she's quite brainy now". This statement illustrates an incremental view of intelligence. On the girls' tables any

experiences of difficulty or failure did not hold the same devastating social outcomes visible in the year 3 class. It was paradoxical that there were such variations from table to table in the same classroom. Sue's teaching strategies appeared to be fostering mastery orientation in the girls. To a lesser extent, she was working in similar ways with some of the boys. It seemed ironic that the boys most lacking in such skills were falling behind even more. There was no doubt that these boys were aware of their predicament, but negative peer pressure was the overriding influence on their behaviour and learning.

An important theoretical question arising from the observations and pupils' and teacher's perceptions related to the underlying psychological processes or mechanism by which these changes were taking place. It could have been: the clear reduction in anxiety and fear of reproof in the face of difficulty; changing conceptions of difficulty and failure through enhanced social relationships with peers or the increased levels of effort invested to overcome challenging educational tasks and, in turn, the enhanced learning strategies. These questions are examined in subsequent sections. Given, also, that the ethnographic data were a means of validating the constructs embedded in the SDQ1 and Nicholls' questionnaires, as well as the motivational constructs of learned helplessness, self-worth motivation and mastery orientation, then a critical appraisal of the evidence for these constructs is provided. The aim in this section was to provide a backdrop to a more detailed investigation of changes in motivational style rooted in specific examples.

From Ann's to Tim's class

One of the most noticeable differences between Ann's and Tim's classrooms was the general noise level. Contrary to all expectations, Tim's room seemed noisier than Ann's. Despite having a 'public highway' running through the room, Ann's room seemed much quieter and more orderly than Tim's. In fairness to Tim there seemed to be much more going on in his room. He had an abundance of computers with which the pupils were keen to work. There were lots of project-based activities and interesting lessons to observe. Lessons on poetry, conducting surveys in and outwith the class, going into town to participate in a town gardening project, making lots of art and craft objects, rehearsing for the school play and lots more. On the face of it, Tim's class could be described as a more exciting place to learn than Ann's. Tim was keen to develop independent learners. He pointed to the implications for classroom management of trying to enable children to develop a level of autonomy and a degree of independence in pursuing their work. He described the need for flexibility in allowing children to complete their work:

> "Obviously there are implications for classroom management style in enabling children to get what they need (to overcome difficulties and to complete tasks). If a child is well enough motivated, then they will be working because they want to. They will not be in an enforced silence. They will be able to cope with working and negotiating work with the people around them...sometimes there are particular activities when talk would be a hinderance. Creative writing is a particular example of that. It doesn't help children to write creatively if people are talking round about them, but with other aspects of work, for example project-based work, they are going to need to talk to be on task. The motivation is going to come with being able to pursue their

own ends."

The pupils in Tim's class demonstrated a high level of autonomy in organizational aspects of learning. They would collect their work and equipment together each day and settle to work independently. They rarely required to be asked or instructed to do this. The teacher would call the class register while the children were getting themselves organized and work was getting under way. During many of her visits the researcher was present in the classroom either at the start of the morning or afternoon sessions. Most of the children were settled and working in under ten minutes with minimal teacher direction. The researcher would initially sit on a spare seat on one of the tables at the back of the room. From this vantage point she could see all of the children. Tim attempted to motivate children by creating opportunities for them to make decisions and to become more independent learners.

While pupils worked at their tables he would go round the class helping individuals. After several visits, it became noticeable that while Tim was occupied at one table, many of the other children were chatting and generally playing about. They were certainly not getting on with their set tasks. Much of the work in Mathematics in Tim's class centred on a published scheme of work; children worked their way systematically through the scheme's workbooks. There was a lot of competition between some of the boys to complete the books as quickly as possible. In the event of difficulty, the pupils were expected to demonstrate to Tim that they had tried to overcome problems by themselves.

Equipment and additional supporting materials were easily accessible to the children. However, the children rarely seemed to utilize these benefits. Tim was firm in his commitment to the development of independent learners; he would confront the children if he thought they had not put the effort into thinking through problems and sorting out equipment (if appropriate). One way of describing Tim's class was that it was 'decentralized'. In this respect it was very different from Ann's class, and for that matter from that of his contemporary in the next room, Sue. In year 3, in Ann's class, the children were expected to come out to her or to put their hand up if they were experiencing difficulties; there was a far greater sense of classroom control centralized on the teacher in Ann's class. The children knew that Ann was at the helm, whereas it was sometimes difficult to detect Tim's physical presence in his room for he was often seated among the children. Comparing Tim's with Ann's class was challenging, for both of them were clearly focused on children's learning. Tim always talked about classroom behaviour in the context of learning. His notion of motivation was that:

> "They would: be on task for most of the time; concentrate for sustained periods of time (more than 15-20 minutes); show some signs of determination to get things right; seek help when they needed it and would be seeking to find ways to overcome difficulties. They wouldn't get despondent. They would find ways of working around difficulties because they wanted to, because they could see that the end was worth it."

On the face of it, Tim inherited a well behaved and socially cohesive class of children. And yet, a year later, there was consistent evidence of

deteriorating attitudes to work and a greater prevalence of work avoidance strategies, particularly among the boys. Tim, too, perceived a qualitative difference in motivation between girls and boys and linked the differences to social and economic factors in society. In Tim's view:

> "Girls tend to have an idea that doing good work is an end in itself. Whereas boys will do good work to get a reward. A reward would need to be extra to the good work. Doing good work in itself is not the end product. Unless there is a reward for a boy, it matters less (to him) whether he does it well or badly...Boys are brought up not to value academic work to the same extent (as girls). I think it's a nurture not nature thing. I think there's far more emphasis placed on boys being tough enough to get by in the playground and not bright enough to get by in the classroom. I think girls achieve more in the classroom than boys."

Tim went on to place responsibility for these gender differences firmly at the door of parents. He explained that:

> "Greater emphasis needs to be placed on parents to engender in their boys the vision that they have to succeed academically, rather than being able to take the rough and tumble. That's no longer going to cut it in tomorrow's society. The welder and the bricklayer's jobs are going to be giving way to the information technology jobs. The jobs that don't require brawn."

For some time the researcher found it difficult to fathom the underlying differences between Ann's and Tim's class, and to make sense of the data-set. There was a need to try to understand the changes from the children's perspective. Both Tim and Ann had a clear learning focus. However, Ann seemed to provide for children's emotional and social needs in a far more

effective way than Tim. While Tim believed he was fostering independence, the pupils perceived his strategies as unhelpful and reflecting a lack of personal interest in them. These points are revisited in subsequent sections through an analysis of changes in motivational styles.

Methodological issues

Changing the scenery and leading actors in a play does not guarantee an enhanced production. Nor does it necessarily produce changes in the performance of the regular cast. Audiences should also take account of the extent to which a critic's judgement of the new production has been influenced by their first-hand experience of the old production. In other words, new class teachers, different classroom management practices and the impact of the results of the Year One study on the researcher and the researched, cannot be taken for granted or discounted in an analysis of the data collected in Year Two.

With these cautionary notes in mind, the researcher collected the longitudinal data while engaged in a process of self-critique. This process involved challenging constantly the nature of the evidence she was accumulating, as well as attempting at all times to seek out and to investigate disconfirmatory examples. Chapter ten appraises critically the research process, including the role of the researcher in its midst. During data collection for the longitudinal study, the researcher became conscious of a potentially serious methodological issue: had the Teacher Motivation questionnaires affected Tim's

and Sue's behaviour in the classroom? Both of them had completed the questionnaires prior to the intensive study. A number of Tim's responses some time later to interview questions reflected motivational constructs embedded in the questionnaire.

By the second year of the study the researcher had been in and around the school for nearly two years and had established good working relationships with all staff, including the headteacher. In addition, six teachers had completed the questionnaire in Year One and a different six in Year Two of the study. In effect, all of them had knowledge of the content of the questionnaires. The timing of the questionnaire completion was directly prior to the commencement of the intensive study. For this reason it would have been difficult for a teacher to change dramatically, if at all, children's motivational styles. Nevertheless, it could have changed knowingly or unknowingly their interactions with the children at a curricular level while the researcher was in the class. Chapter ten provides a critical discussion of the points raised here and other methodological issues arising from the research. The following section focuses on changes in pupil motivational styles from year 3 to year 4. Through a process of systematic triangulation of the longitudinal data comprising questionnaires, observations and pupil and teacher interviews, specific examples of change are drawn out for analysis and discussion.

9.6 EXAMPLES OF CHANGES FROM YEAR THREE TO FOUR IN THE MOTIVATIONAL STYLES IN EACH CLASS

9.6.1 Mastery Orientation

From Rose's to Sue's class

The results of the questionnaire data showed a change away from *maladaptive* to *adaptive* motivation from year 3 to 4 in Sue's class (refer to section 9.2). Of the nine out of thirty four pupils described by Rose in year 3 as "model pupils" seven remained mastery oriented or task involved in all subject areas in Sue's class in year 4. The mastery oriented pupils sought ways to overcome difficult work. For them, task difficulty seemed to be welcomed. As in year 3, they made comments such as "I love hard work, Miss" and "I don't like it when I get easy spellings". One child said that her father told her that "Your brains grow when you do hard work". The children defined hard work as "Work that isn't too easy" and "Work you can't do at first". Only three of these nine pupils were boys. Furthermore, two of the boys identified in year 3 as mastery oriented appeared to be on the wane in year 4; these two boys did not appear to be mastery oriented in year 4. Their behaviour and concentration had generally deteriorated in Sue's class. They were certainly not putting in the effort seen in the previous year. These two boys were seated at a table with six other boys who were described by Sue as "well motivated but can be silly". The other six were equally "silly" in year 3 when they were always trying to impress

each other with how *little* work they could do. The group of eight boys on this table were quite clear about the work they liked doing most: topic work. When faced with other types of tasks (e.g. sentence completion or written comprehension tasks), some of the pupils would quite knowingly distract the others by playing about with pencils or throwing bits of paper. Even for a child who was mastery oriented, it was difficult to focus on work amid these minor but constant, distractions. In the end the two "model boys" would join in the mayhem until the teacher noticed and 'came to the rescue'. This phrase captured very well their apparent sense of relief when the teacher intervened. The theoretical construct of mastery orientation could be found in the "model pupils". They really did find learning enjoyable. The two pupils who were no longer demonstrating mastery orientation were generally unhappy with the situation in which they found themselves. The researcher had worked with these two boys and could talk quite directly with them. They wanted to learn, but situational and contextual variables were problematic. Both boys stated that:

> "We can't do work now. The others (boys seated next to them) don't do work. We could do work if we were on that table (points to a table where the children are not disruptive)."

In some ways their responses illustrated the construct of work avoidance. Given, however, that the boys did actually enjoy and want to work, then it is important that the underlying reasons for their work avoidance were examined. In this case, work avoidance was about keeping face with their peers. Peer rather than teacher approval was the dominant influence.

The table of boys described above was placed in close proximity to another table of boys, the majority of whom were constantly disruptive and intent on avoiding work at any cost. The researcher found it difficult to remain detached from the destructive dynamics between these two tables. Although on the face of it the two boys who had previously been mastery oriented in year 3 appeared now to be avoiding work and lacking in persistence, it was more likely that these motivational changes resulted from changes in situational factors (i.e. the disruptive children at their table), than from diminished interest in the work or feelings of not being able to do the work. When asked about work they always spoke positively. One of them admitted that: "I don't work as hard as I did in Mrs Rose's class. She was very strict. I just mess about now with the others." Had these boys been seated at a table with less disruptive pupils, it is likely that they would have got on with their work. They were well aware that they were not working as productively as they had been the previous year, but there was a lot of pressure on them to join in the general work avoidance of the others.

The other "model pupils" were perceived by Rose, and now Sue, as well motivated in both English and Mathematics, as well as in most other areas of the curriculum. If anything, they appeared to the researcher to be even more interested and task involved than before. Or, at least, whilst in year 3 they had always been able to ask questions of their teacher to help clarify points of difficulty, in year 4 they were now asking many more questions of each other, especially about Mathematics tasks. There was a lot of successful problem-

solving and story-writing tasks going on between pairs of "model pupils". Sue identified Edward, Andrea, Margaret, Hazel and Janet as the "brightest and most motivated" children in the class. These children were also mastery oriented in year 3. Edward stated that: "I like helping the others with their work when I have finished mine". It seemed to the researcher that Edward and the other "model pupils" were capable of even more challenging tasks than those set. They responded to difficult tasks with excitement which, in turn, generated enthusiasm in their teacher. It was notable that Edward was not seated beside other disruptive boys. He spent much of his time working alongside the girls.

A surprising finding was that pupils who were mastery oriented did not *necessarily* hold a high self-concept. Some said they were "very good at English, Miss", or "good at all my work", but others confessed that they were not "that good". Perhaps the most interesting observation made about these pupils was that they all perceived 'difficulty' in ways which did not hinder learning. From the data generally, it was not possible to provided evidence about whether they actually *welcomed* difficult tasks, but they certainly did not give up when challenged by their work. There seemed to be a question of whether children actually enjoyed doing difficult tasks or whether the pleasure was derived from mastering the problems. It is probably fairer to say that they perceived 'difficulty' as part of learning. Along these lines one of them stated that "You have to work hard to get your work done". In exploring the validity of the construct of mastery orientation, the observational and interview data suggested that children can be mastery oriented, but not necessarily have a high

self-concept or relish the challenge of difficult work. Nevertheless, they still persist and understand that the ensuing labour pays dividends. The impact of paired-work on pupils who were not previously perceived as mastery oriented is discussed later.

Sue associated their adaptive motivation with their high ability. She also related both behavioural and motivational problems to "slow learners". These perceptions influenced the type of tasks she presented to the children. She tried to avoid giving "slow learners" challenging or difficult pieces of work. In this way there was little opportunity for reciprocal excitement and enthusiasm between teacher and "slow learner" in overcoming problems. She commented that:

> "You wouldn't expect the slower ones to do problems on their own because you know they are not going to be motivated to do it...you give the problem-solving to the brighter children and let them get on with it and see how they get on. They'll likely come back to you (if they have difficulties) and you can discuss it and they can go back again (and continue). Because they're more inclined to do that. Whereas the slow learners will look at it, put their pencil down and say they can't do that...it's disheartening for them and you shouldn't get them involved in that situation really."

These children were not being given the opportunity to tackle challenging educational tasks. The children understood this tactic and interpreted it as evidence of a lack of ability. For example, when asked if they found their work hard several replied along the lines that:

"I don't do hard work, I can't. Miss Sue gives me easy work that I can do...the brainy ones do hard work though."

As this analysis unfolded, it became clear that Sue, a young probationary teacher, held a number of assumptions about children and their abilities that underpinned the ways in which she managed and organized learning in her class. Among such assumptions were: that some children were simply "slow learners" and as a result, usually had associated behaviour problems; that because they had "grown up" with classroom assistants, then it was not problematic for them to accept that they had low ability and needed learning support; that classroom assistants could *necessarily* provide effective learning support; and that such children should not be set work they say they "can't do". The implications of these assumptions are discussed in subsequent sections.

From Ann's to Tim's class

The results of the questionnaire data showed a change away from *adaptive* to *maladaptive* motivation from year 3 to 4 in Tim's class (refer to section 9.2). The observational and interview data provided further validity of these results. However, in the naturalistic setting of the classroom these changes were subtle and difficult to understand, but illustrated clearly in some of the children's comments. The six or seven "model pupils" identified by Ann in year 3 were still perceived by Tim as "well motivated". However, the researcher perceived a general deterioration in attitudes to work among both boys and girls in Tim's class. There was a lot of competition between the boys on a particular

table to complete pages in their workbooks. These pupils seemed to find most of the work easy; however, when they did come up against problems, they were not keen to seek help in any way, they just left them aside or found something else to do. These pupils would not have responded in this way in the previous year. The researcher observed them closely and had many opportunities to sit and work alongside them. When asked whether they were learning more this year than last year, their replies were remarkably consistent. The children were attributing, albeit retrospectively, their successful learning in year 3 to their "good teacher", rather than to themselves or to any other factors. Typical comments were:

> "It was better with Mrs Ann. She explained things more and helped you to understand more. "

> "I worked harder last year and I learned more because Mrs Ann is a good teacher. She can help you to understand things better. She's good at explaining. I can't understand Mr Tim."

> "I liked it in Mrs Ann's class. She is a good teacher."

There was a poignancy in listening to the former "model pupils". The transience of relationships at school and at home in the lives of these young children generally came more and more to the fore during the course of the research. There was a sense of disappointment in their voices that they were not working as hard as they could or *should* in year 4. Some of the children seemed almost apologetic to the researcher. The researcher had got to know the children very

well and had formed what seemed to her to be open and mutually respectful relationships with them. During the course of her discussions and interviews with groups and individual children, they would talk about different aspects of their lives. Even though the researcher was an experienced teacher, listening to the children talking about the ways in which they experienced school was a salutary reminder of how little discussion goes on in primary classrooms between teachers and pupils about each others' perceptions. The children's understanding of their teacher's goals could not be taken for granted. Tim's class did not understand his motives. He rarely took time to explain them. In fairness to him, it appeared that he took for granted the children's understanding of the management practices in the classroom. The children understood *what* the practices were, but there was little evidence to suggest they understood *why* it was so. It was a sharp lesson for the researcher that the classroom assistant in year 4 always explained fully to the children what she was trying to do, and what they would learn from it. These were the largest classes in the school with nearly thirty four pupils in each of them. Even so, in the previous year, Ann had always found time and opportunity to have *social conversations* with her pupils.

Many of these children assumed that the researcher had noticed changes in their work, despite her questions being phrased as neutrally as possible. This was an interesting phenomenon since it was possible that they were responding to unwitting clues from the researcher suggesting they were not working as hard as they had been the year before. The questionnaire data provided prior

evidence of changes in motivational orientation in this class in English, but it was not possible to discern the subject-specificity of the changes from the interview data. It was paradoxical that one of Tim's explicit aims was to foster independence in learning and self-confidence. For these pupils, there appeared to be a growing sense of failure. They perceived the work they were able to do as "easy". However, when faced with difficult work that they did not understand, they had become reluctant to ask for help. They did not perceive Tim as being able, or willing, to help them to understand and to master tasks in the way that Ann could. The children quite clearly conceptualized Ann as being able to *teach* them. In other words, they wanted to learn and she was the one best able to help in this endeavour. If pupils do not believe that teachers are interested in their intellectual development, or more pertinently, if they do not understand the strategies teachers deploy to foster learning, then it is not surprising that they do not seek help from them.

A counter argument here is that mastery oriented children have a range of strategies for overcoming difficulties and, as a result, do not *necessarily* need to seek assistance directly from a teacher. In year 3 it was shown how the "model pupils" constructed a role for their teachers. They were in control of their own learning processes. Therefore, in theory, they should be able to deploy other strategies to overcome problems other than to call on a teacher (should one be unavailable or considered unhelpful). In this case, why would their motivational style change away from adaptive and towards maladaptive? It could be argued that, regardless of whether teachers are directly involved in

some way in helping children to master tasks, they are usually involved indirectly by virtue of their relationships to the pupils, not to mention that it is they who set the tasks in the first instance. Tasks are set within the context of a social relationship. In this sense, the outcomes of a task are social as well as educational. Ann would actively monitor children at work. She was constantly pushing them on and encouraging them. In other words, young children could be harbouring social as well as educational goals in trying to overcome challenges in the classroom (e.g. teacher approval or simply the *shared* pleasure of achievement and mastery). Therefore, mastery orientation can result from social and learning goals. The children in this study appear to exemplify this phenomenon; for example, the pupils in Tim's class did not wish to please him in the way they did Ann.

9.6.2 Learned Helplessness

From Rose's to Sue's class

Of her own volition Sue thought that giving children work they were unlikely to be able to do was "disheartening for them". She seemed to think also that having difficulty with learning reflected low ability. It was common practice in this school that the classroom assistants worked with pupils who were experiencing the greatest problems. An underlying assumption seemed to be that, by working individually or in small groups with the children usually outwith the classroom, the classroom assistant could to do something about the

child's learning and/or behavioural difficulties. Sue made it clear to adults and children that the classroom assistant worked mainly with pupils of low ability. She perceived this practice to be acceptable to the children. She stated that:

> "The children are aware that the ones who've got lower ability are seen more regularly by Miss Pat (the classroom assistant)...they've grown up with classroom assistants so it's acceptable really for those who have lower ability. For those with lower ability it's absolutely brilliant because those are the ones who generally would be disruptive if they were in the classroom."

The point here is that the children were well aware of the teacher's perceptions of not only their own ability, but peers' ability too. Of course, for the children in Sue's class 'ability' was yesterday's news. They had heard it all before in a past life in Rose's class. Therefore, when it became apparent that Sue's and Rose's underlying conceptions of ability converged the researcher decided to put the spectre of 'ability' (or lack of ability) to rest in year 4, or at least into the background for a while.

It was no exaggeration that most of the behavioural and motivational problems in Sue's class in year 4 were attributed to boys, and not to girls. This was not the case in year 3. However, it did seem that those girls who had maladaptive motivational styles in year 3 were now demonstrating a more adaptive motivational style in year 4 (i.e. characteristics of mastery orientation). For example, Mary, Tracy and Sarah described by their teacher in year 3 as having motivational problems seemed to be responding in a more adaptive way to difficult tasks. Overall they were much less anxious. During Mathematics

lessons Tracy objected if she was given a number table to assist her with her work. She would say to the researcher: "I know my 5 times table, I don't need this now". The girls on the tables would ask each other openly for help. They would ask questions of each other such as: "what does this mean?" or "have I done this work right?". Tracy was still behind compared with her peers, but she was responding to the tasks set in English and Mathematics more confidently. She was asking more questions and appeared to be much more work focused and less prone to discuss her out of school problems and experiences. She said that she was "doing better now" in year 4. It was good to see her academic self-perceptions improve. The researcher noted systematic changes in some of the girls' responses to points of difficulty. In general, they were far more willing to take risks especially with peers. There were supportive and productive discussions about "hard work" among them. They were actually describing problems as "fun".

It appeared to the researcher from her discussions with, and observations of, the pupils who were perceived by Rose to be learned helpless in year 3, and who were now in Sue's class in year 4, that changes were afoot. However, these changes were only apparent in the girls. It seemed like an extraordinary phenomenon and the researcher tried to find a disconfirmatory case, but failed to do so. The girls in this class who had previously been responding in ways characteristic of learned helplessness were now demonstrating more adaptive motivation in the face of difficulties and problems.

From Ann's to Tim's class

Helen was a pupil in Ann's class in year 3 who was perceived to "completely lack self-confidence" and to be responding in a learned helpless way in both English and Mathematics. She moved into Tim's class in year 4. There was no question that she had made considerable progress in year 4 and that her self-confidence had improved. She seemed much happier and reported that she was enjoying her work much more this year. She was following an individual learning programme and was doing a lot of work at home as well as in school. She seemed to tackle problems more independently and not to constantly ask for help. Other children even commented that "Helen does good work now". For this pupil the teaching strategies had been completely changed. Confirmation of changes in Helen's motivational style was provided by Tim who described her as having "changed dramatically for the better" over the year. He stated that:

> "Helen has really come on because of doing individual based work at home. She has had her fair share of problems...In doing individual work at home and in the classroom, she has proven herself capable of doing a very high standard of work. That's a major achievement for her to have reached that level because she definitely wasn't at that level when she came in."

To probe further how Tim conceptualized 'individual work', and the aspects of it that had helped Helen to overcome her helplessness, the researcher asked him what teaching strategies he used. It appeared that Tim worked on the premise of finding something a child was capable of doing and working from there. He

described his approach:

> "If they're finding work hard academically, the first thing is to bottom it out, to find out what work they can cope with easily and to discover what the problem is. If a child is struggling, I try to go right back in one go, not in successive stages, to get them to a point where they feel comfortable and to help me to see exactly what he or she can do...The point is: I then know where the black area is. If a child continues to fail at the level he or she came into the class at, then I won't actually have worked out the black area."

Three pupils in Tim's class were on a stage 2/3 of a special educational needs referral procedure. Francis, Tim and Hugh experienced serious learning difficulties in year 3 with Ann and again in Year 4 with Tim. To a different extent they each responded in ways that indicated learned helplessness in English and Mathematics. In particular, Hugh seemed to get to a point of overwhelming anxiety in the face of problems. Francis was the only one of these three pupils who had associated (serious) behaviour problems in year 3 and year 4. These boys were not making the rapid progress of Helen. Francis' behaviour was as difficult in year 4 as in the previous year. Tim reported that all three of them had made good progress in year 4. He associated Francis' behaviour problems with a lack of concentration and stated that he had to treat him "very carefully" as he was violent with peers. Tim explained his strategy with Francis:

> "One of the first things I did when he came was to put him on a reading scheme called Wellington Square which has been excellent for him. He's really enjoyed it. It's full of ancillary work and making things which he enjoys tremendously. He has to

> do the reading for it. It has instructions. He has been very keen to progress to the next level on it...he's produced as much work as anybody else in the class, not at the same level, but he has actually come up with the goods over the year."

Francis' view of his progress in year 4 was less positive. He liked Tim but commented that "it was no different from before, I still have lots of trouble with other children picking on me". Francis seemed to think of 'progress' in terms of behaviour and not learning. There was insufficient evidence to indicate changes in motivational style away from helplessness. The children were not being set work which they found difficult and, in this respect, classroom life was comfortable for them. Ann did attempt to set intellectually challenging work which the children found difficult. In the case of Hugh, Ann described him as "extremely lazy" and manipulative. On the surface, Hugh provided a disconfirmatory example in Tim's class of diminished helplessness or work avoidance previously seen in year 3. He seemed to be getting on with his tasks without protest. However, on several occasions the researcher observed him and discussed his work with him. He was working at a level no more difficult than in year 3. Hugh was pleased to say that "the work was easy". It was likely that his reduced helplessness or anxiety resulted from a lack of challenging work.

9.6.3 Self-worth Motivation

At the end of the intensive study of the two year 3 classes, it was not clear whether self-worth motivation was discernible from work avoidance strategies or learned helplessness. It was certainly possible to identify

maladaptive and adaptive motivational styles in year 3 pupils. The possible underlying reasons for these motivational styles were more difficult to tap and were perhaps more complex than suggested by theoretical formulations of self-worth motivation found in the published literature. The intensive study of the year 4 classes produced no further evidence with which to identify and illuminate further the theoretically-driven motivational style of self-worth motivation. The researcher investigated children in year 4 for whom a maladaptive style was identified in year 3, but did not necessarily correspond to either learned helplessness or self-worth motivation. For example, Thomas was described by Rose, his year 3 teacher, as good at English and Mathematics but generally lazy. She also said that he was highly anxious and needed to be "handled with kid gloves" otherwise he would cry. A possible underlying reason for his apparent "laziness" was his high level of anxiety and a wish to avoid negative feedback from the teacher. The researcher worked with Thomas on several occasions in years 3 and 4 and agreed with his teacher that he was an excellent reader, imaginative and articulate. He also found most of the work in Mathematics quite straightforward. However, in year 3 he seemed to live in fear of getting his work wrong and, as a result, would avoid doing any if he possibly could. It seemed reasonable, therefore, to surmise that the more relaxed manner and approach of his year 4 teacher might help to reduce his anxiety and give him more confidence. In this way, he might get on with the tasks in hand. However, it appeared to the researcher that Thomas was still avoiding work that he did not wish to do even in his year 4 class. He was certainly more relaxed there, but no more industrious. He said he found work in English and

Mathematics "easy" and "boring". He spent a lot of time drawing pictures instead of completing the tasks set for him. Sue, too, was aware of his work avoidance strategies. She said:

> "You have to watch him because he does all these pictures and you think he's working. He sits quietly and you think: well done Thomas, he's getting on with his work ever so well. Until you see that he's done a computer picture. It's being aware that when you think Thomas is working away quietly he may not be. I just have to remember to go and see what he's doing and check it. He's very capable but very cute."

Thomas was indeed capable. On many occasions he would talk with enthusiasm and knowledge to the researcher about the novels he read at home. Thomas did enjoy learning, but not in the context of school. He stated that "I read and read lots of books at home and I go to museums and places like that. I am very good at reading and writing work...If I don't understand something, I just read it again until I work it out. My sister sometimes helps me". The researcher then asked: "And what about your work in class Thomas, what are you learning in English here?" "I don't like class work, it's boring." Thomas had a positive self-concept in English and although he did not appear to be mastery oriented in class, his comments indicated that he was mastery oriented at home. His knowledge and ideas were highly imaginative and he was able to articulate them clearly. For much of the time, Thomas drifted through the day without interruption from the teacher. In effect, he was a skilled work avoider in class.

9.7 CHANGES IN CHILDREN'S SELF-CONCEPTS FROM YEAR 3 TO 4

The SDQ1 data showed no changes in any of the six facets of self-concept from year 3 to 4. Given, also, the low correlations between the SDQ1 and Nicholls' Motivational Orientation Scales, the researcher scrutinized the ethnographic data for evidence on whether the relevant constructs were really related and if so, in what ways.

There was qualitative evidence in years 3 and 4 to support the claim that self-concept was differentiated in primary-aged children. Systematic changes from year 3 to 4 were more difficult to discern. There was also no clear evidence to indicate changes in the self-concepts of pupils in Sue's class whose motivational style had changed from maladaptive to adaptive from year 3 to 4. Across the pupils defined as mastery oriented there was evidence of both positive and negative self-concepts. However, it appeared that the some of the children claiming that "I'm not very good at English" were not necessarily saying "I can't do English". The following comments illustrated this phenomena:

> "I know I'm not very good at my number work. **I can do it**, but I'm not very good at it." *(this pupil was mastery oriented in all subjects)*

> "I don't like creative writing, you have to think and talk about lots of things. I'm not very good at that. **I do write stories** and the teacher says they're quite good, but I don't think they are...I just don't. I don't know why". *(this pupil was mastery oriented in English)*

The researcher attempted to tap what the children meant by "I can do it, but...". Without exception, it appeared that they meant they had to put a lot of effort into doing it, but they knew if they did put the effort in, they could succeed. Two typical comments to this effect were:

> "I have to spend ages and ages trying to work it out and if I get it wrong, I have to do it again and then it's usually ok."

> "It's not like English when I just get the answer like that (quickly). It have to think more in Maths and my brain gets mad."

The children in the study whose motivational style characterized learned helplessness appeared to make qualitatively different statements about themselves. Their was also more consistent evidence of a poor self-concept in the subject concerned. For example, one pupil stated that "I'm quite good at reading and things, I mean **I can do it** quite ok. **I can't do Maths work...**I just can't. Don't ask me to do it." There was a strong emotional force behind their comments. Items on the SDQ1 such as "I'm good at Maths" and "I hate English" (SDQ1) provide little explanatory power about whether pupils think they *can* or *cannot* do the work in these subjects. In a similar way, items like "I work hard all the time" and those on Nicholls' instruments such as "Something I learn makes me want to find out more" do not indicate whether pupils think they are good at the subject in question. It would appear that children's underlying conceptions about the role of difficulty and their understanding of the interplay between ability and effort are more relevant to motivational processes.

9. 8 SUMMARY

There were inconsistencies between the quantitative and qualitative data from the two classes. The questionnaire data showed significant changes in the motivational profiles of the two classes from year 3 to 4. These changes were only partially borne out in Sue's class by the qualitative data. In contrast, the qualitative data from Tim's class provided strong validity for the questionnaire data.

The teachers in this study did not always portray a sense of sharing in a common endeavour. The formation and maintenance of different ways of managing the social practices in their classrooms, an absence of a common understanding of children's behaviour, and the separation of academic and social goals served to undermine the development of a systematic and consistent approach to teaching and learning and, in turn, to the development of adaptive motivation. Mortimore *et al.* (1988) found that thirty per cent of primary-aged pupils were perceived as problems in one of the three years of the study, but only three per cent in each of the three years. The evidence suggests that teacher perceptions and children's behaviour vary from year to year. The evidence presented in this chapter shows that situational and contextual factors have a considerable impact on the development of motivation and self-concept. How far children are prepared to take risks and to make mistakes appears to be dependent on the social context of the classroom and their relationships with their teachers. But it is also more than this. It is dependent on the children's

understanding of their teacher's motives and goals.

The last four chapters have presented the results of this study in full. The next chapter provides a critical evaluation and discussion of these results and considers their implications for teachers.

PART FIVE

CHAPTER TEN

DISCUSSION

10.1 INTRODUCTION

This chapter aims to link together and to evaluate the results presented in chapters six to nine in the context of a critique of the methodology, as well as in relation to the literature reviewed in chapters three and four. The chapter focuses on the key findings from the study and the ways in which these findings contribute to knowledge and understanding in the field of motivation and self-concept.

The author discusses critical issues such as whether researchers should focus more on task- than subject-specific self-concept, the nature of the relationship between self-concept and motivational style, the conceptual and practical difficulties of assessing motivation at a curricular level and the implications for the stability of motivational style across the primary years of different classroom practices among teachers in the same school. The chapter argues that the study of self-concept is not simply an interesting side-track in motivational research, but of considerable value in helping to develop an understanding of cognitive-motivational processes. The author also contends that the management of the social practices in primary classrooms has a powerful impact on whether children are prepared to take risks in an attempt to overcome

difficulties in learning, as well as on their perceptions of the role of difficulty.

The National Curriculum provides a subject-based framework for the primary curriculum. How far this framework serves to help teachers to develop a sense of sharing in a common endeavour remains a matter for speculation. The separation of cognitive and social goals, differences between classroom management practices and conceptions of the role of difficulty in learning appear to undermine the development of a systematic and consistent approach to the development of adaptive motivation. Given, also, that there were notable differences not only between, but also within, classrooms in the ways in which teachers responded to different children, then it is important to appraise critically the impact of children's motivational style on their teachers' responses. In other words, the impact that children themselves have on their teachers needs to be appraised.

The lack of conceptual clarity of research in motivation also raises questions about the commonality of goals of different researchers. For example, to what extent do researchers' goals influence the ways in which they construct their studies? The author evaluates the particular conception of *usefulness* of research on which this study was predicated. In doing so, she examines the issue of whether it is possible for motivational researchers to define effective classroom management practices for teachers. She argues that in the current highly-charged political climate where the Secretary of State for Education and Employment (Sheppard, 1996) has openly pointed to a need for teachers to

examine the effectiveness of different classroom management practices (e.g. pupil grouping) and pedagogic practices (e.g. whole-class lessons), then it is likely to be a question at stake in future studies on motivation.

The chapter attempts to draw out the strengths and limitations of the study at different levels. In the concluding commentary the researcher raises a powerful and contentious issue: whether it is possible to resolve the tensions for researchers like herself of, on one hand, wishing to remain loyal and supportive to those schools and teachers involved in her research, whilst on the other hand, appearing to criticize their practices. It is argued here that if relationships in the field are to count for anything, then researchers must be held accountable for the outcomes of their research, first and foremost, to those who have invested trust and confidence in them (i.e. teachers, pupils and parents). For the author, presenting findings which implicitly criticize individual teachers has served as one of the most disconcerting issues of this study.

The following sections focus on the key findings from the study.

10.2 Identification and development of self-concept

The results suggested that young children were able to differentiate between multiple facets of self-concept; each of the six factor subscales derived from Marsh's SDQ1 were defined and distinct for pupils aged 5 to 10. These results provided further empirical support for Marsh, Craven and Debus' (1991)

claim that new assessment procedures for measuring multiple facets of self-concept in young children were reliable and valid. The results also suggested that the six facets of self-concept defined in this study decreased from year 1 to year 7 of the primary school years. On a conceptual level, these results helped to provide an empirical understanding of the ways in which young children develop a sense of themselves as learners during the primary school years, particularly in English and Mathematics. The evidence pointed to the development of a self-concept that was differentiated into broad curriculum areas, most likely reflecting the organization and management of the primary school curriculum; at a classroom level, a subject-based curriculum was evident throughout both schools involved in the study. Therefore, it seems reasonable to conclude that domain-specific self-concept was a valid construct.

The results derived from the SDQ1 did not address the question of whether children were differentiating *within* a broad curriculum area, and the possible impact of doing so on their self-concept and learning (e.g. differentiating between different activities and types of tasks in English such as story-writing, spelling or reading). This question arose during administration of the SDQ1 to small groups of children. While completing the questionnaire many of the youngest children in the sample made spontaneous comments indicating that they could differentiate between a range of activities *within* a broad curriculum area (e.g. problem-solving or number bonds in Mathematics). It appeared that they were differentiating between types of tasks within a broad curriculum area (i.e. what the activity actually involved them in doing). There

was little evidence of this phenomenon among the older children; the oldest children did not appear to differentiate to the same extent as the youngest children between types of tasks within a broad curriculum area. Analysis of observational and interview data suggests that, as they progress through the primary school years, children conceptualized subjects in a more generic way. Class teachers and pupils in the older classes referred to "English" in a generic sense, rather than as an umbrella term for "creative story-writing, reading, spelling, handwriting and drama". For this reason the concept of subject-specificity might need to be reappraised in future studies of self-concept in accordance with the age of the children under investigation; for example, it might be more appropriate to investigate task-specificity of self-concept within a broad curriculum area. To sum up: the results derived from the SDQ1 provided psychometric support for the multifaceted nature of self-concept in a large UK sample of primary-aged pupils; they provided also a strong empirical basis from which to analyse the qualitative data and to help illuminate the phenomenology of the construct of self-concept. For example, the question of why self-concept diminished as children progressed through the primary school years was explored using the results from the qualitative data.

The observational and pupil interview data gathered from the classes in years 3 and 4 provided further validity for the findings from the psychometric data from the SDQ1. It appeared that children aged 7 to 8 were able to distinguish between their ability in English and Mathematics in the naturalistic setting of the classroom. The results also showed that class teachers

distinguished between children's abilities in English and Mathematics in their day-to-day classroom management practices. Children's self-concepts in English and Mathematics were systematically and consistently linked to their teachers' assessments of their ability in these subjects. When differences between pupil-teacher assessments of self-concepts arose, analysis suggested that the pupils had even poorer self-concepts than assessed by their teachers. There was little evidence to indicate that children held more favourable self-concepts than were assessed by their teachers. In constructing their self-concepts, the results showed that pupils used explicit social comparison information readily available to them in the classroom. For example, children used their teachers' statements, class test results, in-class groupings for spelling or number worksheets, information about whether an individual received support from a classroom assistant, as well as the amount of time allocated by the classroom assistant to him or her.

Children's perceptions of a range of classroom process and contextual factors were crucial to the development of an understanding of self-concept. The taken-for-granted assumption of a class teacher that the deployment of classroom assistants is "no problem" for pupils could not be farther from the truth. In many cases, the need for support from a classroom assistant was a bench mark of ability or lack of ability for some pupils. The explicit need for additional support, irrespective of how transient, served simply to mark one pupil out from another in the ability stakes.

The findings from the ethnographic studies of the four classes appeared

to implicate the ways in which teachers conceptualized and responded to *difficulty* in learning. Challenging educational problems were not socially or educationally constructed by teachers in ways which helped pupils to develop a sense of the fundamental importance of difficulty in the learning process. There was little evidence to suggest that teachers either understood or made explicit this notion to pupils. There was evidence in the Year Two ethnographic study that children were evaluating their performance in relation to the amount of effort they had to invest to succeed and in turn, these evaluations influenced their self-concepts. Pupils with poor self-concepts, but who still believed they could master difficult tasks, referred to having to "work really hard".

These findings supported Nicholls' (1989) claim that conceptions of effort and ability are inextricably linked in Western cultures and that pupils are more likely to perceive ability as indirectly proportional to effort. The worrying aspect of these findings was that the children in this study were only in year 4 of primary education. Their self-concepts were being formed very early in schooling, most likely as a result of the ways in which their teachers constructed the social context of their learning. The teachers were mostly unaware of the children's perceptions of their practices and the ways in which these affected pupils' self-concepts.

10.3 IDENTIFICATION AND DEVELOPMENT OF MOTIVATIONAL STYLE

Understanding children's responses to the questionnaires

Nicholls' Motivational Orientation Scales provided a cognitive measure of children's motivational style in English and Mathematics. As far as the researcher was aware, Nicholls' questionnaires had not previously been used with children in the early years of primary school. In chapter four, on both a theoretical and methodological level, the author contended against Nicholls' view that motivational style did not develop until around the age of ten or eleven (i.e. when children were in their final year of primary school). Marsh, Craven and Debus' (1991) procedures for administration of the SDQ1 to younger children were established in the published literature and, as a result, similar procedures were used to administer Nicholls' questionnaires. The results showed that each of the three factor subscales previously found by Nicholls were defined and distinct for the young children in this study. The psychological constructs of ego involvement, task involvement and work avoidance emerged from a principal components analysis of questionnaire data. Using these factor subscales it was possible to carry out further analysis to compare the motivational orientations of different schools, classes and groupings. The only notable finding in Year One of the study was that School A had a higher maladaptive orientation than School B. The results from the Nicholls' questionnaires in Year One were disappointing; there were few consistent results. For this reason it was not possible to select classes for further study on the basis of Nicholls'

questionnaires alone. Furthermore, there was no *consistent* pattern of changes in motivational styles across the primary school years, except for children aged 5 to 6 when motivational style appeared to become more adaptive.

The researcher re-examined the items on Nicholls' questionnaires in the light of the qualitative data from the follow-up intensive study in Year One. This was an interesting exercise for it generated a number of questions about what precisely the data from Nicholls' questionnaires was saying about children's goals. The factor subscales were defined and distinct. However, a fundamental question arose about how these subscales could be interpreted. For example, work avoidance included the following three items: *"I feel really pleased in English when"*: "All the work is easy"; "I don't have to work hard"; "the teacher doesn't ask hard questions". The ethnographic data suggested that there was a complex relationship between children's learning and social goals and therefore, that there were various ways of interpreting the responses to the items on the questionnaires. Some children were pleased if "all the work was easy", not because the tasks were difficult *per se*, but because of their perceptions of the consequences of experiencing difficulty with work; for some children, it was exciting, for others it was potentially threatening. These different perceptions were associated with different teacher behaviours (i.e. in some cases approval if they succeeded, in other cases, disapproval if they failed). Depending on the social context, difficulty could be perceived on one hand as an opportunity for acceptance, and on the other hand, as a road to rejection by their teacher and feelings of inadequacy about their ability.

These findings pointed to a need to clarify further the underlying reasons for children's goal orientations in the classroom. They highlighted the importance of the social context of the classroom in assessing or interpreting the constructs embedded in Nicholls' questionnaires. In this study ego involvement was related to the influence of peers on some children, particularly boys. There was no evidence to indicate that items such as *"I feel really pleased in Maths when"*: "I get more answers right than my friends" and "I know more than the others" reflected ego involvement in the sense that Nicholls had defined it. Nicholls (1989) suggested that ego involvement, and for that matter work avoidance, were associated with views that 'success' arises from doing better than one's peers. With these younger pupils 'success' was simply about peer acceptance and affiliation to the peer culture whatever that might be. Children conceptions of 'success' and 'failure' did not necessarily coincide with either those of their teachers or motivational researchers.

In this study the peer culture among many of the boys in Rose's and Sue's class had more to do with avoiding work to gain peer acceptance, than with competing for top marks. In this sense it had little to do with academic 'success'. For younger children then, this study casts some doubt on the validity of the conceptual understanding of these constructs provided by Nicholls. Young children responded to the questionnaires in ways which did define them according to Nicholls' motivational constructs, but his interpretation of the underlying reasons for such motivational styles could not be validated from the qualitative data. On the contrary, the qualitative data painted a much more

complex picture than could be explained by Nicholls. These findings suggested a need for a greater focus on the impact of the peer group on the development of motivational style and in turn, the impact of the social practices in the classroom on peer culture.

The interplay of learning and social goals generally could also account for the inconsistencies in the findings from Nicholls' questionnaires. Children's social goals might have confounded the results. For example, underpinning some of the responses to individual questions could be social as well as learning goals, or, social in addition to, learning goals. A response of "YES" to "I feel really pleased in English when I solve a problem by working hard" or "I feel really pleased in English when I work hard all the time" might reflect a child's goal to gain acceptance or to avoid reproval from her or his teacher. Nicholls would simply interpret these responses as task involved or a state where completing or understanding the task is of central concern (i.e. a learning goal). Another example of confounding social goals could be in relation to responses that were interpreted as work avoidance. For example, a responses of "YES" to "I feel really pleased in Mathematics when all the work is easy" or, "I feel really pleased in Mathematics when the teacher doesn't ask hard questions" could also reflect a social goal of seeking teacher approval or avoiding teacher disapproval. "Hard questions" could carry the threat of public reproval as observed in one of the year 3 classes in this study. In this way work avoidance need not necessarily reflect anything other than a child's social goals. On a theoretical level, in seeking to avoid teacher disapproval, a child could be categorized as work

avoidant in one class because she or he likes easy work. In the next class the same child could seek to gain teacher approval by preferring to do easy work which guarantees success, and yet still be categorized as work avoidant. Given the empirical data from the intensive classroom studies, it seemed reasonable to be cautious in interpreting the results derived from Nicholls' questionnaires.

Teachers' assessments of motivational style

The results of the Teacher Motivation questionnaires were used to investigate differences between classes in behaviour and motivational styles. The questions were designed to examine the relevance of the theoretically-driven motivational styles of learned helplessness, self-worth motivation and mastery orientation in relation to teachers' understanding of their pupils' motivation and behaviour. The validity of class teachers' assessments of children's motivational styles can be problematic. Teachers can be wrong about their own intentions and motives when assessing children's behaviour and motivation. It is also possible that teachers could simply be assessing their own knowledge and skill (or lack of knowledge and skill) in managing behaviour and in fostering adaptive motivation. In a similar way, some teachers might not be prepared to admit that they have problems with their pupils' behaviour and motivation and, as a result, provided unreliable responses to the questionnaires. With these limitations in mind, and following analysis of the Teacher Motivation questionnaire data, two classes were identified for further intensive study. The researcher was subsequently able to carry out a systematic triangulation of questionnaire,

interview and observational data for these two classes to test the validity of the results of the Teacher Motivation questionnaires. There was systematic evidence of concurrence between teacher, children and observer data.

The results of the ethnographic studies provided further evidence of pupils whose responses to difficulty or failure were characteristic of mastery orientation or task involvement, learned helplessness and work avoidance. However, there was little evidence to support the theoretical construct of self-worth motivation. The possible methodological shortcomings of the Year One ethnographic data were addressed in Year Two. However, it was still not possible to provide empirical evidence of self-worth motivation. It was not possible to investigate task-specificity of motivational style to any great extent. Many lessons involved whole-class teaching in English and Mathematics, as well as a limited range of tasks. The qualitative data enhanced the validity of the teachers' assessments of their children's motivational styles. In practical terms the questionnaires were a useful starting point for the researcher in exploring pupils' motivational styles in the classroom.

Given the results of this study the broad categories of adaptive and maladaptive motivational styles, whilst of practical use, masked a complex motivational profile not only for individual pupils, but also within a class generally. Children were behaving strategically in line with their perceptions and evaluations of a range of classroom process factors. They were actively interpreting and responding to the different social practices in the class in ways

which affected their self-concepts and responses to challenging educational tasks.

The impact of the teacher motivation questionnaire on teacher behaviour

The researcher was unconvinced about the validity of the teacher interview data. There seemed to be clear evidence that Tim, and to a lesser extent Sue, had been influenced by the motivational constructs underpinning the Teacher Motivation questionnaires. Both teachers had completed the questionnaires immediately before the intensive study of their classes in Year Two. The research had also been in progress for nearly two years. It was highly likely that their awareness of the project was greater than the two teachers involved in Year One. The researcher was quite sure that they were not familiar with the questionnaires until she asked them to complete them in Year Two. It was not until she interviewed them shortly after that she realized the ideas about motivation in the items of the questionnaires were influencing how they were answering her interview questions. For example, in response an interview question about his conception of a motivated child, Tim stated that:

> "In the context of the classroom, it is that children want to work for their own reasons rather than because they have been told that they've got to. They actually want to do the work there because they find that they are challenged by it. That it is interesting to them. They want to do it for themselves."

Tim, too, was seeking effort from individual children in his class. He commented that:

> "I look to each individual child. What motivates each child is different. If I had to look at the class as a whole (when I got them), then I certainly didn't find that as a class they lacked motivation. However, each child needs activities at his or her own level to challenge or to motivate them. If they don't get what is appropriate to them, then motivation can disappear."

He continued to describe in detail the type of behaviours he might identify in children whom he perceived to be motivated. His descriptions matched those embedded in items on the questionnaires. The close proximity of the administration of the questionnaire to the intensive study meant that it was unlikely that his raised awareness could have changed significantly children's motivational styles. It was term three and so any changes in motivational styles from year 3 would most likely have been established. In this sense the researcher contended that her intensive study in Year Two was unlikely to have been confounded by the questionnaires. In any case, it seemed reasonable to conclude that, in the event that motivational styles had been influenced as a result of the questionnaires, then the impact *should* have been positive. From the evidence presented in chapter nine, any changes appeared to be more towards maladaptive, than adaptive motivational styles in Tim's class.

10.4 Relationship between self-concept and motivational style

Of central importance to this study was an exploration of the nature of the relationship between self-concept and motivational style. Recent theoretical and methodological developments in the study of self-concept indicated a need for studies which examined this relationship in a subject- and context specific

way. Analyses indicated low correlations between the SDQ1 self-concepts in English and Mathematics and Nicholls' Motivational Orientation Scales. In many ways this result was unsurprising when considered in the light of the ethnographic data.

It has already been suggested that the responses to Nicholls' questionnaires were likely to be reflecting a complex interplay between children's learning and social goals. The ethnographic studies showed the complexity of the motivational profiles of children in each of the four classes. Children with a high self-concept in English might well "feel really pleased" when they "solve a problem by working hard". However, children with a low self-concept might equally well "feel really pleased" because they have overcome a problem or they have received positive feedback from their teacher, or both.

In a different classroom, children with a high self-concept in English could "feel really pleased when they don't have to work hard" because they avoid the risk of displeasing or disappointing their teacher if they don't do very well. Children with a low self-concept might "feel really pleased if they don't have to work hard" because they too avoid disapproval from a teacher. Or, if they do not perceive the work as "hard" and they can complete the task successfully, then they might elicit approval from the teacher. There were many examples of children who responded in one way in Year One, then responded differently in Year Two. It was not that the task difficulty *per se*, rather the

children's perceptions of the social relationship and social context within which they experienced difficulty; experiences of difficulty or failure were defined by the social context which the child and teacher had constructed. There were wider implications here for the conceptions of difficulty held by teachers and their relationship to learning. The "model pupils" had a clear sense that difficulty and struggle were an integral part of learning. They did not concede in times of difficulty to a perception that the problems were insurmountable. It was almost a taken-for-granted assumption that problems preceded success. Adaptive motivation did not seem to be about whether children *thought* they were good at English or Mathematics (i.e. in SDQ1 items such as "I am good at Maths"), but about whether they believed they could do it. Sue, a year 4 teacher, through the management of the social practices in her classroom was teaching unwittingly some of the children, mainly girls, to reconceptualize difficulty and to focus on ways of overcoming problems. Hence, these pupils were changing from previously maladaptive towards adaptive motivational styles.

The pursuit of an understanding of the relationship between self-concept and motivational style is an important one. For pupils whose motivational style characterized learned helplessness in one or more subject, there was clear and consistent evidence of a poor self-concept. It was not quite that simple though. They did make comments such as "I am poor at English", but the most strikingly consistent perception of these pupils was that "I can't do English" and "I'm hopeless at English". From the evidence presented earlier there were changes away from learned helplessness and towards mastery orientation for

some children. The catalyst for such changes seemed to be the positive social relationships that the pupils experienced in their new class. For some pupils it was almost as though it did not matter that they were performing poorly, they were accepted by their peers irrespective of their poor performance. The spin-offs from such acceptance were that they could openly discuss their problems, take more risks and develop new strategies for learning. In this way their performance improved and so too did their academic self-concept. Feelings of helplessness seemed to diminish as they began to identify their own difficulties and the sorts of questions they could ask about the work to help them do it. Pupils in Year One in both classes whose motivational style characterized mastery orientation or task involvement were able to construct a role for the teacher in helping them to find solutions to difficulties. In Year Two, the children who had previously been helpless had started to behave in the same way. They were using the other children at their table, as well as the teacher, in the same way as the children who were mastery oriented. They seemed to have a new found ownership over their own learning processes as a result of feeing safe enough to ask questions and to experiment with different strategies.

Liking and being able to do a subject does not necessarily guarantee a high self-concept. However, feeling that you could *not* do a subject did produce a poor self-concept. It seemed that motivational style and self-concept were linked by children's performance evaluations. However, there appeared to be different underlying processes associated with different motivational styles. Rather than asking children to respond to a simple descriptive question such as

"I am good at Maths", it might be more illuminating to ask them to respond to performance evaluation questions such as "I can do Maths" and "I can do Mathematics because...". Children were not encouraged to look for a range of evidence for their positive and negative self-assessments. From the ethnographic data the two questions "I am good at..." and "I can do..." appeared to be qualitatively different in relation to motivational style. On a theoretical level, for pupils to think that they could do Maths, but that they were not necessarily good at it might seem paradoxical, until their conceptions of ability and effort and the role of difficulty in learning were also taken into account.

The emotional and social well-being of the children in this study seemed an overriding factor in the development of motivational style and self-concept. Three out of four of the teachers in this study believed that the girls could develop productive social relationships and work together effectively and that the boys could not. The questionnaire results showed that primary teachers generally irrespective of the age of the pupils believe that boys have lower ability than girls. These underlying beliefs directly affected the way the teachers organized the groups in their classes. A key finding from the intensive studies was that class teachers were unwittingly teaching girls social and interpersonal skills, but not boys. These skills were being taught at a curricular level and were enabling the girls to develop a range of learning strategies (e.g. small group work) while the boys' social relationships became more and more counterproductive to effective learning. For some boys who had learned these sorts of skills in a former class, it was clear that they could no longer use them

in the new social context. The negative peer group influence was too strong. In many instances the boys were able to understand and to articulate this trend, but felt helpless to do anything to stop it. The impact of teachers' underlying beliefs about ability manifested themselves in a number of ways in these classrooms which were counterproductive to effective learning and to the development of productive social relationships. Teachers' conceptions of ability are scarcely recognized in the wider public debate about boys and underachievement. Nor does there appear to be any discourse along these lines in the political debate about pupil selection and pupil grouping. To select or not to select is as much an ideological debate as anything else, nevertheless, there is a widespread assumption underpinning debates about boys' underachievement and pupil selection/grouping that ability is immutable. The teachers in this study bear testament to this assumption.

10.5 Impact of classroom management practices on motivational style and self-concept

For the author, the most compelling outcome of this study related to the different ways in which the four teachers managed the social practices in their classrooms. It illustrated the powerful impact of situational and contextual factors on motivational style and self-concept. That all four teachers taught practically next door to one another, and in the same school, did not stand for anything much. The school mission statement and school-level policies and practices seemed to have little bearing on matters of consistency and continuity

of pupil experiences in the school; the experiences of pupils in each of the four classes were remarkably different. It was not simply the individual differences associated with each teacher, it was also the impact of one teacher's practices on the children's perceptions of their next teacher's practices. The evidence suggested that the social relationships and educational experiences of the children in year 3 influenced their perceptions of teacher behaviour in year 4. In the case of Sue's class, the boys could not adjust to the new order, nor could they cope with the new gender-related grouping arrangements. Paradoxically, the girls blossomed as a result of both. In contrast, Tim's class did not provide the nurturing experiences of the previous year spent with Ann and the children did not understand the significance of his practices. The classroom assistant in year 4 stated that it was a completely different experience for her working from one class to the next as she did regularly in a week. She said it influenced the way she worked with the children in the different classes. The impact of the teacher appeared to be the overriding factor in the development of children's motivational style and self-concept.

'In the current political climate discourses on pupil motivation can take different forms. Politicians on the left and right argue for an economic imperative in education, whereby children need high achievement motivation if the UK is to compete in global markets. For more left wing politicians, young people, and especially those in secondary schooling, need to be motivated to learn if they are to develop the basic skills necessary to understand and to contribute to the democratic process in an ever increasingly complex world; in

other words, to enable them to participate in a democratic society. Whilst it is difficult to argue with these sentiments, there is a danger that situational and contextual factors in classrooms and schools become a forgotten means by which these goals might be achieved. From the results of this study it seemed that children's emotional and social well-being was central to the development of adaptive motivation. A limitation of this study is that it did not investigate to any great extent the possible impact of policy and school-level decisions on the impact of classroom processes.

The researcher's relationships with teachers and pupils

Forming and developing relationships with teachers and children was more complex than it first appeared to the researcher. So, too, were the implications of these relationships for the ethnographic results. At the outset, the researcher presented herself as an experienced teacher, rather than as a researcher. The rationale was that teachers were likely to identify and communicate more openly with a fellow teacher. Looking back on this study there are a number of aspects which point squarely to the researcher's underlying need for legitimization by teachers. Constructing the problem of research in motivation in terms of its *usefulness* to teachers belies the researcher's underlying assumptions about the purposes of research. The research questions in themselves provide evidence of such assumptions. While there were many legitimate arguments for maintaining good relationships with teachers and pupils during the field work, there was a strong sense in this study

of an agenda above and beyond matters of access. The conception of *usefulness* of research tended to be treated unproblematically. It is discussed further later in this chapter. In contrast, children's perceptions of the role of the researcher were perceived by her more in terms of the reliability and validity of data than of access or legitimization.

One of the most pressing issues for the researcher in developing relationships with teachers was the limited amount of time available generally to share information and to discuss relevant matters with them. But it was more than an issue of time. The management and organizational practices in the school militated against teachers being able to discuss teaching and learning matters other than in a technical way. It seemed to the researcher that listening was a rather underdeveloped skill at all levels in the school. And yet, the network of relationships between staff and pupils depended on it.

Taken-for-granted assumptions by the researcher about classroom practices were often shot through following an informal discussion with a classteacher. The context of the relationships was crucial here for teachers were investing trust in the researcher when sharing their perceptions of school-level policies which had a direct and manifest impact on their classroom practice. In a similar way, the headteacher and senior staff confided independently in the researcher, to the extent that on a number of occasions they sought advice from her about school matters. The impact of this informal network of relationships between the researcher and the staff on the amount and quality of the resultant

data, and on the depth of analysis, was of critical importance. Therefore, the overall implications for the results of the ways in which the researcher went about the business of forming and sustaining her relationships with staff was likely to have been crucial in interpreting the data. For example, the widespread use of individual worksheets in year 3 was assumed by the researcher to be a working practice *preferred* by the teachers. It did not seem to be helpful to pupils in maintaining a coherent and substantive record of their work. At the end of a lesson the worksheets tended to be collected up and filed away. Pupils had no role to play in taking responsibility for their work and seemed to treat the worksheets rather indifferently. It was only after some time that one of the teachers confided that they had to buy paper themselves to make worksheets as there was no money available to them to purchase workbooks from the published schemes. They did not perceive that the use of individual worksheets was productive to pupils' learning or self-esteem, nor that it helped to foster pride in their work. This is just one example of the ways in which the relationships with teachers helped to enrich the interpretation and analysis of data.

On a contrasting note, researcher-teacher relationships were not without pitfalls. A critical incident in awareness raising of the more subtle ways in which teachers were drawing the researcher into the research process took place in Sue's class. To recapitulate: Sue was a probationary teacher experiencing behavioural difficulties with her class. She was a year 4 teacher and had taken over Rose's class for whom strict discipline was a priority. Sue perceived

herself to be in the firing line of senior colleagues whom she felt disapproved of her classroom management strategies. This perception was reinforced by a number of incidents whereby Sue's class would be reprimanded publically by a senior member of staff in Sue's presence. The researcher observed one of these public reprimands following a very serious incident that had occurred while pupils were en route to the playground for play-time. Whilst it was justifiable for the deputy headteacher to deal unequivocally with the incident, it could have been done more sensitively in view of Sue's inexperience. Sue was visibly upset at what she perceived to be public reproval. It seemed to the researcher that Sue was doing an excellent job given her relative inexperience. Like most new teachers she needed guidance on matters of pupil behaviour. This situation presented the researcher with a dilemma on one hand of wanting to offer Sue direct guidance and support, but on the other hand of not wishing to confound the research.

During the course of the field work the notion of 'confounding the research' became problematic. The researcher found it difficult to decide what could and could not be constituted as a 'confounding effect'. It has already been argued above that the researcher's closeness too, and involvement with, the phenomena being investigated was of value. Therefore, no position safeguards the validity of knowledge. Methodologically and epistemologically sound decisions were being called for continuously during the project. Some of which, as far as the researcher was concerned, also carried with them serious ethical dilemmas. Hammersley (1993) suggests that:

> The chances of findings being valid can be enhanced by a judicious combination of involvement and estrangement...no position, not even a marginal one, guarantees valid knowledge; and no position prevents it either. There are no overwhelming advantages to being an insider or an outsider. (p.219)

Sue spoke at length to the researcher about the incident cited above. It would have been reprehensible for the researcher not to listen and respond as sensitively as possible. In the event, the researcher encouraged Sue to consider two aspects of the issue: the seriousness of the incident that had provoked her senior colleague to respond in the way she did and the way in which her colleague had managed the difficult complaints from parents in a skilful and supportive manner. The researcher attempted to help Sue to examine her senior colleague's perspective on the matter. She then encouraged Sue to consider how she might follow up the incident with her class. Later that day the deputy headteacher apologized privately to the researcher for any embarrassment she had caused *her* as a result of the incident.

This was one of the largest primary schools in the county, the deputy headteacher taught a year 6 class full-time. From the deputy headteacher's perspective the fewer incidents of disruptive behaviour around the school the better. She could then get on with teaching her class and her various other responsibilities. Both teachers seemed to want the researcher's assurance and approval for their feelings and actions. On these occasions it was difficult not to collude with each teacher separately. Their different perspectives were understandable. However, it seemed more helpful to encourage each of them to

see the other's point of view.

During the course of the research, individual teachers sought to legitimize their practices through the researcher. Various strategies were used here. One teacher asked the researcher on a few occasions to take the class for a particular activity while she went to the staffroom to do some work. The researcher enjoyed these opportunities, but was conscious that she was being placed in a potentially conflicting role with the children. It did not happen often enough to warrant making an explicit comment to the teacher. In truth, it was good to be able to give something back to the teacher even if it was simply a little time for preparation. Before leaving the class the teacher would warn the children "to behave themselves or there will be trouble when I get back" and then she would turn to the researcher and say in a loud 'stage whisper' "I want you to send for me if you have any trouble". There never were any problems which seemed to disappoint the class teacher. On one such occasion when she returned to the class she confided to the researcher that "I wanted you to understand why I need to be so strict with this class". The implication was that if they had misbehaved, then the researcher would have had to respond in the same way as she did to the misbehaviour (i.e. "strictly").

10.6 THE EFFICACY OF COMBINING QUANTITATIVE AND QUALITATIVE METHODS

Throughout this study the researcher was involved in an on-going

process of making sense of different types of data gathered over a period of two school years. The Year One quantitative data provided a backcloth for a more in-depth exploration of two primary classes. Taken together with the Year Two quantitative data, the researcher had a quantitative data set spanning the primary years from which to investigate a range of theoretical questions about motivational style and self-concept. This data set held little explanatory power in helping her to understand the phenomenology of the constructs embedded in the questionnaires, nor about complex classroom processes.

It is important to note that the qualitative data amassed during the two years was inextricably linked to the quantitative data through one key decision: the choice of the two classes for further intensive study. Demonstrating the validity of the findings from the ethnographic studies depended on how the classes were selected. A criticism which could be levelled at the researcher was that by having previous knowledge of the motivational profiles of the two classes, she was more likely to find what she was looking for (i.e. in one case maladaptive motivational styles and in the other case adaptive motivational styles). As it was, the choice of the two classes was made mainly on the basis of the teacher assessments, the validity of which could also be called into question for reasons previously discussed. However, given the widespread use of teachers' assessments of pupil motivation in education generally, then by using the teacher data it was an opportunity to examine the validity of such assessments. Since the analysis of the SDQ1 and Nicholls' Motivational Orientation Scales rendered no significant differences between the different

classes, then the decision to use the teacher assessment data was partly pragmatic. There was no convincing argument to simply choose two other classes on a random basis.

The qualitative data enabled the researcher to claim high ecological validity for her study. It also enabled her to test the validity of the theoretical constructs underpinning the instruments. A key objective of the Year Two intensive studies was to test theories developed from the Year One data. To a large extent the researcher was able to explore the theories generated in Year One. For example, the subject-specificity of motivational style and self-concept, the impact of a range of situational and contextual factors on children's perceptions of their ability and the interplay between learning and social goals. At the end of Year One the researcher concluded that one of the most significant differences between Rose's and Ann's classes affecting children's motivation was that one focused on the management of behaviour while the other focused on the management of learning. This theory was put to an empirical test in Year Two and could not be confirmed. Based on the evidence it seemed that both Sue's and Tim's classes were also focused on learning.

Children's perceptions of the researcher

As a participant observer in the classroom the researcher attempted to engage in a process of self-critique focusing particularly on the part she was playing in constructing the data (i.e. the knowledge), as well as on the extent to

which she was influencing the proceedings. To suggest that she did not influence the children and the staff would be naive and dishonest. The way she spoke to the children was described to her by one member of staff as perceiving young children "as if they were very grown up". On reflection it seemed to the researcher that she was unconsciously experiencing the classroom as one of the pupils. It was hardly surprising since she was sitting among them for most of the time, if not observing and asking questions, then listening to a whole-class lesson. This is a difficult aspect of the research process to explain, but it is relevant in trying to capture classroom life as more than simply a cold cognitive experience. Being in the four classes generated a range of powerful emotions in the researcher. There was no conscious decision on the researcher's part at the beginning of the study to construct any particular role in relation to the children. She was too preoccupied with access matters relating to the teachers. On many occasions, the researcher would ask the children if they were enjoying the work and what they were learning. To the researcher, it appeared that many of the children treated her as one of them; the pupils would speak openly and freely in her presence, not necessarily directly to her, but to each other. Often they would ask *her* awkward questions about her views of the lesson or the tasks (e.g. "Do you get upset when Miss shouts at us?" or "Miss thinks we're stupid, doesn't she?). It would have been quite easy to take on a role with the pupils and to brush aside their genuine questions. The researcher was always asking them to be honest and to share their thoughts with her. It was not that her relationships with the children were overwhelming to her, but simply that the research process was raising a number of issues not just in relation to whether

her relationships were confounding the data, but also about children's profound ability to comment on their own learning experiences.

The question here really is how does the process of eliciting comments from children about themselves and their work influence the resultant data? In other words, what are the implications for the findings presented here of the researcher's relationships with the children and the nature of her questions? One obvious concern was the extent to which she was helping to develop their metacognitive awareness in relation to their role in their own learning processes. The pupils could often hear conversations between the researcher and other pupils and could well have been gaining explicit knowledge they would not otherwise have been exposed to about learning strategies used by other children. These conversations could also have raised their awareness of peers' metaperceptions of them regarding their ability.

10.7 USEFULNESS TO TEACHERS OF RESEARCH ON MOTIVATION

This study was predicated on a set of beliefs and values about the aims and beneficiaries of research on motivation in education. Not to mince matters, at the outset the researcher constructed her study on an underlying assumption that research should be of practical relevance to teachers (i.e. that it should be useful). She contended that the field of motivational research lacked conceptual clarity and did not illuminate classroom motivational processes. With these thoughts in mind, the researcher set out to investigate whether the constructs of

motivational style and self-concept were useful to teachers. The aim was to explore the ecological validity of these constructs in an attempt to help teachers to develop a better conceptual and practical understanding of motivational processes in their classrooms. The stage was set for a *useful* study.

Recent school effectiveness studies have demonstrated that most of the variation among schools is due to classroom variation (Mortimore, 1995). As a consequence, it has been argued that all school effectiveness research needs to focus on what goes on in classrooms. By focusing on four primary school classrooms, this study provides empirical evidence of some of the factors underlying such classroom variation. Teachers have responsibility for the management of the curriculum and social practices in their classrooms. In this respect, they have a great deal of control over the development of children's motivation and self-concept. In other words, this study offers a powerful lesson that:

> ...a government can bring in as much structural, systemic change as it wishes in order to improve learning and 'standards', but this takes a back seat when compared to the individual, interpersonal and intrapersonal factors in improving learning. (Morrison, 1996, p.1)

PART FIVE

CHAPTER ELEVEN

CONCLUSIONS

This study has sought to evaluate the usefulness to teachers of research on motivation. It has explored the ecological validity of the constructs of motivational style and self-concept. Critical issues such as the developmental roots of motivational style and self-concept, the age at which motivational style and self-concept become important, pupils' and teachers' conceptions of the role of difficulty in learning and the impact of curriculum and classroom processes on motivational style and self-concept have been examined. The key findings arising from the study have been presented and discussed in the previous five chapters. Although this chapter should serve, in one sense, as the end of a story, in a true sense, it is really only a beginning. In imagining what might constitute motivational research in the year 2020, the question for the researcher becomes not *what* should we be investigating, but in what ways can we develop research methods which place children's understanding and interpretations of their educational experiences at the heart of the research process. For motivational researchers then, future paradigms need to recognize that children and teachers construct their learning experiences in a social context, a classroom. Processual variables offer a much richer and more specific understanding of classroom motivational processes; in this study situational and contextual factors were of considerable importance in the construction of knowledge about children's motivational style and self-concept. For example,

the interplay between children's learning and social goals, drawn out in the ethnographic studies, would benefit from further elucidation. Social goals might be of greater theoretical value in motivational research than learning goals.

It is not some rare human quality to persist in the face of challenging educational tasks, rather it is a product of an underlying belief that difficulties and failure often precede success. In other words, that learning is a difficult and, at times, risky business. Whether it is possible to help children to develop a critical understanding of the role of difficulty in learning is a matter for speculation. However, if this study has any merits, then it is surely that it has pointed up a need for motivational researchers to explore social processes in classrooms and the ways in which these affect children's learning, behaviour and subsequent achievement.

In recognition of the contribution to the field of the late Professor John Nicholls, the author would like to leave the last word with him. Professor Nicholls' (1989) pursuit of the values of quality and equality in motivational research are captured in his statement that:

> Encouragement of students' participation in the formation of the purposes that govern schooling is, as I have observed, rare. This state of affairs mirrors the relative neglect of questions concerning students' ultimate purposes, how parents and teachers influence these purposes, and the role that students might play in forming the purposes that govern their education. Even researchers themselves neglect questions of purpose - issues of seemingly paramount importance to students of motivation. We academic psychologists can hardly complain that inequality and the undemocratic nature of school life is the result of the failure of teachers to heed our words of wisdom. (p.230)

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APPENDIX 1: LETTER SENT BY RESEARCHER TO HEADTEACHERS INVITING PARTICIPATION IN THE STUDY

Dear

Re: Research on Motivation in the Primary Years

I am conducting research on the role, and development, of children's self-concept and motivation to learn in two curriculum areas of the National Curriculum (i.e., English and Mathematics). The research is part of a Ph.D. study and is under the supervision of Professor David Galloway, Chair of Primary Education, School of Education, University of Durham.

The development of effective motivation during the primary years is likely to have considerable implications for children's behaviour, learning and subsequent achievement. However, there is a serious shortfall in knowledge and understanding of the ways in which teaching strategies and curriculum affect, and are affected by, children's motivation. Practical knowledge of how to improve children's classroom performance through enhanced motivation to learn is likely to be of considerable value to teachers and schools.

I am inviting two primary schools to join this study. It will be necessary for me to spend at least one day a week over the next two years in each of the schools. During this time I would administer a set of questionnaires to, and conduct interviews with, selected groups of children and teachers. I would manage and supervise directly all data collection procedures, thus minimizing any additional workload for staff. Class teachers would be asked to provide information relating to the children's attainments in English and Maths as well as to complete a minimum number of short questionnaires about the children. It would also be necessary for me to have access to classrooms on a flexible basis but with the prior agreement of the class teacher. All information relating to the study would remain confidential and findings from the research would be presented in full to you and your staff on conclusion of the work. I appreciate fully that schools and teachers are under enormous pressures and therefore, I would endeavour to work in ways which ensure minimum disruption to children and teachers.

I have a range of successful teaching experience spanning 12 years across primary, secondary and special schools. Currently, I work in educational research at the School of Education, University of Durham. Additionally, I teach part-time at on the Masters' Degree in Education courses as well as on a range of other in-service degree courses both here and overseas (e.g., Management of Behaviour; Counselling Psychology; Special Educational Needs). I enjoy working with pupils and teachers and would appreciate the opportunity to carry out this work at your school. I have the Catholic Teachers' Diploma in Religious Education.

I will telephone you in the next few days to discuss this with you. In the meantime, if you wish to contact me my home address is as follows:

Best Wishes,

APPENDIX 2: LETTER SENT TO PARENTS REGARDING MARSH'S SDQ1

Dear Parents,

Re: Research on Motivation in the Primary Years

I understand that you have expressed concern regarding the nature of my research in school. I would, therefore, like to provide you with some information about myself and the research project generally. I would also like to offer you the opportunity to discuss your concern with me personally, should you wish to.

I have a range of successful teaching and management experience spanning 12 years across primary, secondary and special schools. At present, I work in Higher Education conducting educational research and lecturing at post-graduate in-service degree level in the field of education and psychology.

Currently, I am conducting research on the role, and development, of children's self-concept and motivation to learn in two curriculum areas of the National Curriculum (i.e., English and Mathematics). The research is part of a Ph.D. study and is under the supervision of Professor David Galloway, Chair of Primary Education and Head of Department at the School of Education, University of Durham.

The development of effective motivation during the primary years is likely to have considerable implications for children's behaviour, learning and subsequent achievement. However, there is a serious shortfall in knowledge and understanding of the ways in which teaching strategies and curriculum affect, and are affected by, children's motivation. Practical knowledge of how to improve children's classroom performance through enhanced motivation to learn is likely to be of considerable value to teachers and schools.

The nature of this research involves working alongside pupils and teachers in every day classroom activities in a number of schools. To investigate whether children see themselves in a similar way in all school subjects (e.g., very good in English, Maths and Physical Education) or, whether they see themselves differently according to specific subjects (e.g., very good in Maths and poor in English), I have asked them to complete two short questionnaires. These

questionnaires have been developed by leading academics in the field of education and have been validated to establish their suitability in measuring young children's self-concept and motivation.

This project is concerned only with the development of children's academic self-concept and motivation; the project is **certainly not** an examination of children's relationships with their parents or an investigation into pre-adolescent sexuality. The purpose of questions such as: 'I am good looking'; 'I like the way I look'; 'Other children like me'; 'I am good at sports'; 'I look forward to Maths'; 'I can run fast'; 'I get good marks in English'; 'I get on well with my Parents' is to examine whether children generalize about themselves, or differentiate between different facets of themselves (e.g., academic, social and physical). In this way, it becomes possible to focus specifically upon their self-concept in Maths and English and relate this to motivational processes in the classroom. Without exploring a range of familiar settings to children like their school, their family, their interests, it would be difficult to establish the ways in which they think about themselves.

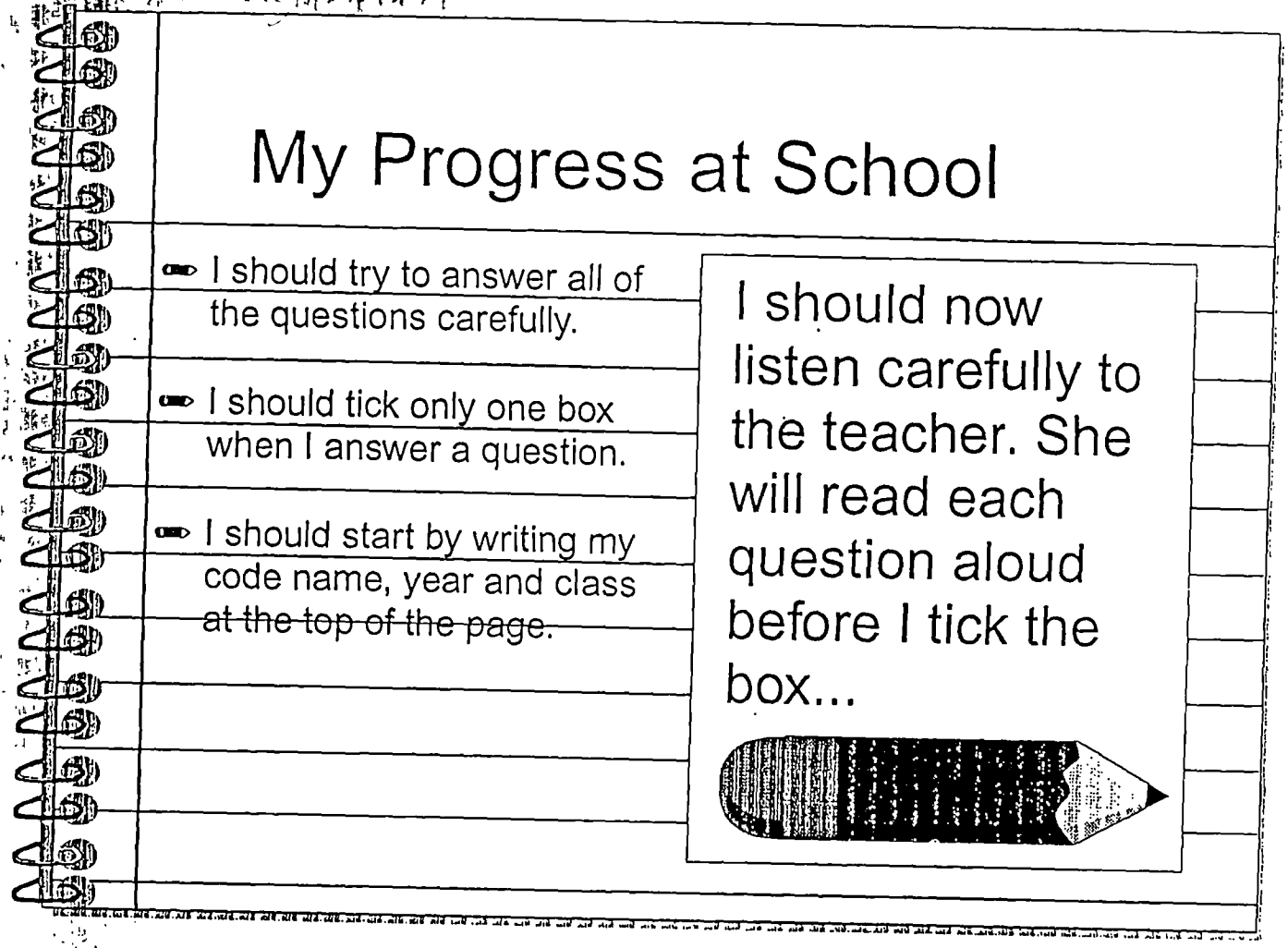
I would like to reassure you that individual children's responses are strictly confidential to the project. In other words, I am the only person who has access to this information. Findings from the project will not be identifiable, in any way, to individual participants. Similarly, analysis of data will occur at an overall age-group level and not at the level of an individual child.

I enjoy working with pupils and teachers and have appreciated the opportunity to work in _____ School. I would welcome any opportunity to discuss further my work with you should you wish to arrange an appointment through Mr._____.

Yours sincerely,

APPENDIX 3: PUPIL BOOKLET COMPRISING NICHOLLS' MOTIVATIONAL ORIENTATION SCALES IN ENGLISH AND MATHEMATICS AND MARSH'S SDQ1

University of Durham, School or Education, Galloway/Leo. 1994



My Progress at School by Nicholls, 1989; SDQ 1 by Marsh, 1981

APPENDIX 3: CONTINUED

My Progress at School (Nicholls, 1989) My Code Name:..... My Year & Class.....

Question	I feel really pleased in English when:	YES	yes	not sure	no	NO	Office Use
Q01	I solve a problem by working hard.						Q01
Q02	Something I learn makes me want to find out more.						Q02
Q03	I know more than the others.						Q03
Q04	I finish before my friends.						Q04
Q05	I don't have to work hard.						Q05
Q06	The problems make me think hard.						Q06
Q07	What the teacher says makes me think.						Q07
Q08	I find a new way to solve a problem.						Q08
Q09	I am the only one who can answer a question.						Q09
Q10	Something I work out really makes sense.						Q10
Q11	I keep busy.						Q11
Q12	I get more answers right than my friends.						Q12
Q13	All the work is easy.						Q13
Q14	I work hard all the time.						Q14
Q15	Something I work out makes me want to keep doing more problems.						Q15
Q16	The teacher doesn't ask hard questions.						Q16

Please tick only one box when you answer a question. Thank you for your help.

APPENDIX 3: CONTINUED

My Progress at School (Nicholls, 1989) My Code Name:..... My Year & Class ... .

Question	I feel really pleased in Maths when:	YES	yes	not sure	no	NO	Office Use
Q01	I solve a problem by working hard.						Q01
Q02	Something I learn makes me want to find out more.						Q02
Q03	I know more than the others.						Q03
Q04	I finish before my friends.						Q04
Q05	I don't have to work hard.						Q05
Q06	The problems make me think hard.						Q06
Q07	What the teacher says makes me think.						Q07
Q08	I find a new way to solve a problem.						Q08
Q09	I am the only one who can answer a question.						Q09
Q10	Something I work out really makes sense.						Q10
Q11	I keep busy.						Q11
Q12	I get more answers right than my friends.						Q12
Q13	All the work is easy.						Q13
Q14	I work hard all the time.						Q14
Q15	Something I work out makes me want to keep doing more problems.						Q15
Q16	The teacher doesn't ask hard questions.						Q16

Please tick only one box when you answer a question. Thank you for your help.

APPENDIX 3: CONTINUED

SDQ 1 by kind permission of Marsh, 1981 My Code Name..... My Year & Class.....

Question		False	Mostly False	Sometimes False Sometimes True	Mostly True	True	Office Use
Q01	I am good looking.						Q01
Q02	I'm good at all school subjects.						Q02
Q03	I can run fast.						Q03
Q04	I get good marks in English.						Q04
Q05	My parents understand me.						Q05
Q06	I hate Maths.						Q06
Q07	I have lots of friends.						Q07
Q08	I like the way I look						Q08
Q09	I enjoy doing work in all school subjects.						Q09
Q10	I like to run and play hard.						Q10
Q11	I like English.						Q11
Q12	My parents are usually unhappy or disappointed with what I do.						Q12
Q13	Work in Maths is easy for me.						Q13
Q14	I make friends easily.						Q14
Q15	I have a pleasant looking face.						Q15
Q16	I get good marks in all school subjects.						Q16
Q17	I hate sports and games.						Q17
Q18	I'm good at English.						Q18
Q19	I like my parents.						Q19
Q20	I look forward to Maths.						Q20
Q21	Most children have more friends than me.						Q21
Q22	I am a nice looking person.						Q22
Q23	I hate all school subjects.						Q23
Q24	I enjoy sports and games.						Q24
Q25	I am interested in English.						Q25

Please tick only one box when you answer a question. Thank you for your help.

APPENDIX 3: CONTINUED

SDQ 1 by kind permission of Marsh, 1981 My Code Name..... My Year & Class.....

Question		False	Mostly False	Sometimes False Sometimes True	Mostly True	True	Office Use
Q26	My parents like me.						Q26
Q27	I get good marks in Maths.						Q27
Q28	I get along with other children easily.						Q28
Q29	I do lots of important things.						Q29
Q30	I am ugly.						Q30
Q31	I learn things quickly in all school subjects.						Q31
Q32	I have good muscles.						Q32
Q33	I am poor at English.						Q33
Q34	If I have children of my own I want to bring them up as my parents have brought me up.						Q34
Q35	I am interested in Maths.						Q35
Q36	I am easy to like.						Q36
Q37	Overall I am no good.						Q37
Q38	Other children think I am good looking.						Q38
Q39	I am interested in all school subjects.						Q39
Q40	I am good at sports.						Q40
Q41	I enjoy doing work in English.						Q41
Q42	My parents and I spend a lot of time together.						Q42
Q43	I learn things quickly in Maths.						Q43
Q44	Other children want me to be their friend.						Q44
Q45	In general I like being the way I am.						Q45
Q46	I have a good looking body.						Q46
Q47	I am poor in all school subjects.						Q47
Q48	I can run a long way without stopping.						Q48
Q49	Work in English is easy for me.						Q49
Q50	My parents are easy to talk to.						Q50
Q51	I like Maths.						Q51

Please tick only one box when you answer a question. Thank you for your help.

APPENDIX 3: CONTINUED

SDQ 1 by kind permission of Marsh, 1981 My Code Name..... My Year & Class.... .....

Question		False	Mostly False	Sometimes False Sometimes True	Mostly True	True	Office Use
Q52	I have more friends than most other children.						Q52
Q53	Overall I have a lot to be proud of.						Q53
Q54	I'm better looking than most of my friends.						Q54
Q55	I look forward to all school subjects.						Q55
Q56	I am a good athlete.						Q56
Q57	I look forward to English.						Q57
Q58	I get along well with my parents.						Q58
Q59	I'm good at Maths.						Q59
Q60	I am popular with children of my own age.						Q60
Q61	I can't do anything right.						Q61
Q62	I have nice features like nose, and eyes, and hair.						Q62
Q63	Work in all school subjects is easy for me.						Q63
Q64	I'm good at throwing a ball.						Q64
Q65	I hate English.						Q65
Q66	My parents and I have a lot of fun together.						Q66
Q67	I can do things as well as most other children.						Q67
Q68	I enjoy doing work in Maths.						Q68
Q69	Most other children like me.						Q69
Q70	Other people think I am a good person.						Q70
Q71	I like all school subjects.						Q71
Q72	A lot of things about me are good.						Q72
Q73	I learn things quickly in English.						Q73
Q74	I'm as good as most other people.						Q74
Q75	I am poor at Maths.						Q75
Q76	When I do something I do it well.						Q76

Please tick only one box when you answer a question. Thank you for your help.

APPENDIX 4: TEACHER MOTIVATION QUESTIONNAIRE IN ENGLISH AND MATHEMATICS

University of Durham, School of Education, Galloway/Leo 1994

Motivation In Education Project
University of Durham

- ✓ We appreciate your help with our research into pupil motivation.
- ✓ Following analysis of this confidential information we will provide you with details of our findings.
- ✓ Please complete one of the attached sheets for each individual pupil in your class.

Motivation in English

APPENDIX 4: CONTINUED

Pupil Motivation & Behaviour (Galloway et al. 1993) PUPIL CODE:..... YEAR & CLASS:..... ....

Question	In English this pupil:	YES	yes	no	NO	Office Use
Q01	Is significantly behind other pupils in the year group, but is probably not underachieving in relation to her/his ability.					Q01
Q02	Is underachieving in relation to her/his ability.					Q02
Q03	Has few friends; tends to be socially isolated.					Q03
Q04	Is troublesome in class (e.g. hinders other pupils' work).					Q04
Q05	Often gives up or won't try in the belief that she/he lacks the ability to tackle the task (e.g. "I can't do this, it's too hard for me").					Q05
Q06	Often does not make any serious attempt to tackle a difficult task in order to avoid the risk of failure (e.g. "it's boring" or "who wants to do that anyway").					Q06
Q07	When she/he does not understand something or gets a low mark, she/he makes genuine efforts to overcome the problem, (e.g. by seeking advice or working out a different approach).					Q07
Q08	Maintains his/her position in the eyes of (some) other pupils by not taking work seriously, and not being seen to make much effort.					Q08
Q09	Is a pupil that I find difficult or impossible to motivate.					Q09

Please tick only one box in response to each of the statements regarding this pupil's performance in your class. Thank you for your help.

University of Durham, School of Education, Galloway/Leo 1994

Motivation In Education Project
University of Durham

- ✓ We appreciate your help with our research into pupil motivation.
- ✓ Following analysis of this confidential information we will provide you with details of our findings.
- ✓ Please complete one of the attached sheets for each individual pupil in your class.

Motivation in Mathematics

APPENDIX 4: CONTINUED

Pupil Motivation & Behaviour (Galloway et al. 1993) PUPIL CODE:..... YEAR & CLASS:.....

Question	In Maths this pupil:	YES	yes	no	NO	Office Use
Q01	Is significantly behind other pupils in the year group, but is probably not underachieving in relation to her/his ability.					Q01
Q02	Is underachieving in relation to her/his ability.					Q02
Q03	Has few friends; tends to be socially isolated.					Q03
Q04	Is troublesome in class (e.g. hinders other pupils' work).					Q04
Q05	Often gives up or won't try in the belief that she/he lacks the ability to tackle the task (e.g. "I can't do this, it's too hard for me").					Q05
Q06	Often does not make any serious attempt to tackle a difficult task in order to avoid the risk of failure (e.g. "it's boring" or "who wants to do that anyway").					Q06
Q07	When she/he does not understand something or gets a low mark, she/he makes genuine efforts to overcome the problem, (e.g. by seeking advice or working out a different approach).					Q07
Q08	Maintains his/her position in the eyes of (some) other pupils by not taking work seriously, and not being seen to make much effort.					Q08
Q09	Is a pupil that I find difficult or impossible to motivate.					Q09

Please tick only one box in response to each of the statements regarding this pupil's performance in your class. Thank you for your help.

APPENDIX 5: DIFFERENCES BETWEEN GIRLS AND BOYS ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Independent t-tests)

	Mean Scores		t-value	df	significance
	Girls n = 111	Boys n = 115			
Factor 1: Mathematics	3.54	3.56	-0.14	224	ns
Factor 2: English	3.32	2.94	2.79	224	$p < 0.01$
Factor 3: Peer Relationships	3.63	3.54	0.75	224	ns
Factor 4: General Self	3.91	3.86	0.45	224	ns
Factor 5: General School	3.17	3.04	1.02	224	ns
Factor 6: Physical Ability	3.97	4.08	-1.00	224	ns

APPENDIX 6: DIFFERENCES BETWEEN SCHOOLS ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Independent t-tests)

	Mean Scores		t-value	df	significance
	School A n = 128	School B n = 98			
Factor 1: Ego Involved	3.81	3.43	2.52	224	$p < 0.02$
Factor 2: Task Involved	3.60	3.38	1.68	224	ns
Factor 3: Work Avoidance	3.33	3.40	-0.41	224	ns

APPENDIX 7: DIFFERENCES BETWEEN YEARS ON NICHOLLS' ENGLISH FACTOR SUBSCALES

	Mean Scores			ANOVA		Multiple Tests
	Year 1 n=39	Year 3 n=91	Year 5 n=95	F Ratio	F Prob.	Tukey-B
Factor 1: Ego Involved	3.82	3.39	3.60	2.62	ns	ns
Factor 2: Work Avoidance	3.89	3.59	3.64	1.08	ns	ns
Factor 3: Task Involved	3.59	3.69	3.43	1.99	ns	ns

APPENDIX 8: DIFFERENCES BETWEEN YEARS ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES

	Mean Scores			ANOVA		Multiple Tests
	Year 1 n=39	Year 3 n=92	Year 5 n=95	F Ratio	F Prob.	Tukey-B p<0.05
Factor 1: Ego Involved	3.88	3.58	3.61	1.08	ns	ns
Factor 2: Task Involved	3.36	3.75	3.33	5.07	p<0.01	3>5
Factor 3: Work Avoidance	3.91	3.00	3.47	7.11	p<0.01	1,5>3

APPENDIX 9: DIFFERENCES BETWEEN CLASSES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES

	Mean Scores												ANOVA		Multiple Tests
	School A					School B							F Ratio	F Prob.	Tukey-B
	Y1	Y3		Y5		Y1	Y3			Y5					
	A1 n=22	A3 n=29	A4 n=29	A5 n=22	A6 n=26	B1 n=17	B4 n=10	B5 n=11	B6 n=12	B7 n=15	B8 n=15	B9 n=17			p<0.05
Factor 1: Ego Involved	4.15	3.83	3.32	3.76	3.79	3.38	3.18	3.18	2.85	3.03	3.68	3.54	2.57	p<0.01	A1>B6, B7
Factor 2: Work Avoidance	3.73	3.74	3.69	3.97	3.91	4.12	3.43	3.12	3.58	3.33	3.40	3.29	1.23	ns	
Factor 3: Task Involved	3.49	3.51	3.51	3.49	3.45	3.72	3.73	4.57	3.79	3.28	3.54	3.37	1.71	ns	

APPENDIX 10: DIFFERENCES BETWEEN CLASSES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES

	Mean Scores												ANOVA		Multiple Tests
	School A					School B							F Ratio	F Prob.	Tukey-B
	Y1	Y3		Y5		Y1	Y3			Y5					
	A1 n=22	A3 n=30	A4 n=29	A5 n=22	A6 n=26	B1 n=17	B4 n=10	B5 n=11	B6 n=12	B7 n=15	B8 n=15	B9 n=17			$p < 0.05$
Factor 1: Ego Involved	4.08	4.07	3.39	3.68	3.74	3.63	3.50	3.36	3.10	3.25	3.63	3.60	1.38	ns	
Factor 2: Task Involved	3.50	3.59	3.75	3.52	3.65	3.17	3.52	4.17	3.95	3.25	3.15	2.85	2.24	$p < 0.02$	B5 > B9
Factor 3: Work Avoidance	4.03	2.86	3.08	3.53	3.29	3.76	3.37	2.91	3.00	3.64	3.78	3.61	1.49	ns	

APPENDIX 11: DIFFERENCES BETWEEN GIRLS AND BOYS ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Independent t-tests)

	Mean Scores		t-value	df	significance
	Girls n = 110	Boys n = 115			
Factor 1: Ego Involved	3.68	3.44	1.77	223	ns
Factor 2: Work Avoidance	3.62	3.72	-0.68	223	ns
Factor 3: Task Involved	3.65	3.49	1.36	223	ns

APPENDIX 12: DIFFERENCES BETWEEN GIRLS AND BOYS ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Independent t-tests)

	Mean Scores		t-value	df	significance
	Girls n = 111	Boys n = 115			
Factor 1: Ego Involved	3.71	3.58	0.89	224	ns
Factor 2: Task Involved	3.49	3.53	-0.28	224	ns
Factor 3: Work Avoidance	3.49	3.23	1.44	224	ns

APPENDIX 13: DIFFERENCES BETWEEN SCHOOLS ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE IN MATHEMATICS
(Independent t-tests)

	Mean Scores		t-value	df	significance
	School A n = 132	School B n = 100			
Q01 Low Ability	1.77	2.21	-3.31	230	$p < 0.005$
Q02 Underachieving	1.79	1.88	-0.79	230	ns
Q03 Socially Isolated	1.42	1.59	-1.69	230	ns
Q04 Troublesome Behaviour	1.78	1.64	1.15	230	ns
Q05 Learned Helplessness	2.11	2.16	-0.37	230	ns
Q06 Self-worth Motivated	1.89	2.01	-0.86	230	ns
Q07 Mastery Oriented	2.97	2.90	0.53	230	ns
Q08 Peer-Esteem	1.65	1.59	0.58	230	ns
Q09 Difficult to motivate	1.81	1.84	-0.24	230	ns

APPENDIX 14: DIFFERENCES BETWEEN YEARS ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE IN MATHEMATICS

	Mean Scores			Anova		Multiple Tests
	Year 1 n = 36	Year 3 n = 99	Year 5 n = 97	F Ratio	F Prob.	Tukey-B p < 0.05
Q01 Low Ability	1.75	2.00	1.99	0.85	ns	
Q02 Underachieving	1.47	1.73	2.06	7.39	p < 0.001	5 > 1,3
Q03 Socially Isolated	1.42	1.43	1.59	1.28	ns	
Q04 Troublesome Behaviour	1.69	1.77	1.68	0.23	ns	
Q05 Learned Helplessness	1.78	2.20	2.19	2.25	ns	
Q06 Self-worth Motivated	1.61	2.11	1.89	3.45	p < 0.04	3 > 1
Q07 Mastery Oriented	3.22	2.76	3.02	3.56	p < 0.03	1 > 3
Q08 Peer-Esteem	1.50	1.66	1.64	0.53	ns	
Q09 Difficult to motivate	1.75	1.87	1.80	0.25	ns	

APPENDIX 15: DIFFERENCES BETWEEN GIRLS AND BOYS ON MEAN SCORES ON TEACHER MOTIVATION QUESTIONNAIRE IN MATHEMATICS
(Independent t-tests)

	Mean Scores		t-value	df	significance
	Girls n = 115	Boys n = 117			
Q01 Low Ability	1.83	2.08	-1.79	230	ns
Q02 Underachieving	1.70	1.95	-2.13	230	$p < 0.04$
Q03 Socially Isolated	1.48	1.51	-0.35	230	ns
Q04 Troublesome Behaviour	1.42	2.02	-5.22	230	$p < 0.001$
Q05 Learned Helplessness	2.05	2.21	-1.07	230	ns
Q06 Self-worth Motivated	1.82	2.07	-1.89	230	ns
Q07 Mastery Oriented	3.09	2.79	2.41	230	$p < 0.02$
Q08 Peer-Esteem	1.39	1.85	-4.59	230	$p < 0.001$
Q09 Difficult to motivate	1.57	2.07	-4.17	230	$p < 0.001$

	Mean Scores												ANOVA		Multiple Tests
	A1 n=21	A3 n=33	A4 n=29	A5 n=24	A6 n=26	B1 n=15	B4 n=13	B5 n=10	B6 n=14	B7 n=15	B8 n=16	B9 n=16	F Ratio	F Prob.	Tukey-B p<0.05
Q01 Low Ability	1.14	2.00	1.76	1.92	1.88	2.60	2.00	2.10	2.43	1.87	2.31	2.06	2.46	p<0.01	B1,B6,B8>A1
Q02 Underachieving	1.14	1.79	1.62	2.13	2.23	1.93	1.85	1.50	1.86	1.93	2.13	1.75	2.57	p<0.005	A6,B8,A5>A1
Q03 Socially Isolated	1.09	1.48	1.24	1.38	1.96	1.87	2.00	1.40	1.21	1.47	1.56	1.44	3.26	p<0.001	B4,A6>A1 A6>A1,A4
Q04 Troublesome Behaviour	1.14	2.33	1.34	2.04	1.92	2.47	1.31	1.40	2.00	1.60	1.19	1.31	6.30	p<0.001	B1,A3,A5,A6>A1 B1,A3>B8,B4,B9,A4
Q05 Learned Helplessness	1.19	2.58	1.72	2.13	2.73	2.60	2.15	2.20	2.36	1.13	1.94	2.63	5.94	p<0.001	A6,B9,B1,A3,B6,A5>B7,A1 A6,A3>A4
Q06 Self-Worth Motivated	1.19	2.67	1.59	1.83	1.92	2.20	1.77	2.10	2.21	1.13	1.94	2.63	5.74	p<0.001	A3,B9>B7 A3,B9,B6,B1>A1 A3,B9>A4 A3>A5
Q07 Mastery Oriented	3.86	2.27	3.17	3.16	2.69	2.33	2.85	2.80	2.93	3.27	3.44	2.69	5.59	p<0.001	A1,B8,B7,A4,A5>A3 A1,B8>B1 A1>B9,A6,B4
Q08 Peer Esteem	1.10	2.15	1.34	1.83	1.92	2.07	1.77	1.10	1.86	1.07	1.56	1.50	6.64	p<0.001	A3,B1,B6,A5>B7,A1 A3,B1>B5 A3,B1,A6,B6,A5>A4
Q09 Difficult to Motivate	1.19	2.12	1.72	1.58	2.27	2.53	1.69	1.80	1.79	1.60	1.56	1.81	3.19	p<0.001	B1,A6,A3>A1

APPENDIX 17: NEWSLETTER TO ALL STAFF IN RESEARCH SCHOOLS

Motivation in Education Project

From Elizabeth Leo, School of Education, University of Durham *January, 1994*

Research in Your School on Motivation

Your time and support with this project are greatly appreciated. I enjoyed working with you and the children last term; you were all extremely welcoming given the time of year! This newsletter aims to keep you informed about my work in school and any developments arising from the project. It should also serve to keep you informed about the dates and times when I will be in school.

Before working in higher education I taught in primary, secondary and special schools. My own interest in this field of research developed from a concern about the number of children in ordinary schools experiencing learning and/or behavioural difficulties.

Surprisingly little is known about the development of young children's motivation to learn. When does it begin? How does it develop? In what ways can teachers influence its development? Answers to these questions remain speculative. It is, however, of concern to a great many teachers that some children appear well motivated in class whilst others seem to lack persistence or effort when faced with challenging tasks. One of the aims of this project, therefore, is to illuminate questions about the ways in which children's motivation to learn develops in two National Curriculum subjects - English and Mathematics. The project is under the supervision of Professor David Galloway, School of Education, University of Durham.

So what am I asking of you? In order to study the development of children's motivation I need to work for two years with children currently in Years 1/2, 3/4 and 5/6. It is necessary that I work with you and your class during English and Mathematics lessons. I appreciate, however, that these lessons in primary classes can take many shapes and forms. At times, I would also like to work directly with the children in a class group and at other times in small groups.

I have designed a booklet for each individual child comprising three short

questionnaires. This approach allows me to record information about the children in a way which should minimize any possible disruptions. I will also be asking you for you views about your pupils' motivation and learning. This will take the form of a short questionnaire and some informal discussion.

Two schools are involved in this project, _____ Primary School in _____and. ____ _____ Primary School in _____. Following discussions with individual class teachers, I will provide all of you with details of the days when I will be in school this term. I would like to arrange my visits during English and Mathematics lessons and as far as possible, to suit you and the children.

Please do not hesitate to contact me if you would like to discuss further any aspects of this project with me (Home Telephone Number: _____). I look forward to working with you. Elizabeth Leo, School of Education, University of Durham.

APPENDIX 18: NEWSLETTER TO ALL STAFF IN RESEARCH SCHOOLS

Motivation in Education Project

From Elizabeth Leo, School of Education, University of Durham *October, 1994*

Research in Your School on Motivation

Dear Colleagues,

As you are aware, I am about to begin Part Two of the motivation project. This is the final phase of the project and if all goes well, I should have collected the necessary data by Easter 1995. Your co-operation and support to date have enabled me to complete most of Part One's work on schedule. I am grateful to all of you for your help and especially to those of you who gave up your own time to be interviewed.

I spent most of the Summer organizing, and conducting some preliminary analysis on, the data to date. Following Part Two of the data collection procedures, I should be able to let you know about the outcomes of the research.

I plan to visit the school during the week following half-term to discuss with you dates and times when I might work with your class. I will need to visit all classes involved in the project before Christmas.

During the Summer I attended the British Educational Research Conference (BERA) held at Oxford University where I managed to collect some interesting papers on a variety of topics (e.g., school development planning, the role of subject co-ordinators, primary teaching and educational policy). If you would like copies of any of these papers, just let me know. Next year's BERA Conference is being held a little closer to home at Bath University; you can attend it on a daily basis without having to take up residence there. It's usually held over a four day period including a weekend and many of the presenters can be both interesting and entertaining!

Please do not hesitate to contact me if you would like to discuss further any aspects of this project with me (Home Telephone Number: _____). See you very soon.

All the best, Elizabeth Leo

APPENDIX 19: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Mathematics	3.75	3.87	84	-1.03	83	ns
Factor 2: Physical Ability	4.09	4.14	84	-0.54	83	ns
Factor 3: Peer Relationships	3.48	3.58	84	-0.98	83	ns
Factor 4: English	3.15	3.16	84	-0.08	83	ns
Factor 5: General School	3.36	3.38	84	-0.20	83	ns
Factor 6: General Self	3.95	3.98	84	-0.23	83	ns

APPENDIX 20: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Mathematics	3.30	3.02	80	1.61	79	ns
Factor 2: Physical Ability	4.01	3.08	80	5.02	79	$p < 0.001$
Factor 3: Peer Relationships	3.44	2.84	80	3.20	79	$p < 0.003$
Factor 4: English	2.85	2.73	80	0.62	79	ns
Factor 5: General School	2.88	2.82	80	0.39	79	ns
Factor 6: General Self	3.81	2.95	80	5.35	79	$p < 0.001$

APPENDIX 21: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Mathematics	3.74	3.83	32	-0.47	31	ns
Factor 2: Physical Ability	3.49	3.64	32	-0.67	31	ns
Factor 3: Peer Relationships	3.49	3.74	32	-1.50	31	ns
Factor 4: English	4.03	3.83	32	1.42	31	ns
Factor 5: General School	4.09	4.10	32	-0.05	31	ns
Factor 6: General Self	3.41	3.46	32	-0.21	31	ns

APPENDIX 22: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Mathematics	3.28	3.16	42	0.47	41	ns
Factor 2: Physical Ability	3.87	3.04	42	4.09	41	$p < 0.001$
Factor 3: Peer Relationships	3.42	2.83	42	2.46	41	$p < 0.02$
Factor 4: English	3.90	3.13	42	3.10	41	$p < 0.005$
Factor 5: General School	3.08	2.96	42	0.51	41	ns
Factor 6: General Self	3.02	2.75	42	1.00	41	ns

APPENDIX 23: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Mathematics	3.75	3.89	52	-0.93	51	ns
Factor 2: Physical Ability	4.13	4.33	52	-1.53	51	ns
Factor 3: Peer Relationships	3.47	3.49	52	-0.15	51	ns
Factor 4: English	2.99	2.97	52	0.08	51	ns
Factor 5: General School	3.26	3.25	52	0.07	51	ns
Factor 6: General Self	3.85	3.90	52	-0.25	51	ns

APPENDIX 24: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Mathematics	3.33	2.86	38	1.86	37	ns
Factor 2: Physical Ability	4.12	3.03	38	3.99	37	$p < 0.001$
Factor 3: Peer Relationships	3.46	2.85	38	2.05	37	$p < 0.05$
Factor 4: English	2.65	2.71	38	-0.21	37	ns
Factor 5: General School	2.66	2.66	38	-0.03	37	ns
Factor 6: General Self	3.75	2.86	38	3.48	37	$p < 0.001$

APPENDIX 25: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Ego Involved	3.34	3.46	82	-0.83	81	ns
Factor 2: Task Involved	3.62	3.55	82	0.59	81	ns
Factor 3: Work Avoidance	3.34	3.48	82	-0.75	81	ns

APPENDIX 26: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Ego Involved	3.56	3.61	83	-0.31	82	ns
Factor 2: Task Involved	3.76	3.82	83	-0.47	82	ns
Factor 3: Work Avoidance	2.93	3.85	83	0.47	82	ns

APPENDIX 27: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Ego Involved	3.65	3.58	80	0.51	79	ns
Factor 2: Task Involved	3.29	3.23	80	0.59	79	ns
Factor 3: Work Avoidance	3.65	3.51	80	0.82	79	ns

APPENDIX 28: LONGITUDINAL AGE-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Ego Involved	3.64	3.70	80	-0.40	79	ns
Factor 2: Task Involved	3.38	3.56	80	-1.43	79	ns
Factor 3: Work Avoidance	3.40	3.19	80	1.15	79	ns

APPENDIX 29: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Ego Involved	3.82	3.64	21	0.79	20	ns
Factor 2: Task Involved	3.42	4.06	21	-2.75	20	$p < 0.02$
Factor 3: Work Avoidance	3.95	2.63	21	4.66	20	$p < 0.001$

APPENDIX 30: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Ego Involved	3.37	3.28	31	0.51	30	ns
Factor 2: Task Involved	3.69	3.57	31	0.65	30	ns
Factor 3: Work Avoidance	3.37	3.30	31	0.24	30	ns

APPENDIX 31: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Ego Involved	3.49	3.64	32	0.67	31	ns
Factor 2: Task Involved	3.66	3.78	32	-0.56	31	ns
Factor 3: Work Avoidance	2.97	2.71	32	1.34	31	ns

APPENDIX 32: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Ego Involved	3.78	3.53	42	1.21	41	ns
Factor 2: Task Involved	3.56	3.37	42	1.26	41	ns
Factor 3: Work Avoidance	3.77	3.34	42	1.87	41	ns

APPENDIX 33: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Girls		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Ego Involved	3.83	3.58	42	1.17	41	ns
Factor 2: Task Involved	3.44	3.52	42	-0.44	41	ns
Factor 3: Work Avoidance	3.52	3.31	42	0.77	41	ns

APPENDIX 34: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Ego Involved	3.74	3.14	15	2.05	14	ns
Factor 2: Task Involved	3.99	3.53	15	1.59	14	ns
Factor 3: Work Avoidance	3.97	3.62	15	1.19	14	ns

APPENDIX 35: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 1 (age 5)	year 2 (age 6)				
Factor 1: Ego Involved	3.78	3.29	15	1.43	14	ns
Factor 2: Task Involved	3.31	3.73	15	-1.37	14	ns
Factor 3: Work Avoidance	4.05	3.27	15	1.76	14	ns

APPENDIX 36: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Ego Involved	3.31	3.56	51	-1.19	50	ns
Factor 2: Task Involved	3.58	3.54	51	0.27	50	ns
Factor 3: Work Avoidance	3.31	3.59	51	-1.09	50	ns

APPENDIX 37: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 3 (age 7)	year 4 (age 8)				
Factor 1: Ego Involved	3.61	3.58	51	0.12	50	ns
Factor 2: Task Involved	3.82	3.84	51	-0.15	50	ns
Factor 3: Work Avoidance	2.91	2.94	51	-0.13	50	ns

APPENDIX 38: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' ENGLISH FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Ego Involved	3.50	3.63	38	-0.65	37	ns
Factor 2: Task Involved	3.00	3.07	38	-0.42	37	ns
Factor 3: Work Avoidance	3.50	3.69	38	-0.81	37	ns

APPENDIX 39: LONGITUDINAL GENDER-RELATED CHANGES ON MEAN SCORES ON NICHOLLS' MATHEMATICS FACTOR SUBSCALES
(Paired t-tests)

	Mean Scores Boys		n	t-value	df	significance
	year 5 (age 9)	year 6 (age 10)				
Factor 1: Ego Involved	3.43	3.84	38	-2.02	37	ns
Factor 2: Task Involved	3.32	3.61	38	-1.62	37	ns
Factor 3: Work Avoidance	3.28	3.06	38	0.85	37	ns

APPENDIX 40: MEAN SDQ1 FACTOR SUBSCALE SCORES

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Mathematics	Mean	4.06	3.37	3.68	3.81	3.25	3.01
	sd	0.27	1.33	1.15	1.09	1.11	1.23
	n	36	87	92	100	95	85
English	Mean	4.01	3.13	3.16	3.20	2.90	2.75
	sd	0.69	1.17	1.19	1.06	1.11	1.08
	n	37	87	92	100	95	85
Peer Relationships	Mean	4.31	3.16	3.50	3.51	3.47	2.86
	sd	0.24	1.05	0.92	0.94	1.08	1.05
	n	37	87	92	100	95	85
General Self	Mean	4.20	3.31	3.93	3.95	3.86	2.97
	sd	0.37	1.25	0.97	0.94	0.74	1.13
	n	37	87	92	99	95	85
General School	Mean	4.28	2.90	3.29	3.33	2.92	2.86
	sd	0.32	1.30	1.10	1.10	0.99	0.93
	n	37	87	92	100	95	85
Physical Ability	Mean	4.30	3.40	4.03	4.06	3.97	3.09
	sd	0.25	1.18	0.86	0.97	0.86	1.43
	n	37	87	92	100	95	85

APPENDIX 41: MEAN NICHOLLS' ENGLISH FACTOR SUBSCALE SCORES

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ego Involved	**Mean**	**3.84**	**3.14**	**3.39**	**3.36**	**3.60**	**3.53**
	sd	0.79	1.15	1.11	1.18	1.03	1.19
	n	39	89	91	98	95	85
Task Involved	**Mean**	**3.76**	**3.95**	**3.60**	**3.58**	**3.31**	**3.26**
	sd	0.76	0.92	0.99	1.02	0.96	0.97
	n	39	89	91	98	95	85
Work Avoidance	**Mean**	**3.93**	**3.44**	**3.39**	**3.42**	**3.60**	**3.56**
	sd	0.74	1.25	1.10	1.29	1.03	1.09
	n	39	89	91	99	95	85

APPENDIX 42: LONGITUDINAL CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES
CLASS A3 TO CLASS A10
(Paired t-tests)

	Mean Scores school year 3 to 4		n	t-value	df	significance
	Rose's class	Sue's class				
Factor 1: Mathematics	3.89	3.99	28	-0.49	27	ns
Factor 2: Physical Ability	4.05	4.22	28	-1.02	27	ns
Factor 3: Peer Relationships	3.70	3.93	28	-2.03	27	ns
Factor 4: English	3.26	3.57	28	-1.11	27	ns
Factor 5: General School	3.51	3.66	28	-0.79	27	ns
Factor 6: General Self	4.24	4.51	28	-1.28	27	ns

APPENDIX 43: LONGITUDINAL CHANGES ON MEAN SCORES ON SDQ1 FACTOR SUBSCALES CLASS A4 TO CLASS A9
(Paired t-tests)

	Mean Scores school year 3 to 4		n	t-value	df	significance
	Ann's class	Tim's class				
Factor 1: Mathematics	3.47	3.55	25	-0.35	24	ns
Factor 2: Physical Ability	4.18	4.13	25	0.24	24	ns
Factor 3: Peer Relationships	3.31	3.18	25	0.55	24	ns
Factor 4: English	2.85	2.91	25	-0.28	24	ns
Factor 5: General School	3.03	3.23	25	-0.61	24	ns
Factor 6: General Self	3.64	3.52	24	0.44	23	ns