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**The effects of a school intervention on  
Year 10 students: A cognitive and attitudinal  
perspective**

**Thesis submitted in partial fulfillment of the  
requirements for the degree of  
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## FOREWORD

Bandura (2001) stated in his abstract that the essence of humanness is the ability to exercise control over the nature and quality of our life. In recent years I have worked with students, both adults and children, who have perceived themselves as “dumb” and unable to easily learn new ideas, and I have experienced how these negative messages can impede learning. I learnt that our beliefs about our perceived abilities can handicap or enable us, and also that we can change beliefs that are not enabling us to learn effectively. I found that teaching only curriculum content and skills to those who believe they have failed academically, does not enable them to take control of their learning. I also had to create conditions where they could realise that they were intelligent people, who were able to learn what they wanted to learn. I have seen that when students believe in the incremental nature of their intelligence they will set ambitious goals, and work hard and long to develop the strategies and knowledge to achieve these goals. With Bandura (2001), I firmly believe that life can be what we make it.

## ABSTRACT

This study examined the effectiveness of a school's new intervention called The Diploma Programme, which aimed to increase academic achievement by encouraging students to develop into self-regulated learners. The programme monitored and rewarded the study skills punctuality and attendance, social co-operation, class-work and homework completion, and bringing correct equipment, by awarding credits towards a diploma. Participants were 33 self-selected Year 10 students who were placed in three groups based on the Year 10 PAT reading comprehension class percentiles. A questionnaire administered before The Diploma Programme and at the end of the school year, examined students' self-reported changes in study skills, as well as in the attitudinal factors academic motivation, locus of control, and self-efficacy. Diploma credits were also examined for significant difference over the year, within and between the three groups. Results indicated that The Diploma Programme was initially effective in encouraging study skills across reading skill levels, but dropped in effectiveness over the year. Results also indicated that while reading skill level influences both study skills and academic achievement, the internal locus of control factor 'effort' can modify levels of performance. The group with high reading skills achieved the highest academically, tended to use the most study skills and to exhibit the highest levels of academic self-efficacy. However, the group with low reading skills, who reported using more 'effort' than the other groups, achieved higher academically and tended to use more study skills by the end of the year than the group with moderate reading skills. Recommendations made to develop and maintain the effectiveness of The Diploma Programme over the year included changes within The Diploma Programme, as well as changes in classrooms and the wider school.

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# CHAPTER I

## INTRODUCTION

### The Problem

It has been widely recognised, both in New Zealand and overseas, that students who are achieving poorly academically are a significant problem in schools (Covington & Manheim Teel, 1996; Maehr & Midgely, 1996; Ministry of Education, 1998). For example, Ceglka and Berdine (1995, cited in Mercer & Mercer, 1998) estimated that 25-40% of all students in America had significant learning problems. At high school level, Berliner and Calfee (1996) found that student academic achievement, motivation, and self-perception declined after entry, and in New Zealand Pratt (1999) found that 15% of female and 20% of male students leave school without qualifications. Reasons for this include environmental factors, including the school environment, influencing not only the development of literacy and numeracy skills but also the development of study skills and academic attitudes.

The effect of socio-economic status (SES) must be acknowledged when examining academic achievement. SES indicates differences in family wealth, occupational status, levels of education, and cultural capital (Thrupp, 1999). Research both overseas and in New Zealand has found that schools serving low SES neighbourhoods have larger numbers of students who are poor academic achievers than schools serving high SES neighbourhoods (Ministry of Education, 1998; Thrupp, 1999). Research has also indicated that students from a lower socio-economic background tend to do less well than others, due to family resources and practices. Taylor (1995) reviewed literature linking low adolescent adjustment and competence to families with low financial resources and limited support from social networks, as well as to other environmental factors such as unsafe and impoverished neighbourhoods,

and peers engaging in risky or problematic behaviour. New Zealand researchers concur with Bourdieu (1984, cited in Codd, Harker, & Nash, 1990) that family financial, cultural, and social resources are largely responsible for differences in students' academic performance. Students in New Zealand from low SES backgrounds have also been found to have a range of serious educational and social needs (Education Review Office, 1998). A study by Hill and Hawke (1998) of a group of New Zealand high schools serving students with predominantly low SES backgrounds, described a two-year gap in literacy and numeracy for most students. Further, they found that these high schools had insufficient time to bridge this gap before their students sat national examinations.

In New Zealand the lower socio-economic classes include a high proportion of Maori, and a growing proportion of Pacific Island students (Codd, et al., 1990; Coxon, Jenkins, Marshall, & Massey, 1994; Nash, 1993). Harker (1990), referring to the cultural rift for many Maori students between home and the middle-class values of school, said that "Anyone who is from a group other than that whose culture is embodied in the school is disadvantaged" (p.36). As a result, the school system can be part of the problem rather than part of the solution. In relation to high schools in New Zealand, the Ministry of Education (1998) has stated that "The school experience can make the student's situation worse" (p.4). Overseas research also agrees that the school system can be part of the problem. Covington (1998) found that students tend to be less motivated to do well academically at high school, in comparison with primary and intermediate school. Specifically, overseas studies have shown that students develop more negative perceptions of academic competence, academic values, and course grades during high school. This is particularly evident for students at risk of academic failure who tend to see themselves as less in control of their academic successes and

failures (Boggiano & Pittman, 1992; Covington, 1998; Middleton & Midgely, 1997; Reglin, 1993).

The difference in academic performance between schools serving high or low SES neighbourhoods has also been related to the school environment, which affects academic achievement through both the provision of resources and through facilitating the development of academic motivation (Nash & Harker, 1997). However, some New Zealand research has indicated that while schools can improve academic achievement through modifying environments to encourage positive academic attitudes and useful study skills, positive changes in student achievement also need to be viewed in relation to their wider social environment (Nash & Harker, 1998; Thrupp, 1999).

#### Motivation as a Contributing Factor

Students' attitudes, particularly their motivation, are the key to their academic success. Allport (1935, cited in Bynner, Cashdan, & Commis, 1972) defined an attitude as, "A mental or neural state of readiness, organised through experience, exerting a directive and dynamic influence upon the individual's response to all objects or situations with which it is related" (p. 10). When motivation to succeed academically declines, academic achievement tends to be lowered as well (Alderman, 1999; Bandura, 1997; Schunk, 1990; Zimmerman, 1994).

The approaches most influential in current research regarding academic motivation are social cognitive theory and attribution theory. Social cognitive theory examines students' self-efficacy in relation to academic achievement while attribution theory examines the reasons students attribute to their success or failure at school, and how these attributions affect academic achievement.

Academic self-efficacy. Academic self-efficacy has been widely acknowledged as a significant factor influencing academic achievement (Ames, 1987; Bandura, 1997; Zimmerman, 1994). Self-efficacy can be seen as “a judgement students make about their capability to accomplish a specific future task” (Bandura, 1986 cited in Alderman, 1999, p. 60). Students’ judgments on their academic self-efficacy are important factors affecting motivation, because they help determine how much effort will be expended when there are obstacles, and for how long (Bandura, 1997). Academic self-efficacy seems to be related in a reciprocal way to students’ actual achievement (Pintrich & Schunk, 1996; Zimmerman, Bandura, & Martinez-Pons, 1992).

Attributions. Academic motivation is heavily influenced by the reasons students attribute to success and failure (Schunk, 1990). High school students with lowered motivation tend to develop an external locus of control, where they attribute external factors such as ease of work, or luck, to their failure or success (Harter, 1992). The internal locus of control factors of ‘effort’ and ‘ability’ can also influence academic achievement. Research by Lee, Ichikawa, and Stevenson (1987) showed that the difference in the high test performance of Chinese and Japanese students in relation to American students, can be attributed to Japanese and Chinese parents, students, and teachers, relating achievement to the internal locus of control factor ‘effort’ rather than ‘ability’. Schunk (1992) believes that motivation can lower as students grow older because rather than perceiving that ‘effort’ influences ‘ability’, students tend to see them as separate, and ‘ability’ as fixed rather than incremental.

### Study Skills as a Contributing Factor

Study skills have been shown to have a reciprocal relationship with academic motivation, specifically effort, perseverance, concentration, self-restraint, and punctuality (Alderman, 1999). Rimm (1995) emphasised that students cannot organise themselves for success when they lack study skills. Some researchers have even argued that students' methods of learning and practice are far more important than their personal talent (Zimmerman, Bonner, & Kovach, 1996). Within the high school system, for example, students may make a difficult transition when they have not learnt autonomy to complete activities that are not inherently interesting to them.

### Literacy and Numeracy Skills

Literacy and numeracy skills also influence academic achievement, not just because students with low literacy and numeracy skills cannot easily complete curriculum requirements, but also because continual struggle and failure influences academic motivation. This tendency for students with low literacy and numeracy skills to develop lower motivation to achieve academically is particularly noticeable within high schools, where the primary focus is the delivery of curriculum, rather than individual students' learning needs (Rimm, 1995; Schunk & Zimmerman, 1996).

### Schools and Academic Achievement

Much recent research on motivation has agreed that a combination of literacy, numeracy, and study skills, together with academic motivation, are key factors influencing academic achievement (Alderman (1999; Belifiore & Hornyak, 1998; Covington, 1998; Pintrich & Schunk, 1996). Recent research has focussed on a

school's role in developing students' study skills, as well as their numeracy and literacy skills, through the influence of the wider school environment, as well as individual classroom environments.

School norms. Negative academic attitudes develop in early adolescence as students attempt to make sense of their school environment by attending to the school norms defining successful learning. These norms are found in the goal structures implicit in schools' educational practices and policies (Anderman, Maehr, & Midgely, 1999; Maehr & Midgely, 1996; Roeser, Midgely, & Urdan, 1996) such as the procedures for evaluation and for recognition of appropriate behaviours (Maehr & Midgely, 1996; Schunk, 1990). At high school these procedures have become more competitive, and recognise academic achievement rather than effort and progress. This has resulted in students perceiving the high school environment as more impersonal, evaluative, and competitive than the primary environment (Maehr & Midgely, 1996).

Classroom factors. More specifically within the classroom, studies have shown that teachers' expectations of students can be context bound (Thrupp, 1999), leading teachers to have low expectations of students who are failing academically, so allowing them to be academically lazy, perform poorly, and procrastinate (Landfried, 1989, cited in Reglin, 1993). As well, Covington and Manheim Teel (1996) saw the lack of available rewards in the classroom as a key factor in the initiation and maintenance of failure-avoiding behaviours such as truancy, procrastination, and non-completion of class-work and homework, and uncooperative behaviour in the classroom.

### Suggested Solutions in Current Research

While acknowledging that the environment outside school exerts a strong influence on students' academic performance at school, research has shown that schools

can successfully provide a structure encouraging students to learn (Covington & Manheim Teel, 1996; Maehr & Midgely, 1996; Zimmerman, Bandura, & Martinez-Pons, 1992). Motivational equity entails teaching the value of performing to the best of a student's ability, and emphasising the importance of motivation and discipline (Stipek, 1998). When schools encourage motivational equity instead of excellence defined competitively, students change perceptions of what is required from them at school to get positive feedback, and develop new strategies (Stipek, 1998). Recent research has found that teachers who focused on improving both students' cognitive skills *and* attitudes made the most constructive and sustainable changes in students' academic achievement (Baum, Renzulli, & Hebert, 1994; Covington & Manheim Teel, 1996; McCombs & Whisler, 1997).

Promoting self-regulated learners. Studies have found that academic self-regulation plays an essential role in academic achievement (Flink, Boggiano, Main, Barrett, & Katz, 1992; Schunk & Zimmerman, 1996). Self-regulation is defined by Eggen and Kauchak (2001) as "students us[ing] their own thoughts and actions to reach academic learning goals" (p. 243). Self-regulation includes attending to instruction, establishing a productive work environment, holding positive beliefs about their capabilities, and feeling pride and satisfaction with their efforts (Schunk, 1995). Ames (1987) found that self-regulated learners had a high level of task engagement, and attribute failures to correctable causes and successes to personal competence. They also report setting specific goals, using learning strategies, and self-monitoring effectiveness. Current research has found that students develop self-regulatory behaviour as a result of increasing their academic motivation and discipline.

Current research proposes schools need to emphasise 'effort' rather than 'ability' to encourage the development of self-regulation skills (Brophy, 1998;

Covington, 1998; Hunter & Barker, 1987; Nurmi, Onatsu, & Haavisto, 1995; Reglin, 1993). They agree that to encourage students to value 'effort', schools need to minimise academic ability goals and maximise task goals (Maehr & Midgely, 1996). More specifically, results from current research indicate that setting proximal sub-goals which are goals that are explicit, attainable, and close at hand, provide immediate incentives and guides for performance (Covington, 1998; Schunk & Zimmerman, 1996). An earlier study by Bandura and Schunk (1981) also found that proximal sub-goals encourage academic achievement, and proposed that this was because they can create and sustain motivation to achieve challenging future goals.

School-wide structures. To develop self-regulation skills in students, some research targets the importance of developing school structures which reflect motivational equity through acknowledging and rewarding good study skills and attitudes (Anderman, Maehr, & Midgely, 1999; Covington & Manheim Teel, 1996). Specifically, they promote the need for structures that maximise task goals so students learn to value academic effort, progress, and growth. Accordingly, to effectively increase students' academic achievement long term, schools are encouraged to emphasise and co-ordinate incentives to promote learning and achievement in classrooms within the school organisation, rather than incentives being provided in isolated classrooms. However, other researchers warn that it takes intensive intervention over several years to produce lasting effects in improving school achievement for students at risk of failing (Coil, 1997; Flink et al., 1992).

### The Subject School

A New Zealand high school with a large group of students from low SES backgrounds has adopted and developed an intervention to develop study skills called

'The Diploma Programme', which it is using for the first time with all students in years 9 and 10. The Diploma Programme encourages the development of study behaviours by setting achievable goals towards self-regulation, and providing students with regular feedback on their progress. The school has a decile three rating in New Zealand. This means that on a continuum ranging from one to ten decile, with ten the highest, this school teaches students from predominantly low socio-economic backgrounds. The school believed that there were a large number of students 'at risk' of failing academically (Personal communication with the school principal, November 8, 2000). The School Certificate results are commensurate with other decile three schools and results for 6<sup>th</sup> Form Certificate and the bursary examinations are comparable with other schools in this area (see Appendix A).

The Diploma Programme monitors all year 9 and 10 students' self-regulatory study behaviours which are related to three of the essential skill areas in the Curriculum Framework (Ministry of Education, 1993), namely, Work and Study Skills, Self-Management and Competitive Skills, and Social and Co-operative Skills. The programme was designed to provide close daily monitoring of specific study behaviours in each curriculum area. Written feedback of the credits earned towards the total needed to achieve a diploma is given to students and families each term. Subsequently, good study skills and attitudes are acknowledged with a Diploma presented at the end-of-year school assembly. The school believes that The Diploma Programme will help students develop higher academic motivation as well as study skills, and that over time, this will improve their academic performance (See a letter from the principal, Appendix B).

The school's policy over the previous three years is to have at least one Massey University-trained teacher aide present in all Year 9 and Year 10 classes. The teacher

aides help students stay on-task, help with the Diploma Programme's monitoring process, and work with individual students experiencing difficulty in understanding and completing the class-work. As well, a Student Learning Centre in the school offers individual and group learning support for students with low literacy and numeracy skills.

### The Aim

Although there has been recent New Zealand research comparing the academic achievements of students of different socio-economic status (Bell & Carpenter, 1994; Ministry of Education, 1998; Nash, 1993; Nash & Harker, 1998), research from the perspective of motivation theory on the effectiveness of school-wide interventions aimed at improving academic achievement, is sparse. This study has four purposes. It aims to evaluate the effectiveness of The Diploma Programme by examining changes over a school year in the academic achievement, study behaviour, and study attitudes of a group of Year 10 students. It also examines whether reading skill level is related to academic achievement, study skills, and study attitudes. This study also aims to provide the school with further direction on developing students' study skills. Further, results from this study should provide information on how other high schools can structure their learning environment to assist students to develop into self-regulated learners, and so increase academic achievement.

# CHAPTER II

## LITERATURE REVIEW

### Introduction

This literature review explores the interrelated issues affecting academic achievement, with a particular focus on high schools, and examines directions schools can take to improve academic performance. Initially the influence of ecological factors, particularly SES, as well as school factors such as school goals and practices, is discussed in relation to how they affect academic achievement. Then the reciprocal relationship between study skills, literacy and numeracy skills, academic attitudes, and academic achievement, is examined, and modifications of the school and classroom environment suggested to encourage the development of study skills and positive academic attitudes.

Recent research in the field of academic achievement has moved away from regarding students as passive and controlled by environmental forces. Instead, research perceives students as more self-determining as decision makers and information processors (Bandura, 1997; Covington & Manheim Teel, 1996; McCombs & Pope, 1994; Pintrich & De Groot, 1990; Stipek, 1996; Zimmerman, Bonner, & Kovach, 1996). Further, there has been a movement away from broad, all-encompassing theories on motivation, toward more bounded theories which consider specific aspects of motivated behaviour. Current research in relation to academic achievement for example, emphasised the close and reciprocal relationship between academic study skills and attitudes, and academic success, and examined how school environments can be modified to encourage the development of useful study skills and attitudes (Covington & Manheim Teel, 1996; Csikszentmihalyi, Rathunde, & Whalen, 1993; Zimmerman et al., 1996).

Many current researchers believe that academic achievement in schools is strongly influenced by academic self-regulation, which in turn is affected by students' level of academic motivation (Covington, 1984, 1998; Dweck, 1989; Graham & Weiner, 1996; McCombs & Whisler, 1997; Pintrich & Groot, 1990; Zimmerman, 1998). Zimmerman (1989, cited in Schunk & Zimmerman, 1996) refers to self-regulation as processes used to "activate and sustain cognitions, behaviours, and affects, which are systematically oriented toward the attainment of goals" (p. 309). More succinctly, Pintrich and Schunk (1996) defined motivation as "the process whereby goal-directed activity is instigated and sustained" (p. 21). Academically motivated students have high academic self-efficacy, which are judgements students make on their competency to accomplish specific tasks (Bandura, 1996, cited in Pajares & Johnson, 1996). They also make attributions, or perceived causes of outcomes (Schunk, 1992) that enhance self-efficacy and motivation, and they develop the study skills needed to achieve their academic goals (Zimmerman, Bonner, & Kovach, 1996).

The effect of ecological factors external to the school must also be taken into account when examining factors influencing academic achievement. Current research has argued that the social class composition of a school intake impacts on academic achievement (Harker, 1990; Thrupp, 1999), so before examining factors affecting students' academic achievement within the school system, this literature review will first explore the impact of external factors to the school.

### Ecological Factors and Academic Achievement

The most influential factors affecting academic achievement outside the school are family resources. These are reflected in their socio-economic status or SES which modifies students' family circumstances, peers, and culture. Research has shown that

schools do make a difference, and that a school's goals and values, which are reflected in its structure, are important factors affecting academic achievement (Maehr & Midgely, 1996). However, there is a movement in current research, which believes that school performance must be considered within the context of the student mix entering the school, and the resources allocated to it. There is a recent movement among New Zealand researchers (Adams, Clark, Codd, O'Neil, Openshaw, & Waitere-Ang, 2000; Nash & Harker, 1997) arguing that the focus on classroom and school responsibility to create academically achieving students does not acknowledge the socio-economic context of student academic achievement. This research labels the focus on classroom and school responsibility 'the politics of blame'. It recommends using the concept of 'added value,' which is "the contribution of an individual school once full recognition has been given to the nature of its intake" (Nash & Harker 1997, p.10), as a more accurate and fair way of assessing a school's performance. The concept of 'added value' has important implications for any research examining academic achievement in schools.

Socio-economic factors and low academic achievement. Some overseas research tends to agree with New Zealand research indicating strong causal links between students' SES and academic achievement. Berliner and Calfee (1996) concluded that adolescent ability and social class were more crucial variables for education attainment than the effects of schools. Blossfeld and Shavit (1991, cited in Coxon et al., 1994) found distinct links between SES and educational achievement through 13 Asian and European industrialised countries. Research in New Zealand has also found clear links between levels of achievement from current national examinations, and SES (Bell & Carpenter, 1994; Education Review Office, 1995, 1998; Nash & Harker, 1998). This is reflected in passes for the recently defunct New

Zealand national examination 'School Certificate' where passes in schools with low SES student intakes were disproportionately lower than those with high SES student intakes (Hill & Hawke, 1998).

Cultural factors and academic achievement. Wigfield, Eccles, and Pintrich (1996) cite research indicating that group differences between majority and minority adolescent groups often increase during secondary school. Specific to New Zealand, there has also been considerable research and discussion on the academic underachievement of Maori, and more recently of Pacific Island students, both of whom have predominantly low SES (Hingangaroa Smith, 1990; Jones, 1990; Nash, 1993). For example, a study by Nash (1993) showed that the families of Maori students who underachieve when compared with European, exhibit significant difference in cultural (predominantly literary) resources.

Family practices and academic achievement. Family has been found to play a significant part in helping or hindering academic achievement, regardless of SES. Lam (1997) found that while SES still had significant effects on children's academic achievement, children who reported parental monitoring, parental supportiveness, and psychological autonomy, have higher academic performance. While research from Nash (1993) on New Zealand families associated practices of literacy within the home with reading performances, even taking SES into account.

Government policies and practices and academic achievement. Government policies and practices have been shown to also modify or exacerbate the influence of socio-economic factors. Blossfeld and Shavit (1991, cited in Coxon et al., 1994) noted that the only factor decreasing the difference in attainment between socio-economic groups, was the provision of a range of welfare provisions that equalise living conditions, as in The Netherlands and Sweden. However, current research has not

found this the case in New Zealand. Instead, results show that recent government policy and practice in health, housing, welfare, and employment are associated with the high numbers of students coming to school with a wide range of problems (Adams et al., 2000; Hill & Hawke, 1998).

School factors and academic achievement. Research suggests that a school's processes are bounded by its SES mix, and the resources and power relations generated by that mix (Hill & Hawk, 1998; Thrupp, 1999). Schools with low SES intakes are presented with student problems associated with poverty, health, housing, employment, family circumstances and attitudes, and social welfare (Hill & Hawk, 1998). As well, they may struggle to maintain student numbers, and therefore the funding associated with student numbers, because parents, regardless of their class or ethnic group, tend to want to send their children to high SES schools (Thrupp, 1999). Wylie (1988) found schools in low SES areas under-resourced in comparison with schools from higher SES areas, and Hill and Hawk (1998) found under-resourcing also an issue in a group of decile one schools they studied. Further, Hill and Hawk identified concerns relating to pastoral care issues that they believed were also similar for other low decile schools. They found that some schools neglected to monitor and support students' learning needs in a holistic way, and students with learning needs who needed ongoing support and advice could be overlooked in systems divided into learning care, pastoral care, and discipline. As well, form teachers were expected to monitor the needs of individual students, but in reality had little time.

Teaching has been found to have a different focus depending on SES mix. Thrupp (1999) makes the comment that teachers and principals at schools with low SES intakes must often be overwhelmed, because overall, teaching in higher decile schools is found to be much easier in terms of motivation or disciplining students.

Thrupp (1999) found that the high decile schools generally had more highly engaged and academically challenging classes, while low decile schools placed more emphasis on discipline and structured learning tasks, rather than focussing on talking and questioning at length. Jones (1991) in her study of Pacific Island girls who were predominantly low SES, also found that teachers in the subject school focussed more on structured learning tasks rather than talking and questioning when teaching these girls than when teaching another class of higher socio-economic predominantly European girls. She concluded that the Pacific Island girls also encouraged this approach and discouraged class discussion.

The important roles schools also play in maintaining the inequalities present within the wider society, has been the focus of increasing attention in current research (Bourdieu, 1984, cited in Codd et al., 1990; Coxon et al., 1994; Harker, 1990; Nash, 1993). Retired New Zealand high school principal David Hood (1998) stated emphatically that “Schools have always been, and continue to be, involved in reproducing class inequalities” (p. 14). Inequality is encouraged through a school’s structures and processes of learning and teaching. Specifically, the dominant group has its cultural capital reflected in the curriculum, the way the curriculum is taught, and the way the system evaluates the success of the teaching (Harker, 1990). An example of this is the evaluative and normative climate of the classroom, which becomes more competitive at high school (Ames, 1997). Research has found that motivational goal structures which focus on incentives based on recognising students’ ability relative to others, may limit the number of students who feel academically motivated at school (Middleton & Midgely, 1997).

Ecological factors in the wider society particularly SES, as well as factors within schools, have been shown to be important influences on academic achievement.

For that reason they need to be acknowledged when examining influences on academic achievement. The social cognitive researcher Bandura (1986, cited in Pajares, 1996) believed emphatically that academic self-efficacy was the major influence affecting academic achievement. However, he also stated that where there were prejudicially structured systems, such as schools lacking effective systems, teachers, necessary equipment, and resources, academic self-efficacy was not an influential factor in academic achievement.

### Motivational Factors and Academic Achievement

Attitudinal factors are a primary influence on academic achievement (Bandura, 1997; Chapman, 1985; Reglin, 1993), particularly motivation, which is seen as a key 'personal cognition'. Recent research (e.g. Pintrich & Schunk, 1996) perceived students as active, constructive seekers and processors of information, rather than passive recipients, where students' personal cognitions "influence the instigation, direction, and persistence of achievement behaviours" (Schunk, 1990, p. 3). Dweck (1986) believes motivational factors can significantly influence the use and growth of skills. Academic motivation affects all classroom activities, because it influences the learning of new behaviours and the performance of those previously learned. Covington (1992, cited in Alderman, 1999) saw motivated students as having "A will to learn, believing in themselves and their ability to think for themselves, realising that they cause their own achievements" (p. 11). In turn, motivation is influenced by students' attributions for academic success or failure, and academic self-efficacy (Schunk, 1990).

For the purposes of this study, motivational theorists are broadly separated into attribution theorists and social cognitive theorists. Attribution theory believes that

students' attributions to success or failure, are the key factors affecting students' academic achievement, while social cognitive theory believes that self-efficacy is the crucial mediating factor affecting student achievement. Bandura (1982) defined self-efficacy as "Personal beliefs about one's capabilities to organise and implement actions necessary to attain designated levels of performance" (cited in Schunk, 1989, p. 14). Attribution theory is an extension of locus of control theory, and is based on the assumption that students will search for an understanding of event outcomes through attributing their successes and failures to internal and/or external factors to themselves.

#### Self-Attributions Influencing Academic Achievement

Attribution theorists believe that because students are active seekers and processors of information, cognitions will play a key role in how hard students will work to achieve academically. In particular students perceive academic outcome as reliant on internal factors such as effort, intelligence, and skills, and external factors such as luck, support, and easiness of the task. Brophy (1998) found that "When students do not expect their effort, hard work, and sacrifice to lead to a better future, they are less likely to expend energy on academic achievement" (p. 158). Conversely, when students attribute effort, hard work, and sacrifice to academic success, they will work harder. These perceived causes of outcomes which influence expectations of future success, are called 'attributions' (Schunk, 1992).

Locus of control and achievement. Attribution theorists (Schunk, 1990; Weiner, 1994, cited in Stipek, 1998) agree with Rotter (1966, cited in Stipek, 1998) that successful academic learning requires an internal locus of control, but have distinguished between the different internal causes of academic achievement in relationship to their stability and controllability. 'Ability' and 'effort' have typically

been the most frequent internal reasons given by students for success or failure to achieve (Alderman, 1999; Stipek, 1998; Schunk, 1990; Schunk & Zimmerman, 1998).

Recent theorists firmly believe that intelligence is incremental rather than fixed, and continues to develop as a person gains skills and knowledge (Alderman, 1999; Bandura, 1997; McCombs & Pope, 1994; Stipek, 1998). High school students however, tend to differentiate between the attributions 'effort' and 'ability' and believe that 'ability' becomes more fixed and less incremental (Covington & Manheim Teel, 1996). 'Effort' is seen by attribution theorists as more constructive than other attributes for learning because those who see 'effort' as affecting learning outcomes, tend to persist when they experience failure (Alderman, 1999; Hunter & Barker, 1987; Stipek, 1998).

Self-attributions and achievement have been shown to interrelate with or influence each other, and findings from Skinner, Wellborn, and Connell (1990) complement findings from other research showing the detrimental effects of attributing failure to 'ability'. For example, because low achieving students tend to see themselves as less in control of their academic successes and failures, they might believe that they were not able to successfully complete academic tasks and so apply little effort (Hunter & Barker, 1987; Middleton, Arunkumar, & Urda, 1996; Nurimi et al., 1995; Rimm, 1995). As a consequence they tend not to take credit for failure or progress, and see 'ability' and 'effort' as relatively less important than 'teacher help' and 'task ease'. This lack of belief in personal control may also increase the use of self-handicapping behaviour at school such as task-irrelevant behaviour, procrastination to complete homework and class work, non-compliance, and truanting (Covington & Manheim Teel, 1996; Harter, 1992). Further, learners with a high need to avoid failure tend to have developed learned helplessness (Eggen & Kauchak, 2001). In contrast, students

who are high academic achievers tend to have an internal locus of control and attribute success to their own efforts and abilities.

### Academic Self-Efficacy and its Effect on Achievement

Social-cognitive theorists believe that a key factor influencing academic motivation is students' academic self-efficacy. Bandura (1997) defined it as "beliefs in one's capabilities to organise and execute the courses of action required to manage prospective situations" (p. 2). Possessing positive personal beliefs about academic capabilities is an important prerequisite for highly motivated and self-regulated students and studies show that after controlling for the influence of prior achievement, students who felt more academically efficacious received higher grades (Bandura, 1997; Pintrich & De Groot, 1990; Roeser et al., 1996). The development of self-efficacy is influenced by interrelated personal, environmental, and behavioural factors, and as a result, it is not necessarily a reflection of how well a student performs, rather, self-efficacy plays a mediational role between other influences such as previous successes, or gender.

Influences on academic self-efficacy. Bandura (1997) said "Efficacy beliefs are structured by experience and reflective thought" (p. 51). Consequently, academic self-efficacy is developed through a strong reciprocal and mutually reinforcing relationship between the students' triad of personal, environmental, and behavioural factors (Pintrich & Schunk, 1996; Zimmerman et al., 1992). Personal factors range from 'cognition' such as literacy and numeracy levels, and 'affect' which includes self-efficacy and locus of control, to biological factors such as brain damage and gender. Environmental influences include students' individual socio-economic status as well as a school's teaching processes and resources, and the social welfare provisions of the

country. Behaviour relates to study behaviour such as completion of homework, and class work, attending to the teacher, and bringing correct equipment to class.

Within the personal factors, affective characteristics also tend to be mutually reinforcing (Bandura, 1997). In particular, self-efficacy can influence students' thought processes and emotional involvement in study, so that students who attribute success to their own efforts and abilities (internal locus of control) tend to have high self-efficacy and engage in self-regulatory behaviours that increase their skills further (Pajares, 1996; Schunk, 1990). On the other hand, low achieving students might believe that they were could not complete the work successfully and so use minimal effort, attributing any success to external sources (external locus of control) (Chapman, 1985). They also tend to focus more on what they lack, and see challenges as more difficult than they are (Bandura, 1997; Pajares, 1996).

Characteristics of academic self-efficacy. Self-efficacy beliefs are domain specific, so can be different for each subject. For example, students can have a high level of academic self-efficacy in Mathematics and Science, and a low level of academic self-efficacy in English. Self-efficacy beliefs can also contribute independently to intellectual performance, and are not simply a reflection of students' cognitive skills (Bandura, 1997).

Students' self-efficacy beliefs have been found to play a mediation role, and be strong predictors of their academic performance (Pajares & Johnson, 1996; Zimmerman et al., 1992). Zimmerman et al. found that there was a significant causal relation between efficacy for self-regulated learning and for academic achievement. Academic self-efficacy judgements are the mediators between influences such as previous achievement and gender. For example, studies show that females have lower self-efficacy than males overall (Pajares & Miller, 1994, cited in Alderman, 1999) and

attribute failure to their lack of ability even when achievement is higher (Nicholls, 1979, cited in Alderman, 1999).

Academic self-efficacy and motivation. Pajores and Johnson (1996) found that the higher the sense of self-efficacy, the more effort, persistence, and resilience students exhibit. This is reflected in studies showing that students high in self-efficacy tend to monitor and regulate their learning, persist when tasks are difficult or boring, and manage their time and study environment (Pintrich & Schrauban, 1992). Students with high academic self-efficacy also tend to set higher goals (Stipek, 1998). Bandura (1997) believed that the most important cognition to use when dealing with setbacks was an optimistic belief in one's efficacy. Accordingly, he saw self-efficacy as an important contributing factor to academic achievement, whatever the level of skill, claiming that it affected students' study behaviour more than any other cognition (Bandura, 1996, cited in Stipek, 1998). In relation to self-regulated learners this means that they exhibit a high sense of efficacy in their capabilities, which positively influences the learning goals they set themselves and their commitment to achieve those goals (Zimmerman, et al., 1992).

However, Pajares and Johnson (1996) in their study of self-efficacy and writing performance of entering high school students, found that although very low self-efficacy is detrimental to academic achievement, effective self-regulation does not require that self-efficacy be extremely high. Schunk and Zimmerman (1996) also found a lower self-efficacy useful to develop self-regulation. They saw some doubt they might not succeed in a curriculum area meant students might manifest more effort and use self-regulatory strategies such as concentrating on the task, managing time more effectively, seeking assistance as necessary, more effectively than if they were overly confident about succeeding.

### Self-Regulation and Academic Achievement.

Research into self-regulation agrees with Csikszentmihalyi, et. al., (1993) that “High academic achievers are not necessarily born ‘smarter’ than others, but work harder and develop more self-discipline” (p. 6). For that reason self-regulatory activities play an essential role in academic achievement, affecting motivation, learning, and performance (Schunk & Zimmerman, 1998). Self-regulation is defined by Schunk (1990) as “Learning that occurs from students’ behaviours that are systematically oriented toward attainment of learning goals” (p.3). For example, students with low study skills tend to exhibit low academic achievement (Brophy, 1998; Covington, 1998).

### Study Skills

A key element in self-regulation is the level of study skills used by students. Covington (1998) also pointed out that while low-achieving students show a high level of task-irrelevant behaviour, and use self-handicapping strategies such as procrastination, high academic achievers work harder and develop more self-discipline. In particular, high academic achievers report that they set specific goals, use learning strategies, and self-monitor effectiveness. Furthermore, a study by Cooper, Lindsay, Nye, and Greathouse (1998) found positive relations, particularly at the high school level, between the amount of homework completed and achievement, especially in relation to teacher-assigned grades. Specifically, homework has a positive influence on academic achievement because it allows students opportunities for developing self-regulation, as they must schedule, organise, and complete assignments away from teachers (Schunk & Zimmerman, 1998).

### Literacy and Numeracy Skills

Research has also emphasised the importance of numeracy and literacy as a factor influencing the development of self-regulation (Rimm, 1995; Schunk & Zimmerman, 1996). Nash (1993), in relation to educational achievement in New Zealand, said that it was hard to overstate the importance of literacy. Further, Nicolls (1992) summarised studies showing that students' ideas about the nature and value of knowledge and how it should be acquired, related to cognitive variables such as reading strategies and higher order mathematical variables. Another related factor influencing academic achievement at high school, is the pace a high school teacher needs to maintain to 'cover' the curriculum. This results in them not stopping for students left behind (Hill & Hawke, 1998). Research has shown that often students with low literacy and/or numeracy skills have particular difficulty in keeping up. This can mean students with low literacy and/or numeracy skills experience secondary school as both academically frustrating and as a place where they do not belong, and they are then more likely to disengage from school (Roeser et al., 1996).

### An Integration of Perspectives

Recent research has found interrelated constructs useful in analysing specific aspects of motivated behaviour such as academic achievement (Graham & Weiner, 1996), and particularly useful in examining the relationship between constructs such as self-efficacy and attributions, and cognitive skills such as goal setting. To be effective in promoting academic achievement, these constructs also need to be placed in their ecological context, in other words, discussing them in relation to factors within school structures and wider societal structures that affect academic achievement (Nash, 1993).

Many researchers agree that there are common characteristics in both the attitudinal and cognitive domains that facilitate academic achievement (Belfiore & Hornyak, 1998; Bynner et al., 1972; Coil, 1997; McCombs & Whisler, 1997; Nurmi et al., 1995; Pye, 1989; Reglin, 1993). Failing students tend to exhibit attitudinal factors such as low motivation, an external locus of control, and low self-efficacy, as well as low cognitive skills, which include low generic literacy skills, study skills, and work habits (Pintrich & Schrauban, 1992). More specifically, the self-regulated learning process interrelates with attributes, achievement goals, and self-efficacy (Ames, 1987), and although self-efficacy has been shown to be highly predictive of academic achievement, it is affected in turn by goal-setting, information-processing, progress-feedback and rewards (Schunk, 1989). As a result, researchers emphasise the important role a school environment can play in developing self-regulated learning behaviours through using both motivational and learning strategies (Belfiore & Hornyak, 1998; Zimmerman, 1994, cited in Alderman, 1999).

In order to develop strategies to support academic achievement, educators need to understand the broader issues affecting students' academic motivation and skill levels, and how these issues may affect academic performance. Issues include how the school's values relating to academic learning and achievement are reflected in its structures, as well as ecological factors external to the school, such as SES and the family's attitudes towards study.

### School Practices Enabling Academic Achievement

Maher and Midgely (1996) believe that "The schools are not only the problem but the potential solution" (p. 47). Furthermore, McCombs and Whisler (1997) make the strong statement that change within schools is more likely to occur when teachers

are encouraged to self-assess and reflect on their basic beliefs, and to engage in critical inquiry about research issues related to learning. Current motivation research shows that successful students are self-regulating, and direct their cognitions, motivation, and behaviours toward attaining their academic goals (Schunk, 1995). As a result, interventions to develop more effective achievement behaviours need to focus both on teaching cognitive and self-regulatory strategies, as well as raising academic motivation. To increase academic self-regulatory behaviours in schools, structures can be created that encourage academic self-efficacy, and value attributions such as effort and progress. This involves rewarding the struggle for self-improvement and promoting effort, a process Covington and Manheim Teel (1996) called “the equity game” (p.8). This means that progress and improvement over time must be given priority in evaluations so students increase positive attributions and academic self-efficacy (Ames, 1987).

To more effectively promote self-regulated learners, research suggests schools can develop structures involving not only individual classrooms, but also school-wide organisation and management of resources and systems that strive to give all students the chance to succeed. Research by Maehr and Midgely (1996) concluded that there must be effective investment by those in leadership roles, including informal school leaders, so that resources and attention are given to launch and sustain systems that encourage students school-wide to be motivated to achieve academically. Involvement of parents and the wider community further supports students’ academic motivation, and this can be actively encouraged (Reglin, 1993).

### Strategies to Develop Academic Self-Efficacy

Research contends that academic self-efficacy beliefs mediate the effect of skills or other self-beliefs on academic performance by influencing effort, persistence, and perseverance (Pajares, 1996). Students who view ability as “an expandable set of skills that improve and grow through experience and instruction” (Covington & Manheim Teel, 1996, p. 36), in other words, view intelligence as malleable rather than fixed, have an incremental view of ability and tend to focus on progress and mastery through effort (Dweck, 1989). To this end, teachers must actively promote positive beliefs about ability that sustain motivation, not beliefs that create feelings of deficiency and worthlessness. Research tends to support the view that students are likely to perform as their teacher thinks they will (Reglin, 1993).

A sense of personal efficacy in mastering challenges tends to generate greater interest in the activity (Bandura & Schunk, 1981). Strategies to improve mastery include goal-setting, receiving feedback and rewards, self-verbalisation of learning strategies, and modelling, especially from peers (Alderman, 1999; Schunk, 1989). Csikszentmihalyi et al. (1993) stress the importance of clear goals and immediate unambiguous feedback in the classroom for academic achievement, and Thrupp (1999) points out that by selecting realistic performance goals, structuring learning tasks, and rewarding specific well-defined actions, success can be achievable for all students. For goal setting to be effective, goals need to be difficult to achieve but attainable, students need to be able to gauge progress, and goals should be proximal rather than distal (Schunk, 1989). Further, effective goal setting can build interest in previously unvalued activities (Bandura & Schunk, 1981). By providing content and structures that give all their students opportunity to succeed, and actively encourage students to believe in their ability and talents, high school curriculum teachers can encourage

positive academic self-efficacy beliefs. Schools can work towards a realistic match between the individual's capabilities and the demands of the class work, and provide authentic and engaging tasks for sustained involvement in learning (Covington, 1998).

Support from the family and the wider community is also an important factor in the success of school goals. Parent involvement in their children's schooling positively affects students' motivation (Reglin, 1993; Grolnick, Kurowski, & Gurland, 1999) and interventions such as home visits, and community leaders talking to the students about the relevance of school, help encourage parents to build school-relevant motivation in students.

Developing self-regulated learners in the classroom. Developing self-regulated learners is an important step towards raising academic achievement. When the learning process is a school's primary concern, rather than academic achievement per se, research has shown that the classroom organisation and management can be structured to show that success, effort, progress, and growth is valued (Covington & Manheim Teel, 1996; Maehr & Midgely, 1996; Pintrich & Schunk, 1996). An example of this is where teachers specifically teach effort, perseverance, concentration, self-restraint, and punctuality (Alderman, 1999), or where school organisation and management are altered to encourage the development of effort by minimising ability goals and maximising task goals (Maehr & Midgely, 1996). Particularly for below-average students who might not often attempt the work set, or if they do might expend the minimum effort, attribution feedback focussed on effort rather than ability has been found to be highly significant in promoting self-efficacy and responsibility (Ho & McMurtrie, 1991).

Students must assume responsibility for their own learning so that their locus of control becomes more internal (Reglin, 1993) and classroom consequences for study

behaviour and attitudes are useful tools for encouraging self-regulated learning. Indeed, research cited by Stipek (1998) shows that beliefs about future reinforcement seem to be more important determinants of behaviour than their history of reinforcement. Research by Hill and Hawk (1998) agreed with Stipek, finding that prizes and certificates are motivating in the long-term, even if embarrassing to students at the time. However, while rewards and incentives can encourage learning, thinking, and proper motivation (Bandura & Schunk, 1981; Covington & Manheim Teel, 1996), Stipek (1998) also has found that students need to be accountable for their work. She suggests there should be some consequences for low effort, while cautioning that punishment needs to be used judiciously so the positive effect outweighs the negative effect.

Schunk and Zimmerman (1998) have found that self-regulation can be increased through goal orientations, strategic processes, and self-evaluation. These goals provide the structure within which students interpret and respond to events, so creating different patterns of affect, cognition, and behaviour (Middleton & Midgely, 1997). Brief training in self-regulation is not effective in creating self-regulated learners long-term because it does not provide enough time for the practice required to internalise the self-regulatory processes. Rather, skills can be systematically taught over time, so students have the opportunity for repeated practice and skill refinement (Anderson, 1990 cited in Schunk and Zimmerman, 1998). A New Zealand study into decile one school initiatives that monitor student behaviours and reward specific behaviours at Year 9 and 10 levels, has shown an increase in study behaviours such as attendance, punctuality, work habits, and co-operative classroom behaviour, and students have also reported feeling more confident and less stressed (Hill & Hawk, 1998).

Research has found that teaching study skills is crucial for students to organise themselves for success (Rimm, 1995). As well, Reglin (1993) suggested that students become more self-regulated when teachers teach the value of performing to the best of their ability, regardless of the seemingly insignificance of the task. Specifically, homework completion at high school level is seen to have a positive relation with academic achievement (Cooper et al., 1998) and it allows students opportunity for developing self-regulation because they must schedule, organise, and complete their tasks away from teachers (Schunk & Zimmerman, 1998).

In efficacious schools, student academic achievement is addressed school-wide, through developing inclusive goals which are reached through the structures operating in the classrooms and wider school. Further, in efficacious schools principals are educational leaders who develop structures to improve instruction; teachers set high academic standards which are supported by mastery aids for success, and rewards for good study behaviours; and parents are encouraged to work as partners in students' education (Bandura, 1997; Hill & Hawk, 1998).

### Summary

Developing academic self-regulation and the motivation to do well academically is strongly affected by students' personal cognitions. Students' perceptions of their academic self-efficacy and their attributions as to the causes of their academic successes or failures, are two key cognitions. Students with low academic self-efficacy tend to use minimal effort while they focus more on what they lack, and see challenges as more difficult than they are, whereas successful students set relatively higher goals, and try harder and longer to achieve them. Students perceive an attribution as either outside their control or within their control, and those who believe

ability is an acquirable skill within their locus of control, rather than a fixed attribute outside their control, strive to increase their competence via learning.

Students who attribute academic achievement to 'effort' tend to achieve more highly, but 'effort' is more effective when used in connection with useful study skills, such as setting clear task goals, and completing homework and class-work. Further, the level of literacy and numeracy skills contributes to academic achievement, a trend that becomes more pronounced at high school level.

Schools can play an important part in enabling students to adopt useful study strategies. Maehr and Midgely (1996) cite recent studies showing that classroom organisation and management are significant in determining students' learning purposes, and that developing school-wide structures is more effective than individual classroom initiatives. However, the school environment is bounded by the nature of its intake, and its resources, and this should be taken into account when assessing any change in academic motivation and achievement (Nash & Harker, 1997).

### Focus of the Present Study

To date there is little available information about the effectiveness of schools in improving student academic achievement (The Education Review Office, 1998). As well, both affective and cognitive research tend to examine only classroom-related learning of specific curriculum skills, rather than more general study skills, learnt throughout the wider school context, and the only comprehensive programmes examined tend to be mastery and co-operative learning programmes (Stipek, 1998). The focus of the present study is to monitor of the effectiveness of a school-wide intervention called The Diploma Programme which aims to encourage the development of study skills in year 9 and 10 students.

The Diploma Programme is aimed at meeting the requirements of the Ministry of Education's National Educational Guidelines (NEGs) (1999) that require schools to "identify and remove barriers to achievement" (p. 42). Its goal is to develop self-regulated learners by teaching students that 'effort' and appropriate study skills will positively affect academic results (Chapman, 1985). The Diploma Programme is designed to provide regular and systematic feedback which rewards specific skills and attitudes so that Year 9 and 10 students can evaluate how credible their attributions are, and so develop and/or maintain them (Schunk, 1995). Specific feedback is given each term in a report on progress towards achieving the Diploma, with opportunities to negotiate the catching up of credits for those at risk of failing (See Appendix C for an example of a school report). Students gain credits towards the Diploma by exhibiting study skills based on the areas, Self-Management, Work and Study Skills, and Social Co-operation which are taken from the New Zealand Curriculum Framework (Ministry of Education, 1993). The specific skills monitored by the school are:

Punctuality, attendance, bringing correct equipment, co-operation in class, completion of homework, and completion of class work (See Appendix D for an example of a class record book).

The present study builds on previous work in a number of ways. Firstly, it examines a New Zealand school's attempt to improve students' study skills and attitudes and academic performance, through changing the school goals to include as a major component improvement of students' study skills and attitudes. Three possible attitudinal influences to academic achievement are indicated by previous research and examined in this study, namely, motivation, academic self-efficacy, and locus of control. Secondly, it compares students' achievement in relation to reading skill levels, by comparing the performance of three groups based on students' upper, middle, and

lower reading comprehension class percentile results taken from The Progressive Achievement Tests, form B (PAT) (Reid & Elley, 1991).

# CHAPTER III

## RESEARCH QUESTIONS

### Overview

The considerable research on cognition and motivation is only applied occasionally to real-life school situations (Maehr & Midgely, 1996) but when it is, it can positively influence students' academic self-regulation and academic achievement (Hill & Hawk, 1998). The aim of this research is to monitor the results of a school's attempt to apply the research on cognition and motivation to improve the academic self-regulation and achievement of students. This was done through a school-wide intervention called The Diploma Programme, which closely monitors and rewards students' use of study skills. The Diploma Programme is used with students in years 9 and 10, and is based on motivational theory's incremental view of ability, or that students' academic ability can be improved by effort and strategic learning (Eggen & Kauchak, 2001).

The present research monitors the effectiveness of The Diploma Programme from the premise that specific ecological, affective, and cognitive factors interrelate to affect learning outcomes in the classroom. Accordingly, this research is based on the following perspectives: factors relating to the wider social environment as well as the school environment affect academic achievement, study skills facilitate academic achievement, successful students attribute success to their own effort and work, and successful students have high academic self-efficacy. In other words, this research is based on the premise that schools that encourage specific study skills and attitudes will develop self-regulated students who over time will achieve academically (Bandura, 1997; Schunk & Zimmerman, 1996).

Findings from this study should provide information about the effectiveness of The Diploma Programme to modify students' study behaviours and attitudes, and perhaps their subsequent academic achievement. This study compares the achievement of three groups based on upper, middle, and lower reading comprehension results from The Progressive Achievement Test, (PAT) form B (Reid & Elley, 1991) to determine whether there is a relationship between students' academic achievement, study behaviours, and attitudes, and their reading skill levels. As well, the individual group's performance in relation to specific study skills and attitudes, as well as their academic performance, is examined.

There are five main research questions, which guide the examination of data from the two surveys of students, the February PAT reading comprehension data, and the four Diploma Programme reports. The first, second, and third questions investigate whether the set goals of the Diploma Programme are met by the end of the year, in other words, whether The Diploma Programme motivated students to develop good study skills, and to achieve academically. The fourth question explores whether there are changes in students' academic self-efficacy, motivation, and locus of control over the year, and between reading skill levels. The fifth question examines whether students perceive whether The Diploma Programme improved their study skills by the end of the year.

#### Overall Diploma Achievement in Relation to Reading Skill Level

Students with lower literacy levels should use fewer study skills and perform less well academically than those with higher literacy levels (Nash, 1993; Rimm, 1995; Schunk & Zimmerman, 1996).

Question one. This question examines variance in the total year's credits between groups formed according to reading skill levels. Credits are for both academic achievement and study behaviour.

*Did the total year's Diploma credits, which measured both academic achievement and study behaviours, vary according to reading skill levels based on the PAT reading comprehension class percentiles?*

### Academic Achievement

Often students with low literacy and/or numeracy skills have particular difficulty in keeping up with the speed required at high school level to work through the curriculum ((Hill & Hawke, 1998; Roeser, Midgely, & Urdan, 1996).

Question two. This question examines whether The Diploma Programme is associated with changes in academic achievement, and whether academic achievement varied between groups formed according to reading skill levels.

- a. *Is The Diploma Programme associated with changes in academic achievement between the first two terms and the last two terms?*
- b. *Did academic achievement vary according to reading skill levels based on the PAT reading comprehension class percentiles between the first two terms and the last two terms?*

### Study Skills

There is a strong connection between study attitudes and skills, and academic achievement (Alderman, 1999; Bandura, 1997). Research indicates that students who are more proficient at using self-regulatory behaviours are more likely to achieve academically (Schunk & Zimmerman, 1996).

Question three. This question examines whether The Diploma Programme is associated with changes in study skills over the year, whether study skills varied between groups formed according to reading skill levels, and whether academic achievement varied in relation to each group's study skill performance.

- a. *Is The Diploma Programme associated with changes over the year in punctuality, attendance, bringing correct equipment, co-operation in class, and completion of homework and class work?*
- b. *Did these changes vary according to reading skill levels based on the PAT reading comprehension class percentiles?*
- c. *Did academic achievement as measured by the Diploma's academic points, vary in relation to how the groups performed in their study skills?*

#### Academic Attitudes

There is considerable evidence that attitudes play an important role in determining behaviour (Kraus, 1995, cited in Cooper et al., 1998), and that it is the intertwined relationship formed by students' academic motivation, self-efficacy, and locus of control, that affects students' academic achievement (Schunk, 1989, 1990). Consequently, those who perform highly academically should have a higher academic self-efficacy, an internal locus of control based on effort, and be more motivated to perform study tasks, for example those associated with homework and class-work. The following questions were asked:

Question four. This question examines whether The Diploma Programme is associated with changes in student attitudes and whether attitudes varied between groups formed according to reading skill levels.

- a. *Is The Diploma Programme associated with changes in academic self-efficacy, study motivation and internal locus of control?*
- b. *Did attitudes vary according to reading levels based on the PAT reading comprehension percentiles?*

#### Student Perceptions on the Usefulness of The Diploma Programme

The following questions allow students to have an opportunity to have their voices heard (Merriam, 1998), and perhaps address school-related factors that had not been thought of by the researcher.

Question five. This question examines student perceptions on whether The Diploma Programme helped them be better students, and whether students' perceptions differed between reading skill levels.

- a. *Did students see The Diploma Programme as useful in helping them be a better student? What reasons did they give?*
- b. *Were students' beliefs on the effectiveness of The Diploma Programme related to reading level based on the PAT reading comprehension percentiles?*

# CHAPTER IV

## METHODOLOGY

### Introduction

This study has been designed to determine the effectiveness of a school's intervention programme, called The Diploma Programme, by measuring any change in the academic achievement levels, study behaviour and attitudes of three groups of students based on reading skill levels. The research questions focussed on whether academic achievement, study skills, and the attitudes academic self-efficacy, locus of control, and motivation, changed over the year, changed in relation to reading skill levels, and whether study skills and attitudes seemed related to academic achievement. The Diploma Programme aimed to improve study behaviours taken from three of the essential skills from the Curriculum; Self-management, Work and Study Skills, and Social and Co-operative Skills (See Appendix E). These behaviours were punctuality, attendance, bringing correct equipment, co-operation in class, and completion of homework and class work.

### Sample

Three groups were formed, based on students' upper, middle, and lower reading comprehension percentile rankings (PR) taken from The Progressive Achievement Tests (PAT) Reading Comprehension, Form B (Reid & Elley, 1991). Of the 45 Year 10 students who had agreed to take part, the final number of participants to complete The Diploma Programme was 33 (36.7% of the total year group). The High Group of nine students had a percentile ranking (PR) ranging from 98 to 70, the Moderate Group of ten students had a PR ranging from 66 to 23, and the Low Group of fourteen students had a PR ranging from 22 to 1. Due to the limited numbers in the study, and because

students tended towards a lower reading percentile, the High Group overlapped into the top end of New Zealand's average group (Reid & Elley, 1991), beginning at PR 66 instead of PR 77, while the other groups were within the range expected of moderate and low reading skill levels. This bias towards a lower reading age was representative of this school. The group overall had a similar ethnic and gender grouping to the school's Year 10 population, except for the Samoan students: 37% Maori, 60% European, 55% female, and 44% male. The Samoan group was 0.03% in the total Year 10 group but 0.3% in the sample group.

### Instruments

A 34-item questionnaire (The Survey) was developed for this study, and was administered twice during the year, with an open-ended question included in the second survey (See Appendix F). The other instrument used was The Diploma Programme itself, which collated information throughout the year on study behaviours and academic achievement.

The survey items were mostly made up of a four-point Likert scale and were arranged randomly through the survey. Adolescents give good information on four-point scales, as they can respond only positively or negatively to the questions, with no chance of responding neutrally (Asser & Connell, 1992). The items were balanced so that positive responses were either in the affirmative, or in the negative when reverse scored. The items related to students' attitudes, specifically, academic self-efficacy, motivation, and locus of control, and study skills, specifically, completion of homework and class-work, punctuality, attendance, classroom behaviour, and bringing correct equipment. The second survey included an item monitoring student perception of whether The Diploma Programme helped them be more successful students.

Academic self-efficacy. Self-efficacy beliefs were operationalised as item-specific judgements of future achievement or attainment efficacy in core curriculum areas and in doing homework, and consisted of gradations of confidence in doing well. There were initially five items, but an item measuring academic self-efficacy in Social Studies, was removed from the second survey because it is a curriculum area that would not be taken by the students when in Year 11. Attainment efficacy over means efficacy was used because it is more inclusive (Bandura, 1997), especially in this case where the number of items measuring self-efficacy was limited. The survey items are domain-related (Bandura, 1997) and refer specifically to students' perceptions of their competence to do the work in the near future (Anderman, et al., 1997; Pajares, 1996).

The survey. The survey included items adapted from the Patterns of Adaptive Learning Survey (PALS) (Midgely, Maehr, Middleton, Hicks, Urdan, Roeser, Anderman, & Kaplan, 1995). Scales in PALS have demonstrated good internal consistency and construct validity (Kaplan & Midgely, 1997). Sample items included "How confident are you that you will achieve well in Year 11 Maths?" with responses ranging from "Very confident" to "Not at all confident" and the reverse scored item "I know I can do all my homework" with responses ranging from "Never" to "Always."

There were five survey items monitoring changes to academic motivation. They were operationalised in the survey as, priority placed on work completion, energy levels for doing schoolwork, attendance when feeling bored or upset, and the importance of good marks. Sample items were "Getting good marks is important to me" and the reverse scored item "I find it hard to have the energy to do my schoolwork" with the response ranging from 'Never' to 'Always'.

Seven items originally related to internal and external locus of control, but two items (items four and five) were not included in the results because approximately one

third of students made contradictory responses over both surveys, even after an explanation during administration of the surveys. Locus of control was assessed in relation to class work, homework, and behaviour in class. Sample items were “I can do better work if I just keep trying to” with responses ranging from ‘Never’ to ‘Always’ and “Teachers blame me for things that are not my fault” with responses ranging from ‘Never’ to ‘Always.’

Changes in study skills were monitored by 10 items that covered the same study skills assessed in The Diploma Programme. A co-operative attitude in class was assessed by three items measuring behaviour towards classmates and two items measuring behaviour towards teachers. Completion of class work and homework, bringing correct equipment, punctuality, and attendance were assessed by an item each, for example, “I bring correct equipment to school” with the response ranging from ‘Never’ to ‘Always.’

The diploma credits. Diploma credits were criterion-referenced, allowing all students the possibility of achieving. They were awarded throughout the year for study behaviours and academic achievement, and were collated in a report each term. Diploma credits for Year 10 students totalled 64 credits for each curriculum area over the year and varied for each study skill monitored. Thirty-six credits were awarded for academic achievement and participation per curriculum area, and 30 credits overall for extra-curricular participation. Year 10 students could gain a total of 730 credits for the year. The academic achievement and participation credits were made up from marks from topic tests, and assignments such as essays and reports. Data from classroom assessments of students’ academic performance can closely reflect a relevant picture of changes in students’ academic efficacy, motivation, and study skills, providing an

ecologically valid indicator of the achievement in the actual academic work completed at high school (Pintrich & De Groot, 1990).

### Procedure

The caregivers of the Year 10 students were contacted by letter in January 2001, two weeks before the start of the academic year. This letter informed them of the goals and procedures of the study, and asked for both the caregiver and student to give their written consent to participate in the project and post the consent form back to the school in the stamped and addressed envelope provided (See Appendix G). The principal also provided information about The Diploma Programme, along with his own endorsement of the survey, in a letter to parents. Initially only nine responded. Further reminders to return their written consent forms included up to three telephone calls to all caregivers/students who were connected by landline, but due to cost, caregivers with mobile telephones were contacted only once more, and those with no telephone were sent only one more letter. An initial total of 42 students agreed to take part.

The questionnaire was examined by the teacher in charge of The Diploma Programme and it was trialled once with a mixed group of 12 Year 11 students chosen by the Year 11 dean. Students' feedback led to changes in the wording of two questions, to make them easier to understand. One question was deleted as irrelevant and students also asked for delivery to be conducted more rapidly.

The questionnaire was initially administered at the beginning of the Diploma Programme, which began in week three of term one, so that the maximum number of students could give permission to be part of the survey, then it was administered again in week eight of term four. The researcher administered it to reduce the variability in how instructions were given. Approximately 10 students did not follow the instructions

given in both surveys for survey items four and five. As this meant that approximately one third of the students had misinterpreted these questions, they were dropped from the results section. In survey two, item 28 was removed as it repeated one of the previous items. The term one survey was administered in one session. Two teacher aides helped students answer it quietly, and the researcher read out the first section, and explained the fourth and fifth items to the whole group because some were misreading the instructions. The second survey was conducted in week seven of term four while students were still in classes, in normal routines, and just before their end-of-year exams. The questionnaire had to be administered to several small groups instead of one large group, due to the unavailability of students. As well, a number of students in the first and largest group (23 students) were upset that they had been taken out of class, and took a while to settle. Many students were also particularly unimpressed at having to complete a PAT reading comprehension test for the second time that year. The researcher administered both these tests five more times with between one and five students each time. In total, 33 students participated over the whole year. The others had left for another school, had been suspended, or were not available that week.

Further, to gather information on the effectiveness of The Diploma Programme from the perspective of the teachers and teacher aides, the researcher attended a meeting of representatives of the teachers and teacher aides involved in The Diploma Programme, which was held at the end of the academic year. The comments relating to the effectiveness of The Diploma Programme and recommendations for making it more effective were noted, and are reported in full in Appendix H.

## The Research Design

The research design was developed to ascertain whether, and to what degree, 33 volunteer Year 10 students improved as a function of the school's Diploma Programme. The PAT reading comprehension test was administered in both week three of term one and week eight of term four. The PAT reading comprehension test has been shown to have a reliability coefficient of .92 (Reid & Elley, 1991). The percentile rank results from each student were initially to be compared in both tests to measure any change within group academic skill levels and between groups. Unfortunately, the results showed that 14 students performed markedly poorer on the second PAT test than the first, perhaps due to some random answering of the multiple choice questions as students hurried to complete the test. As well, five students improved beyond a level of what would normally be expected. For example, one student improved their score from the first percentile to the 95th percentile. This result calls into question the reliability of both the PAT February and November results for some students, so the PAT results were not compared.

The survey questionnaire was designed to assess the students' academic attitudes, specifically academic self-efficacy, motivation, and locus of control, and their perceptions of how well they performed in the targeted study skills, both before The Diploma Programme and at the end of the school year. Although such a self-report instrument gave students an opportunity to give only socially acceptable answers, guaranteeing confidentiality of responses helps students answer truthfully. An extra question in survey two allowed students the opportunity to say whether or not they saw The Diploma Programme useful in making them better students, and to give reasons for their response. This gave students the opportunity to introduce school-related factors

that had not been thought of by the researcher. Responses to the question are included in Appendix I.

Results were collated under three groups formed from the PAT reading comprehension percentile rankings. The four term reports which reported credits gained in each study skill in the seven curriculum areas, as well as on academic achievement, were compared with trends in students' self-report of their behaviours and attitudes in the two surveys. The performance of the three groups in relation to study skills, academic attitudes, and academic achievement performance were compared and also monitored for change over the year.

#### Ethical Considerations

It was important that informed consent was gained from teachers, caregivers, and individual students, and that the school endorsed this study as being useful. A brief written outline of the methodology and questions was presented at a Board of Trustees (B.O.T.) meeting. The written outline was also presented at a teachers' meeting, and there was time allotted for questions and discussion. Before administration of the survey, the purpose of the study was again briefly outlined to the students by the researcher.

Confidentiality and the anonymity of the informants were protected. Identity of respondents was masked by using numerical codes, and by referring to grouped data. Results are reported in such a way that no individual is identifiable. As well, a written report on the findings of this study will be made accessible to students, parents, and teachers.

# CHAPTER V

## RESULTS

### Introduction

The results of this study are reported by presenting data gathered over a year comparing the performance of three groups based on reading skill levels, in the areas of academic and study skills achievement, and study attitudes. Data were gathered from Diploma credits earned by students each term, and from two surveys of students administered at the beginning and end of the academic year. The total year's Diploma credits for each group, which incorporate both study skills and academic achievement will be reported first, then the academic performance of each group over the year. Diploma credits for each study skill will be separately reported, together with trends in students' perceptions of their performance before the Diploma Programme and at the end of the year. Changes in trends in student attitudes are then described, and finally, trends in student perceptions of the usefulness of The Diploma Programme.

### Total Diploma Credits

A one-way analysis of variance was performed on the group means for the total Diploma Credits to determine whether accumulation of credits varied as a function of reading skill level. As expected, there was a significant difference between groups,  $F(2,30) = 4.25$   $p < .05$ . An examination of the means (see Table 1) shows that both the Moderate Group and the Low Group were approximately 1 standard deviation below the High Group. Mean Effect sizes were calculated between each of the Low and Moderate groups in relation to the High Group, with the variance estimate based on the total sample. For the Low Group, the Mean Effect

Size was  $-1.0$ , and for the Moderate Group, the Mean Effect Size was  $-1.08$ . These Mean Effect Size data show that there was considerable difference between the Low and Moderate groups relative to the High Group. Also, the Effect Size data indicate that the average student in the Low Group scored 1 standard deviation unit below the average student in the High Group, and the average student in the Moderate Group scored 1.08 standard deviation units below the average student in the High Group.

Table 1

Diploma Credit Data as a Function of Reading Group

Mean and Standard Deviation at end of Year

Group	<u>n</u>	<u>M</u>	<u>SD</u>
High	9	587.89	84.26
Moderate	10	477.00	119.82
Low	14	485.57	75.61

Academic Achievement

Students had the opportunity to gain up to 126 Academic credits half yearly, a total of 252 Academic credits for the school year. The following 2-way ANOVA examined whether academic achievement varied according to reading levels. There were significant main effects for Group  $F(1,30) = 5.21, p < .05$  and Time  $F(1,30) = 12.37, p < .01$ , but the Group by Time interaction was not statistically significant ( $p = .75$ ). Scheffe individual comparisons of means showed that the Group effect was due to both the Moderate and Low groups obtaining significantly lower credits than

the High Group. The difference between the Low and Moderate groups was not statistically significant ( $p = .99$ ). The significant Time effect was caused by fewer credits being obtained at the end of the year in comparison to the beginning of the year for the total sample. Means for Academic Credits are shown in Table 2.

Table 2

Academic Credit Data as a Function between Reading Group Means and Standard Deviation at Mid Term and End of Year

Group	Mid Term			End of Year		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
High	9	96.22	15.13	9	86.56	22.86
Moderate	10	74.40	18.59	10	65.30	20.63
Low	14	72.07	18.73	14	66.21	15.87

Attendance and Punctuality

Teachers in each curriculum area monitored credits given to students for specific study skills during each teaching period, to ascertain whether the Diploma Programme was associated with changes in study behavior over the year. Study behaviour is defined by the school as, attendance and punctuality, bringing correct equipment to class, co-operation in class, and completion of homework and class work.

A maximum of 28 credits each term was available for attendance and punctuality. An ANOVA of Attendance/Punctuality Credits revealed that none of the effects was statistically significant. Means for Attendance/Punctuality Credits are shown in Table 3.

Table 3

Means and Standard Deviations of Attendance/Punctuality Diploma Credits for the Reading Level Groups over the Four Terms

Attendance/Punctuality Diploma Credits													
		Term One			Term Two			Term Three			Term Four		
Group	n	M	SD	n	M	SD	n	M	SD	n	M	SD	
High	9	25.67	2.65	9	22.89	3.79	9	24.44	4.56	9	22.89	6.94	
Moderate	10	25.20	3.12	10	23.00	5.19	10	24.50	2.12	10	24.60	4.03	
Low	14	24.86	4.19	14	20.50	8.17	14	19.43	6.72	14	23.07	3.93	

Data from the item relating to students' perception of their punctuality are shown in Figure 1. All groups say they tend to be on time for class, reporting that they 'Mostly' or, 'Always' were on time for class in both term 1 and term 4. There is very little movement by the High and Moderate groups between term 1 and term 4, however, the Low Group reported a tendency to be less on time by the fourth term.



areas monitored. The ANOVA resulted in significant main effects for Group  $F(2,30) = 4.20, p < .05$  and Time  $F(1,30) = 48.84, p < .01$ , but the Group by Time interaction was not statistically significant ( $p = .20$ ). Scheffe individual comparisons of means showed that the Group effect was due to the Moderate Group obtaining significantly lower credits than the High Group. The difference between the Low and Moderate groups was not statistically significant ( $p = .91$ ). The significant Time effect was caused by fewer credits being obtained at the end of the year in comparison to the beginning of the year for the total sample. Table 4 shows the Means for Homework Credits.

Table 4

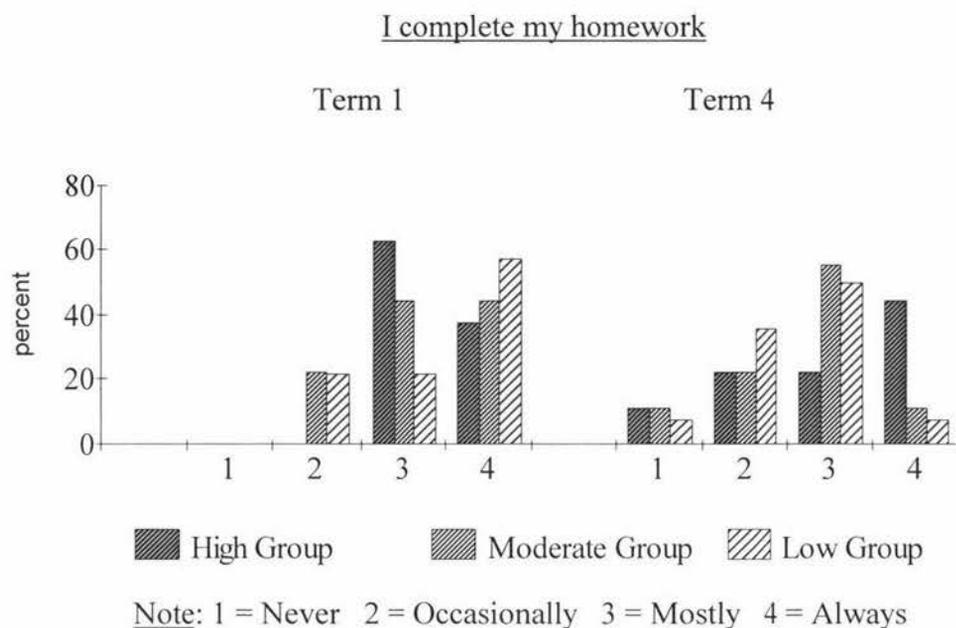
Mean and Standard Deviation of Completion of Homework Diploma Credits by the Reading Level Groups over the Four Terms

Completion of Homework Diploma Credits												
Group	Term One			Term Two			Term Three			Term Four		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
High	9	12.67	1.80	9	10.89	2.26	9	9.89	2.32	9	9.22	3.42
Moderate	10	9.00	4.00	10	7.90	3.38	10	7.90	3.14	10	6.40	3.81
Low	14	10.57	2.21	14	7.71	3.12	14	7.29	3.05	14	5.79	2.64

The trend of increasing non-completion of homework by the three groups is mirrored in the students' own responses as shown in Figure 3. Both the Moderate and

Low groups showed a movement away from ‘Always’ to ‘Mostly’ and ‘Occasionally’, while the High Group spread responses into ‘Occasionally’. Overall the three groups reported completing less homework in term 4.

Figure 3.



### Equipment

Every student could gain a total of 14 equipment credits each term. For equipment credits, significant main effects from the ANOVA were observed for Group,  $F(2,30) = 7.51, p < .01$  and Time,  $F(1,30) = 21.46, p < .01$ . The Group by Time interaction effect was not significant,  $F(2,30) = 1.70, p < .20$ . Scheffe individual comparisons of means showed that the Group effect was due to the Low Group and the Moderate Group both obtaining significantly lower credits than the High Group. However, the difference between the Low and Moderate groups was not statistically significant. The significant Time effect was caused by fewer credits being obtained at the end of the year in comparison to the beginning of the year for the total sample. Means for Homework credits are shown in Table 5.

Table 5

Mean and Standard Deviation of Equipment Diploma Credits by the Reading Level Groups over the Four Terms

Equipment Diploma Credits												
Group	Term One			Term Two			Term Three			Term Four		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
High	9	14.00	0.00	9	12.44	1.42	9	13.00	1.50	9	12.67	1.66
Moderate	10	11.10	2.69	10	11.40	2.69	10	11.50	2.69	10	10.00	2.62
Low	14	12.71	1.27	14	11.14	1.83	14	11.50	2.14	14	10.21	1.81

Although there was no significance in equipment credits between the three groups for bringing correct equipment to school, a trend can be seen in data supplied by the students themselves as shown in Figure 4. All three groups reported high levels of bringing equipment in term 1. The Low Group reported a similar frequency of bringing equipment in both term 1 and term 4, but the High and Moderate groups reported a strong decrease in frequency from 'Always' to 'Mostly' in term 4.



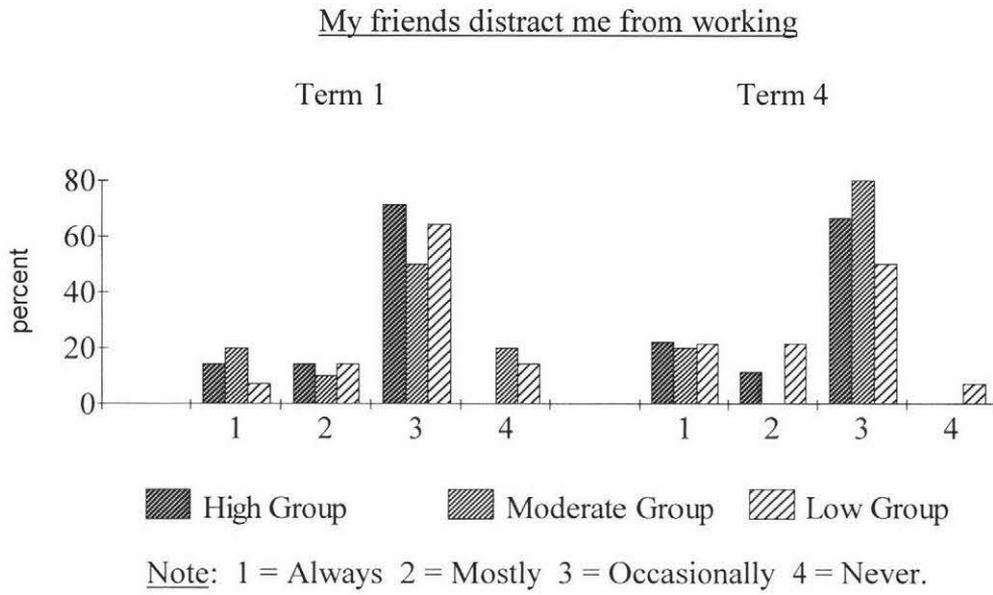
Table 6

Mean and Standard Deviation of the Reading Level Groups' Social Co-operation  
Diploma Credits over the Four Terms

Social Co-operation Diploma Credits												
Group	Term One			Term Two			Term Three			Term Four		
	n	M	SD	n	M	SD	n	M	SD	n	M	SD
High	9	24.11	2.76	9	24.00	3.16	9	24.78	3.53	9	23.44	5.00
Moderate	10	18.30	6.09	9	19.33	5.92	10	19.30	5.12	10	18.20	6.07
Low	14	22.00	2.48	14	21.21	4.48	14	21.00	5.08	14	21.14	5.13

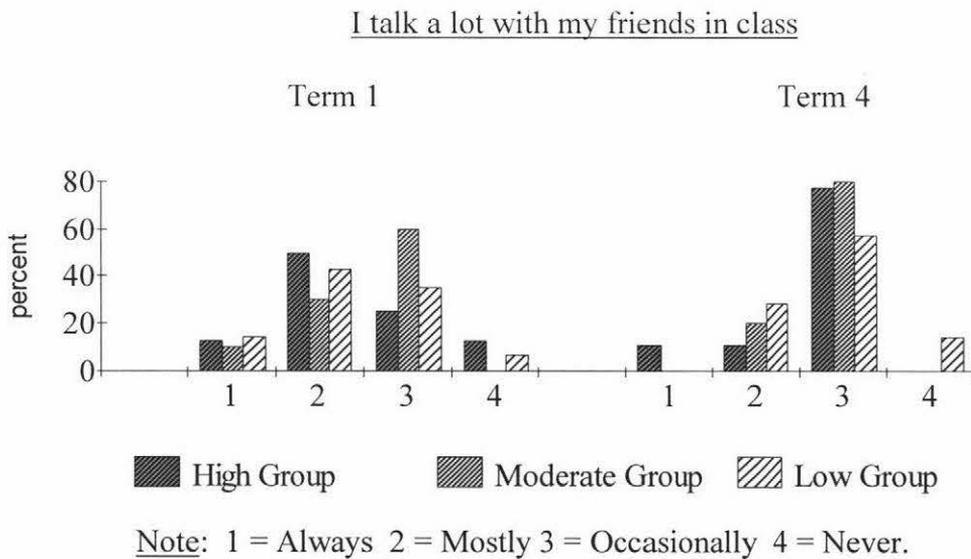
Data relating to whether students believed their friends distracted them from working at school are shown in Figure 5. The three groups showed a tendency to believe that they were more distracted by the end of the year. However the three groups tended to cluster on the 'Occasionally' category in both terms with the High and Moderate groups increasing their number in this category in term 4, and the Low Group showing a slight decrease.

Figure 5.



The three groups showed a movement away from talking to their friends in class from term 1 to term 4 as shown in Figure 6 where they scored well in the ‘Occasionally’ category.

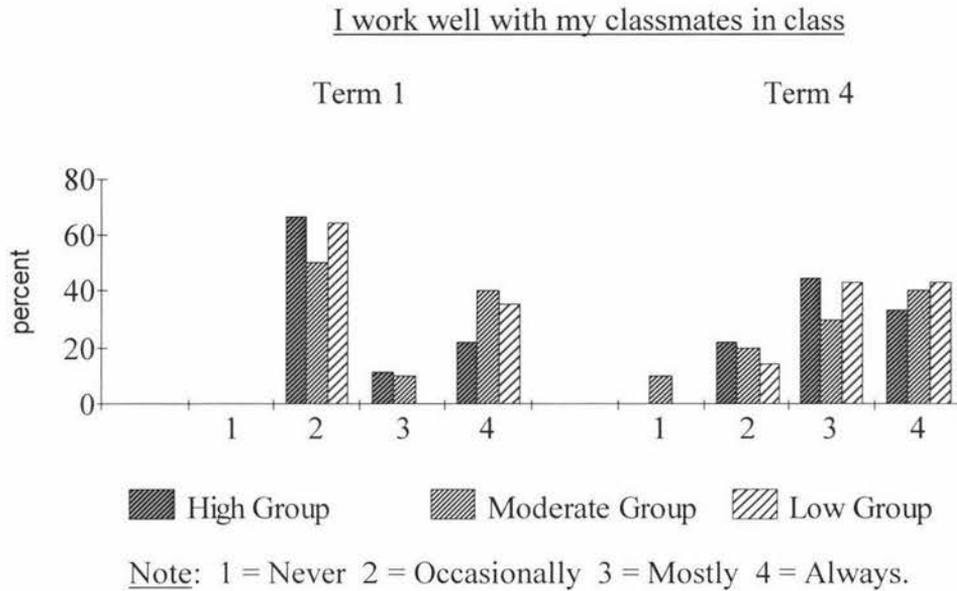
Figure 6.



Data from the question relating to whether students believed they worked well with their classmates are shown in Figure 7. A positive movement for the three

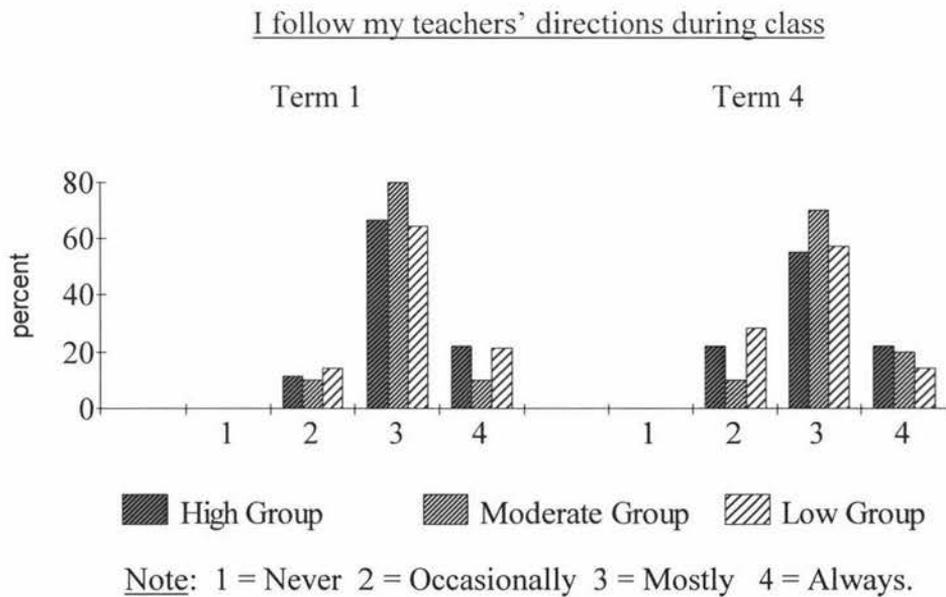
groups towards ‘Mostly’ and ‘Always’ in term 4 indicated all groups believed they worked better with classmates by the end of year.

Figure 7.



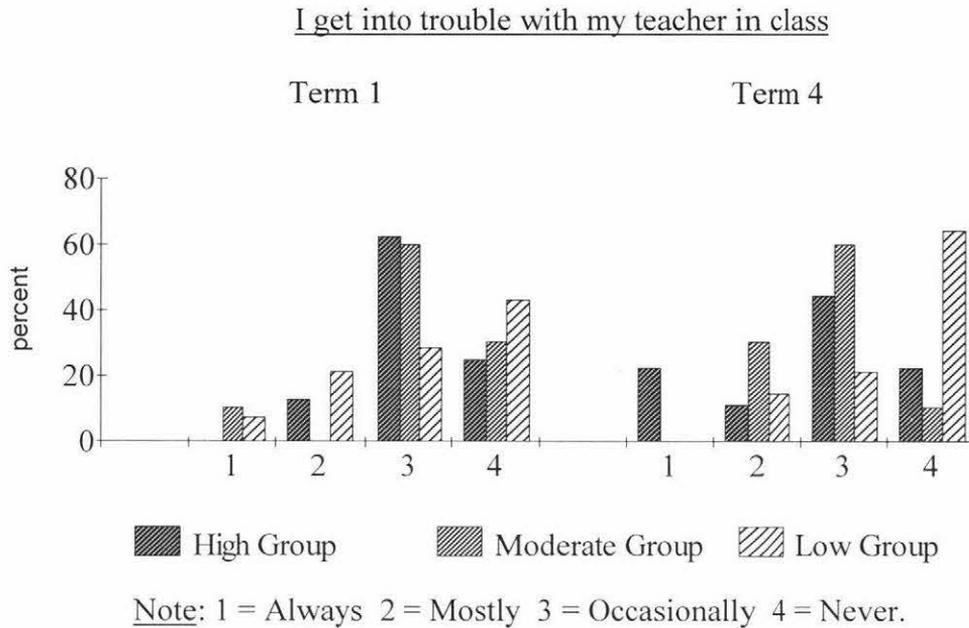
Data from the question relating to whether students followed their teacher’s directions during class are shown in Figure 8. In both term 1 and term 4 most students in all groups responded ‘Mostly’ to following their teacher’s directions during class.

Figure 8.



The three groups indicated that they did ‘Occasionally’ get into trouble in both terms, as shown in Figure 9. Both the Moderate Group and the Low Group were more positive in their attitude in term 4 while the High Group showed a small negative movement.

Figure 9.



### Completion of Class Work

Completion of class work required that students completed the work to their own skill level, before they left the classroom. Students could achieve up to 28 credits per term over all curriculum areas. The ANOVA showed significant main effects for the Group,  $F(2,30) = 5.60, p < .01$  and Time  $F(1,30) = 20.69, p < .01$ , but the Group by Time interaction effect was not statistically significant ( $p = .46$ ) Scheffe individual comparisons of means showed that the Group effect was due to the Moderate Group obtaining significantly lower credits than the High Group. However, the difference between the Moderate and Low groups was not statistically significant ( $p = .49$ ). The significant Time effect was caused by fewer credits being obtained at the end of the

year in comparison to the beginning of the year for the total sample. Means for Completion of Class work Credits are shown in Table 7.

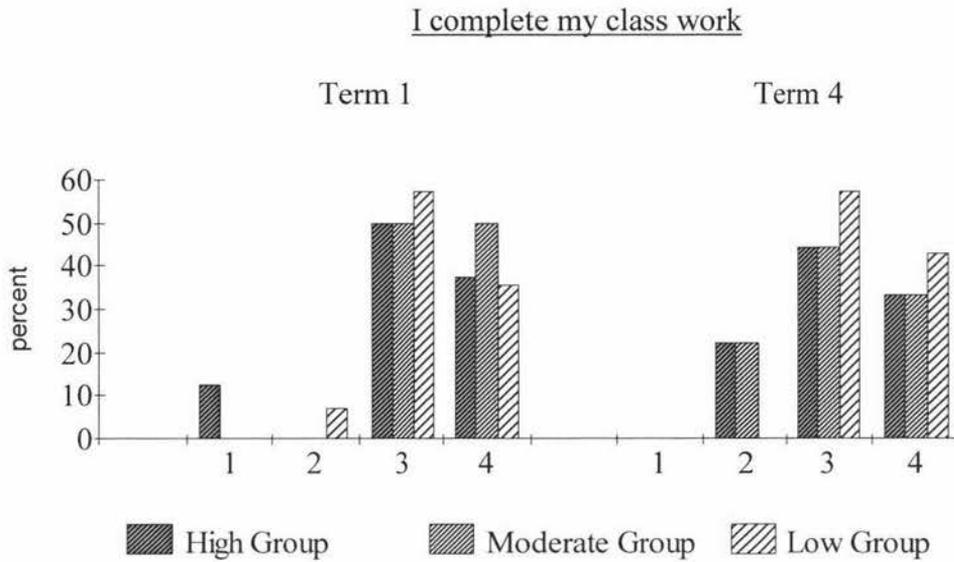
Table 7.

Mean and Standard Deviation of the Reading Level Groups' Completion of Class Work Diploma Credits over Four Terms

Completion of Class Work Diploma Credits												
Group	Term One			Term Two			Term Three			Term Four		
	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>	<u>n</u>	<u>M</u>	<u>SD</u>
High	9	26.89	1.36	9	24.22	2.91	9	24.78	2.28	9	23.81	4.48
Moderate	10	19.90	6.49	9	19.10	6.08	10	18.90	5.40	10	17.33	6.19
Low	14	23.14	3.44	14	20.21	5.53	14	19.80	4.50	14	18.71	5.36

Figure 10 shows a small positive movement in the High and Low groups' reporting of completion of class work from term 1 to term 4 while the Moderate Group decreased slightly. The Low Group lifted their scores slightly in the 'Always' category in Term 4.

Figure 10.



Note: 1 = Never 2 = Occasionally 3 = Mostly 4 = Always.

### Academic Self-Efficacy

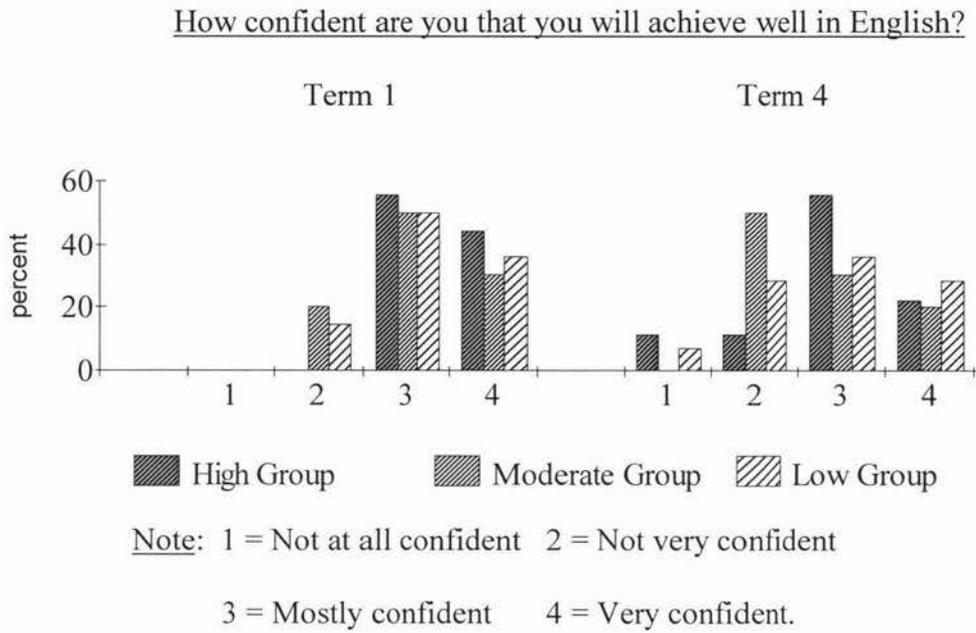
A 2-way ANOVA performed on Academic Self-Efficacy Credits revealed that none of the effects was statistically significant in English ( $p = .90$ ), Mathematics ( $p = .89$ ) or Science ( $p = .40$ ) at either Term 1 or Term 4. However, when the data from the following questions;

1. How confident are you that you will achieve well in English?
2. How confident are you that you will achieve well in Mathematics?
3. How confident are you that you will achieve well in Science?

are examined, it will be noted that trends can be seen in the academic self-efficacy of the three groups.

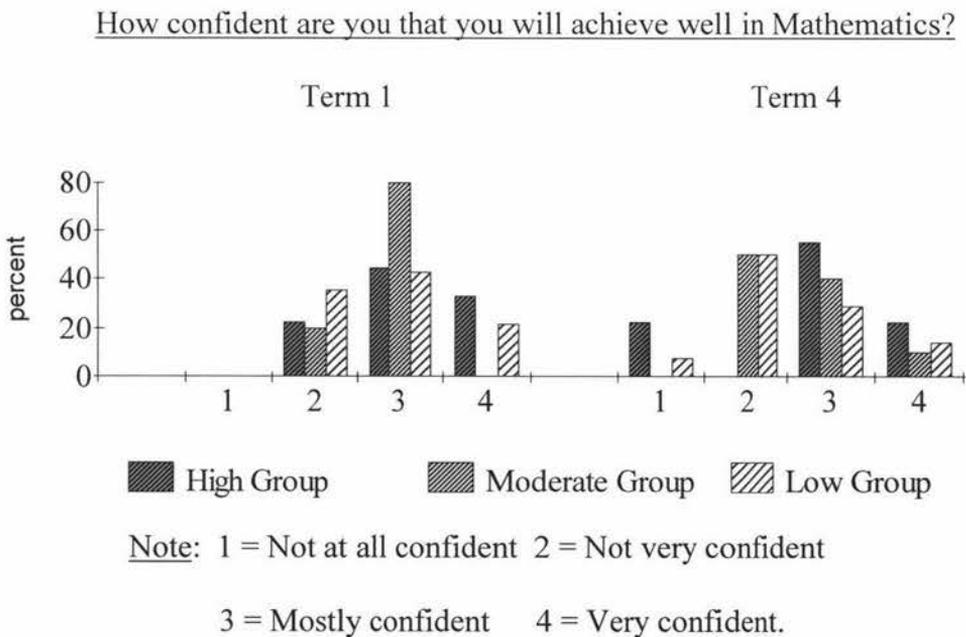
Data from the question relating to English self-efficacy are shown in Figure 11. The trend for all groups' to have high self-efficacy in English in term 1 is not maintained in term 4, with all groups decreasing in self-efficacy. The High Group tended to maintain a higher self-efficacy than the Moderate and Low groups.

Figure 11.



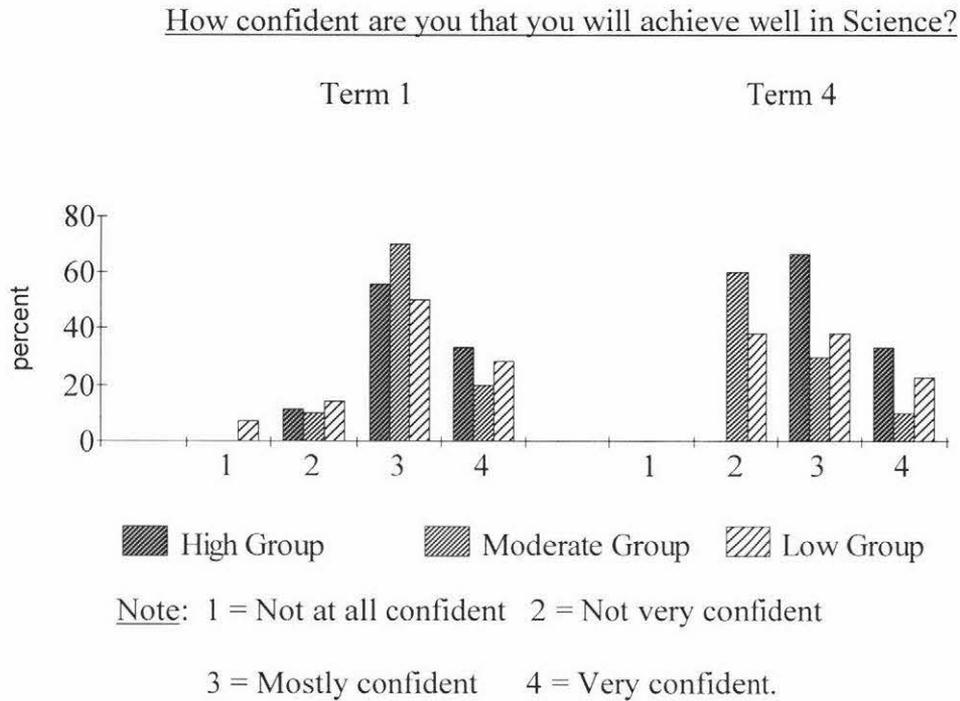
Data from the question relating to Mathematics self-efficacy are shown in Figure 12. All groups showed a trend in decreased self-efficacy overall from term 1 to term 4. By term four, the High Group indicated they tended to have higher self-efficacy than the other groups in Mathematics.

Figure 12.



Data from the question relating to Science self-efficacy are shown in Figure 13. The Moderate and Low groups showed a decrease in self-efficacy, particularly the Moderate Group, while the High Group showed little change.

Figure 13.



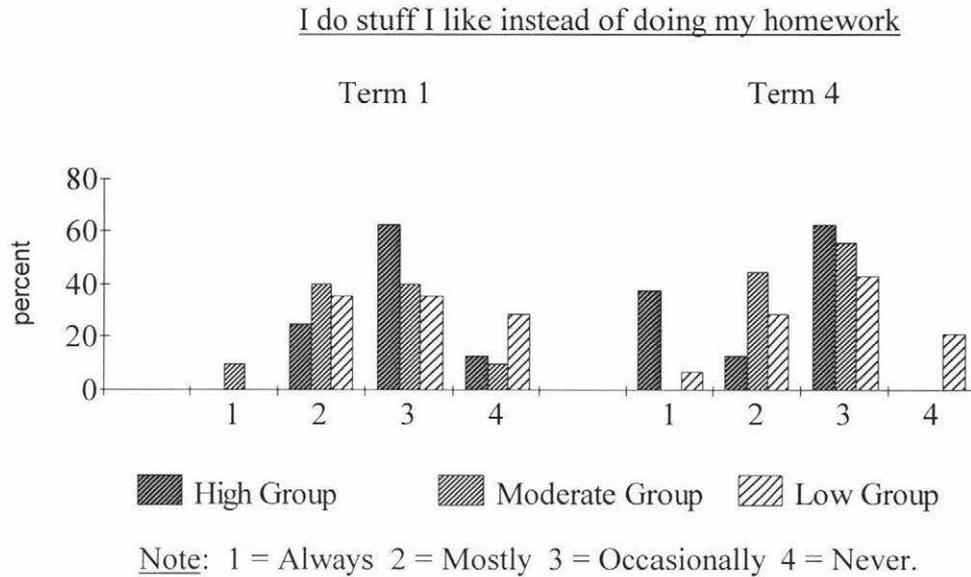
Motivation

A 2-way ANOVA performed on the Motivation Scales revealed that none of the effects was statistically significant in “I do stuff I like instead of doing my homework ( $p = .71$ ), “I leave assignments until the last moment” ( $p = .16$ ), “I find it hard to have any energy to do my school work” ( $p = .90$ ), “I still come to school when I am bored or upset” ( $p = .60$ ), “Getting good marks is important to me” ( $p = .98$ ) at either term 1 or term 4.

The trends for the three groups are shown in the following Figures. Reverse scoring was used in Figure 14, Figure 15, and Figure 16. Figure 14 reflects the three

groups' procrastination in relation to completion of homework, which increased from term 1 to term 4, particularly with the High Group.

Figure 14.



In relation to completion of assignments Figure 15 shows that both the High and Low groups tended to procrastinate more in term 4 than term 1, while the Moderate Group's tendency to leave assignments to the last moment decreased.

Figure 15.

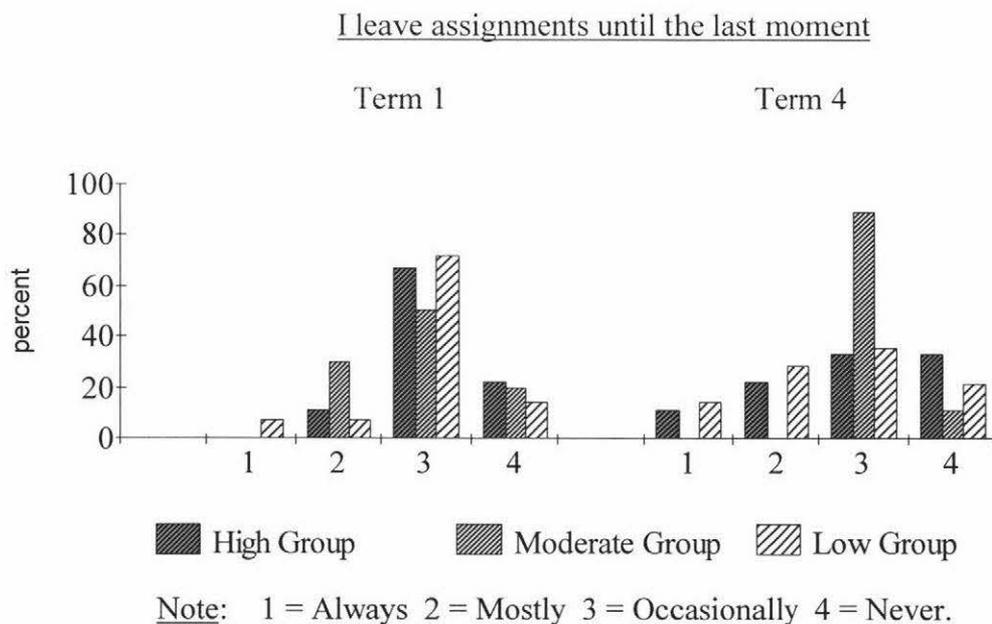
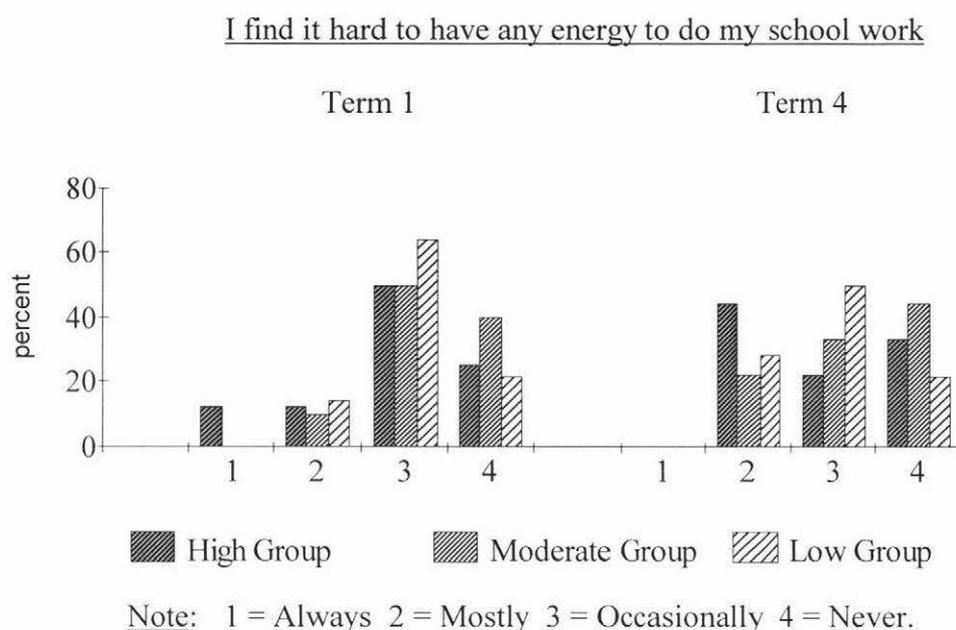


Figure 16 show the range of reactions of the three groups in term 1 and term 4 in relation to having energy for schoolwork. Generally all three groups' energy levels for schoolwork decreased in term 4, with a movement from 'Occasionally' to 'Mostly'. The High Group showed the greatest movement.

Figure 16.



There was some difference between term 1 and term 4 in the students' perception of whether they still came to school when they were bored or upset, as shown in Figure 17. The overall trend was for all three groups to not attend when bored or upset, however, by term four the Moderate and High groups showed more tendency to come to school when bored or upset, while the Low Group showed less tendency. The three groups showed a consistency of response in their attitude towards not attending school when bored or upset in term 4, with the High Group attending the most, followed by the Low Group, then the Moderate Group.

Figure 17.

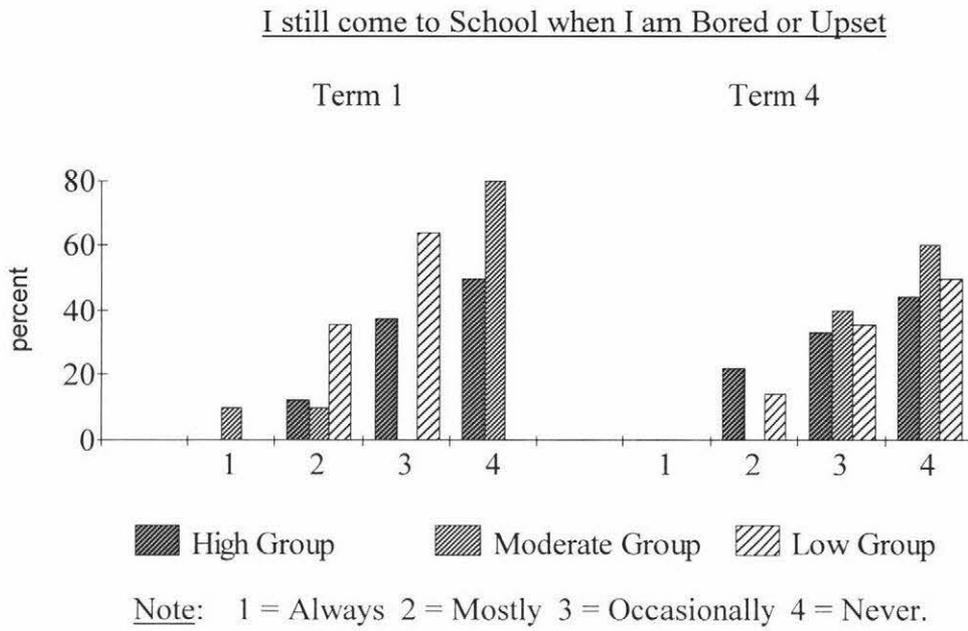
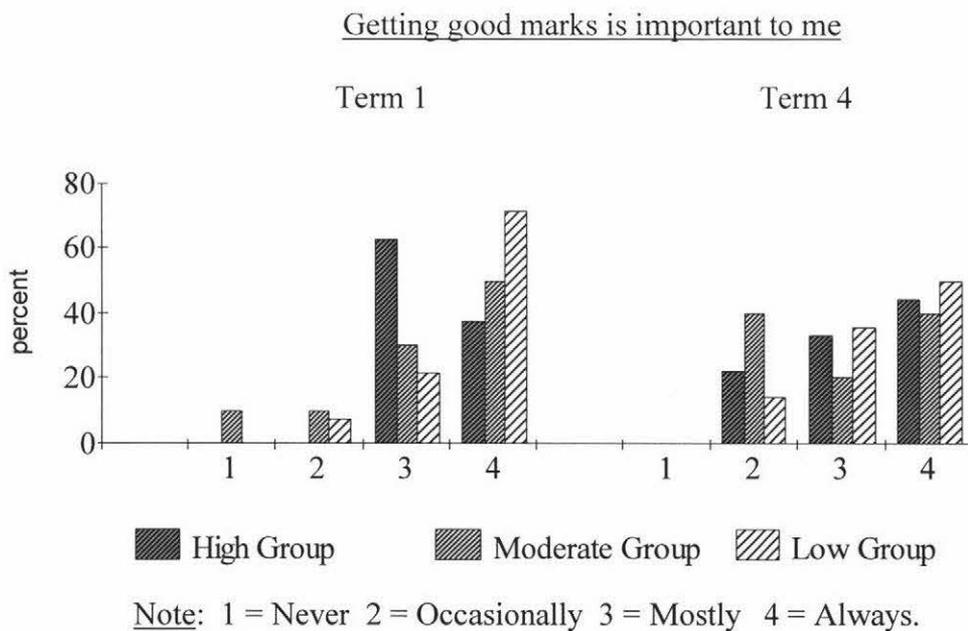


Figure 18 shows the tendency from term 1 to term 4 for the three groups to decrease their belief that good marks are important to them, with the Low Group decreasing the most.

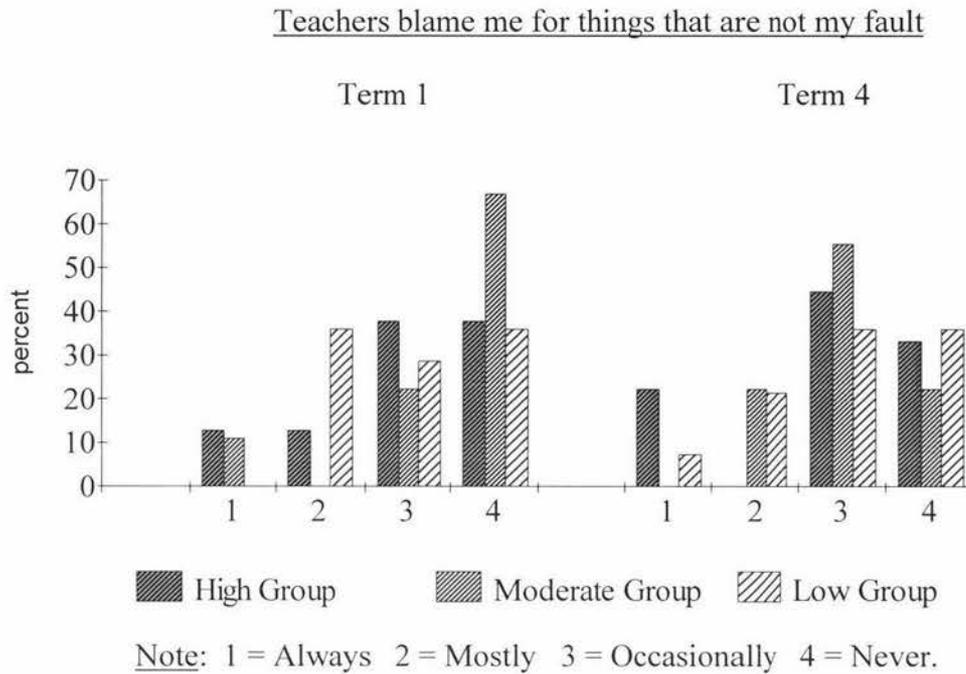
Figure 18.





groups tended to believe that teachers ‘Mostly’ or ‘Always’ did not blame them for things that were not their fault. Both the Low and Moderate groups showed a small positive movement in Term 4 while there was a negative movement by the High Group.

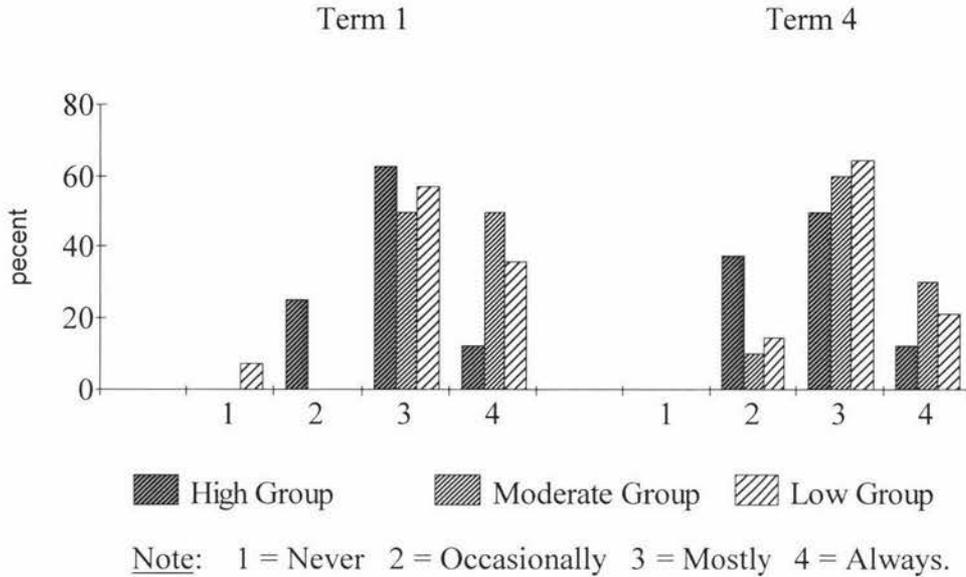
Figure 20.



Data from the question, “When I do well on an assignment it is because I figured out how to do it myself” are shown in Figure 21. In terms 1 and 4 while all groups showed a trend to become more negative, the Low and Moderate groups believed more highly than the High Group that they could successfully ‘figure out’ their own assignments, scoring well in the ‘Mostly’ and ‘Always’ categories.

Figure 21.

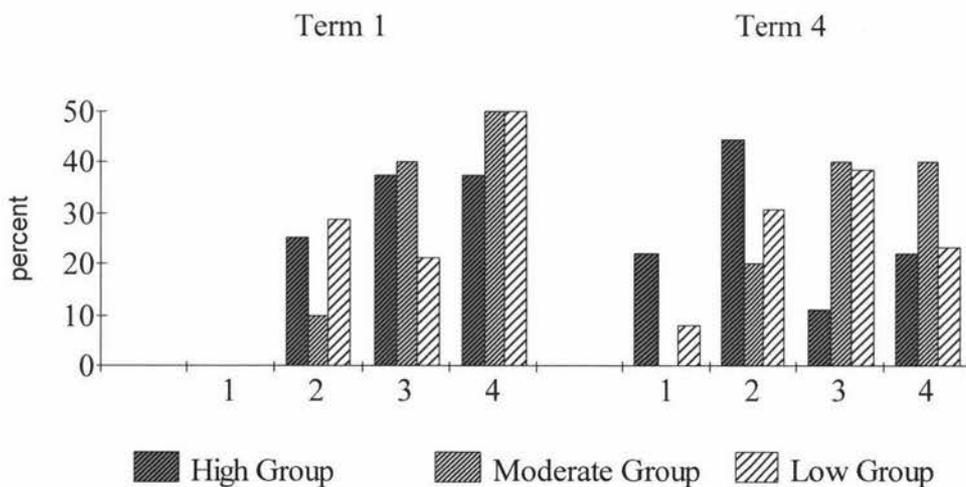
When I do well on an assignment it is because I figured out how to do it myself



In term 1 all groups in Figure 22 perceived that doing their homework helped them do well in their subjects with the Moderate Group scoring higher than the other two groups. However, in term 4 there was a wider range of responses showing a more negative attitude. This negative trend was particularly evident with the High Group.

Figure 22.

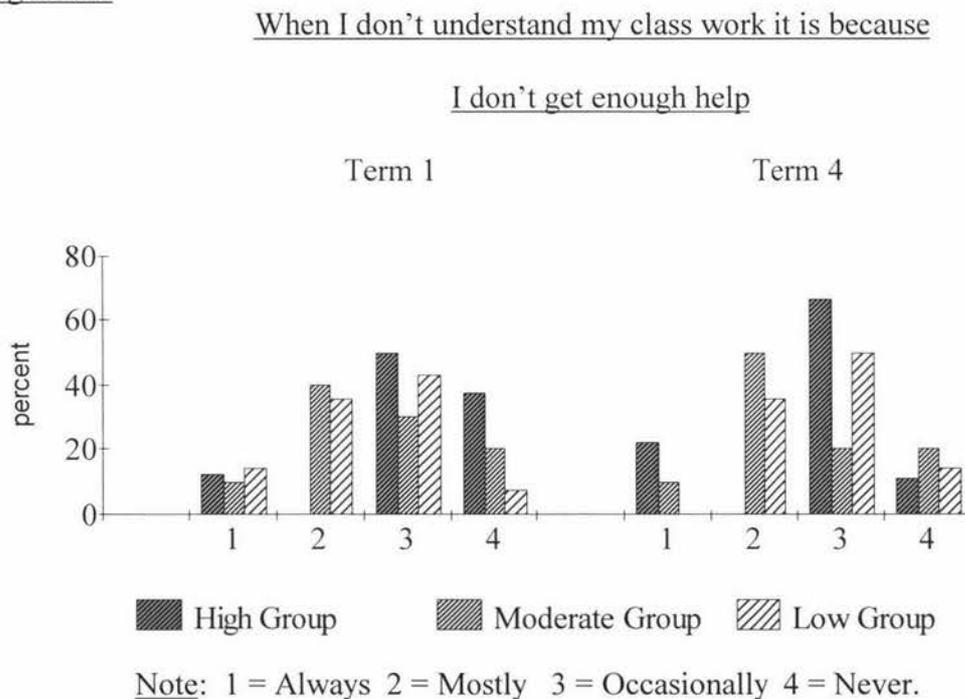
Doing my homework helps me to do well in my subjects



Note: 1 = Never 2 = Occasionally 3 = Mostly 4 = Always.

Data from Figure 23 showed responses to students' belief about not understanding their class work due to not enough help. The Moderate and High groups made a slight increase from term 1 to term 4 in believing they did not receive enough help. However, the Low Group showed a small positive movement away from 'Always' towards 'Occasionally' and 'Never' in term four. The Moderate Group tended to believe more than the High and Low groups by term four that they did not get enough help to understand their work.

Figure 23.

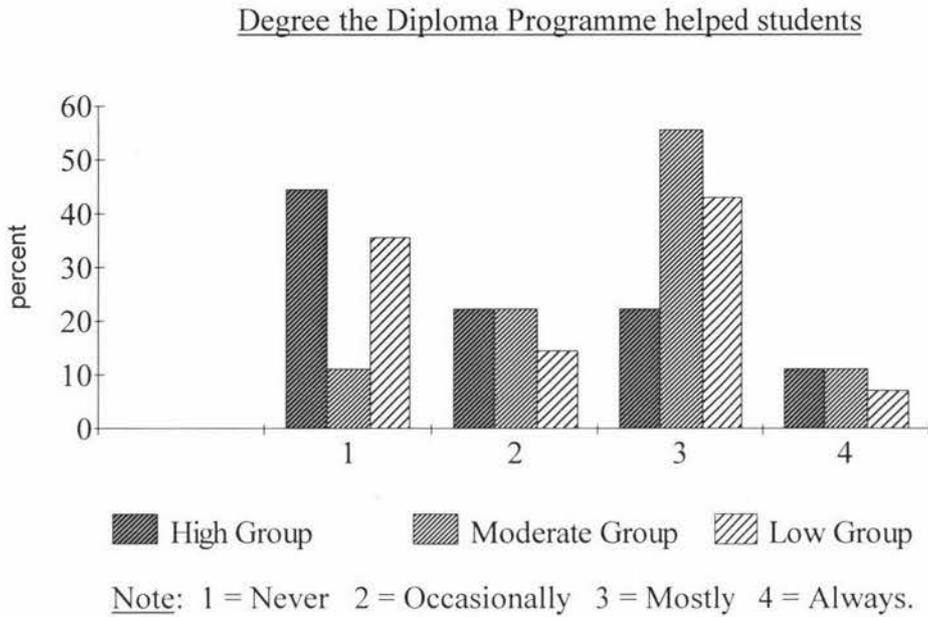


Student Perceptions of The Diploma Programme

Students were asked in the second survey whether they believed the Diploma Programme helped them, as shown in Figure 24. Responses polarised between 'Never' and 'Mostly' with the Moderate Group responding the highest in the 'Mostly' category followed by the Low Group, and both the High and Low groups

responding highly in the 'Never' category. Both the High and Low groups had a number of students indicating that the Programme did not help them at all.

Figure 24.



Appendix I contains students' comments from the second survey as to why they found the Diploma Programme helped them or did not help them be a better student. Similar responses were made by the three groups. There were three predominant student responses as to why The Diploma Programme was helpful. Students felt motivated to work because they had a goal to achieve, were afraid of failure, or received feedback on their progress, which motivated them to work. There were two predominant student responses as to why The Diploma Programme was not helpful. Firstly, The Diploma Programme did not influence their behaviour because either they had chosen to work or not to work anyway, or secondly, they reported The Diploma Programme placed too much stress on them.

The Effectiveness of The Diploma Programme from the Perspective of  
Teachers and Teacher Aides

Appendix H contains a transcript of the meeting held at the end of the school year with representatives of the teachers and teacher aides involved in The Diploma Programme. The meeting found the following study skill areas had improved:

1. Punctuality but not attendance.
2. Equipment
3. Behaviour
4. Homework

The Meeting found that Year 9 students are “Diploma friendly” and have done better than the Year 10 students. Also that The Diploma Programme makes a difference with those students who are borderline.

## CHAPTER VI

### DISCUSSION

Results from this study suggest that The Diploma Programme seemed to positively influence academic achievement and most study skills in the first term for all students, regardless of level of reading skill. However, the tendency for students' academic attitudes, academic performance, and study skills, to drop after term one, indicates that the positive influence of The Diploma Programme waned over the year. Students in the Moderate or Low groups, who had commensurate moderate or low reading skills, tended to perceive The Diploma Programme as more useful in helping them become successful students than students in the High Group who had high reading skills. The results also indicate that the comparatively higher levels of study skills, academic attitudes, and academic achievement for the group with high reading skills, is a function of reading skill. The High Group exhibited a significantly higher level of academic achievement and study skills, and tended to report more positive attitudes towards study, than the Moderate or Low groups. However, study skills and attitudes seem to also affect academic achievement across reading skill level, with both the High and Low groups achieving higher levels of study skills, academic attitudes, and academic achievement, than the Moderate Group.

#### Overall Diploma Achievement in Relation to Reading Skill Level

Academic achievement and study behaviour is shown to be a function of reading skill for students in the High Group, who had a significantly higher mean for overall Diploma performance in academic achievement and study skills than students in either the Moderate or Low groups. These results agree with previous research

(Nicolls, 1992; Reglin, 1993) that students with higher literacy skills tend to achieve more highly, both academically and in relation to study skills, than those who have lower literacy skills. However, results for the Low Group indicate that academic achievement and study behaviour is not necessarily a function of reading skill when attitudinal factors influence study skill performance. The Low Group achieved a slightly higher result for total diploma credits than the Moderate Group, and this is consistent with research findings that attitudinal factors can influence academic self-regulation, and therefore academic achievement (Alderman, 1999; Bandura, 1997). In this case, despite differences in literacy level, the Low Group's personal cognitions resulted in them being more persistent in using study skills than the Moderate Group who had higher reading skills (Bandura, 1997; Pintrich & Schunk, 1996) so that they achieved slightly higher overall academic and study skills credits.

#### Academic Achievement

The Diploma Programme has not succeeded in maintaining or increasing academic achievement over the year. All students showed a decline in academic achievement, particularly those in the High Group, who showed a slightly larger drop in academic credits than the other groups in the second half of the year. There are many interrelated factors that could have influenced this drop in overall academic achievement. Perhaps the key factor is the drop in some study behaviours for all groups after the first term, for example the drop in completion of class-work and homework. Research has linked study skills with academic achievement (Pintrick, et al., 1999; Zimmerman et al., 1996) and certainly in this study, a drop in study behaviours is reflected by a commensurate drop in academic achievement. There was also a trend for groups to report lowered motivation, internal locus of control, and academic self-

efficacy over the year. Such attitudes may have affected academic achievement by influencing the amount of effort expended on study (Alderman, 1999; Bandura, 1997).

The school's rationale for the implementation of The Diploma Programme was that the junior students included a significant minority with entrenched negative study behaviours and attitudes. The Year 10 students, who were part of this study, were already part of this trend for junior students to exhibit poor study skills and attitudes. Results of this study indicating a drop in academic achievement and study behaviours over the year, are consistent with research findings that it takes intensive intervention over several years to change entrenched study attitudes and behaviours of those at risk of failing (Coil, 1997; Flink et al., 1992). However, the Year 9 students seem to be positively influenced by the school's new emphasis on study skills. The teachers and teacher-aides reporting on the effectiveness of The Diploma Programme found that the Year 9 students were more 'Diploma-friendly' than the Year 10 students. Their feedback agrees with research showing that Year 9 students will attempt to make sense of their new school environment through attending to the school's educational practices and policies (Anderman, et al., 1999; Maehr & Midgely, 1996).

Furthermore, students from the study school tend to come from families with low SES. The overall SES of the student intake can also have contributed to The Diploma Programme not maintaining or increasing academic achievement over the whole year (Blossfeld & Shavit, 1991, cited in Coxon et al., 1994; Nash, 1993; Nash & Harker, 1994). Recent New Zealand research maintains that a more accurate and fair way of assessing a school's performance takes into account the concept of 'added value,' or "the contribution of an individual school once full recognition has been given to the nature of its intake"(Nash & Harker, 1997, p.10). The results of this programme need to be seen within a context where more effort and time is required to

change the negative habits and attitudes acquired by students who tend to have problems associated with poverty, health, housing, employment, family circumstances and attitudes, and social welfare (Hill & Hawk, 1998).

The overall drop in Year 10 students' study behaviours and academic achievement could be further exacerbated by a factor common to high schools affecting academic motivation, and that is the curriculum-driven nature of a high school classroom, where teachers have deadlines to meet. This may result in some students not being able to achieve at their own skill level because work is either too hard or too easy for them, so that they lose motivation to achieve academically (Rimm, 1995). The teacher aides in each of the junior curriculum classes certainly help support students who are having difficulty with the skills and concepts taught. However, because curriculum teachers at high school do not consistently provide work and develop resources that match the learning needs of those who need extension and those who need more support, students' academic self-efficacy, motivation, and internal locus of control can be affected, so discouraging the development of self-regulated learners. As well as the present curriculum-driven high school structure, the National Certificate Educational Assessment NCEA for year 11 students is placing further demands on high school teachers' time and energy. This means many teachers will have less time in the future to provide resources for all student learning needs to be met.

The High Group achieved significantly more academic credits, both by mid-year and the end of year, than the Moderate and Low groups, while the Low Group achieved slightly more credits than the Moderate Group. Again, although both these results seem contradictory to each other, when examined in the light of current research they are quite complimentary. Research has shown that those with high reading skills

tend to achieve more highly than those with lower reading skills (Roeser et al., 1996). Further, self-attributions and achievement have been shown to interrelate with or influence each other. Students who see 'effort' as affecting learning outcomes, tend to persist when they experience failure and are then more likely to complete class work (Alderman, 1999; Hunter & Barker, 1987; Skinner, Wellborn, & Connell, 1990; Stipek, 1998)

### Study Skills

Results from this study indicate that The Diploma Programme positively influenced most study skills in the first term, but that this influence lessened over the rest of the year. In term one, all students initially showed a high level of punctuality and attendance, correct equipment, and completion of class-work. However, attendance and punctuality dropped after term one for all students, as did class-work completion and bringing correct equipment. These results are consistent with research showing that increasing previously low levels of study behaviours, requires regular feedback and systematic teaching of skills over time to internalise the self-regulatory process (Schunk & Zimmerman, 1994). The teachers and teacher aides who took part in this programme also acknowledged the need for initial systematic teaching of study skills and regular feedback. The study behaviours that still stayed relatively high when compared with other study skill areas were bringing correct equipment, and attendance and punctuality, which were monitored more regularly than completion of homework. For example, correct equipment and attendance and punctuality were monitored on a daily basis in many classrooms, immediately students walked into the room. Further, those who had worked with this year group the previous year noted at the end-of-year

meeting evaluating The Diploma Programme, that there was a distinct improvement in punctuality (although not attendance) and correct equipment since it was introduced.

The study skill 'co-operation' is an exception to the trend of students showing initially high levels of performance which then drop over the year. The Diploma points showed that students in the High and Low groups exhibited a high level of co-operation in the classroom all year. Further, all groups reported a trend towards working better with classmates, and talking less, while finding classmates more of a distraction. The school attached a great deal of importance to social co-operation with peers and teachers, allotting as many credits per term for co-operation as for class-work completion, and attendance and punctuality. However, the guidelines for social co-operation were not as clear as the other guidelines in the curriculum teachers' record book, leaving the allotting of credits up to the individual teacher's discretion in contrast with the specific specifications given for the other behaviours. Even so, it is notable that students were reporting an increase in co-operation with classmates, and the Moderate and Low groups reported a trend to get into less trouble with the teacher.

Results from the study skill area 'homework completion' do not seem to be positively affected by The Diploma Programme even in term one. Students showed a low level of homework completion in term one, then dropped further over the year. The trend over the year for students to complete less homework is reflected also in a considerable drop over the year in students' belief that doing homework helps in understanding class-work. Research results show that homework is an important aspect of achieving well academically (Cooper et al., 1998; Schunk & Zimmerman, 1998) because it teaches self-regulatory skills as well as giving opportunities to become more familiar with concepts taught in class. However the school might not have given students and caregivers an unequivocally clear message about its importance.

Homework would be only periodically monitored because it is due intermittently rather than on a daily basis at high school level. The intermittent nature of monitoring high school homework perhaps influenced students to believe it is not perceived by the school as important, as reflected in the considerable drop in students' belief that homework was useful or relevant to their understanding of class-work from term one to term four.

Results from the present research when comparing the High Group with the Moderate and Low groups indicate that study skill results did vary according to reading skill level. The High Group with its higher literacy skills showed a higher level of study skill performance than the other groups. Students in the High Group completed homework and class-work more often than students in the other groups, brought correct equipment more often, and co-operated more highly in the classroom. These results are consistent with research linking literacy levels with students' use of study behaviours. Students with high levels of skills in literacy have different ideas about the value and nature of knowledge, and how to acquire it, and are able to keep up with the curriculum-driven high school classroom. This results in students with high levels of literacy skills using higher levels of self-regulated academic behaviours than those with lower literacy skills (Nicolls, 1992; Roeser et al., 1996).

The comparatively lower performance in punctuality and attendance is an exception to the otherwise higher level of study skills for students in the High Group. Although results from the first term show students in the High Group had higher attendance and punctuality than the other two groups, those in the Moderate Group showed more punctuality and attendance than either students in the High or Low groups for the rest of the year. Stipek (1998) has stated that maintaining hard to reach

but obtainable goals was the key to success when changing behaviours, and students in the High Group were attending less regularly by term four when they would generally have believed they had achieved The Diploma. In contrast, The Diploma credits show that the students in the Low Group who had previously shown poor attendance, lifted their attendance and punctuality considerably in term four. The survey responses at the end of the year show awareness that they had dropped in attendance and punctuality from the beginning of the year which might have influenced their improved performance in term four. The performance of the Low Group is consistent with the observations of Csikszentmihalyi et al. (1993) and Schunk (1989) who pointed out that regular and unambiguous feedback on how well students are performing, influences their future performance.

Results from the present study also indicate that although literacy and numeracy skill levels are an important influence on study skill performance, students with a low level of literacy can still use more study skills than students with higher literacy skills. Although students in the Low Group had lower reading levels, they still showed a higher level of study skills in some areas, although these differences were not statistically significant. They achieved more homework credits than students in the Moderate Group in term one, while dropping a little below the homework level of those in the Moderate Group for the rest of the year. Students in the Low Group completed class-work almost to the level of those in the High Group in term one, then while dropping markedly in performance over the year, still completed class-work at a higher level than those in the Moderate Group. They showed a higher level of co-operation than students in the Moderate Group all year, and also tended to bring equipment at a slightly higher rate than those in the Moderate Group. The proximal goals set by The Diploma Programme, which reward

specific study skills, may have influenced these students with their low literacy levels to apply the effort necessary to use these study skills at a higher level than those with more reading skills. Students' comments from the Low Group about the effectiveness of The Diploma Programme seemed to support its use of proximal goal setting, with most seeing the Diploma helping them. The Massey University-trained teacher aide in each junior class who supports those who needed extra encouragement and direction with their learning and study skills, may have further encouraged those with low literacy skills to achieve well as may have the study centre through providing extra literacy and numeracy support.

Results from this study are consistent with research showing that study skills affect academic achievement (Alderman, 1999; Maddux, 1995; Schunk, 1986, 1995). The overall drop in study skills for the three groups after the first term coincided with their overall drop in academic achievement by the end of the year and individual group performance in study skills was also reflected in their academic achievement. Although as expected, students in the High Group had both a higher level of study skills and academic achievement than the other groups. Students in the Low Group tended to use more study skills, and also achieved slightly higher academically by the end of the year than those in the Moderate Group. While students in the Low Group showed overall a lower level of attendance and punctuality and completion of homework than those in the Moderate Group, they brought more equipment, completed more class-work, and co-operated at a higher level in the classroom throughout the year. Further, they were achieving at only a slightly lower level academically than the Moderate Group by the middle of the year, then slightly higher than them by the end of the year.

### Academic Attitudes

Students' academic attitudes towards study did not seem to be positively influenced by The Diploma Programme except for those in the Low Group, who reported a higher level of the internal locus of control factor 'effort' over the year than the Moderate and High groups. Students' study attitudes in this research do seem to be related to reading skill level, with the High Group exhibiting more positive attitudes than the Moderate or Low groups.

The Diploma Programme does not seem to be associated with positive changes in academic self-efficacy in the core curriculum subjects Mathematics, Science and English, with all groups tending to report lower levels by term four. The Low and Moderate groups showed the largest drops in self-efficacy, with the High Group only dropping slightly or not at all. Indeed, the Low and Moderate groups began the year with similar levels of high self-efficacy in the three core subjects as the High Group, and then dropped in self-efficacy to lower levels than the High Group. Self-efficacy is an important motivational factor and a strong predictor of future achievement (Bandura, 1997), so the dropping of academic self-efficacy over most areas is at first glance a little disturbing. However, it could be argued that students in the Moderate and Low Group needed to lower their self-efficacy to a more credible level indicative of their skill level, particularly as they initially tended to rate their self-efficacy as high as those in the High Group. Pajares and Johnson (1996) found that, although very low self-efficacy was detrimental to academic achievement, effective self-regulation did not require that self-efficacy was extremely high. Schunk and Zimmerman (1996) also found a lower self-efficacy was useful to develop self-regulation, because students tended to make more effort and use more self-regulatory strategies if there was some doubt they might not succeed in

a curriculum area. The students in the Moderate and Low groups certainly tended to develop a more realistic match between their present skills and academic achievement. Perhaps this was because they were receiving accurate and regular feedback as to their performance in the curriculum areas.

Although students in the High Group reported lower self-efficacy in English and Mathematics in term four than in term one, while showing no movement in Science, they still reported higher self-efficacy in term four than the other groups. A higher academic self-efficacy is expected from students with relatively high literacy levels (Rimm, 1995; Schunk & Zimmerman, 1996), and results from this study are consistent with results from other research, that self-efficacy seems to be related in a reciprocal way to students' actual achievement (Pintrich & Schunk, 1996; Zimmerman, Bandura, & Martinez-Pons, 1992).

Although academic self-efficacy has been shown by previous research to influence motivation and persistence (Pajares & Johnson, 1996; Stipek, 1998), results from this study show that the drop in motivation over the year in most areas for all groups was particularly marked for those in the High Group. For example, students in the High Group showed lower motivation on 'finding energy to do schoolwork' than the other groups in both surveys, and the self-reported growth in procrastination in completing homework and assignments by the groups, was particularly evident for those in the High Group.

A slightly larger drop in academic achievement over the year also mirrors the lower level of motivation for the students in the High Group when compared with the Moderate and Low groups. While the High Group maintained a much higher level of academic achievement than the other groups they did drop slightly more over the year. Research has shown that academic achievement tends to be lowered when

motivation to succeed academically declines (Alderman, 1999; Bandura, 1997; Schunk, 1990; Zimmerman, 1994). Because this school does not stream, there is a wide spread of skill level in each class. This may mean that there is a tendency for students in the High Group to find the class work not difficult and challenging enough to be sufficiently motivated to continue to maintain the high level of academic competency they are capable of (Stipek, 1998).

However, while academic motivation for the High Group tended to drop, results indicate that The Diploma Programme seems to have influenced them to maintain their belief in the importance of a high level of 'effort' to do well with schoolwork. This result is not unexpected, as it is a characteristic of high academic achievers (Covington & Manheim Teel, 1996; Middleton et al., 1996). However, The Diploma Programme also seems to have encouraged those in the Low Group to maintain their belief in the importance of a high level of 'effort'. For example, more students in the Low Group believed throughout the year that they '*Always can do better work if they tried*' than students in the Moderate Group. Previous research has shown that low academic achievers tend to have a lack of belief in personal control (Hunter & Barker, 1987; Nurimi, et al., 1995; Rimm, 1995), particularly at high school. However, results from this study indicate that The Diploma Programme can create a structure encouraging high school students with low literacy skill levels to continue throughout the school year to believe in the importance of 'effort' in doing well with school work. Further, this belief in the importance of 'effort' could be a contributing factor for students in the Low Group reaching a generally higher level of study skills and a higher level of academic achievement than students in the Moderate Group, in spite of their lower literacy skills. In contrast, while the Moderate Group continued to attend school at a higher level than the other groups, they showed more

growth in non-completion of class-work and homework, and in not bringing correct equipment. The results from the Moderate Group are consistent with findings from previous research that lack of belief in personal control increases use of self-handicapping behaviour such as task-irrelevant behaviour in the class-room and procrastination to complete homework and class work (Alderman, 1999; Hunter & Barker, 1987; Stipek, 1998). The Moderate Group's lack of belief in personal control is also reflected in their belief that they 'Mostly' do not get enough help to understand class-work, in contrast to the Low and High groups' tendency to respond 'Occasionally'. However, The Diploma Programme's structure of incremental goal-setting which emphasises on the importance of 'effort' seems to have encouraged the High and Low groups to continue to believe that 'effort' affects learning outcomes, a key belief of self-regulated learners (Eggen & Kauchak, 2001; Skinner et al., 1990).

#### Student Perceptions of The Diploma Programme

Students in all groups tend to perceive The Diploma Programme as useful in helping them be more successful students. Reasons were given around the themes of feeling pressure to work to pass The Diploma, having clear goals to aim for, and getting clear feedback on their progress. However, those in the High Group thought The Diploma helped them less to be effective students than those in the other groups, tending to provide reasons such as "they did not need it to achieve'. The reasons given as to why students found The Diploma Programme helpful or not helpful were similar for each group so did not relate to reading skill level.

## Summary

The high levels of study skill performance in most areas in term one, indicates that The Diploma Programme has an initial positive influence on study skill performance. However, this influence tends to weaken over the year, with lowered performance across reading levels in most study skills and attitudes monitored by this study. The commensurate drop in academic achievement for all groups seems to be linked to the overall drop in study skill levels and academic attitudes. The High Group with the highest level of literacy, achieved higher academically, and also tended to exhibit a higher level of study skill behaviour than the Moderate and Low Groups who had a lower level of literacy. However, although the High Group tended to exhibit higher academic self-efficacy over the year, they did not necessarily exhibit higher motivation.

Students in the Low Group seemed to be most influenced by The Diploma Programme. In spite of their lower literacy level, they often achieved as highly or higher in relation to academic performance, study behaviours and attitudes, as those in the Moderate Group. In term one for example, they completed class-work at nearly as high a level as students in the High Group, and by the end of the year were achieving slightly higher academically than those in the Moderate Group. The students' use of study behaviours is also reflected in their comments, which reflected that they found The Diploma Programme helped them stay on task in relation to their schoolwork. The self-regulated learning process interrelates with attitudinal factors such as attributions, achievement goals, and self-efficacy (Ames, 1987), and students in the Low Group tended to value 'effort' more than those in the Moderate Group. This attitudinal difference was reflected in the trend for students in the Low Group to

use higher levels of study skills than students in the Moderate Group and seems to have contributed to them achieving more highly academically by the end of the year.

The Diploma Programme has shown it can influence study performance in most areas, but its challenge is to encourage students to continue to use high levels of study skills across literacy skill levels all year, rather than in just the first term. Another challenge for this programme is to teach students to value study skills that at present they undervalue, such as completion of homework. Attitudinal attributes affect student study behaviour (Pintrich & Schrauban, 1992) and The Diploma Programme must maintain study motivation by encouraging students to adopt a positive but realistic view of their academic self-efficacy, and a strong belief in the attribute “effort”.

## CHAPTER VII

### CONCLUSION

While acknowledging that inferences about causality are often difficult to make in field research because of the many uncontrolled background variables, the findings of this study indicate that The Diploma Programme seems to initially influence students to perform highly in most of the monitored study skills and attitudes. Consistent with other research which argues that successful students are active learners who have a large degree of control over attaining academic goals (Nicolls, 1992; Schunk, 1995; Reglin, 1993), results from this study show that study skills and academic attitudes positively influence academic achievement, regardless of literacy skill level. However, The Diploma Programme tends to influence students' study skills and attitudes less effectively as the year progresses, which is reflected across literacy skill levels by students' lowered study skill performance, and lowered academic attitudes and achievement. The challenge is for the school to influence students to maintain a high level of study skills, academic self-efficacy, motivation, and effort for the whole year, so that they can maintain optimum levels of academic achievement. Aspects of The Diploma Programme can be changed to increase positive academic attitudes and study skills, however, such changes isolated from commensurate changes in the classroom and the wider school structures will still have limited effectiveness. The beliefs and structures of the wider school environment and the classroom also need to be tightly integrated with The Diploma Programme's aim to create self-regulated learners through encouraging the use of study skills.

Nash (1993) commented in his research that he found it hard to overstate the importance of the influence of literacy skill on academic achievement. Results from this study also find that reading skill level makes a difference in the level of academic performance. Students in the High Group with their relatively higher reading skill level perform significantly better, both academically and in the use of study skills, than those in the Moderate or Low groups. There is cause for concern though that the High Group drops more than the other two groups over the year in academic achievement and study skills, and in some aspects of motivation and locus of control. However, while academic achievement for students in the High Group dropped slightly more than for those in the Moderate and Low Groups, it did drop for students in *all* groups over the year. The effect of lowered academic achievement needs to be further addressed in The Diploma Programme so that academic achievement continues to grow rather than drop over the year. Change in academic achievement takes time. The present research monitored the first year of The Diploma Programme and the school is still realising the potential in The Diploma Programme for increasing study skills and academic performance.

The overall drop in academic achievement across reading skill levels by the end of the year seems to be related to the drop in study skills over the year, particularly completion of homework and class-work. To overcome this drop in study skills, the goals set for the Diploma Programme could become more proximal so that students gain a clearer idea, on a daily or weekly basis, about what is being specifically monitored. This might encourage performance in some study areas, where students began well in term one then dropped achievement over the year. An example of proximal goal setting could be creating specific sub-categories at the beginning of the term under homework completion, by naming the type of homework

that will be given, then regularly monitoring students' progress on a weekly basis. In relation to class-work completion, students could be told at the beginning of each class what exactly needs to be finished before the end of class to complete Diploma requirements. Some of the students attributed their progress in The Diploma Programme to its use of proximal goal setting. Their feedback agrees with results from research showing that difficult to achieve but attainable goals, where students can gauge progress, can build interest in previously under-valued activities such as completion of homework and class-work (Stipek, 1998; Schunk, 1989).

Students' academic motivation, self-efficacy, and 'effort', which tend to drop over the year, should also be influenced by goals becoming more proximal. For example, The Diploma Programme can be modified so that students are encouraged to continue to work at their optimal level, rather than allowing those achieving high credits by the middle of the year the opportunity to become less motivated to achieve because they have already passed The Diploma Programme. Possible ideas are a benchmark of credits which each student has to achieve each term, acknowledgements of excellence each term in the form classes, so that each term is a new challenge, and removing academic credits from The Diploma Programme so that achievement is solely judged on study skills. Curriculum teachers and/or form teachers could also provide monthly graphs or tables of each student's achievement of credits in each study skill area. This type of feedback would help students gauge progress in smaller increments than the term reports, and so stay more motivated to use study skills.

Homework completion was an area that was particularly poorly achieved by all groups. Credit allocation could be changed for homework, raising them to the same totals as social co-operation and class-work completion. That might further

help students to realise how important homework is for completion of class-work. The importance of homework could also be emphasised through relevant homework that is clearly related to achieving in class, and avoiding lengthy homework assignments that require extended effort. Further, some students might not be able to complete the given homework due to not having the relevant literacy and curriculum skills or even uninterrupted time and space for homework when at home. Parents can also be educated about the important role homework plays in academic achievement, and this might also positively influence students' attitudes. It is also noticeable that the group with the lowest achievement in homework completion had the lowest literacy skill level. The school might like to consider establishing a homework centre where students have access to a computer, and adult or senior student support to complete their work before leaving school. This accomplishes the dual role of providing a safe and focussed working environment for students, as well as providing support that might not be available at home to understand and complete homework assignments.

However, just modification of The Diploma Programme without attitudinal and structural changes in the classroom and the wider school is probably not enough to increase and maintain study skills, positive academic attitudes, and academic achievement. Consistent with research from Zimmerman et al., (1996), this study indicates that students' methods of learning and practice can be far more important than their personal talent. To further develop effective study skills, as well as to encourage students to use effort and persistence and have belief in their own abilities, further interventions need to focus on specifically teaching cognitive and self-regulatory strategies (Rimm, 1995; Schunk, 1995). Possible interventions could use the skills of the school Guidance Counselor to implement a study skill programme

using form teachers and/or a mentoring system where students check in regularly with someone who supports them in developing study skills and achieving academically. The teacher aides, older students, and people from the wider community could possibly be trained as mentors or be involved in study skills training during form time.

Covington (1998) emphasised the importance of having a realistic match between present capabilities and the demands of the academic work in classrooms, so students have the opportunity to work on tasks that are neither too hard nor too easy. Results from this study show that academic self-efficacy and motivation tended to drop for all groups over the year. While increasing academic achievement requires academic experiences to be structured so that academic self-efficacy and motivation is enhanced rather than diminished, curriculum teachers at high school are expected to focus on the delivery of curriculum and so have difficulty in meeting individual students' learning needs. Although the focus on curriculum delivery was not specifically changed in this school, it does provide considerable learning support in the form of trained teacher aides in each junior class and a learning centre providing extra tuition. This support, together with The Diploma Programme, seems to have influenced students in the Low Group to continue to believe in the importance of 'effort' and to achieve more academic credits by the end of the year, than those in the Moderate Group with higher literacy skills. Nevertheless, a stronger school-wide focus to meet individual learning needs should encourage the maintenance of high levels of academic self-efficacy and motivation for the year rather than in just the first term. Possible solutions include comprehensive programmes in the learning centre and in the classroom to increase literacy and numeracy skill levels as well as systematic coaching through the class work set by teachers. Curriculum teachers

need to work very closely with learning support teachers and teacher aides for this process to be effective.

As well as the school providing structures to specifically teach students how to learn and study effectively, teachers can make sustainable changes in academic achievement by focusing on improving both students' cognitive skills *and* attitudes. Teachers can consistently promote the belief about the incremental nature of intelligence, which underpins The Diploma Programme, through teaching students the value of performing to the best of their ability, and the importance of motivation and discipline regardless of reading skill level. These beliefs can be more effectively promoted in junior high school classrooms through using structures such as proximal performance-oriented goal-setting for academic work, and by providing work and resources to meet the learning needs of all skill levels. Proximal sub-goals for academic work that is at students' skill level enable students to be very clear on what specifically is being monitored, so sustaining motivation and a higher level of academic self-efficacy. Proximal task goals also encourage students to value academic effort, progress, and growth.

Because students' attitudes are a key influence on achievement (Reglin, 1993), the wider school structure, as well as the curriculum teachers and teacher aides must continue to emphasise the importance of students performing to the best of their abilities. Within classrooms, teachers need to be vigilant that they continue to expect high standards throughout the year, not only with study behaviours, but also with academic achievement. Rewards for competent performances can sustain high interest (Bandura & Schunk, 1981) as well as consequences for poor academic and study skills achievement. Systematic and regular professional development for teachers and teacher aides on, for example, motivation, meeting individual students'

learning needs, and proximal goal setting, would help integrate The Diploma Programme's goals and structures more closely with the goals and structures of classrooms and the wider school. As McCombs and Whisler (1997) state so strongly, change within schools is more likely to occur when teachers are encouraged to self-assess and reflect on their basic beliefs, and to engage in critical inquiry about research issues related to learning.

The support of care-givers of high school students still play a crucial role in students academic achievement. The monitoring provided by The Diploma Programme works in partnership with parents to more effectively monitor progress in a way they can easily understand, for example, the graph of credits achieved, and the break down of credits for each study skill in each curriculum area. It is a given that parents want to do their best for their children across all socio-economic groups and cultures, but family resources, for example knowledge, time, income, social contacts, literacy practices and attitudes towards education, define what that 'best' is (Adams et al., 2000). The Diploma Programme's extensive monitoring which allows the school and home to realise within a term when students are at risk of failing, could be augmented by a system which takes responsibility for contacting parents early when students need more support to do well or when students are improving performance. At present the school waits for parents to contact the school after they read their child's report and realise they are failing. One of the key factors affecting academic achievement found across SES groupings, was parental monitoring and supportiveness (Lam, 1997) and parental influence on students' study skills can be optimized if they receive immediate feedback on students' performance. While saying more contact with parents is important, it must be acknowledged with Hill and Hawke (1998) that form teachers have in reality little time for extra non-teaching

duties, so contacting parents needs to be in a form that will not further burden already busy teachers.

As Nash (1993) stated and this study reiterates, “The elimination of social differences in attainment is a high demand to impose on any educational system” (p. 32). Substantial changes in student motivation and learning, as well as requiring substantial changes in the way schools are organised, also require a social commitment from government that education is a top priority. This means providing adequate funding and staffing so that there is effective student learning support (Covington, 1998; Stipek, 1998). Further, government policy and practice in health, housing, welfare, and employment needs to support families on low incomes, so that students do not come to school with a wide range of problems as reported by Adams et al. (2000).

The results from this study on the effectiveness of The Diploma Programme are consistent with those of a study by Nash and Harker (1998) showing that schools can ‘add value’ by influencing the attitudes of students towards learning. However, as results from this study have shown, this takes time, and trial and error. Covington (1998) when discussing schools’ attempts to change motivational systems for low achieving students, used the saying, “Who can think about draining the swamp when we are up to our asses in alligators?” (p. 10) to describe how creating systems to increase academic achievement involves dealing with many interrelated factors at the same time. In other words, such change requires a little swimming and draining in the swamp, as well as an occasional hop up onto the bank to acquire perspective. There are no instant solutions to the problems of lower academic achievement in our high schools, but the actions of everyone involved, specifically teachers, parents, the state, and most importantly, the students, can contribute to implement viable long-term solutions.

### Recommendations for Future Research

Numbers were small for each group, so conclusions from these results can only be tentative. Further research should aim for full compliance and participation of students to improve the reliability and validity of the findings. A larger number of students will enable schools to more accurately evaluate the effectiveness of programmes such as The Diploma Programme in positively changing student study attitudes and skills.

Further, PAT results from February 2001 and November 2001 show some anomalies, which may have made differences in the performance of the three reading skill levels less clear. This research based its groups on reading skill level decided by the PAT reading comprehension results from a test in February 2001, which the school administers routinely to Year 10 students at the beginning of each school year. Some students were not performing at their optimum skill level and were included in the Moderate and Low groups when they should have been in the High Group. Nash and Harker (1997) found results from the Year 9 PAT results reliable, so research which creates groups from PAT results should perhaps use Year 9 results rather than those from Year 10.

Further research is needed to examine how motivational variables interact with study skills and academic achievement within high school settings. In particular, results from this research agree with Schunk and Meece (1992) that further research is needed in high school settings to clarify how different aspects of internal and external locus of control beliefs operate in high school settings, as well as how they interact with other motivational beliefs. Research also needs to particularly examine the extent that the locus of control factor 'effort' affects students use of study skills.

The use of student interviews as well as the student surveys and data from monitoring study skills and academic achievement could provide a more complete picture of the relative role of attitudes in academic achievement and the effect on them of The Diploma Programme. As well, teacher attitudes towards the aims and content of The Diploma Programme could be monitored. Teachers are the ones implementing this intervention, and their attitudes towards The Diploma Programme are also an important factor in its success.

However, any research assessing the effectiveness of school interventions to develop effective study skills and increase academic achievement must examine results in an ecological context. Researchers need to take into account the SES of the student intake, so that research does not continue to offer support, either directly or indirectly, to the politics of polarisation or blame.

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## Appendix A

### Comparison of subject school results for Sixth Form Certificate and Bursary with other decile three schools

Comparison of 1999 and 1998 figures									
			2000		1999		1998		
			Decile 3		Decile 3		Decile 3		
July Roll			498	514	544	539	542	547	
Funding Roll			510	524	544	550	558	557	
Maori Roll (%)			32.1	31.3	30.9	29.9	27.3	30.5	
Pacific Island Roll (%)			4.8	10.9	4.8	10.9	2.4	10.7	
Asian Roll (%)			1.4	6.4	2.6	6.5	3.1	6.4	
Roll Change (last five years) (%)			-6.9	0.8	-5.4	-0.7	-10.7	-3.5	
<b>School Certificate 1999</b>									
Papers graded B or higher (%)			19.8	22.3	15.2	19.5	20.1	20.6	
Candidates/Year 9 Entrants (%)			68.6	70.8	57.4	74	72.1	75.4	
<b>University Bursary 1999</b>									
Papers graded B or higher (%)			28.6	30.7	44.4	28.5	38.3	27.6	
Papers graded C or higher (%)			63.7	66.9	73.8	61.8	75.4	61.9	
Candidates gaining A Bursary (% of all candidates)			8.8	9.7	13.2	9.4	9.3	9.1	
Candidates gaining A Bursary (% of those who sat 4 or more papers)			17.2	16.7	25	16.1	N/A	N/A	
Candidates/Year 9 Entrants (%)			51.4	35	32.2	35.5	42.9	34.9	
<b>All School Leavers 1999</b>									
With Form 7 Qualifications (%)			32.7	25.5	27.9	28.1	32.3	28	
No Qual/ < 12 credits L1 (%)			30.2	27.4	37.2	27.5	48.8	29.7	
<b>Maori School Leavers 1999</b>									
With Form 7 Qualifications (%)			22.4	14.2	19.6	17.1	8.6	16.8	
No Qual/ < 12 credits L1 (%)			36.2	37.2	58.7	38.2	71.4	43.6	

NB: The unlabelled columns on the left hand side of each of the three years represent the averages of students from the school participating in this research, while the columns on the right hand side labelled 'decile three' represent the national averages of decile three schools.

## Appendix B

### A Letter from the Principal to the Staff, 2000 A Change in Direction...

#### **Please read this before staff meeting on Monday...**

Clearly the current behaviour of a significant minority of our junior students is causing a lot of concern. These students are having a disproportionate impact on the learning of others and themselves.

That they are acting out so quickly suggests that their poor behaviour is entrenched and that they have been getting away with it for some time. I've had a good look at lots of schools and systems and can't see too many discipline systems that we don't use. The problem rests with the motivation and attitude of many of these students who simply don't believe in themselves and don't believe that they can, or in some cases, should learn. The sad reality for us is that they drag others down with them.

Many seem incapable of learning because they lack the basic skills, identified in the National Curriculum, that need to be mastered before learning can happen:

\* Self Management            \* Social co-operation            \* Work and study skills

Our challenge as educators is to develop these skills in our students so that they can then get on with it and do the academic learning.

At Hagley Community College in Christchurch (low decile, in danger of closing 7 years ago and now with a roll exceeding 1400 full time students) they claim to have turned around their Junior School with the introduction of a Diploma concept based around the eight essential skills of the NQF. They report that their students have become much more motivated and are now focussed on learning. Three years ago relievers refused to teach their juniors, truancy was rife and motivation very low.

The three generic skills listed above are emphasised and make up at least 50% of the credits available for the diploma. For example in everyone of the eight science units, 4 credits are available for Self management (32 for the year):

#### **Can we make use of this model?**

The intensive work we have all undertaken in assessment over the last year and in particular the impressive work for the junior reports gives us a framework to move quickly to adopt a similar model. We need to move away from a reactive model to a more proactive one.

There are obvious flaws in the above model. The descriptors need to be expanded and developed further and whole numbers would be more effective.

I look forward to hearing your views.

Wednesday, 8 March 2000

## Appendix C

### An example of a term report

## 2001 - Year 10 Diploma Results Term 2

Name: \_\_\_\_\_

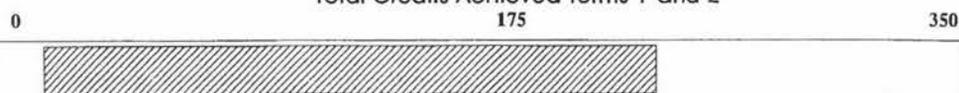
Form Class: \_\_\_\_\_

Subject and Teacher	Attendance /Punctuality /4	Equipment /2	Social Cooperation /4	Classwork /4	*/Homework /2	Academic Credits /18	Total /34
10 Textiles 2001	4	2	4	4	2	14	30
10 Social Studies 2001	2	0	3	2	0	10	17
10 Business Studies 2001	2	1	1	1	0	9	14
10 Science 2001	3	2	3	4	0	15	27
10 Physical Ed 2001	4	1	2	1	2	8	18
10 Mathematics 2001	3	1	2	0	2	10	18
10 English 2001	3	1	4	4	0	10	22

Term 2 Total 238/ 146

Terms 1 and 2 combined totals Maximum of 350 credits 245

Total Credits Achieved Terms 1 and 2



#### Notes:

To be on track to graduate with a Year 10 Diploma a student should by now have at least 200 credits. Anyone with less than 170 credits is in danger of not qualifying for study at Year 11 in 2002. Any student who has scored below 200 needs to meet with the Dean and their Form Teacher to plan a programme of study.

DIPLOMA - Summary / Benchmarks	Full Year	1st 1/2 year	2nd 1/2 year
Total Credits Available	730	350	380
Extra Curricular participation	30	0	30
Graduate	400	200	380
Qualify for Year 11 Study	330	170	380

Appendix D

An Example of a 2001 Year 10 Class Record Book

Diploma 2001

Term 4 Record Book

TEACHER \_\_\_\_\_  
SUBJECT \_\_\_\_\_  
CLASS \_\_\_\_\_

# Diploma

## Explanatory Notes

Each full year subject has 100 credits to allocate per year. A one Term course is worth 25 credits.

This equates to be 16 credits per term for the Self Management, Social Co-operation and Work and Study Skills categories and 9 credits for academically related marks.

How you allocate these 9 credits (or 36 per year) is up to you but if you are teaching a subject that runs for more than a term then complete the Academic summaries in Terms 2 and 4, unless your course runs over Terms 2 and 3. (see notes below).

You need to keep records of attendance and punctuality for each lesson, and class work and homework at least once a week.

There is no checklist for Social Co-operation. These credits are awarded from the classroom teacher's professional judgement of students in the class.

The 30 credits awarded for co-curricular involvement are allocated by the Form Teacher in liaison with the Year Level Dean.

### Notes

1. If you are teaching a one Term subject, academic credits must be allocated that term ( /9) Term total ( /25).
2. If your course runs for two Terms or all year, allocate academic credits in Term 2 for Terms 1 & 2, and Term 4 for Terms 3 & 4 (/18). Terms 1 & 3 total ( /16), and Terms 2 & 4 ( /34).
3. If your course runs for Terms 2 & 3 you will need to allocate these credits for each term ( /9) Term total ( /25).

# Descriptors

Credits allocated per Term = 34

Term 4 2001 Criteria

## Self Management

CREDITS	DESCRIPTOR
0	Less than 80% attendance
1	Attendance 80% or better
2	Attendance 90% or better

CREDITS	DESCRIPTOR
0	Late more than 3 times and not explained in writing
1	Late up to 3 times and not explained in writing
2	All lateness suitably explained in writing

Note: If attendance is less than 70% students are not eligible for punctuality credits.

## Equipment

CREDITS	DESCRIPTOR
0	Fully equipped less than 70% of the time
1	Fully equipped 70% of the time or better
2	Fully equipped 90% of the time or better

## Social Co-operation

CREDITS	DESCRIPTOR
0	Poorly behaved, lacks social skills
1	Variable behaviour, some social interaction is acceptable
2	Average behaviour and acceptable social interaction
3	Mostly well behaved with good social skills
4	High behaviour standards and excellent social skills

## Work and Study Skills

CREDITS	DESCRIPTOR
0	Class work is suitably completed less than 50% of the time
1	Class work is suitably completed 50% of the time or better
2	Class work is suitably completed 70% of the time or better
3	Class work is suitably completed 80% of the time or better
4	Class work is suitably completed 90% of the time or better

CREDITS	DESCRIPTOR
0	Homework is suitably completed less than 50% of the time
1	Homework is suitably completed 50% of the time or better
2	Homework is suitably completed 80% of the time or better

## Appendix E

### Parent information about The Diploma Programme

Developed to reward and encourage good work habits, the diploma mainly focuses on the three essentials skills\* that are needed to do well at school:

Self Management .                      Work and Study habits                      Social co-operation

Academic skills are also developed in five more subject specific skills:

Communication                      Numeracy                      Information  
Problem solving                      Physical

Students gain credits for:

Completing class and homework	Regular, punctual attendance.
Academic progress.	Extra-curricula involvement.
Enthusiasm and participation.	Effort.
Recognising their responsibilities and the rights of others.	

#### **How does it work?**

Each subject has 100 credits: in each subject 64 will be given for demonstrating ability in the three 'building block' skills while the remaining 36 credits will be awarded on academic achievement and participation.

An extra 30 credits are available to recognise participation in extra-curricular teams and events. Giving a total of 730 credits.

**Students who gain 400 or more credits graduate at the end of year prize giving and will have the chance to select option subjects for year 11.**

Enthusiastic, hardworking and well-mannered students are rewarded. Students who do not show they have these skills have been quickly identified and are receiving opportunities to learn and develop them. Regular feedback on diploma progress takes place at parent interviews and we are using the information to start early interventions for students not reaching the standard.

There will be a restricted entry to Year 11 for students who gain between 330-400 credits. These students will be placed in option courses so they can gain special support in the skill areas that need enhancement.

**Students scoring below 330 credits will be placed on a special programme and will repeat the year 10 course. At this stage of the year only 128 of the 840 credits have been allocated so all students have plenty of time to reach the standard.**

*Above all else the diploma is about, self-discipline and provides its own motivation, regardless of ability.*

For further information contact the Year 10 Dean or a senior manager.

\*The New Zealand Curriculum Statement.

**Appendix F**

**The Survey**

**School attitude survey**

Name:..... Form:.....

Male/Female .....

Would you please circle the particular ethnic background you identify with:

Maori / European / Pacific Islander / Other (describe).....

Date:.....

These questions are about your feelings and attitudes towards school. Please answer these questions according to what is true for you. There are no right or wrong answers. This survey is about opinions, and different people have different opinions. Your answers will be confidential. I am the only one to see your answers. All questions are important even if some seem the same. Remember to answer honestly.

When answering the following questions, would you please place a tick (✓) in the box  next to the answer you agree with the most. Only one box should be ticked for each question.

Thank you.

\_\_\_\_\_  
Ms A Marsh  
Massey University

---

Office use

1. How confident are you that you will achieve well in Year 10 Maths?

- Very confident
- Mostly confident
- Not very confident
- Not at all confident

2. How confident are you that you will achieve well in Year 10 English?

- Very confident
- Mostly confident
- Not very confident
- Not at all confident

3. How confident are you that you will achieve well in Year 10 Social Studies?

- Very confident
- Mostly confident
- Not very confident
- Not at all confident

4. If you feel **you do well** in any of these subjects, please circle them.

Maths                  English                  Science                  Social Studies

Tick the ONE main reason why you do well in each of the subjects you circled.  
If you have another reason other than the ones here, please add them to the list of reasons.

<b>Reasons</b>	Maths	English	Social Studies	Science
The teacher likes me				
The work is easy				
I do my class work				
The work is challenging				
I am interested				
I listen to the teacher				
I do my homework				

5. If you feel you **don't do well** in any of these subjects, please circle them.

Reasons	Maths	English	Social Studies	Science
I don't listen to the teacher				
I don't do my class work				
The teacher doesn't like me				
The work is too challenging				
The work is too easy				
I don't do my homework				
I am not interested				

6. How confident are you that you will achieve well in Year 10 Science?

- Very confident
- Mostly confident
- Not very confident
- Not at all confident

7. I follow my teacher's directions during class.

- Never
- Occasionally
- Mostly
- Always

8. I work well with my classmates in class.

- Never
- Occasionally
- Mostly
- Always

9. I can do better work if I just keep trying to.

- Never
- Occasionally
- Mostly
- Always

10. I leave assignments until the last minute to do them.

- Never
- Occasionally
- Mostly
- Always

11. My friends distract me from working.

- Never
- Occasionally
- Mostly
- Always

12. I get into trouble with my teacher in class.

- Never
- Occasionally
- Mostly
- Always

13. My reading is

- Very good
- Mostly good
- Not very good
- Not at all good

14. I understand the work in Maths.

- Never
- Occasionally
- Mostly
- Always

15. I understand the work in Science.

- Never
- Occasionally
- Mostly
- Always

16. I bring correct gear to school (books, paper, pen, etc.).

- Never
- Occasionally
- Mostly
- Always

17. I understand the work in Social Studies.

- Never
- Occasionally
- Mostly
- Always

18. Teachers blame me for things that are not my fault.

- Never
- Occasionally
- Mostly
- Always

19. I complete my homework.

- Never
- Occasionally
- Mostly
- Always

20. I complete my class work.

- Never
- Occasionally
- Mostly
- Always

21. I do stuff I like (such as listening to music, play stations, talking to friends) instead of doing my schoolwork.

- Never
- Occasionally
- Mostly
- Always

22. I understand the work in English.

- Never
- Occasionally
- Mostly
- Always

23. I talk a lot with my friends in class.

- Never
- Occasionally
- Mostly
- Always

24. I am on time for class.

- Never
- Occasionally
- Mostly
- Always

25. I skip classes.

- Never
- Occasionally
- Mostly
- Always

26. I find it hard to find the energy to do my schoolwork.

- Never
- Occasionally
- Mostly
- Always

26. I find it hard to find the energy to do my schoolwork

- Never
- Occasionally
- Mostly
- Always

27. I still come to school when bored or upset.

- Never
- Occasionally
- Mostly
- Always

29. When I do well on an assignment it is because I figured out how to do it myself.

- Never
- Occasionally
- Mostly
- Always

30. Doing my homework helps me do well in my subjects.

- Never
- Occasionally
- Mostly
- Always

31. Getting good marks is important to me.

- Never
- Occasionally
- Mostly
- Always

32. My written work is

- Very Good
- Mostly Good
- Not very Good
- Not at all good

33. I know I can do all my homework.

- Never
- Occasionally
- Mostly
- Always

34. When I don't understand my class work it is because I don't get enough help.

- Never
- Occasionally
- Mostly
- Always

35. Did the Diploma Programme help you be a better student?

- Never
- Occasionally
- Mostly
- Always

If you answered 'occasionally', 'mostly', or 'always', how did the Diploma Programme help you be a better student?

If you answered 'never', why was it not helpful?

Is there anything that needs to be changed in the Diploma Programme to help you be a better student?

## Appendix G

### Letters from the principal and researcher to the caregivers and school board of trustees, and the caregiver consent form

13<sup>th</sup> December, 2000

Dear

I am presently working at the High School as a Massey tutor of the Teacher Aide Certificate programme, and have also previously relieved, and worked in the Learning Net. I have a great interest in the innovative ways the school works with students who have poor study skills. At present I am completing my Masters in Education (Guidance) and would like permission to study the effectiveness of the Diploma Programme for my thesis. Information about students' study attitudes and skills, and their academic level will be collated during the year.

I will want all students to complete a self-evaluative questionnaire, and a random selection of them will be interviewed, in the first and third term. I will also need access to students' reports and the school's student database. A questionnaire for teachers may also be introduced.

A letter will be going out to caregivers of the year ten students, asking written permission of them and their children to be part of this study. All participants will be anonymous. The students will respond to the questionnaire anonymously, and although the interviews will be taped, I will be the only person who has access to them. All tapes and data from them will be identified by codes.

The information gained from the interviews, questionnaires, reports, and school database, will be collated into a report which will be presented to the school, and all data from participants will then be destroyed to preserve anonymity.

The report will contribute towards the school's evaluation of the effectiveness of the Diploma Programme. It will specifically examine whether, and if so by how much, students have improved their study skills and academic levels.

Yours sincerely,

Anne Marsh  
(B.Ed., Dip.T.)

Letter from the principal to caregivers

The Parent or Caregiver

2001 Year 10 Student

High School

Wednesday, 17 January 2001

Dear Parent

I hope you and your family have had a pleasant and productive summer break. Planning is well underway for the 2001 school year with year 10 (Form 4) students starting at 8:40 a.m. with a meeting in the hall on Wednesday 31st January.

At the end of last year I wrote to you about the Diploma that we are introducing at Years 9 & 10 this year. (I've included an outline of the diploma programme on the back of this letter.) This year we are working closely with Anne Marsh (see attached letter) to check to see that the programme is working and would really appreciate it if you would agree to your child participating in the research. We believe the diploma will help our students become more focussed on their work and will help them be more successful.

The Year 10 Dean, other senior staff and I will be available from next Tuesday should you require further information about the diploma or other aspects of the year. A full newsletter with dates and other important information will be posted out during the first week of school.

Please if you are willing to assist us in this important research please sign the consent form and post back in the enclosed envelope or drop it into the school office. .

Looking forward to a productive and successful year.

Principal

Letter from the researcher to the caregivers

14.01.2001

Dear caregivers and student,

My Masters in Education thesis through Massey University is research on the school's Diploma Programme, which aims to improve students study skills and their schoolwork. I will be examining how useful it is.

Students will be asked to complete a questionnaire about their study skills at the beginning of term one and during term four, 2001, and some students may be interviewed for about half an hour about their attitudes to study. These interviews will be taped and I will be the only person who will listen to them. The questionnaire and interviews will take up very little of the students' time, and I will be the only one to see the students' answers. I will also be looking at students' study credits over the three terms. I am looking for general trends so that the school can improve the students' learning environment.

A report of the findings will be available in 2002 at the school, and I can be contacted there if you have any further queries. You can also contact my supervisor Professor James Chapman at Massey University, phone (06) 3513361.

I invite you to participate in this interesting and useful study, which should benefit the whole school community. Students do have the right to refuse to take part, to withdraw at any time from this study, and to refuse to answer questions they do not wish to answer.

Please find attached a consent form to complete and be signed, and an envelope with the postage paid. If you choose to participate, please post this as soon as possible:

Yours sincerely,

Anne Marsh.

(B.Ed., Dip.T.)

**Consent Form**

I have read the information in the letter and understand what the study is about and how it will be conducted. I understand that I can ask further questions at any time.

I understand that I have the right to withdraw from the study at any time and that I don't have to answer any particular questions.

I agree to provide information to the researcher on the understanding that my name will not be used, and that the Information will only be used for this research and publications arising from this research project.

I agree/do not agree to the interview (please circle one)

I understand that I have the right to ask for the audiotape to be turned off at any time during the interview.

I agree to participate in this study under the conditions set out in the information sheet.

**Signed:**.....Name.....

**Signed:**.....Name.....

**Date:**.....

2.2.2001

Dear Parent,

You have not as yet sent back the form sent out two weeks ago asking permission for your child to participate in the research on the Diploma Programme. Here is another copy of the information and form. Please fill it in and either give it to your child to give to the office at the school, or post it.

Thank you for your support,

Anne Marsh

## Appendix H

### Notes from the meeting to assess The Diploma Programme 21 November, 2001

There were representatives from all Curriculum Departments four teacher aides representatives. The subject was not whether the Dip. Programme would continue, but rather what needed to happen to make it more effective. It was agreed that the purpose was to get students organised and independent. To teach them to be 'self-starters'.

#### What has improved in relation to student study behaviour?

- Punctuality but not attendance.
- Equipment
- Behaviour a bit – they know they are being monitored.
- More do HW after chasing them

#### What has worked?

- Year nines are “Diploma friendly” and have done better than the year tens.
- Those students who are border-line are where we can make a difference.
- The descriptors in the Diploma booklet are workable and staff cope quite well.

#### Problems

- The points system needs overhauling. For example some students with poor study behaviours will pass because they always turn up, and others with good study skills could fail because they have been ill and have missed school.
- Teachers interpreting data differently. Maybe they need to be more specific for example, about what 'correct equipment' means.
- Turnaround time of points for form teacher monitoring is too slow.

### Ideas for improvement

1. Perhaps the school could focus on specific study skills for the first 6 weeks then begin the Diploma credits. The school must begin with the premise no-one has study skills initially.
2. Liaising with TAs about what is important in a lesson is key.
3. Tangible rewards for good kids – for example canteen vouchers.
4. Regular reminders because of lack of student awareness.
  - The school needs to get feedback re progress back to students faster.
  - Perhaps graph Diploma credit progress for the students by week 9 term 2.
  - Collation of points must be built into someone's workload for quicker turnaround time.
  - Teachers need to do feedback with students individually, so allot conference time during form time -  $\frac{1}{2}$  a day week 10 term 2. This allows time for individual congratulations or encouragement.
  - Students need decimal units not 360 points.
  - Follow up for those failing should be automatic. For example the letter home to range an appointment with a senior manager, green report, contract written with form teacher, with copies going to all those concerned.
  - Different descriptors with each curriculum area. For example physical Education does not need home work included.
  - Remove academic credits, because those doing well with study skills do well academically. Also with them removed, students have to be more conscientious with work and study skills. The focus becomes work completion to their level. As well, academic achievement is covered in the reports.

- It only needs minor adjustments of credits to give more realistic weighting to each category.
- Attendance needs more points, as two to three students in each class are problem truants. Also mandatory 70% attendance required for any points.
- Equipment needs more points. The focus for students is self-management, and equipment is still a problem in classrooms and a key to being able to study.
- Classwork and homework need more points as well. They queried whether the overall standard was high enough and recommended lifting the threshold to 70% for The Diploma, or 60% plus an interview with a senior teacher.
- 'Bluies' or forms for removal from class should be connected in with removal of points.
- The school needs teacher aides for Year 10 classes to administer The Diploma Programme.
- Arrange a summer school for those that fail, as an opportunity to go on with their age level.

## Appendix I

### Student comments about The Diploma Programme

Students responded that The Diploma Programme “always, mostly, occasionally, or never” helped them be better students. Under those responses some of the students contributed comments as to why they responded that way. These responses are collated under the three groups based on reading skill.

#### Groups    Always

- 1      It helped me a lot
- 2      Kept me on task
- 3      It made me work.  
Last year I was always naughty and never did any work. With The Diploma Programme I decided to buck up my ideas.

#### Groups    Mostly

- 1      It gave me some goals to work towards other than getting good marks.  
It gave me something to go for, a goal to achieve.
- 2      I knew if I didn't get enough credits I wouldn't pass.  
Because I had to graduate.  
It helped me to be on to it.  
You have to be a better student to pass.
- 3      If I was not getting enough points I was scared I would fail.  
You could know your progress all through the year.  
I got stuck into my work and my parents encouraged me a lot that I could do it if I put my mind to it.  
It made me get into my work and not be a bum.

#### Groups    Occasionally

- 1      To be more work-wise
- 2      It made you do homework and class work because you had to reach a certain number of points.
- 3      If you didn't do the work you had to repeat the year.  
I knew where I was at.

**Groups Never**

- 1 Because I am good anyway.  
If I had had any trouble learning it probably would have been quite important.  
Don't understand what it was about.  
I am not changing for The Diploma.  
I acted the same as without it.
- 2 Too much stress on me.
- 3 I stress too much about not passing.  
Doesn't do anything.  
I always work well Diploma or not.  
After you pass it you just forget about doing your work.

**Suggestions for change from students**

*Most responded that there were no changes they could suggest.*

Suggestions included:

- All students should have to play at least one sport.
- You shouldn't lose points for not turning up to school for a good reason.
- Explain what happens in the Diploma and help the students who aren't good at work better.
- The teachers need to discipline us better than they do now.
- More discipline by making students make-up the time they waste.
- Get more marks.
- Make it harder.
- The number of points should go up next year.