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***STRATEGY INSTRUCTION AND
ATTRIBUTION RETRAINING FOR
GIFTED LEARNING DISABLED STUDENTS***

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**A thesis submitted in partial fulfilment of
the requirements for the degree of
Master of Education.**

Massey University

1999

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to my two supervisors, Professor James Chapman and Dr. Tracy Riley for their constructive feedback and encouragement both during and prior to the writing of this thesis.

Thanks are due to the students, parents, Board of Trustees members, the staff, and the Principal of Onehunga High School, whose support and participation made this study possible. I wish to express gratitude to my colleagues at Onehunga High School for their support, encouragement, and interest throughout the year.

I am greatly indebted to Amanda Benson and Garth Ritchie for the way in which they so generously gave of their time and expertise in the interpretation of data.

Finally, special thanks are due to my family and friends, especially Geoff and Nicholas, for the way in which they unquestioningly provided me with the time, space, and the emotional and physical support required to undertake this study.

ABSTRACT

The effectiveness of Triple Alliance theory with its emphasis on cognitive skills, metacognitive skills, and motivation was investigated in relation to its application with a group of academically talented secondary students with specific writing disabilities. An intervention programme was implemented and its effectiveness assessed in terms of changes in learned helplessness attributions and expository writing skills. Attribution retraining and strategy instruction were selected as avenues of instruction suited to Triple Alliance theory. The academic attribution and expository writing skills profiles of 15 gifted learning disabled Year 9 students were assessed. Profiles were then compared to 20 of their gifted non-learning disabled peers in order to obtain information regarding similarities and differences between the two groups. Inter- and intra-group differences were also assessed for both groups following implementation of the intervention programme. The intervention programme consisted of seven instructional lessons with pre- and post-intervention assessment.

No significant inter-group differences were found for academic attributions although intra-group pre- and post-intervention differences did occur. Findings from this study support those from an earlier study (Watson, 1993) that suggested that some key principles of attribution theory may not be appropriate for New Zealand students. Significant inter-group differences existed for writing skills and writing attitudes at the time of pre-intervention assessment. At the time of the post-intervention assessment, the writing skills of the research group either equaled or exceeded those of the control group, except in terms of the number of words written.

It would appear that an intervention programme grounded in Triple Alliance theory, with a specific focus on attribution retraining and specific strategy instruction, can significantly improve the writing skills of gifted learning disabled students. It is not possible, from this study, to ascertain the effectiveness of either attribution retraining or strategy instruction separately although results demonstrate that both academic self-efficacy and expository writing skills improved following intervention.

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CHAPTER 1

INTRODUCTION

Students who are both academically gifted and specifically learning disabled (GLD) are less likely to be identified as requiring specific intervention than are students with highly visible special needs (Chapman & Tunmer, 1995). The special talents and abilities of academically gifted learning disabled students are often hidden beneath a specific area of difficulty that prevents their abilities from being recognised and nurtured. Conversely, the special abilities of these children may prevent their disabilities from being recognised and remediated. GLD children may perform at a level commensurate with their age peers, but nevertheless, require special intervention if they are to reach their academic potential. This results in a dilemma that puzzles and concerns parents, teachers, and the students themselves (Sturgess, 1997). Early and ongoing failure to learn effectively can result in students who are unmotivated to continue to learn and, consequently, unlikely to achieve their educational potential.

Four theories provide the framework for this thesis; (1) the education of students who are both academically talented and learning disabled (Baum, Owen, & Dixon, 1993), (2) Triple Alliance theory (Short & Weissberg-Benchall, 1989), (3) cognitive instruction (Meltzer, 1994; Paris & Winograd, 1990; Pressley, Borkowski, Forrest-Pressely, Gaskin, & Wile, 1993; Torgesen, 1977), and (4) attribution theory and attribution retraining (Licht, 1993; Weiner, 1979). It is the effectiveness of the intervention programme for GLD students that is under investigation, not the validity of

each of the separate theories, although the strengths and weaknesses of the programme rely on the inherent validity of each theory.

'Triple Alliance' theory proposes that cognitive, metacognitive, and motivational factors be taken into account in the development of programmes for students with learning difficulties (Short & Weissberg-Benchall, 1989). To this end, strategy instruction combined with attribution retraining provides the framework for the development and implementation of a programme intended to address both affective and cognitive difficulties experienced by students whose academic ability is not realised through performance. It is proposed that strategy instruction will address the cognitive and metacognitive domains, while attribution retraining addresses motivational considerations. In reality, of course, the three domains are interwoven in a complex pattern of cause and effect and the two instructional areas are not visibly separated during instruction.

In recent years, a procedure called attribution retraining has been successful in increasing people's motivation to do better in school and other settings (Licht, 1993). Attribution theory provides an account of how people explain things either in terms of an external attribution (motivation by some external event) or an internal attribution (factors within the person). Attribution retraining offers opportunities for people to learn to reframe their explanations for success and failure and can help students to develop more adaptive perceptions regarding the causes of achievement outcomes. The effectiveness of attribution retraining can be gauged by using objective measures to assess pre-intervention behaviour and using a variety of attribution strategies to alter self-perceptions (positive comments, self-analysis, reality checks).

Lack of official recognition of either giftedness or learning disabilities as categories of special need in New Zealand means that not only do schools fail to identify these students, there is also limited understanding on the part of many educators of what it means, in cognitive and affective terms, to be gifted and learning disabled (Sturgess, 1997). Consequently, students who exhibit specific learning disabilities, and who have failed to be accurately diagnosed, are likely to be subjected to inappropriate teaching strategies, possibly resulting in the development of negative attributions and limited learning experiences. Attitudes in the New Zealand education system have contributed to lack of official recognition of either giftedness or learning disabilities in education, creating on-going issues that are not easily resolved.

This thesis is a response to two challenges. The first, offered by Chapman and Tunmer (1995) states that the “role of the educator remains one of manipulating the curriculum and the method of instruction to maximise learning in each individual” (p.186). The second is based on a claim by Feldhusen (1988) that, while “nature may establish potential for high levels of intellect; parents, teachers, peers, and the community provide the conditions through which the intelligence of gifted and talented youth is brought to fruition” (p.20). Information alone will not help students achieve their potential. It is the implementation of new information within the day-to-day context of the classroom that will provide opportunities for effective learning.

It is anticipated that this study will add to current New Zealand research in the education of gifted and learning-disabled students. It will also be of interest to teachers working with students exhibiting learning disabilities, gifted or otherwise, who have developed maladaptive attributions, since the principles of intervention are likely to

apply to all students in this category. It is hoped that this study will provide educators with ideas about how to identify gifted learning disabled students and, further, how to help these students overcome their learning disabilities and experience positive academic outcomes commensurate with their real and expected levels of performance.

CHAPTER 2

REVIEW OF LITERATURE

Defining Giftedness

Educationalists in New Zealand have not reached agreement on what constitutes either giftedness or a specific learning disability. The New Zealand Department of Education (1986) describes children with special abilities as those “who demonstrate high performance relative to their educational context” (p.1). Further elucidation as to what actually constitutes ‘context’ is not forthcoming. An Education Review Office report (1998) acknowledges that, while there is no specific requirement for primary or secondary schools to provide for students with special abilities, it is each school’s responsibility to enhance the special abilities of all students, including those with different abilities. Presumably, this expectation covers gifted students as well as those with learning disabilities. It stands to reason, therefore, that it must also include those students who are both gifted and learning disabled (GLD).

Renzulli (1978) describes giftedness as an interaction among three clusters of traits: above-average ability, creativity, and task commitment (cited in Baum et al., 1993, p.14). Davis and Rimm (1994) note that there is no one definition of ‘gifted’ or ‘talented’ that has been universally accepted (cited in Moltzen, 1995). Baum et al. (1993) refer to “schoolhouse giftedness” as defining students who are “exceptional test-takers and talented lesson-learners” (p.13). Superior performance singles them out as

having exceptional cognitive ability as well as the ability to benefit from a traditional educational environment.

Checklists are often employed by educators for expeditious identification of students' learning characteristics. When describing students who are academically gifted students educators frequently use checklists that include terms such as:

- responds well to challenges,
- has an extensive vocabulary,
- excels in reading comprehension,
- extremely curious,
- asks fascinating questions,
- learns basic skills better, more quickly, and with less practice,
- able to sustain longer periods of concentration and attention than their age peers,
- exhibits an intrinsic motivation to learn, and
- takes great pleasure in intellectual ability (Silverman, 1996; Whitmore, 1985).

Distinction is made between students who are able to excel within the traditional instructional environment and those who, although equally capable, are unable to learn effectively without significant and appropriate intervention. Add to this culturally based differences as to what it means to be considered gifted and it soon becomes clear that a definition of giftedness remains subject to highly divergent opinions. Many writers suggest that an inclusive definition of giftedness actively seeks out gifted behaviours such as those listed above, and recognises the potential of some students to

perform at a level above that normally expected of his or her age group (Moltzen, 1995).

Defining Learning Disabilities

Increasingly, the term specific learning disabilities, or difficulties, (SLD) is used to describe students who experience significant difficulty with learning but who are neither slow learners nor do they have major visual or hearing problems that are likely to interfere with their ability to learn effectively (Chapman & Tunmer, 1995).

Researchers investigating learning disabilities agree that they manifest as persistent and unexpected difficulties with learning within the traditional school system (Baum et al., 1993; Berninger & Abbott, 1994; Chapman & Tunmer, 1995; Gallagher, 1997; Lyon, 1994; Meltzer, 1994).

SLD is frequently described as a discrepancy between learning potential and actual intelligence in some specific area (Chapman & Tunmer, 1995). Difficulties are not considered to be caused by low intellectual ability since the areas of difficulty are specific rather than generalised. For children with specific learning disabilities, the manifestation of difficulty is specific, persistent and unexpected in light of other abilities that the child has demonstrated.

Deficits in written language and reading are particularly prevalent among the learning disabled population. Recent research suggests that the main and most frequently occurring factor in learning difficulties is deficiency arising from phonological processing skills where readers have become over-reliant on purely visual cues at the

expense of phonological information (Chapman & Tunmer, 1995). Over time, the reading ability of SLD students may appear to decline as they fail to develop awareness of the structural nature of language and are unable to use both phonological and visual cues during the reading process. This prevents further growth in reading and the development of a rich network of accessible information necessary for comprehension and enjoyment of reading. Difficulties in learning usually compound and cause difficulties in other areas, academic and social. Stanovich (1986) refers to this as the 'Matthew Effect' because students who learn normally develop further skills while students who experience difficulties go on to experience the feelings of inadequacy, frustration and learned helplessness frequently mentioned by parents of SLD students and by the students themselves (cited in Chapman & Tunmer, 1995). Students experiencing written language difficulties arising from such experiences require more explicit instruction in how to benefit from phonological and visual cues in written language (Chapman & Tunmer, 1995). Discrepancies between those skills associated with written language and those associated with spoken language may prove particularly useful in the identification of students with SLD.

Recent moves away from identifying SLD on the basis of discrepancy between IQ and observed performance has meant that new definitions of what constitutes learning disability have had to be sought (Chapman & Tunmer, 1995; Meltzer, 1994). SLD students are most puzzling because they exhibit intra-individual discrepancies between their intellectual ability and their performance (Chapman & Tunmer, 1995; Graham & Harris, 1993; Meltzer, 1993). For example, a student may perform at an exceptionally high level when asked to present an oral seminar, but the same student may perform at an unexpectedly low level when the same content is requested in written form. S/he

may perform exceptionally well in subjects heavily reliant on visual language but do poorly in subjects requiring written language.

Within the classroom SLD students may seem particularly inattentive to important points in the lesson or they may fail to remember critical events (Baum et al., (1993). Amazing and creative achievements can pale into insignificance alongside the inability to remember to complete homework or to bring the correct materials to school. Perhaps the concept of the 'absent-minded professor' has its explanation in gifted learning disability.

Chapman and Tunmer (1995) suggest using the persistent presence of problems in one or more of the following areas as the basis for defining and identifying SLD:

- Metacognition - knowing what skills, strategies and resource to employ in order to carry out, plan, monitor, and evaluate work effectively.
- Cognition – thinking, problem-solving, attending, remembering and understanding, in addition to knowing how and when to do these things.
- Language – the SLD student typically has difficulties with language-based processes such as reading, spelling, writing, speaking, and understanding the language components in mathematics.
- Physical activity – may involve such tasks as co-ordination, catching, throwing, balancing, using scissors, drawing, and distinguishing between left and right.
- Social activity – SLD students may experience difficulties with peer relationships, understanding social rules, and sensing what people mean when they say or do something (p.189).

Silverman (1996) suggests that any combination of the following may provide evidence of a specific learning disability:

- poor short-term memory,
- a speaking vocabulary that is more sophisticated than the written vocabulary,
- struggling with decoding words,
- refusing to do written work,
- illegible handwriting; difficulty with spelling and phonics,
- struggling with easy, sequential material,
- weakness in language mechanics, such as grammar, punctuation and capitalisation, and
- failing at subjects emphasising audition, sequencing and memory.

Further explanation is offered in the findings of Rigo, Arehole, and Hayes (1998) who suggest that central auditory processing difficulties may contribute to the pattern of strengths and weaknesses typically found in the GLD population. Central auditory processing difficulty was defined by Keith (1994) as “the inability or impaired ability to attend to, discriminate, recognise, remember, or comprehend information presented auditorily, even though the individual has normal intelligence and hearing acuity” (cited in Rigo, Arehole & Hayes, 1998, p.218). This theory may go some way towards explaining why some GLD students tend to achieve well in listening comprehension tests administered under controlled conditions.

Gifted and Learning Disabled

Academic giftedness and specific learning disabilities are not mutually exclusive. Some school organisation practices, such as streaming, imply that academic ability exists at various points along a learning continuum, ranging from exceptionally able through to disabled, with 'average' students bridging the extremes. Described as a paradox by several writers, one group of students fits both broad descriptors; the academically gifted and learning disabled (GLD) (Baum et al., 1993; Gallagher, 1997; Johnson, Karnes, & Carr, 1997; Rimm, 1997). Study of this unexpected mix within individuals is relatively new.

It has been argued that the lack of educational provision for academically gifted students has made them amongst the most disadvantaged in our education system (Moltzen, 1995). It is also argued that the invisible nature of specific learning disabilities combined with lack of knowledge about effective intervention programmes means that future prospects for students with specific learning disabilities in New Zealand are somewhat grim (Chapman & Tunmer, 1995). It may be that students who are both academically talented and specifically learning-disabled are the most under-identified and under-served of all students in our schools (Baum, 1990; Baum et al., 1993; Berninger & Abbott, 1994; Gallagher, 1997; Lyon, 1994). As Chapman and Tunmer (1995) point out, "few principals and teachers have been trained to understand the nature of SLD, and few know how to help students overcome learning difficulties" (p. 200). More highly visible special needs assume priority because they are more easily identified and able to be catered for by people trained in the specialist field.

Separately, the fields of giftedness and specific learning disabilities are controversial. Combined in the form of the gifted learning disabled, the field is highly contentious and a source of misunderstanding and frustration, for parents, teachers, and, most of all, the students themselves. Whitmore (1984) makes the point that the tremendous gap between levels of mental ability and actual performance can generate turmoil leading to “individual patterns of withdrawal to avoid painful disappointment or aggressive behavior to frantically assert one’s worth” (p.7).

Given that learning disabilities frequently manifest in language-related tasks, it is paradoxical that oratory and visual language are areas in which GLD students often excel (VanTassel-Baska, 1997). Students with unusual and confusing mixes of ability and disability necessitate special conditions not required by other students. Their intellectual abilities allow them to see perceived failures all too clearly and perfectionistic tendencies within these students result in particularly harsh self-criticism. Baum et al. (1993) strongly support GLD students having a combination of remediation and enrichment, as well as counseling, to help them benefit fully from learning opportunities.

While disabilities may disguise abilities, high ability may also prevent identification of disabilities since GLD students may perform, not to their potential, but at a level commensurate with their peers (Landrum, 1989). Academically gifted students with specific learning disabilities are rarely identified within the school system. If noticed at all they are likely to be described as ‘underachieving’ and ‘unmotivated’. Such terms imply that responsibility for failure rests within the individual rather than with the learning environment or the instructional approach employed. One reason why gifted

students with learning disabilities are not easily identified is that their giftedness is often only manifested outside the school environment where the disability is much less apparent.

According to Meltzer (1993), increased demands placed on students when they enter secondary school may be the catalyst for clear identification of a mismatch between ability and performance. Baum et al. (1993) suggest that GLD students are frequently interested in school topics but their creative tendencies may lead their imaginations onto other tangents. Within school, problems are specific to a few areas of learning. Since not all areas of learning are affected, teachers, and others, may wonder how these individuals could be so able in some areas and yet so non-productive in others. The disparity between apparent ability, often expressed verbally, and production, particularly in written form, is often attributed to lack of motivation, and interpreted by some as laziness.

Positive outcomes for GLD students are unlikely without timely and appropriate intervention. Research carried out with GLD adults highlights the need for programmes that encourage self-awareness concerning the impact a learning disability may have on achievement (Greenbaum, Graham, & Scales, 1995). Students need to be assisted to recognise their strengths, accurately assess their limitations, and make appropriate accommodations to achieve personal goals. A strong sense of determination, the belief in one's ability to overcome adversity, and a strong support network of significant others who actively assist GLD students to achieve their goals, are important ingredients for success (Greenbaum et al., 1995; Maker, 1978; Speckman, Goldberg, & Herman, 1992). According to West, Kregel, Getzelm, Zhu,

Ipsen, and Martin (1993, cited in Greenbaum et al., 1995) barriers to GLD students achieving success include ignorance on the part of educators and administrators of the impact a learning disability may have on academic achievement, and resistance on their part to implementing instructional and institutional changes.

All students have the right to continuity of educational experiences that meet their present and future academic needs (VanTassel-Baska, 1997). For students who are both gifted and learning disabled this necessitates expert consideration of several apparently contradictory conditions. Working below ability affects both immediate and future prospects (Rimm, 1997). No less than other students, the atypically gifted student must be identified and educated to his or her potential. This requires the development and implementation of diagnostic assessment procedures and differentiated programmes. The identification of a subtle learning disability may help the student better understand the difficulties they face and offer professionals and parents the opportunity to provide appropriate encouragement and intervention.

Differential Diagnosis and Intervention

Since schools customarily have difficulty justifying special programmes for academically high-achieving pupils, differentiated programmes for students who are likely to be functioning within the normal range, albeit below their personal potential, are unlikely to receive support. Fortunately, some teachers do make appropriate academic accommodations such as providing extra time on tests, instructing students in how and when to use appropriate learning strategies, taking time to listen, and

challenging students while providing compensatory support where necessary (Reis, Neu, & McGuire, 1995).

Traditional IQ-achievement discrepancy methods of identifying learning disabled students will not necessarily reveal the learning disabled child with superior intelligence (Berninger & Abbott, 1994). Currently, there is support for using multi-dimensional methods of assessment which denote intra-individual discrepancy between intellectual ability and achievement (Chapman & Tunmer, 1995; Graham & Harris, 1993; Meltzer, 1993). This method involves consulting across the curriculum to reveal discrepancies between subjects and differences between performances requiring different skills. Intra-individual discrepancies may become apparent within the normal routines and requirements of the classroom or during testing. For instance, a student's results may reveal a significant discrepancy between achievement on listening comprehension and achievement on reading comprehension tests. An alert teacher may also observe that a student achieves poorly when a test is restricted to a particular timeframe but achieves at a significantly higher level when there is no time restriction on the same test. Task avoidance and disruptive or withdrawn behaviours associated with low self-esteem are also indicators of a possible learning disability.

Baum et al. (1993) report that GLD students tend to be more creative and report higher levels of interest in extracurricular activities than their non academically-gifted peers with learning disabilities, but they are also more disruptive and frustrated in school. Merely placing these students in a programme for academically gifted students may have devastating effects, since gifted programmes frequently demand a high yield of written work (VanTassel-Baska, 1997). GLD students require an environment where

their gifts are recognised and valued, and the effects of their weaknesses are minimised. The problems faced by GLD students are unlike those faced by their non-learning disabled peers. The characteristics often associated with giftedness, of precocity, intensity, and complexity, may be better demonstrated through oral rather than written language.

Many experts now believe that specific learning disabilities are caused by students misunderstanding, or not learning, critical strategies required to carry out functions associated with specific areas of learning which then assumes the form of developmental delay in those learning areas (Berninger & Abbott, 1994; Chapman & Tunmer, 1995; Gallagher, 1997; Lyon, 1994; Meltzer, 1994). Reading, spelling, writing, and mathematics are the areas most frequently associated with learning disability, probably because they are the skills most valued in developed societies (Swanson, 1993). For example, this author's inability to read music would soon become a barrier to learning were our society to define music as the primary form of communication.

Swanson (1993) describes the student with learning disabilities as an "actively inefficient learner – one who either lacks certain strategies or chooses inappropriate strategies and/or generally fails to engage effectively in self-monitoring behavior" (p. 64). Accordingly, remediation necessitates consideration of the most effective way to introduce appropriate strategies to students in a way that will facilitate their appropriate use. According to some researchers, the most effective way to ensure students use strategies is to teach them within authentic contexts that take affective as well as cognitive factors into account (Graham & Harris; 1993; Meltzer, 1993; Putnam,

Deshler, & Schumaker, 1993; Rimm, 1997; Swanson, 1993; VanTassel-Baska & Feldhusen, 1988).

Intervention programmes for atypically gifted students that enhance self-awareness and decision-making skills associated with academic tasks have been shown to be effective in producing improved attitudes, behaviour, and achievement (Hall, 1983; Whitmore, 1980; Van Reusen & Bos, 1994). One way of addressing the achievement needs of GLD students is through the application of the principles of 'Triple Alliance' theory (Short Weissberg-Benchell, 1989).

The Triple Alliance

The term 'Triple Alliance for Learning' originated from the work of Short and Weissberg-Benchell (1989) and provides a model where the key elements of cognition, metacognition, and motivation interconnect to provide an organisational framework for learning. The nature of the alliance is such that skills from all three elements must be considered simultaneously if the academic achievement of the student is to alter in a positive way (Short & Weissberg-Benchell, 1989). The alliance among these key elements varies according to factors such as developmental levels, age of students, time available for processing, and context. Development, implementation and evaluation of strategies for effective learning are critical to the 'Triple Alliance' method.

'Triple Alliance' theory, with its emphasis on the development of cognitive and metacognitive skills and achievement-related self-perceptions, is particularly relevant in the teaching of students with specific learning difficulties. Current cognitive theory

maintains that many students with learning difficulties do not know how and when to employ strategies effectively (Short & Weissberg-Benchell, 1989). Rather than lacking ability to acquire skills, many students with learning disabilities have less sophisticated metacognition than their non-learning disabled peers and they lack understanding that strategic behaviour, in tandem with effort, results in good short-term performance and long-term academic achievement (Carr & Borkowski, 1989; Kletzien, 1991; Schunk & Rice, 1992; Short & Weissberg-Benchell, 1989; Wong, 1991).

It is thought that competent learners balance cognitive ability, metacognitive skills, and motivational styles and have the knowledge and motivation to utilize the strategies at their disposal to master any academic challenge, while learning disabled students fall further behind in learning through lack of knowledge about and application of strategies. Consequently, they fail to refine and strengthen their 'cognitive muscles' (Short & Weissberg-Benchell, 1989, p.34). Studies suggest that training learning disabled students to use appropriate strategies dramatically improves their performance on cognitive tasks (Short & Weissberg-Benchell, 1989).

Cognition, the first element of 'Triple Alliance' theory, refers to the collection, storage, interpretation, understanding and use of information. Short and Weissberg-Benchell (1989) identify attention, memory, and language as the three general cognitive skills essential for successful academic achievement (p.34). The long-term goal of learning is to "lessen the effort required for different cognitive activities so that they flow automatically and smoothly" (Paris & Winograd, 1990, p.24). Cognitive instructional theories place higher order thinking, such as problem solving and reasoning, at the centre of knowledge acquisition (Bellanca & Fogarty, 1993). Students are viewed as

active participants in their learning, responsible for constructing meanings from information and for regulating the learning processes through an array of learning strategies. The emphasis is on what the learner brings to the learning situation in terms of experiences and meanings constructed from prior experiences. Growth in understanding in one area promotes knowledge acquisition in other related areas (Wong, 1991).

Specific learning disabilities include a wide range of problems in the area of metacognition, manifesting as difficulties with planning, monitoring, and evaluating (Swanson, 1993). Cognitive based specific learning disabilities tend to be described in terms of difficulty with thinking, problem-solving, remembering, focusing, and understanding, particularly in language related areas such as reading, spelling, writing, and speaking, or with physical activities requiring skills of coordination.

While cognitive skills are most certainly important for academic success, there is considerable evidence that cognitive skills alone are not sufficient. Indeed, Short and Weissberg-Benchell (1989) maintain that there are instances “where metacognitive performance and motivational style appeared to compensate for the cognitive deficiencies of LD learners” (p. 42). Wong (1994) suggests that mindfulness, the metacognitively guided awareness and application of skills across a wide variety of settings, is critical to the learning process, particularly for learning disabled students.

Metacognition, the second element in the ‘Triple Alliance’, refers to knowledge about, awareness of and control over one’s own mind and thinking, described by Costa (1985) as “thinking about thinking” (cited in Bellanca & Fogarty, 1993, p. 264). The term

'metacognition' was originated by Flavell (1976) and further developed by Brown (1980, cited in Wong, 1991). Knowledge about cognitive states and processes, and control of executive aspects of metacognition are both emphasised by current researchers (Paris & Winograd, 1990; Short & Weissberg-Benchell, 1989). The skills students mobilise in coordinating and regulating efforts while studying are metacognitive skills. The main characteristic of students who display metacognitive skills is that they are aware of their thinking and can make conscious attempts to control their own problem-solving strategies. Learners interpret new information, relate it to what they already know, and organise it for later retrieval.

Swartz and Perkins (1989) describe four distinctive metacognitive levels necessary in the learning process: "(a) Tacit use - doing a kind of thinking without thinking about it; (b) Aware use - conscious that/when one is doing a certain kind of thinking; (c) Strategic use - organizing thinking by conscious strategy; and (d) Reflective use - reflecting upon thinking before, during, and after the process, pondering how to proceed and how to improve" (cited in Bellanca & Fogarty, 1993, p. 265).

Metacognitive activities enable learners to develop metacognitive strategies for self-monitoring, self-testing, and self-evaluation (Wong, 1991). The differentiation between cognition and metacognition is the "distinction between knowledge and the understanding of knowledge in terms of awareness and appropriate use" (Wong, 1991, p. 238).

Interest in the explicit instruction of thinking skills and the use of cognitive maps and visual representations to aid memory and learning served as a catalyst for the development of metacognitive theory (Bellanca & Fogarty, 1993). Metacognition

emerged not only as a driving force for instruction, but also as a “technique to help learners reflect on all aspects of their own thinking and behaviour” (Bellanca & Fogarty, 1993, p. 254). One of the key determiners of a successful learning programme is the degree and appropriateness of transference of skills and strategies. Students’ metacognition and motivation play important roles in strategy acquisition, maintenance, and transfer (Wong, 1994).

Motivation is the final key element in ‘Triple Alliance’ theory. Motivation has traditionally been considered in terms of affective factors but, increasingly, it is viewed as an integral component of the cognitive process. Several motivational explanations have been offered for the apparent discrepancy between ability and performance in learning disabled students, with possible factors including lack of effort, lack of persistence, low self-concept, and task-avoidance (Short & Weissberg-Benchell, 1989). Judgements about past learning experience influence future actions. If students judge themselves as having little knowledge, little expectation of success, and little or no influence over the causes of their successes or failures they are likely to expend little effort in learning (Carr & Borkowski, 1989; Paris & Winograd, 1990).

Failure-prone students tend to feel responsible for failing and not take credit for their successes (Wong, 1991). According to Chapman and Boersma (1980), and Borkowski, Carr, Rellinger and Pressley (1990), motivation has a significant impact on school achievement because it is affected by self-concept, expectations, beliefs, attitudes, and personal beliefs about what causes failure and success. While GLD students may acknowledge their high levels of intelligence they do not always believe themselves capable of achieving at the level demanded by themselves, their parents, or

their teachers. Rimm (1997) points out that the “characteristic most frequently and consistently found among underachieving children is low self-esteem” (p. 422). Their low self-esteem is frequently masked by acts of bravado, acute shyness, rebellion, or any number of highly protective defense mechanisms. Combined with inattentiveness, a common characteristic associated with learning disability, the gifted learning disabled student is particularly at risk. Procrastination, incomplete assignments, and disorganisation become part of the underachievement syndrome described by Rimm (1997). High school dropout studies carried out in the United States show that between 10 and 20 percent of those who do not complete high school are in the gifted range (Whitmore, 1980).

Attribution Theory and Attribution Retraining

According to Weiner (1974, 1979) the four chief explanations that students give for academic outcomes focus on ability, effort, task difficulty, or luck (cited in McNabb, 1997). Lack of confidence in personal control over causes of outcomes helps explain why students with learning disabilities fail to engage in appropriate strategic activities that overcome difficulties. Student motivation is pivotal in the maintenance and generalization of skills. The failure cycle begins with lack of achievement and an ensuing decrease in self-esteem. The cycle continues as the child experiences less exposure to learning opportunities, more failure, and a further decrease in self-esteem.

Wong (1991) suggests that when students attribute success in learning to external factors such as luck or teacher bias, and attribute failure to internal factors such as ability, they develop maladaptive attributional patterns that reinforce their skeptical

attitudes toward expending effort on strategy-based learning. This has the effect of lowering self-esteem, leading them to avoid challenging tasks and to give up readily when faced with difficult tasks. Hence, they fail to apply and modify learned strategies flexibly to suit the task demands. The net result of such poorly developed self-systems is to restrict learning disabled students' development in self-efficacy and self-regulation.

Addison, Stone and Conca (1993) proffer the view that strategy deficiency may result from impoverished or maladaptive interactions with significant others in the home or school environments. They suggest that two worrisome trends emerge from studies of interactional patterns between students with learning disabilities and their teachers. First, they found that teachers are prone to over-help students with learning disabilities which may breed passivity and dependence on the part of the student. Second, they found that students with learning disabilities receive more praise that is not contingent on satisfactory performance than do their non-learning disabled peers. They are also less frequently encouraged to approach tasks strategically. Higher than normal teacher-initiated interactions combined with praise that is not contingent on achievement or effort may favour student passivity and the development of learned helplessness.

According to Diener and Dweck (1980), the key to successful change is having beliefs that learning outcomes are controllable through exerting sufficient effort and using appropriate strategies. Attribution theory shows us that people can develop new attitudes, beliefs or behaviours depending on the explanations they make. If they make external attributions they are unlikely to take responsibility for causal outcomes and therefore may not know how to have more influence in bringing about more desirable

outcomes in the future. If, however, they make internal attributions it is likely they will come to view themselves as one who can influence task outcomes by means of task-related effort (Hanko, 1994; Meltzer, 1993).

Believing yourself to be competent while also realising that doing poorly on an assignment or in a test simply means you need to work harder and/or take a different approach are important factors in determining levels of motivation (Tucker-Ladd, 1997). Students who perceive that they have little or no control over the causes of their successes and failures are less likely to actively engage in behaviours that will bring about positive differences in outcomes. Students with low academic self-efficacy tend to accept responsibility for failure but not for success. The attribution process in educational achievement has been related to the original theory of learned helplessness advanced by Seligman (1975, cited in Rimm, 1997). 'Learned helplessness' is a term used to describe students who have apparently given up trying. Students exhibiting this characteristic perceive that no amount of effort on their part could positively influence the outcome, since the causes are outside their control. They, therefore, cease making an effort to achieve (Rimm, 1997). Unfortunately, 'learned helplessness' is likely to be interpreted by teachers, parents, and frequently the students themselves, as laziness or passivity (Chapman & Tunmer, 1995, Rimm, 1997).

Attributing success to effort leads to further effort, while attributing success to task ease or luck does not. These avoidance behaviours protect GLD students from admitting their feared lack of productive ability. If they study they risk confirming their possible shortcomings to themselves and to significant others. If they do not study they can use the fact that they did not as a rationale for failure, thus protecting a fragile sense of self-

worth. By contrast, academic achievers tend to set achievable goals that are their failures are regarded as providing information about weaknesses which simply need attention (Rimm, 1997).

Low motivation is the effect, rather than the cause, of repeated low achievement. Studies show that a strong relationship exists between students' perceptions of control over their learning and their subsequent achievements (Antaki & Brewin, 1982; Bartal, 1982; Feldhusen, 1988; Layden, 1982; Mushinki Fulk & Montgomery-Grymes, 1994; Tucker-Ladd, 1997; Weiner, 1979). According to attribution theory, students with learning disabilities tend to attribute success to external causes, such as luck and task difficulty, and failure to internal causes, such as ability. Because ability is perceived as unchangeable and therefore, uncontrollable, failure experiences result in decreased motivation, which in turn leads to poor performance on subsequent tasks (Diener & Dweck, 1980). Initial and subsequent failure leads not only to low motivation but also to less involvement and effort in similar and associated tasks, resulting in a cumulative effect of school failure.

Motivation has been studied in terms of causal attributions and the impact ability, effort, task difficulty, and luck have on achievement. Motivation is affected by self-concept, expectations, beliefs, attitudes, and personal beliefs about what causes failure and success (Borkowski, Carr, Rellinger & Pressley, 1990; Chapman & Boersma, 1980). Metacognitive judgments determine which tasks students find worthwhile and how they choose to engage in them. For instance, a student who tries hard and fails may attempt to protect a fragile self-concept by expending minimal effort and inventing excuses in the face of difficult academic tasks, leaving room for the possibility that had

s/he tried harder, or had other circumstances influenced the outcome, success may have occurred. According to Baum et al. (1993) students with low efficacy beliefs about a particular task tend to pose as capable but not trying. Unfortunately for them, teachers tend to be impressed with the opposite, trying but not capable. Perceiving the student as capable but not trying reinforces the teacher's perception that the student is lazy. Paris and Winograd (1990) observed that self-efficacy involves attributions to both effort and ability. To allow students the opportunity to see the relationship between task difficulty, ability, strategy use, and effort, tasks need to be sufficiently challenging to require some effort in order for students to associate success with effort (Carr & Borkowski, 1989; Mercer & Miller, 1992; Short & Weissberg-Benchell, 1989).

Failure no longer contributes positively to the learning experience when it acts to reinforce learner feelings of inadequacy and ineptitude. In such a situation it would be appropriate for teachers to cite poor task-analysis and goal-setting as possible reasons for failure, thereby making the failure experience an opportunity to teach the learner what needs to be done strategically to achieve success (Short & Weissberg-Benchell, 1989). Students need to know that strategic behaviour and task analysis are skills that can be learned and improved within the school context. "Failure must be regarded as a normal part of learning that can be used constructively to shape future efforts" (Paris & Winograd, 1990, p. 29). Butler (1992) makes the point that "successful learning is not brought about by protecting students from failure. The problem with failure is not poor self-concept, but with how to manage failure and use it constructively" (p. 111). The intended outcome of attribution training is that learners develop a sense of self-efficacy and come to realise that they are in control of their own learning (Wong, 1991).

Because attributional profiles are acquired over long periods of time it is reasonable to assume that altering maladaptive profiles will also take time (Short & Weissberg-Benchell, 1989).

Current research suggests that effort-related attributions enhance the individual's self-efficacy and self-esteem, and increases the value students place on strategy use in learning. If students attribute success to a combination of ability to succeed, increased effort, and use of appropriate strategies, they are more likely to tackle difficult tasks that they would previously have avoided (Paris & Winograd, 1990; Wong, 1991). Studies have shown that children were more persistent following training where they were encouraged to attribute failure to effort rather than lack of ability (Layden, 1982; McNabb, 1977; Rimm, 1997; Tannenbaum, 1997). Effort-related feedback must be combined with guidance about how to achieve a particular task through the use of appropriate strategies. Licht (1993) suggests that student's beliefs regarding the causes of academic success and failure may be significantly influenced by the manner in which teacher feedback stresses the links between effort and academic success.

Guidelines for Strategy + Attribution Programmes

Experiences provided for GLD students, while needing to be purposeful and interesting, must also respect the intelligence of the student (Baum et al., 1993). Teacher attributions have a powerful influence over pupils' perceptions and attitudes towards their own learning (Bar-Tal, 1982; Chapman, Tunmer, & Ryan, 1996). Teachers communicate causal attributions directly and indirectly through verbal appeals, instructions, reinforcements, direct feedback, and non-verbal behaviour. With

this in mind, it is reasonable to assume that children's attributions could be positively affected by training teachers to provide appropriate success and failure feedback. Teachers can address emotional and cognitive factors affecting a student's lack of progress by addressing what factors he or she attributes failure to in addition to attending to deficit strategies.

Craven (1997) demonstrated that interventions that employ attributional feedback and internally focused feedback can change some aspects of self-concept, self-attributions, and academic achievement. Licht (1993) cites studies that have successfully integrated training in strategy use with techniques for altering achievement-related beliefs. It is suggested that effective strategy interventions include a combination of methods: behavioural (modeling, successive approximations, prompts), cognitive (specific strategy instruction), metacognitive (planning, monitoring, evaluating), and affective (counseling associated with the unique needs of being both gifted and learning disabled) (Graham & Harris, 1993). Torgesen (1994) suggests that one of the most important findings from research in the field of cognitive strategy teaching with students who have learning disabilities is that such training is "most effective when accompanied by interventions that also alter in some way the child's motivation to perform effectively" (p. 151).

Children must believe that effortful use of strategies can help them overcome difficulties they face (Licht, 1993). The following suggestions for helping gifted learning disabled students cope with the effects of poor strategies and negative attributions are adapted from McNabb (1997):

1. Emphasis should be on the role of effort in learning. This can be accomplished by focusing on the process and the progress of the individual rather than on the outcome and external evaluation.
2. Accuracy should sometimes be sacrificed for risk-taking. Students should be rewarded for being prepared to take risks. For instance, reward students who are prepared to use complex language in preference to simple language, even though they know they are unlikely to spell the more complex words accurately.
3. Help students see the relationship between effort and outcome. Feedback could be along the lines of “The high quality of this assignment shows me that you really put a lot of time and effort into it.”
4. Use rewards sparingly, and only to reinforce behaviours that are not intrinsically rewarding. Feedback scripts can promote intrinsic reward through the use of statements such as “I bet you feel great to have solved such a tough problem.”
5. Model an incremental view of intelligence by emphasising the importance of skill acquisition and downplaying normative performance. This involves showing respect for people who achieve well through the application of effort as well as innate ability.

Baum et al. (1993) investigated various programmes catering for gifted learning disabled students and identified the following four components as being fundamental to programme success:

1. alternative modes for thinking and communicating,
2. strategies to identify gifts in learning-disabled students,
3. activities designed to motivate students; and
4. the use of instructional methods that highlight the abilities of students.

Suggestions from Baum et al. (1993) for offsetting negative behavior patterns include:

1. Encourage students to assume responsibility for their own learning, keeping in mind that the ultimate goal for all students is independent self-regulation.
2. Provide management plans as necessary to assist students to organise long-term assignments.
3. Provide clear information about what behaviour is acceptable.
4. Encourage students to control their own behaviour.
5. Provide sufficient time for involved students to work without interruption.
6. Be sensitive to students' frustration levels. It may be necessary to provide appropriate escape routes that allow students to admit that a task may be too difficult while still preserving their self-esteem.

Students who have not had opportunities to capitalise on their areas of strength are accustomed to being uninterested in, and frustrated with, most learning experiences (Baum et al., 1993). It becomes critical, therefore, that any programme for GLD students includes some form of counseling. This may take the form of a regular discussion group where the teacher acts as facilitator and uses skilful questioning to encourage students to become more self-aware. The primary role of the teacher becomes that of listener rather than provider of information. The emphasis of any programme must be on students' abilities, rather than their disabilities, with the proviso that honesty remains 'the best policy.' Gifted learning disabled students are often fully aware of their limitations. Avoiding open and honest discussion about disabilities is likely be more detrimental than helpful. Handled with appropriate good humour and

sensitivity, such discussion can enable students to reflect on those skills they do possess and to encourage purposeful and constructive self-determination.

According to Schunk and Rice (1992) learning strategies can help students “attend to tasks, focus on important features, rehearse and elaborate information to be remembered, monitor level of understanding and take corrective action when necessary, cue retrieval of information from memory, and create and maintain a favorable emotional climate and positive beliefs about learning” (p. 51). Explicit description and application of strategies rather than general statements about being strategic or metacognitive are necessary if students are to learn how to use cognitive tools appropriately (Ellis, 1993; Paris & Winograd, 1990; Wong, 1994). According to Paris and Winograd (1990), the five key features of explicit explanation are:

- “1. What the strategy is.
2. Why the strategy should be learned.
3. How to use the strategy.
4. When and where the strategy is to be used.
5. How to evaluate the use of the strategy” (pp.32-33).

Strategies are often introduced in content-free lessons which are used merely as vehicles to carry the particular strategies under study. Using generic categories of instruction, the strategy or skill, not the subject, becomes the focus of the lesson (Bellanca & Fogarty, 1993). While this approach has immediate appeal to practitioners because it is easily applied in the classroom, lessons should not be removed from the context of applied learning. As Bellanca and Fogarty (1993) point out, “if the strategy

or skill is used only once it is an activity, if it is practiced in another situation and transferred into other contexts, it can then be called a strategy” (p. 257).

Teaching strategies in order to bring about substantial improvement of students’ academic performance is a critical component of the teaching and learning process (Wong, 1994). The goal is that students will spontaneously select and deploy these strategies in a variety of appropriate contexts. When a strategy or skill is taught the expectation is that transfer will occur. However, research suggests that transfer of learning does not occur as spontaneously or as regularly as we would like (Fogarty, Perkins & Barell, 1992). While teaching strategies to students in an isolated skill-based setting may appear an obvious option, it is not conducive to appropriate transfer of knowledge across a variety of settings.

It is not unusual to hear teachers of one subject complain that students have not been taught the basic skills that should have been taught within the context of another subject. Rather than not having been exposed to strategies it is more likely that students simply have not transferred them to other settings. A strategy comprises cognitive operations over and above the processes directly entailed in carrying out a task (Pressley, Woloshyn, Lysynchuk, Martin, Wood & Willoughby, 1990). When strategies are learned they should be applied across a number of tasks and settings (Mulcahy, Marfo, Peat, & Andrews, 1987; Pressley, et al., 1990). It is necessary to teach for transfer using systematic, explicit techniques (Bruce & Chan, 1991; Short & Weissberg-Benchell, 1989; Wong, 1994). It is important that students are taught to use particular strategies in the relevant settings to accomplish specific purposes and not simply taught an inventory of strategies.

When teachers pay attention to transfer in contextual learning situations, and when strategies are accompanied by self-monitoring, transfer does occur. In both context-bound teaching and a general heuristics approach, transfer must be shepherded (Fogarty, Perkins & Barell, 1992). Merely being told to transfer learned strategies is not going to bring about the desired result. Sharing current cognitive learning theory with colleagues and applying the principles of theory in practice is critical in a school-based programme. An effective strategies programme must work with subject teachers as well as the students themselves.

Summary

Examination of current literature reveals that strategy instruction and attribution retraining each have a valuable contribution to make in the field of education. However, if used in isolation from one another, the long term effects have proven to be minimal (Borkowski et al., 1990; Horrex, 1992; Licht, 1993). A combination of both components in intervention programmes should maximise the likelihood that maintenance and generalisation will occur. Such a combination may also provide the cognitive and affective factors needed to provide appropriate support for GLD students. The results of a study carried out by Craven (1997) supported a multidimensional theoretical position where self-concept, self-attribution, and achievement are interrelated.

In an effort to justify developing and resourcing differentiated programmes for gifted students, some advocates argue that, with appropriate intervention, many of these young people are destined to become future leaders in areas of science, politics, the

arts, and humanities. Unlike the argument that it is our duty, as caring members of a civilized society, to care for those with highly visible disabilities, the argument for catering for gifted students is constantly under challenge. The most salient argument for catering appropriately for all students, irrespective of their level of ability or disability, is that each and every child deserves the opportunity to develop to his or her potential. It is the obligation of teachers to remove barriers to achievement for all children. In the words of Tannenbaum (1997), "Human potential cannot flourish in an arid cultural climate. It needs nurturing, urgings, encouragement, and even pressures from a world that cares" (p. 37).

Johnson, Karnes, and Carr (1997) advise us that "persons with both gifts and disabilities, given the opportunity to develop their potentials, can make a significant impact on society" and that failure to help individuals actualize their potential creates a "breeding ground for frustration and poor mental health" (p. 516). Strategy instruction combined with attribution retraining may offer teachers an answer to the dilemma of how to motivate failing students, keeping in mind that some deficiencies may result from impoverished or maladaptive interactions with significant people in both school and home environments (Addison, Stone & Conca, 1993).

Purpose of present study

One of the shortcomings of available research in the field of students who are both academically gifted and learning disabled is that there are few instances where studies have been carried out in an authentic situation. Craven (1997) recommends that more

investigations be classroom based. If 'Triple Alliance' theory is to be of benefit to New Zealand students, programmes must be able to operate easily and effectively within the real-life context of the New Zealand school. This study aimed to examine the feasibility of providing an effective programme within an authentic school context.

This study aimed to develop, implement, and assess the effectiveness of a programme that combined the three elements of 'Triple Alliance' theory: cognition, metacognition, and motivation. Cognitive and metacognitive components were met through direct instruction of strategies appropriate to written language and by providing opportunities for students to reflect on their use of those strategies. The motivational component was addressed through the attribution retraining aspect of the programme. A primary goal of this study was to develop an effective programme able to be implemented using resources currently available to most New Zealand secondary schools. Available resources include current and future teachers who may require special training in how to implement self-concept interventions in order to bring about increases in academic self-efficacy and achievement (Craven, 1997).

On the basis of a review of available literature, the following hypotheses were formulated: (1) that pre-intervention academic attribution profiles of students who are both gifted and learning disabled would show more features of learned helplessness than will the profiles of their gifted, non-learning disabled peers; (2) that pre-intervention writing skills levels of GLD students would be lower than those of their gifted, non-learning disabled peers; and (3) that the academic attribution profiles and writing skills of GLD students would more closely approximate those of their gifted

non-learning disabled peers following participation in an intervention programme based on 'Triple Alliance' theory, strategy instruction and attribution retraining.

The following questions provided the investigative framework for this study:

1. To what do GLD students attribute academic success and failure?
2. Do the academic attribution profiles of GLD students differ from those of their gifted non-learning disabled peers?
3. Do the academic attribution profiles of GLD students more closely approximate those of gifted non-learning disabled students following participation in a programme based on attribution retraining and strategy instruction?
4. Is a programme based on attribution retraining and strategy instruction effective in improving the academic performance of GLD students in the area of written language?

CHAPTER 3

METHOD

General Design

This study aimed to examine the belief that gifted learning disabled students differ from their gifted non-learning disabled peers, not only in academic performance, but also in their academic self-concepts and the attributions made for their educational successes and failures. In addition, the belief that gifted learning disabled students are more likely than their academically gifted non-learning disabled peers to attribute success to external factors and failure to internal factors was investigated.

Another aim was to develop, implement and evaluate the effectiveness of a programme for gifted learning disabled students that combined strategy instruction in the writing of expository essays with attribution retraining. The programme operated within a New Zealand year 9 to 13 state secondary school with an urban population of approximately 1100 students. The school has a multi-cultural population comprising approximately 42 % Pakeha, 30 % Pacific Islanders, and 14 % Maori, with the remaining 14 % comprising a mix of students from Europe, Asia, and Africa.

Post-intervention changes in academic self-perception and performance were assessed using the same assessment procedures, writing sample and attribution survey, used for pre-intervention assessment. Both the research and the control group were assigned the same expository writing topics and wrote their essays under the same constraints.

Students involved in the study participated in a series of seven intervention sessions focusing on the direct instruction of strategies deemed useful for expository writing. Corrective feedback was provided to each research student following marking of each essay. Feedback was specific to the student and provided detailed success and failure information in terms of strategy use, ability to complete the task successfully, and effort. Students were also given the opportunity to dispute the feedback comments, particularly those relating to effort since this aspect is often difficult to assess accurately. They were invited to self-assess and reflect on the effectiveness, or otherwise, of the strategies taught and employed during each session.

The instructional context was that of expository writing within the New Zealand Social Studies curriculum. VanTassel-Baska and Feldhusen (1988) suggest that social sciences curricula offer excellent opportunities to engage gifted and talented students in complex and challenging cognitive activities (p.187). Strategies associated with essay writing prepare learners in skills necessary for higher level abstract thinking. Ellis and Colvert (1979) maintain that writing is one of the most common deficits in students with learning disabilities and is also one of the more challenging areas to address because many students with learning disabilities possess the necessary conventions-of-print knowledge but they do not often apply this knowledge systematically or strategically (p.196). Where this occurs, instruction in editing and revising strategies can be beneficial, enabling students to use efficient and effective monitoring processes.

Other researchers emphasise the importance of teaching strategies within an authentic context of instruction where skills learned may also be transferred to other curriculum and non-curriculum areas (Fogarty, Perkins, & Barell, 1992). Expository writing skills

are useful across several curriculum contexts. Hooper, Montgomery, Swartz, Reed, Sandler, Levine, Watson, and Wasileski (1994), maintain that the quality of written products is increased or constrained by a multitude of documented factors (p.377). They suggest that declarative, procedural, and conditional knowledge influence the final result. The skilled writer will have knowledge of the writing process and various strategies required to produce different types of writing.

The special requirements of the research group, gifted learning disabled, were also taken into account. One important goal of the programme was to acknowledge and value success while addressing and remediating areas of weakness. Another goal of the programme was to maximize student success while minimizing failure and frustration (Baum, Owen, & Dixon, 1993). The programme moved away from a model of learning disability implying permanent deficits, towards a holistic, dynamic model that takes into account the capacity human beings have to change when faced with new and relevant information.

An evaluative research design was employed, as its primary purpose is to provide information that can be used to guide decisions about the adoption or modification of an educational programme and to improve, rather than prove, what currently exists (Stake, 1980; Elliot, 1991). Snook (1981) asserts that the point of educational research is the gaining of worthwhile knowledge about educational processes and that the adequacy of the research design has ethical as well as technical significance. Since evaluation research is most often carried out within a naturalistic context it is neither possible nor sensible to ignore the fact that the activities and/or attitudes under research occur within a diverse and complex learning environment which must, inevitably,

impact on the research being undertaken. In order to minimise research bias one of the selection criteria for the programme was that students had not previously been taught by the researcher. This was also desirable since the researcher was required to adopt the tutor role throughout this study. Furthermore, teachers of these students revealed that students had not received explicit instruction in any of the strategies likely to be taught as part of the intervention programme.

Instruments

Evaluative research can involve both quantitative and qualitative data gathering methodologies. As with any research design, the nature of the problem determines the method of analysis. Of paramount concern to the researcher was the requirement to obtain sufficient information from as many independent and credible sources as is necessary to ensure that the findings represent the perceived status of the programme (Stake, 1980).

Triangulation, or the multi-method approach, was used for data collection (Burns, 1990). While the data gathered are primarily quantitative, some qualitative information was also sought in order to elicit more in-depth information. The triangulation process is most appropriate for this form of research since validation is more likely than with single-method data gathering. Cresswell (1994) cites Denzin as first using the term triangulation to explain the combination of methodologies in the study of the same phenomenon.

Cresswell provides five reasons for combining methods in a single study:

1. Providing convergence of results.
2. Overlapping and different facets may emerge.
3. The first method can be used sequentially to help inform subsequent methods.
4. Contradictions and fresh perspectives emerge.
5. Mixed methods add scope and breadth to a study.

Accordingly, three instruments were used in this study to gain pre- and post-intervention information: a self-efficacy and attribution survey, a writing sample in association with a writing attitudes survey, and a written account of strategy use and effectiveness. The first two instruments provided quantitative data while the third provided qualitative data. The self-efficacy and attribution survey was adapted from the Self-Efficacy for Academic Tasks survey developed by Baum, Owen, and Dixon (1993), and the Writing Attitudes Survey was adapted from that developed by Ellis (1993). The scoring form used to analyse the writing samples was adapted from the Component Analysis form developed by Ellis and Colvert (1979). The questions used to guide reflection about strategy use were constructed specifically for the study.

The Self-efficacy and Attribution Survey

In her investigation into strategy instruction, metacognitive training and attribution retraining Horrex (1992) employed three rating scales: (1) the Intellectual Achievement Responsibility (IAR) scale developed by Crandall, Katkovsky, and Crandall (1965); (2) the Causal Attribution Rating for Failure, and; (3) the Causal Attribution Rating Scale for Success developed by van Kraayenoord (1986). Although these rating scales were considered, the Self-Efficacy for Academic Tasks instrument

was selected for this current study because it had been developed specifically for students identified as being concurrently academically gifted and specifically learning-disabled (Baum, et al., 1993). This tool couples an attribution measure with an academic self-efficacy instrument providing an overall self-efficacy rating as well as the opportunity for specific analysis of attributions. The survey was used with upper middle school students in the United States. The average age of the students involved in this current study was 12.8 years which is marginally older than those students for whom the survey was originally developed.

Thirty-four statements relating to normal school activities were included in the survey. Students initially identified those activities in which they believed they were successful, were neutral about, or found difficult. A happy face identified the easy tasks, a neutral face identified the neutral tasks, and a frowning face was highlighted to identify those tasks the students found difficult. An overall self-efficacy rating was calculated by counting the number of times the happy face is chosen and multiplying the sum by three. The neutral face selections were then counted and the sum multiplied by two after which the sum of the number of frowning faces was totaled. The weighted scores are then added together to determine the overall self-efficacy score. The sum of the number of frowning faces determines the score for sense of academic failure.

Specific success and failure attribution scores are derived by counting the number of attributions under each explanation category. For each happy face identified students were asked to select the one attribute to which they primarily attributed their success in that task. They could choose one of: having ability, working hard, luck, or the task is

easy. For each frowning face students were asked to select one of five attributes: not being smart, not trying, unlucky, task difficulty, or too shy.

Minor adaptations were made to the instrument to accommodate differences between American and New Zealand language. For example, 'grades in school' was changed to 'marks in school' and 'doing workbook pages in reading' was changed to 'doing reading comprehension exercises.' Overall self-efficacy ratings were measured first, followed by the breakdown of information about success and failure attributions made to print-related tasks. Twenty-six responses to questions about writing and other print-related activities were later separated from other responses. This information was used to analyse attributions made specifically about print-related tasks since writing was the area of focus for this study.

The Writing Sample

Analysis of the writing sample utilised the component analysis method developed originally by Schumaker, Nolan, and Deshler (1985, cited in Ellis, 1993). This method allows teachers to evaluate specific types of written language errors and is particularly suited to the evaluation of expository writing since it analyses both the craft and mechanical components of writing. The process provides quantitative scores for specified types of errors.

To obtain a quality score a point value was assigned to each critical feature of the paragraph. The quality of opening sentences were marked under specific headings, each of which had a range of marks from 0 to 3. The headings were: orients readers, establishes position, and introduces main ideas. Students could obtain a maximum of 9

points for this section of their writing. Closing sentences were assessed using only one criteria, that of restating the original position or providing closure. Students were again marked on a scale of 0 to 3 in this section. To obtain a score for editing, the sum of print errors was subtracted from the total number of words in the essay. The figure remaining was then divided by the total number of words in the essay and multiplied by 100 to produce a percentage accuracy score.

Writing samples were collected from students from both the research and the control groups. Students were given the topic 'Leaders are born, not made' and directed to write as well as they could for 15 minutes. They were told that after 15 minutes they would be directed to stop at which time they were directed to use a different colour pen to edit their work, after which they could re-write their essay. Dictionaries were provided but no specific cues were given as to how to go about searching for and correcting errors.

Both edited and final drafts were submitted for marking. Papers were read for meaning and flow of ideas and logic were evaluated. Essays were marked according to the following schedule:

1. Opening sentence. This orients the reader, establishes the writer's position, and introduces main ideas. Each sub-section was marked on a scale of 0 to 3.
2. Closing sentence. This restates position or provides closure. The closing sentence was also marked on a scale of 0 to 3.
3. Main ideas and details. The quality of main ideas was scored on the basis of one point for each clearly stated complete sentence and two points for each clearly stated and cued complete sentence. One point was given for each

subsequent supporting statement that elaborated on the main idea by providing a relevant explanation or example.

4. Mechanical accuracy was assessed on the basis of paragraphs, sentence structure and sense, punctuation, spelling, appropriate use of capital letters, and overall appearance or legibility. Words written were counted and the lines of each final draft were numbered to correspond with the numbers on the error score of the marking grid. Thus, column 1 on the grid reflected any errors in line 1 of the writing sample. The number of errors was calculated against the number of words written to provide an accuracy percentage.

Edited and final drafts were compared with each other to assess whether or not students had consistently employed particular strategies in their editing and planning. In order to ensure marker reliability another teacher also marked half the essays from each group and marks were compared and any differences discussed. In the few instances where differences existed a common assessment mark was agreed on.

The Writing Attitudes Survey

The Writing Attitudes Survey (Ellis, 1993) was completed within two days of completing the essay and the information was used to document changes in attitudes to writing. The survey consisted of a series of ten written statements and utilised a Likert scale of 1 through 5, with 1 representing strongly agree, 2 agree, 3 unsure, 4 disagree, and 5 strongly disagree.

Written Account of Strategy Use and Effectiveness

The account formed a personal record told from the individual student's viewpoint. The exercise utilised the fourth level of metacognition described by Swartz and Perkins (1989), of reflecting upon how to proceed and how to improve (cited in Bellanca & Fogarty, 1993, p.265). The written account not only provided valuable information concerning which strategies were regarded by students as most and least useful, but also provided students with an opportunity to interpret new information, relate it to what they already knew, and organise it for later retrieval. The guiding questions were:

1. What helped you improve?
2. What do you know now that you didn't know before?
3. What strategies worked well for you and why?
4. What strategies will you continue to use?
5. What strategies will you probably not use for similar tasks in the future?

Research Diary

In addition to material gathered from the students, the researcher kept a written account of comments made by students at various times throughout the programme. These comments include reference to the ease or difficulty students experienced in understanding and implementing the various strategies and their reactions to the programme generally. The diary also provided a record of administration and organisational events and difficulties faced throughout the study and comments about the programme received from teachers and parents. Information from the diary provided anecdotal information, some of which is included in the discussion and conclusion chapters of this thesis.

Sample

Sample Selection

The study involved a research group of third-form students (n=15) diagnosed as having high academic ability whose current and immediate past teachers had identified them as experiencing difficulties associated with written tasks. Writing samples from the pre-entry test were analysed for evidence of specific writing difficulties. In addition, results from the Progressive Achievement Tests of Reading Comprehension and Listening Comprehension (PATs) (Reid & Elley, 1991) were analysed for discrepancies between results. Students were selected for the programme on the basis of the existence of a 20 percentile point difference between the PAT results, with the Listening Comprehension result being the higher of the two. Finally, teachers of selected students were requested to complete the Characteristics Checklist (Emerick, 1985, cited in Baum et al., 1993) and the Teacher Observation Scales for Identifying Children With Special Abilities (McAlpine & Reid, 1996). Both these checklists were used to confirm that the students did exhibit characteristics normally associated with superior ability. Students were selected from throughout the third form from a variety of middle and upper band classes.

The control group comprised third-form students (n=20) who had been placed together in an extension class on the basis of having demonstrated advanced academic skills assessed using a variety of teacher-designed and standardised tests, including PAT results, writing samples, a cloze exercise, spelling and punctuation tests, and a locally developed mathematics test. The teacher-designed tests were diagnostic and had been developed by teachers with responsibility for learning assistance within the school. Results from these tests were used to place incoming students into broadband classes.

In addition, decisions about class placement were based on information and recommendations from year 8 teachers.

Discrepancy between reading and listening comprehension was used as a broad indicator of possible high cognitive ability combined with difficulties with print. Hooper, Montgomery, Swartz, Reed, Sandler, Levine, Watson, and Wasileski (1994) suggest that, with the written language expression domain, one could characterize an ability-achievement discrepancy as the difference between oral expression versus written expression. Initially, 19 out of 235 third form students were identified as potential study participants on the basis of having a significant discrepancy between their PAT reading and listening comprehension scores assessed using information from testing carried out in March of the current year. Of the 19 students identified, four were eliminated from the study because they had either left the school since testing or were speakers of English as a second language.

Teachers were asked to supply writing samples for each of the 15 students selected and to nominate other students they considered to be potentially high ability who were experiencing difficulty with the process and mechanics of writing. Writing samples were analysed to confirm the existence of difficulties specific to writing. The Teacher Observation Scales for Identifying Children with Special Abilities were used to alert teachers to students whom they might otherwise have overlooked (McAlpine & Reid, 1996). These scales are standardised instruments, which have gone through statistical analyses associated with reliability and validity. Teachers confirmed the selection of the original 15 students and no other students were nominated.

Research students were invited to participate in the study and permission was obtained from the school and from their parents. Once this had been achieved session times were negotiated with both students and subject teachers, with the result that students were withdrawn from regular classes twice per six-day cycle. Research students attended seven instructional lessons with additional pre- and post-intervention sessions for assessment of their current writing skills, strategy use, and success and failure attributions. Assessments were carried out within a week of beginning and completing intervention. The control group received no training but was assigned the same assessment tasks under similar conditions to the research group.

Procedure

Pre-intervention Data Gathering

Selection information was gathered over a ten-week period throughout term two to ensure teachers had sufficient opportunity to gain relevant information about their students' expository writing skills. The intervention programme was carried out throughout term three.

The control group was required to write their essays during a regular Social Studies lesson. The following written instructions were given to the subject teacher:

1. Students will need to write on lined paper.
2. Ask students to write a factual report using the following statement starter:
'Leaders are born, not made.'
3. After 15 minutes of writing, ask students to write a concluding sentence to finish off.

4. Students then use a pen of a different colour to edit their drafts.
5. Reports are then re-written neatly and handed in along with the drafts.

Dictionaries were available for use but no specific instruction to use them was given. Within the 50 minute teaching period, 5 minutes was allocated to introducing the task after which students were permitted 15 minutes to write their essays, including planning time. The rest of the period, comprising 30 minutes, was available for students to edit and re-write their essays.

The Self-Efficacy for Academic Tasks and the Writing Attitudes surveys were administered during a regular English lesson. It was strongly emphasised that honest answers were required, that their responses would be confidential, and that it would provide important information to help teachers decide how best to assist students to improve their writing. There was no further interaction with the control group until post-intervention data was gathered. Writing samples were analysed in accordance with the procedures described previously.

In order to minimise research influences the pre-intervention writing sample was administered to potential research participants prior to their receiving any detailed information about the purpose and content of the programme. It was explained to all students that they might be invited to participate in a writing programme and samples of their writing were required to establish who would be most likely to benefit from participation. Prospective research students were gathered together on two occasions. During the first session they were asked to write an essay based on the same topic and

under the same conditions as the control group. The Self-Efficacy for Academic Tasks and the Writing Attitudes surveys were administered during the second session.

Programme Development

The procedural outline for assessment of skills and programme planning followed Houck's (1984) guidelines. Specific deficits identified in writing samples were listed after the writing samples had been analysed. Data were examined to determine any consistencies in error patterns. The objectives of the programme were then specified in terms of strategies the students must know in order to be successful in task achievement and those that would be good for the student to know but not essential.

The intervention programme was developed to provide opportunities for direct instruction and application of relevant skills. Sufficient opportunities were built into the programme to allow for acquisition, consolidation, and maintenance of the target skills and students and Social Studies teachers were encouraged to actively seek opportunities for generalisation and use in other settings and situations.

Studies have shown that students with learning disabilities have difficulties assessing their own capabilities and recognising what strategies are needed and how to regulate their use (Graham & Harris, 1993). MacArthur and Graham (1987) also found that these students spend very little time planning their compositions in advance of writing (cited in Graham & Harris, 1993). Strategies were selected using the criteria of ease of introduction and application, relevance to the task, likelihood that they would be supported and implemented by other teachers, and immediate impact. The programme was called the StAR programme as an acronym of Strategy and Attribution Retraining.

Introductory Session

Students from the research group were gathered together for an introductory session at which time the research aims and details about the programme were discussed. It was explained to students that they had been selected for the programme on the basis of their writing samples and that information provided from a variety of sources indicated that, while they might have specific difficulties with some aspects of writing, they also had the potential to achieve at higher levels in this and other areas. Programme details were further discussed and questions answered. Students were assured that they would receive feedback about the research and their achievements when the study was completed.

Issues associated with being academically talented and specifically learning disabled were discussed, as were the principles of corrective feedback. It was explained to students that they would not only be taught helpful strategies but they would also receive detailed corrective feedback explaining what they had done well and why, and how they could improve. Fears and anxieties associated with the writing process were also addressed and students were advised that the programme would seek to reduce these concerns.

The analogy of learning to swim was used. Skills required were described by the students and listed on the board. The view was expressed by the tutor that people reach different skill levels depending on many factors, including basic ability, willingness to put the necessary amount of effort in, and being taught the right way to go about it. The group concluded that with a combination of all three factors there was probably no reason why someone wouldn't be able to learn to swim. They also agreed that having

appropriate skills made any activity more interesting and enjoyable. It was pointed out that we all have skills which we don't stop to think about because they are automatic and that it is only when we are attempting to develop new skills that we have to become conscious of each small step again. It was explained that skilled essay writers have developed effective strategies that are now automatic, or invisible, but that it takes a lot of time and effort to reach that point. Referring back to the swimming example, students were reminded that it required a lot of concentration and effort to learn to coordinate the correct movements and breathing but that becoming skilled in an area of choice made the effort worthwhile.

Students were then invited to participate in the study. Letters were provided to take home to parents explaining the aims and nature of the research and seeking written permission for participation. These were returned promptly accompanied by several comments supporting the study's aims.

The Intervention Programme

Lesson 1

Passes were distributed to all students to excuse them from regular class attendance and permission was gained from each of the teachers prior to the lesson. The lesson began with a few more questions being answered, and corrective feedback forms were handed out and discussed. Students' pre-intervention writing samples were used as the basis for discussion about corrective feedback. Students were given an opportunity to write their own comments on the feedback forms and their responses were discussed in terms of whether or not they felt the comments were accurate and helpful. Individual folders

and exercise books were provided and students were informed that the books and folders were for them to record information and to plan, write, and edit their first drafts. They were told that the folders would remain with the tutor between lessons although they would be available for them to keep following completion of the research project.

Houck's (1984) three phase process for composition was discussed with students: (1) a prewriting or reflective period in which one prepares for the actual task of recording thoughts, (2) the writing stage, and (3) the editing and final revision stage. The suggestion that perhaps as much as 85 % of one's time should be invested in the prewriting stage, 1 % in the actual writing, and 14 % in editing and revision was discussed (Houck, 1984). Students acknowledged that they had little or no experience of planning essays and indicated that the final draft is normally also the first draft. The acronym A.D.E.R.P. was introduced as a checklist for writing (consider the audience, write your draft, edit, re-write, and check the final presentation). The tutor explained that planning on the board or paper was simply a way of thinking visibly because it was easier to re-organise and elaborate on ideas if they were visible. This was demonstrated using the 'think aloud' process with the tutor saying things such as "No, I think I'll link that idea with this one rather than that because it will provide a good supporting argument." This was accompanied by drawing of linking arrows and webbing.

Students were actively involved in the process of identifying key words in the topic statement and using these as the basis for a brainstorm or mind-map without regard for order or importance of ideas. Different colours were used to differentiate between key ideas but no particular attention was paid to this aspect during instruction. The topic

statement 'Cloning is simply multiple birthing by another name' provided the stimulus for the writing activity since this had recently been discussed in the news media. Students were also introduced to the concept of Po, a word suggested by de Bono (1983) as an alternative to stating yes or no. Po was designed as a strategy to provide thinking space to allow the consideration of alternative points of view. According to de Bono (1983) this is a particularly useful strategy to employ when one has firm views on an issue. De Bono's (1987) P.M.I. strategy was introduced. In this strategy students are encouraged to use a 3-column table to categorise their ideas into positives, minuses, and finally, interesting points that are neither positive nor negative.

The strategy was also demonstrated on the board with whole-group participation. Key ideas were then highlighted and written into a specific format called the Essay Format Checklist (self-developed). This strategy provided a visible framework for establishing a precise point of view, listing specific points to support this view and providing further elaboration on each point. After establishing a position and listing reasons and supporting points, students number each point to indicate their order of presentation in the essay. The final sentence confirms the writer's position (Ellis & Colvert, 1979).

Students were then directed to begin writing their draft essays using information accumulated during group discussion and any other ideas they came up with. They were asked to draw a 'try' column down the side of the page and to highlight possible errors as they wrote. Large dots over possible errors, underlining, and colour highlighting were some of the ideas suggested for this process. Students were directed to use the dots/lines as reference points when editing. They were instructed to keep the

ideas flowing onto the paper and not to sacrifice quality ideas for mechanical accuracy. As it was the end of the lesson students were told they could continue with the draft during the intervening time before the next lesson but they were not to begin final drafts. As it turned out, the final constraint was unnecessary as none of the students had completed their drafts.

Lesson 2

Planning strategies were reviewed and the role of effort in combination with ability and strategy use was discussed in terms of successful outcomes. Most of the students experienced difficulty with the Essay Format Checklist because it required them to sequence ideas within a logical framework. Students were asked to complete their essay drafts within a 10-minute period. When this task had been accomplished, the following editing strategies were introduced:

1. C.O.P.S. (Capitals, Overall appearance, Punctuation, Spelling) (Knight, Paterson & Mulcahy, 1998).
2. Consult an Expert. It was emphasised that experts come in many forms, including a dictionary or thesaurus as well as a friend or teacher. Students were reminded that, before asking for help, they should be confident that their expert has a suitable skill level in the area in which they were being consulted.
3. Read aloud to yourself or a friend.
4. Use the 'try' column to attempt corrections of misspelled words before consulting an expert source.

The review process involves making modifications to existing text and/or generating new ideas. According to Hooper et al. (1994), this phase is governed by two basic

mental processes: (1) evaluating, which involves making decisions about the quality and quantity of the text, and (2) revising, which entails making superficial as well as substantive modifications to the text.

Students were reluctant to begin the review process but once involved they continued to work well for the remainder of the period. Five minutes prior to the conclusion of the lesson students completed two surveys: (1) an attribution retraining survey, and (2) a strategy survey. The attribution retraining survey provided an opportunity for students to reflect on what they had learned throughout the lesson. Discussion centred on how well they had achieved their goals and the role ability, strategy use, and effort played in goal achievement. The strategy survey drew students' attention to the strategies that had been most and least effective in achieving their goals and provided opportunity for metacognitive reflection. Students were constantly encouraged to use each strategy at least once but to reflect on which ones best suited both the task and their particular way of thinking and interpreting information.

Lesson 3

The lesson began with reviewing editing strategies employed by students and discussing their relative merits and shortcomings. The transfer of strategies into other contexts was also discussed. Students were asked to identify situations where strategies they had learned could be useful. They were then provided with refill paper and instructed to re-check and then re-write their essays. The M.F.S. (Missing words, Full-stops, Spelling) acronym was introduced as a reminder to carry out basic mechanical checks (Knight et al., 1998). Most students were reluctant to put any more time into editing, even as a final check. Students re-wrote their essays under considerable

pressure from the tutor and were not consistently engaged in or focused on the task. Approximately 15 minutes into the re-writing period students were stopped briefly and reminded of the important role effort had in goal achievement. The principle of consciously applying what had been taught when learning to swim was referred to once again and discussed within the context of the current task. Students agreed that application of effort was important in learning any new skill.

Ten minutes before the end of the session students were asked to write their concluding sentences, hand their completed essays in, and complete a writing task survey designed to rate their reaction to the writing task in terms of strategy use, effort, motivation, and attitude. As with the attribution and strategy surveys, this activity was intended to focus student attention on what was required for successful task completion. Students used the remaining time to decorate and individualise their folders and new class exit passes were given out because lesson dates had had to be changed to accommodate changes in the school timetable.

Lesson 4

Essays were marked and corrective feedback forms completed between sessions. These were distributed to students at the beginning of this session and students were asked to consider how they could use the feedback to improve future essays. Students were also reminded about the importance of regarding errors as learning opportunities.

Approximately ten minutes were spent discussing the relative merits of success and failure feedback and the role of constructive feedback in helping people improve.

The whole group contributed ideas for the topic statement for the next essay as a means of actively involving students in the process of generating ideas. These were written on the board and further developed using the webbing system associated with mind-mapping. Previously introduced strategies for planning and writing of the draft were discussed briefly and students began the writing process having selected their own topics. The rest of the session was spent on this task. Students were told that they could take their planning folders home if they wanted to complete their drafts prior to the next lesson. In an attempt to engage students in making positive choices for themselves it was emphasised that this was not compulsory. Most of the students opted to take their folders with them.

Lesson 5

Approximately half the students had spent time on their drafts. Some class time was allocated to draft completion and editing. Students completed their first re-writes and were directed to check using C.O.P.S. and/or M.F.S. strategies. The remaining time was used to write the final draft of the essays. Again, to encourage personal investment in the production of quality work, students were told that they could either hand their completed essays before they left or the next day. Most chose to hand them in the next day. It was emphasised that the essays must be handed in before the next session (in five days time) or they would not be able to receive corrective feedback.

The group was then asked how many of them had chosen to edit a re-write before. This question was met with a resounding “No!” Reasons for the change in attitude were discussed as a means of encouraging reflection about the changes in strategy acquisition that had occurred and to link success with ability, strategy use, and effort.

Discussion focused on differences that students had noticed in their own behaviour and attitude since beginning the intervention programme. Specific strategies were discussed in terms of whether they were difficult or easy to apply in other contexts. Examples were provided and suggestions made as to how and when these strategies would be likely to be most useful.

Lesson 6

Timetable organisation meant that only one lesson was held during this week. Reminders and new class exit passes were sent to students and their teachers. Essays were handed back with the corrective feedback forms. Students read these and wrote their own comments. They then discussed those aspects of their writing that had improved and those that still required some work. Students were encouraged to provide positive suggestions using constructive but specific feedback. Guidelines for doing this were discussed by the group and those agreed upon were written on the board.

Approximately twenty minutes into the lesson students came together as a whole group to decide on the next topic. Ideas were generated and written on the board and students were directed to work together or individually to develop selected topics further. They were asked to nominate those strategies they had found particularly useful, which were also written on the board. The role of effort was again discussed. The Venn Diagram strategy was introduced for those students who had chosen topics that lent themselves to a compare and contrast style of writing. The main focus for this lesson was on the first three phases of writing - planning, writing the draft, and editing. The group was stopped five minutes before the end of the lesson and folders were collected. Students were informed that while they were unable to take their folders with them, they could

research their topics before the next lesson. A few minutes were spent discussing possible sources of information and these were listed on the board for students to copy. Students were encouraged to be as diverse as possible when considering sources of information.

Lesson 7

Students were reminded that this was the final instructional lesson in the programme. The focus was on overall presentation of the essay. Students were directed to use the skills they had developed to present the best essay they could in the time available. Twenty-five minutes were set aside for the editing and re-writing phase, after which students were asked to write their concluding statements and hand in their essays. Students were again informed that they would receive feedback after the study findings had been analysed.

Final writing of the drafts took approximately half the time available. Students were then asked to identify lessons they had learned and changes they had made as a direct result of the intervention programme. This took the form of a directed reflection exercise with guided metacognitive questions. The exercise required students to focus on those strategies that were most effective for them individually. It was pointed out that different strategies work best for different people. Students then completed the informal attribution and strategy surveys. Interestingly, students collectively requested a continuation of the programme into the following term.

Post-intervention Assessment

Writing of the post-intervention essay occurred for both groups during the same period of time. As much as possible conditions replicated those for the pre-intervention assessment. The control group wrote their essays during a Social Studies period with the same teacher who had supervised the pre-intervention essay writing. The topic statement was 'We're all in this together' and students were instructed that this was to be an expository essay to be handed in at the end of the period. Students were given the same specific instructions as for the pretest and dictionaries were available but no further guidance was given. After 15 minutes students were directed to write their concluding statements and to use a pen of a different colour to edit their work. They were then given the rest of the period to write the final draft. Both drafts were submitted for analysis.

The Self-Efficacy for Academic Tasks and the Writing Attitudes surveys were administered five days later with both groups completing them on the same day under the supervision of the researcher. Students were asked to be honest in their responses and to add any relevant comments that were not directly addressed in the survey. Students were also directed to refer to the recent essays they had written when answering questions in the survey. Completion of the surveys took approximately twenty minutes. These were collected for analysis. Students were then invited to ask any questions they might have about the research programme. Students from both the research and the control groups were most interested in when they would receive feedback about their essays which, they were told, would be available during the fourth term.

Analysis of Data

Responses were analysed following completion of the final essay and surveys. Scores were given for each part of the writing sample using the component analysis method described in the 'Instruments' section in this chapter. The attribution survey was scored according to the convention used by Baum et al. (1993) and the writing attitudes survey was scored by counting the number of responses under combined sections of the Likert scale.

The hypotheses in this study were tested by means of a one-way analysis of variance (ANOVA) with repeated measures. Two groups were involved in the study (control and research) and there were two testing periods (pre and post-intervention). Group by time interaction effects were thus able to be analysed, allowing the researcher to determine the existence or otherwise of statistically significant changes on the dependent measures, following intervention. A level of significance of .05 was used.

Reflective comments were presented as qualitative information and written as direct quotes. While this information did not provide statistical evidence to sustain or repudiate any of the hypotheses, it did serve to provide interesting supporting commentary concerning the perceived effectiveness of the various strategies.

CHAPTER 4

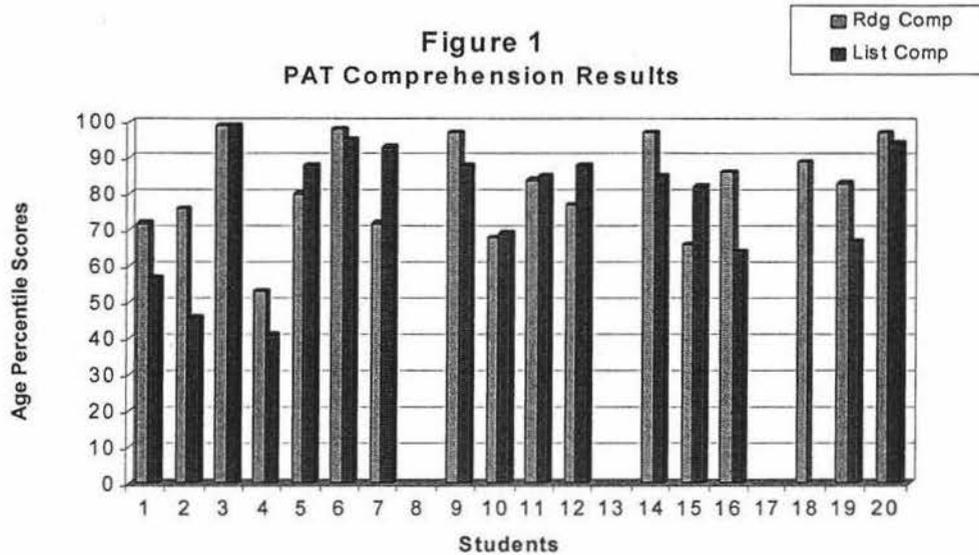
RESULTS

Selection Test Results

The control and research groups were well matched in terms of age, gender and ethnic background. However, they were not similar in their NZCER Progressive Achievement Test (PAT) (Reid & Elley, 1991) scores. The mean difference between reading and listening scores for the control group was 4.32 percentile points in favour of reading comprehension, whereas the mean difference between reading and listening scores for the research group was 36.6 percentile points in favour of listening comprehension.

Control Group

The mean PAT reading comprehension age percentile for the control group was 82 and the PAT listening comprehension mean age percentile score was 77.68. Scores ranged from the 53rd to the 99th percentile for reading comprehension, and from the 41st to the 99th for listening comprehension. The comparatively low score achieved in both areas by one student (reading comprehension = 53, listening comprehension = 41) is explained by a particular reluctance on the part of this student to sit formal tests although in day-to-day class performance this student is able to demonstrate high ability and task commitment. As shown in Figure 1, minimal individual discrepancy between reading comprehension and listening comprehension scores existed for members of the control group.



Research Group

Research group participants were selected on the basis of significant discrepancy between reading and listening comprehension scores. A discrepancy of twenty percentile points or more between reading and listening comprehension was used as a broad indicator of the student having both high cognitive ability and specific learning difficulties associated with print. Discrepancies were assessed using information from Progressive Achievement Tests (PAT) of Reading Comprehension and Listening Comprehension (Reid & Elley, 1991).

The mean discrepancy between reading and listening comprehension percentiles was 36.6 points. The mean comprehension age percentile for the research group was 51.6 for reading and 88.2 for listening. Scores ranged from the 16th to the 75th percentile for reading comprehension, and from the 57th to the 99th for listening comprehension. The mean listening score for the research group was 12 percentile points higher than that for the control group. Figure 2 shows individual discrepancies between reading comprehension and listening comprehension age percentile scores.

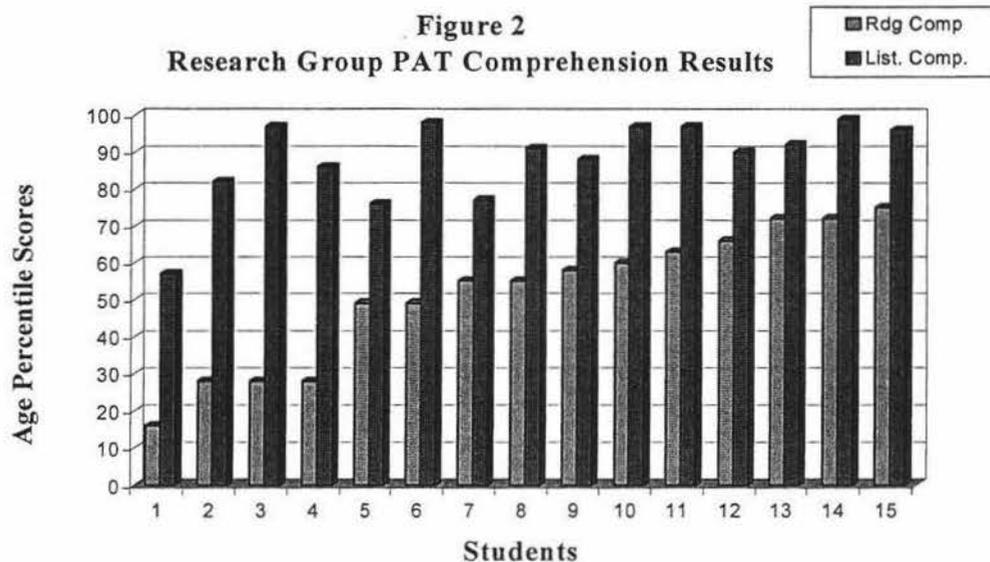


Table 1 shows mean PAT reading comprehension scores. ANOVA results showed that control group students scored significantly higher scores for reading comprehension than did the research group students, $F(1,30) = 28.88, p < .000$. Table 2 shows mean PAT listening comprehension scores. There were no significant between group differences for PAT listening comprehension scores, $F(1,30) = 3.69, p < .064$.

Table 1

PAT Reading Comprehension Age Percentile Scores

	M	SD
Control	82	13.34
Research	51.6	18.52

Table 2

PAT Listening Comprehension Age Percentile Scores

	M	SD
Control	77.7	18.05
Research	88.2	11.4

Self-Efficacy and Attribution Results

Self-Efficacy on Academic Tasks

Table 3 shows the mean SEAT scores achieved by two of the groups reported by Baum et al. (1993). The original study included learning disabled students (LD), a group that has not been included in this current study. Scores for the Self Efficacy on Academic Tasks survey used in this current study were calculated using the same formula employed in the Baum et al. study. As can be seen in Table 3, a thirteen-point difference existed between overall self-efficacy ratings of gifted students when compared to gifted learning disabled (GLD) students. A five-point difference for sense of academic failure existed between gifted students and GLD students. In Baum et al.'s (1993) study the profile of the GLD group more closely approximated that of the LD group than it did the gifted non-LD group.

Table 3

Summary SEAT Scores (Baum et al., 1993).

	Overall self-efficacy	Academic failure
Gifted non-LD Students	91	1
Gifted LD Students	78	6
LD students	79	4

The summary in Table 4 uses the same method of calculation used by Baum et al. (1993). Group difference was demonstrated between pre- and posttest self-efficacy ratings for the control group. There was no corresponding difference for failure rating between pre- and posttests. Similar results were found for the research group with a difference between pre- and post-intervention for overall self-efficacy but no difference

for failure rating. Students from both groups increased their overall self-efficacy ratings. There were no changes for ratings associated with academic failure. The statistical significance of these results in relation to learned helplessness characteristics is discussed in more detail later in this chapter.

Table 4

Summary SEAT Scores (current study)

	Overall self-efficacy		Academic failure	
	Pretest M	Posttest M	Pretest M	Posttest M
Control group	84	88	1.45	1.5
Research group	82	87	2.67	2.67

Attributions about Academic Tasks

Success and failure attributions were assessed in order to determine whether or not between-group differences existed in terms of learned helplessness. Only print-related tasks were selected for the purpose of assessing learned helplessness since intervention focused specifically on the teaching of strategies for expository writing. Eighteen of the 34 tasks were selected as being directly or indirectly reliant on print.

Attribution retraining is understood to be most effective with students who display learned helplessness characteristics. Students experiencing learned helplessness feel responsible for failure but not for success and tend to attribute success to external, unstable attributions such as luck and task ease, and failure to internal, stable attributions such as ability. In order to assess the presence or absence of learned helplessness characteristics, attribution descriptors were grouped into two categories: (1) success attributions (luck and task ease) and (2) failure attribution (ability).

Both groups more often attributed success to internal and controllable factors rather than to external and uncontrollable factors, suggesting a general absence of learned helplessness characteristics in either group. Gifted learning disabled students attributed only slightly fewer successes to internal factors than did the non-learning disabled students.

Repeat measures were applied to show a detailed analysis of the three attributes related specifically to learned helplessness. The between subjects factor was group (Research, Control), and the within subjects factor was time (Pretest, Posttest). Table 5 shows the mean pre- and posttest scores for the number of times success was attributed to luck. Analysis showed no significant group by time interaction, $F(1,33) = 0.66, p = .693$.

Table 5

Learned Helplessness Attributions – Success attributed to Luck

	Pretest		Posttest	
	M	SD	M	SD
Control group	0.30	0.66	0.30	0.66
Research group	0.46	0.83	0.60	0.91

Analysis of the second attribution characteristic associated with learned helplessness, attributing success to the task being too easy, revealed no significant group by time interactions, $F(1,33) = 0.03, p = 0.87$. As shown in Table 6, means for both groups increased over time with significant time effects occurring, $F(1,33) = 14.01, p < .001$. Since both groups increased in the number of times they attributed success to task ease this finding was investigated further by the researcher and is discussed further in chapter 5.

Table 6Learned Helplessness Attributions – Success Attributed to Task Ease

	Pretest		Posttest	
	M	SD	M	SD
Control group	1.95	2.01	3.90	2.53
Research group	1.80	1.61	3.90	3.13

The third characteristic associated with learned helplessness is that of attributing failure to lack of ability. Table 7 shows the means achieved by both groups for the two test periods. Further analysis revealed no significant group by time interactions, $F(1,33) = 1.35, p = .254$.

Table 7Learned Helplessness Attributions – Failure Attributed to Lack of Ability

	Pretest		Posttest	
	M	SD	M	SD
Control group	0.0	0.00	0.00	0.00
Research group	0.13	0.35	0.07	0.26

Expository Writing Sample ResultsComponent Analysis

ANOVA procedures were used to analyse data from writing samples. Results from students absent for either of the testing periods were excluded from the writing sample analysis but were included for other aspects of pre- and posttesting where they were

present both times. Consequently, for writing sample results, data were analysed for 19 students in the control group and for 13 students in the research group.

Table 8 shows the mean scores for opening and closing sentences for each of the essays. ANOVA procedures show there were significant differences in scores achieved over time for opening and closing sentences, $F(1,30) = 19.08, p < .0$. Significant differences were also obtained on a measure of group by time interactions, $F(1,30) = 11.63, p < .002$. Whereas the pretest mean score difference was 1.22 in favour of the control group, the mean posttest score was 2.15 in favour of the research group. This outcome shows that, not only did the research group make gains in this area, their final results surpassed those of the control group.

Table 8

Summary – Quality of Opening and Closing Sentences

	Pretest		Posttest	
	M	SD	M	SD
Control group	8.53	2.57	9.00	1.53
Research group	7.31	2.69	11.15	1.40

The second assessment condition for the essays related to the quality of main ideas. ANOVA procedures were used to determine the significance of any changes. Table 9 shows the mean scores obtained by both groups for both pretest and the posttest essays. Although no change occurred in the mean score obtained by the control group significant group by time interaction was demonstrated, $F(1,30) = 11.84, p < .002$. The research group's scores for quality of main ideas not only increased significantly but also surpassed those of control group whose scores remained stable. Research

group students tended to provide only positional statements during the pretest but included relevant supporting explanations and examples during the posttest whereas control group students included positional and supporting statements in both essays.

Table 9

Quality of Main Ideas

	Pretest		Posttest	
	M	SD	M	SD
Control group	7.84	2.95	7.84	3.73
Research group	4.69	1.80	9.85	2.94

Table 10 shows mechanical accuracy in writing, calculated as the percentage of words correct over the total number of words written. Mechanical accuracy was assessed on the basis of paragraphs, sentence structure and sense, punctuation, spelling, appropriate use of capital letters, and overall appearance or legibility (refer to Appendix B).

ANOVA results showed significant differences over time $F(1,30) = 16.21, p < .0$, and a significant group by time interaction effect, $F(1,30) = 8.12, p < .008$. Where the mean pretest score for the research group was approximately three points lower than that of the control group the research group's mean score was within half a point of the control group's mean score at the time of the posttest. The results indicate that the gains made by the research group brought their profile into closer alignment with that of the control group. More detailed analysis shows that control group error tended to be with sentence construction, with a high incidence of run-on sentences. The research group tended to make more spelling errors than the control group for both pre- and posttest writing samples.

Table 10Mechanical Accuracy

	Pretest		Posttest	
	M	SD	M	SD
Control group	93.60	3.00	94.36	2.08
Research group	90.15	6.05	94.61	3.04

The mean number of words written within a specific period of time is shown in table 11. ANOVA results showed a significant time effect for the number of words written, $F(1,30) = 25.97, p < .05$. Both groups increased in the number of words written. Between-group results showed both a pretest difference ($p=.00002$) and a posttest difference ($p=.03$) indicating the presence of significant between-group differences with a reduction in difference at the time of the posttest.

Table 11Number of Words Written

	Pretest		Posttest	
	M	SD	M	SD
Control group	177.42	45.17	210.79	64.55
Research group	104.00	39.40	170.38	34.41

Analysis of strategy Use

The number of times each strategy was employed by students during the Pretest is represented in Table 12. Strategy use was assessed through analysis of drafts and planning sheets and direct observation of students while they were writing.

Percentages of strategies were computed and are presented in table 12. Only essays of those students who were present for both the Pretest and the posttest were analysed (control n = 18, research n = 13).

Word-by-word duplication of the original draft with few alterations to the mechanical aspects of the original work was described as minimal reworking. Moderate reworking was interpreted as minimal reworking plus alterations to the order of words and/or sentences. At least one new idea also needed to be included in the final draft.

Extensive reworking included all of the characteristics of both minimal and moderate reworking as well as significant alteration to the order of sentences and/or phrases and replacement of some words with others that were more suitable.

During the pretest phase no students engaged in any form of planning or editing other than reworking of first drafts. A majority of students from each group carried out perfunctory reworking of their drafts and a greater percentage of control group students than research students went beyond minimal reworking of their drafts during the pretest period.

There was no evidence of application of any alternative planning and editing strategies by the control students although prior discussion with students and their English and

Social Studies teachers revealed that all students were familiar with the strategy of mind-mapping. Students had also received guidance from English and Social Studies teachers concerning organisation of ideas. There was no indication from either control or research students or their teachers that any of the other strategies employed during the StAR programme had previously been taught.

Table 12

Percentage of Times Each Strategy was Used – Pretest

	Control group %	Research group %	Combined Totals %
Minimal reworking of draft	50.00	84.60	64.50
Moderate reworking of draft	38.90	15.40	29.00
Extensive reworking of draft	11.10	0.00	6.50
Mind-map or Brainstorm	0.00	0.00	0.00
PMI	0.00	0.00	0.00
Po	0.00	0.00	0.00
Essay Format Checklist	0.00	0.00	0.00
Try Column	0.00	0.00	0.00
Dot over possible errors	0.00	0.00	0.00
Venn diagram	0.00	0.00	0.00
T-chart	0.00	0.00	0.00
Concept tree	0.00	0.00	0.00

Table 13 shows the percentage of times each strategy was employed during the posttest period. Posttest results show that the control group expended less effort in the reworking of their drafts than they had previously and, with one exception, used no

other planning or editing strategies. Editing consisted of using a pen of a different colour to write over or below the original words, as instructed. The one student in the control group who did use an alternative strategy used a graphic organiser in the form of a Venn diagram to categorise ideas prior to writing the draft. These ideas provided the basis for main points in paragraphs.

During the posttest period students in the research group made extensive use of a variety of strategies and, in some instances, used more than one strategy for the different purposes associated with the planning and editing phases. All students in the research group went beyond minimal reworking of their drafts. Mind-maps and brainstorming were the most commonly utilised planning strategies. The most common editing method employed was the use of a 'try column' in combination with highlighting possible errors in some way while writing. Students were then able to check possible errors during the editing phase.

Two strategies that were not employed by any students were the T-chart and the Concept Tree. It is interesting to note that less instruction time was spent on these strategies than on any of the others. The Essay Format Checklist was used by only one student, as was Po.

Such extensive use of strategies was unexpected given that students had not previously experienced moving through all three phases during any one of the intervention periods. Students were given no specific instruction to utilise strategies. It was thought that research students might revert back to pre-intervention behaviour under stressful conditions. The results clearly showed that, not only did this not occur, but research

students also made effective use of several of the strategies that had been introduced during the intervention programme. This was in spite of an overall increase in both number of words written and an improvement in the quality of ideas.

Table 13

Percentage of Times Each Strategy was Used – Posttest

	Control group %	Research group %	Combined total %
Minimal reworking of draft	66.70	0.00	38.70
Moderate reworking of draft	22.20	46.20	32.30
Extensive reworking of draft	11.10	53.80	29.00
Mind-map or Brainstorm	0.00	61.50	25.80
PMI	0.00	30.80	12.90
Po	0.00	7.70	3.20
Essay Format Checklist	0.00	15.40	6.50
Try Column	0.00	23.10	9.70
Dot over possible errors	0.00	23.10	9.70
Venn diagram	5.60	0.00	3.20
T-chart	0.00	0.00	0.00
Concept tree	0.00	0.00	0.00

Written Accounts of Strategy Use and Effectiveness

Written responses to five focus questions provided students with an opportunity to reflect on what they had learned and how they would apply this learning in future situations. This provided for continuation of the metacognitive component of the

intervention programme and allowed students to express themselves in their own words. Relevant comments are provided under each heading.

What helped you improve?

Comments ranged from affective responses such as “It has helped me write more and feel prouder about myself and the work I do” and “Not sure, but I know I hated writing essays so I didn’t put in the effort, but now I do put in the effort, even though writing still isn’t my favourite pastime” through to specific citing of the characteristics referred to by the tutor during intervention, “I think I already had the ability but the new strategies improved my ability and encouraged me to put more effort into my writing.” Seven of the fifteen students specifically referred to the use of appropriate strategies and their importance in improving their writing skills. Three students referred specifically to the role of effort and three to how important it is to know you have the ability to do well providing you use appropriate strategies.

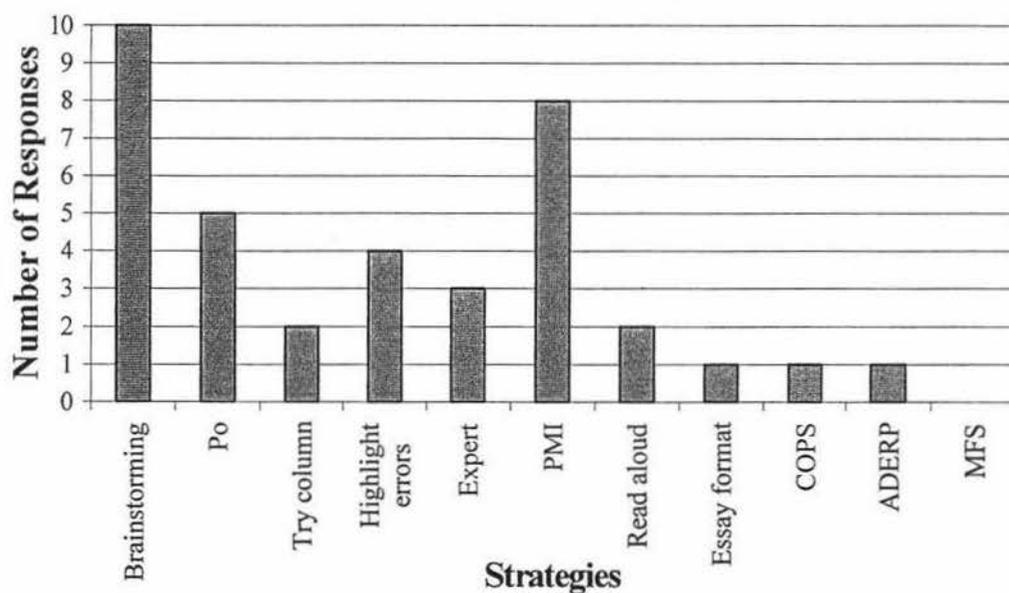
What do you know now that you didn’t know before?

All students mentioned that learning planning strategies helped them organise their ideas for writing. One student specifically mentioned the importance of trying quality words that are difficult to spell even if you know they are not spelled correctly. Another student specifically mentioned having learned that it is not sufficient to know the right strategies to use, it is also important to put the required amount of effort into the task. Comments such as “I learned all the strategies – I didn’t know any of them before” and “I now know a whole lot of strategies that are very useful to me” provide some indication of the gaps in strategic knowledge previously experienced by these students.

What strategies worked well for you and why?

Brainstorming, which included mind-mapping and webbing, was the most popular strategy employed and was nominated by ten students. PMI was selected by eight students as a strategy that worked well for them, followed by Po, highlighting of possible errors, and consulting an expert. Consulting an expert included asking a friend, the teacher, or using a reference book such as a dictionary or thesaurus. Two students nominated using a try column and reading aloud as effective strategies to use. The essay format checklist and COPS were each considered by 1 student to be effective strategies.

Figure 4
Most Effective Strategies

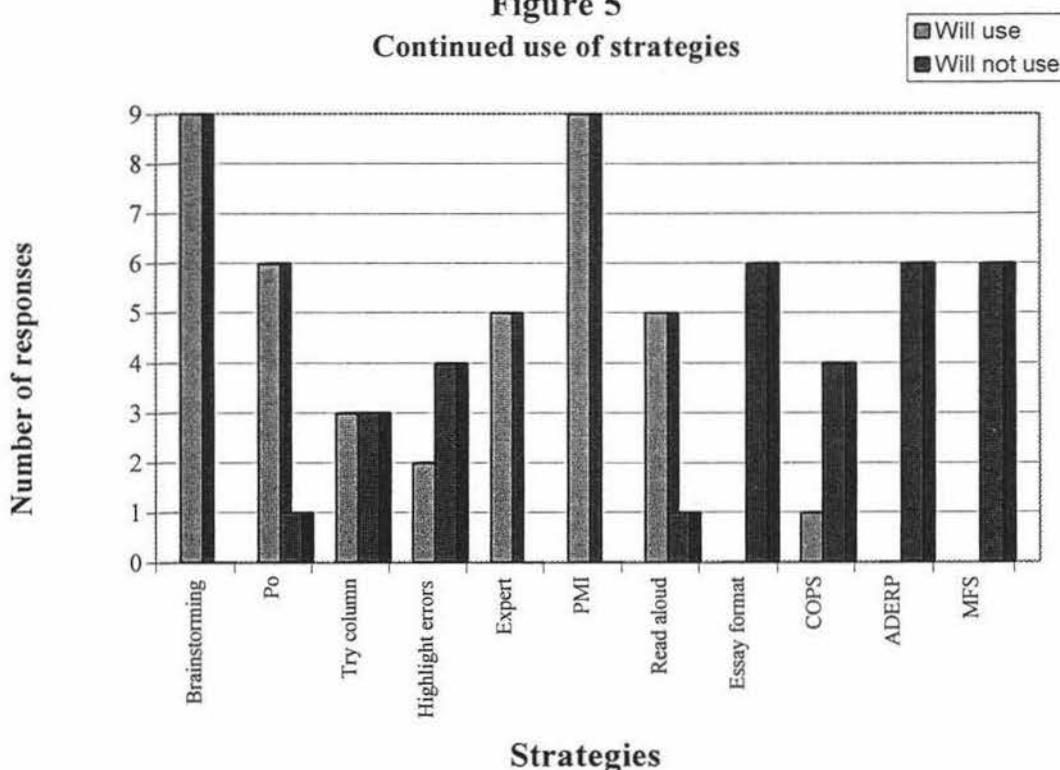


What strategies will you continue to use?

Responses to the final two questions are combined in Figure 5 below. Brainstorming and PMI strategies were cited as most likely to be used for similar tasks in the future. Po was also popular, closely followed by consult-an-expert and reading aloud.

Students did not generally favour the use of acronyms, instead preferring graphic organisers and consultation. Characteristically, students did not willingly make use of strategies that were word dependent but were enthusiastic about charts, shapes, and flow diagrams. With the exception of Po, those strategies identified as most likely to be used again were the same ones used by research students during the posttest for planning and editing. The nature of Po means that its use does not need to be visible to be effective since it is more for reflective perspective taking.

Figure 5
Continued use of strategies



What strategies will you probably not use for similar tasks in the future?

Strategies cited as being least likely to be used again were largely word dependent strategies such as the essay format checklist, ADERP, COPS, and MFS. Highlighting of errors and the try column were also identified by at least three students as unlikely to be used for future tasks, which is particularly interesting given that the same number of

students made use of these strategies during the posttest as did students who made use of the PMI strategy.

Writing Attitude Results

Writing Attitudes Survey

The Writing Attitudes Survey (Ellis, 1993) was completed within two days of writing the essays as a means of documenting any changes in students' attitudes to writing. Pre- and post-intervention surveys were completed by all control group students (n=20) and 13 research group students. A Likert scale of 1 through 5 was used, with 1 representing strongly agree, 2 agree, 3 unsure, 4 disagree and 5 strongly disagree. Students were asked to relate their responses to the writing task they had recently carried out and to answer honestly. They were also invited to add their own comments or suggestions concerning the writing process if what they wanted to say was not already covered in the survey.

Table 14 shows the pre and posttest Writing Attitude mean scores achieved by the control and the research groups. A two way analysis of variance procedure revealed a significant main effect for Time for the Writing Attitude Survey, $F(1, 31) = 25.21$, $p < 0.05$, but not for Group, $F(1, 31) = 1.06$, $p = 0.311$. A significant group by time interaction was found for the Writing Attitude Survey $F(1, 31) = 10.30$, $p < .003$. The research group performed significantly better at the time of the post-intervention assessment than at the time of pre-intervention assessment. The results showed that the significant interaction effect was due to the research group making greater gains than the control group in their scores on the Writing Attitude Survey.

Table 14

Writing Attitude

	Pretest		Posttest	
	M	SD	M	SD
Control group	35.65	1.19	36.65	1.02
Research group	35.61	1.48	40.15	1.27

SUMMARY OF RESULTS

Progressive Achievement Tests of Reading Comprehension and Listening

Comprehension

Prior to intervention significant differences were shown to exist between the control and the research group for reading comprehension but not for listening comprehension. Control group students achieved higher scores overall for reading comprehension whereas listening comprehension scores were similar, with the research group scoring slightly higher means than the control group. Since this information was used merely as one identifier for possible candidates for each of the groups no post-intervention assessment of reading or listening comprehension was carried out.

Self-Efficacy on Academic Tasks

Self-efficacy on academic tasks scores was assessed using the same procedures adopted by Baum et al. (1993) in their study of self-efficacy and failure ratings of gifted, gifted learning-disabled and learning-disabled students. Results showed that self-efficacy and academic failure ratings for both the control group (gifted) and the research group

(gifted learning-disabled) fell between those for similar groups in the Baum et al. study. While significant differences occurred over time for self-efficacy on academic tasks, profiles for both groups were similar for both pre- and posttest periods.

Learned Helplessness Characteristics

Neither pre- nor posttest academic attribution profiles of GLD students showed more learned helplessness characteristics than those of academically gifted students without learning disabilities. Both groups attributed success more often to internal and controllable factors rather than to external and uncontrollable factors although there was a significant increase over time for the number of times success was attributed to task ease.

Expository Writing Skills

A summary of results related to expository writing skills shows that Pretest differences existed between control and research groups, with the control group displaying higher levels of achievement overall than the research group. The pre and posttest profiles of the control group remained similar, while the research group's scores increased significantly across most areas with the exception being the number of words written. In this case both groups increased their scores significantly. In all assessed areas the academic profiles of the research group more closely approximated those of the control group following intervention.

Neither group was strategic in planning and editing during the pretest period. No student did more than rework the original draft using only the rudimentary guidelines provided by the tutor. During the posttest period all research students went beyond

minimal reworking of their drafts and employed various strategies to aid in both planning and editing whereas only one control student used a strategy other than reworking. In summary, the research group made significant gain in the application of skills associated with expository writing, while the control group made little or no gain.

The greatest overall gain was made by the research group in assessment of writing skills. Although the control group achieved better results across all areas of assessment at the time of the pretest, posttest results showed that the achievements of the research group more closely approximated those of the control group and, for quality of opening and closing sentences and quality of main ideas, the results of the research group surpassed those of the control group.

Attitudes to Writing

No significant between group differences existed for the pretest although the research group made significant gains over time and scored slightly higher than the control group at the time of the posttest. Analysis of posttest data showed a tendency for research students to be more positive in their posttest attitudes towards planning and editing than they were at the time of the pretest. Research students also regarded planning and editing processes as more important at the time of the posttest than did control students.

Results show that, following intervention, the overall profile for writing attitude of the research group more closely resembled that of the control group than it did prior to intervention.

CHAPTER 5

DISCUSSION

Purpose of Present Study

The current study undertook to examine three hypotheses. Firstly, that pre-intervention academic attribution profiles of students who are both gifted and learning disabled would show more characteristics of learned helplessness than would the profiles of their gifted, non-learning disabled peers. Secondly, that pre-intervention writing skill levels of GLD students would be lower than those of their gifted, non-learning disabled peers. Thirdly, that the academic attribution profiles and writing skills of GLD students would more closely approximate those of their gifted non-learning disabled peers following participation in an intervention programme based on 'Triple Alliance' theory, strategy instruction and attribution retraining.

The following questions provided the investigative framework for this study:

1. To what do GLD students attribute academic success and failure?
2. Do the academic attribution profiles of GLD students differ from those of their gifted non-learning disabled peers?
3. Do the academic attribution profiles of GLD students more closely approximate those of gifted non-learning disabled students following participation in a programme based on attribution retraining and strategy instruction?

4. Is a programme based on attribution retraining and strategy instruction effective in improving the academic performance of GLD students in the area of written language?

One aim of this study was to develop an effective programme able to be implemented using resources currently available to most New Zealand secondary schools. One of the shortcomings of available research in the field of students who are both academically gifted and learning disabled is that there are few instances where studies have been carried out in an authentic situation. If 'Triple Alliance' and attributional theories are to benefit New Zealand students, programmes must be able to operate easily and effectively within the real-life context of the New Zealand school. Torgesen (1983) stresses the importance of bridging the gap between theory and practice. Research embedded within a realistic context is more likely to result in the development of assessment and intervention procedures that will succeed within the day-to-day realities of the classroom. This study aimed to examine the feasibility of providing an effective programme within an authentic school context.

Academic Attribution Profiles

Attribution survey results did not support the prediction that the academic attribution profiles of the GLD students would show more learned helplessness characteristics than those of their gifted non-learning disabled peers. Both pre- and post-intervention between-group comparisons revealed no significant difference in overall academic self-efficacy ratings. Both groups made statistically significant increases in overall

academic self-efficacy over the same period of time. The results from this study did not concur with the findings of Baum et al.'s (1993) study where differences in academic self-efficacy were identified between gifted students and their gifted learning disabled peers. However, the results did support other research findings that show that students receiving attributional style intervention change their attributional style and demonstrate an increase in overall self-efficacy (Layden, 1982). Where a significant between-group difference existed for sense of academic failure at the time of the pretest ($p=0.04$), no significant difference existed at the time of the posttest ($p=0.27$).

A breakdown of self-efficacy ratings into only those attributions related to learned helplessness characteristics on print-related tasks revealed no significant difference between each group although pre- and post-intervention differences did occur for both groups, with an apparent overall increase in attributions associated with learned helplessness. Comparison of the SEAT scores from Baum et al.'s (1993) study and those from the current study reveal that students' scores from both the research and the control groups in the current study fell roughly mid-way between those of the students in Baum et al.'s study during the pre-intervention period. Post-intervention SEAT scores for students in the current study show significant increases in SEAT scores, moving both group profiles closer to, but still slightly below, those of the gifted, non-learning disabled students of Baum et al.'s study. This result may have occurred because several of the tasks listed in the survey relate to outdoor and physical activities, skills which New Zealand students usually enjoy. However, a detailed analysis relating only to learned helplessness and print-related tasks showed that the pattern remained constant even when only print-related tasks were taken into account.

The results from this study suggest that New Zealand GLD students do not have lower academic self-efficacy ratings than their gifted non-learning disabled peers and nor do they exhibit significantly more learned helplessness characteristics. Both groups made more post- than pre-intervention attributions of success to task ease, a characteristic normally associated with learned helplessness. When questioned further about reasons for the increase in task ease attributions for success, students from the research group stated that they found much of the work undertaken at school easy, particularly since there had been few requirements throughout the year to write essays.

Students observed that many of the tasks associated with language centred on oral discussion and presenting ideas visually. They also commented that the requirement to write short paragraph answers rather than longer essays meant there was less demand to present ideas logically with supporting statements and examples. Debating and oral presentations required them to present ideas logically and with supporting statements but most students were confident in their oral language skills. One student commented that he used elaborate language in oral presentations because no one could see the spelling mistakes. A general perception existed among students in both groups that the majority of assigned curriculum tasks were well within their levels of ability. Many of the curriculum task demands on students were generally regarded as 'too easy'.

When questioned further as to whether they perceived that task ease resulted in higher achievement levels, students indicated that this did not occur because when the work was insufficiently challenging they were not motivated to produce high standards of work. Given that these were academically talented students who were aware of the specific nature of their learning disabilities it is not surprising that they reacted in the

same way as would be expected of any other academically talented student. Licht (1993) warns against providing success by giving easy tasks requiring little effort, but suggest rather, that tasks should be at a “level of difficulty where success is obtainable if the child tries hard and, when appropriate, applies specific strategies” (p.208).

Discussion with research students revealed that, having been taught new strategies, they were highly motivated to put them into practice in a variety of challenging and interesting situations.

At the time of the posttest, control students made an average of 0.3 success attributions to luck, compared to an average of 3.9 to task ease and no failure attributions were made to lack of ability. Research students, in comparison, made an average of 0.6 success attributions to luck, 3.93 attributions to task ease, and .07 failure attributions to lack of ability. As mentioned in the results chapter, no significant difference existed between groups either pre- or post-intervention suggesting that the attribution profiles of the two groups were similar for both assessment periods.

For both pre- and post-intervention assessment periods control students attributed success most often to ability and least often to luck, while research students attributed success more often to effort than to ability. Research students regarded themselves as needing to put in more effort than their gifted non-learning disabled peers in order to achieve equivalent results. It would appear that the research students' had realistic perceptions of their strengths and weaknesses. In terms of written work, in particular, these students did need to apply more effort than their gifted non-learning disabled peers to achieve the same or a better result. However, since their academic self-

efficacy profiles were similar throughout the study it would appear that this perception of ability and effort did not have any adverse attributional effect.

The relatively high overall academic self-efficacy ratings of the research group and the subsequent increase in overall self-efficacy by both the research and the control groups may be explained by Dweck and Leggett's (1988) theory that students who view their abilities as incremental; that is, malleable and able to grow, are much more likely to be mastery oriented, to seek challenges, and to use good strategies in solving problems (cited in Feldhusen, 1988). The significant increase in overall self-efficacy rating from pre- to posttest suggests that the students involved in this research do have an incremental conception of their ability. Voluntary participation in the StAR programme may in itself indicate that these students believe that their abilities are subject to change through modification. It is possible that voluntary participation in such a programme rules out learning disabled students with high levels of learned helplessness since it is unlikely they would choose to be involved if they believed involvement would merely present them with further opportunity to fail.

The findings of Watson (1993) in her study of the application of attribution theory for New Zealand school children may also help explain this result. Watson investigated the validity of basic assumptions of attribution theory for New Zealand students and found that some key principles of attribution theory may not be appropriate for New Zealand school children because their conceptualisations of ability and effort do not fit the constructs of attribution theory.

In summary, findings from this study provided no strong evidence that the intervention programme had any influence on the post-intervention attribution profiles of the research group closely approximating those of the control group, since there was no significant pre-intervention difference in profiles, except in terms of sense of academic failure. Although both groups increased their overall academic self-efficacy ratings over the period of intervention, only the control group increased in terms of sense of academic failure.

Writing Skills

The second hypothesis, that pre-intervention writing skill levels of GLD students will be lower than those of their gifted, non-learning disabled peers, was supported by the findings of this study. Analysis of writing samples revealed that the skill levels of the research group were significantly lower across all tested areas; opening and closing sentences, quality of main ideas, mechanical components, and number of words written. Pre-intervention between-group differences were most obvious in the quality of main ideas and number of words written. The quality of opening and closing sentences and ideas increased markedly for the research group and remained stable for the control group. Research group students also provided less evidence of planning and editing than did control group students. However, no significant between-group differences existed in attitudes to writing at the time of the pretest.

Posttest analysis of writing skills provided strong support for the third hypothesis in terms of writing skills, but not in terms of attribution profiles. The writing skills profiles of the GLD group more closely approximated those of their gifted non-learning

disabled peers following intervention. Indeed, the skills of the research group surpassed those of the control group in all areas assessed except in number of words written.

Tables 7 and 8 alert the reader to an increase in the quality of ideas demonstrated by research students. What is not shown in the analysis is an increase in the quality of language used by the research students during the posttest. To a large extent, the research group used simple low-risk language in the pretest, and more complex high-risk language in the posttest. Students in the control group tended to use more complex language in both pre- and post-test situations. Since students with high writing ability do not experience the same print-related difficulties as those students with writing difficulties, use of complex language does not represent high risk.

When questioned further about the increased use of complex language, research students mentioned that they had previously used high quality language in oral language situations but not in the written context. All students agreed that, prior to participation in the StAR programme, they were not confident about being able to identify and correct errors and that using simple language presented them with less chance of error. Further discussion revealed that students were more concerned about the number of spelling errors they might make than about revealing their knowledge of high quality vocabulary. One student commented that constant reference by the StAR tutor to 'errors as learning opportunities' made him more comfortable about making spelling errors and, consequently, about using higher quality language. This outcome is in accord with research that suggests that brevity of writing and use of low level vocabulary may result in part from a desire on the part of the learning disabled student

to circumvent opportunities for embarrassment (Pressley, Borkowski, Forrest-Pressley, Gaskin, & Wile, 1993; Tannenbaum, 1997).

Also worth mentioning is the time spent by the research group in using planning and editing strategies. Research students spent more time on both planning and editing during the posttest, with the result that less time was available for the writing phase. Students wrote significantly more words and their essays were of a higher quality than for the pretest. This aspect was discussed at length during the feedback session. Prior to the posttest students believed that spending time on planning and editing would result in fewer words being written than previously. After the posttest, students generally agreed that thorough planning was the most important part of the writing process. Several students commented that their essays were practically written in their heads by the time they completed their planning, which meant they could carry out the physical part of writing very quickly, without going off on tangents. Results from this study endorse Houck's (1984) suggestion that as much as eighty-five percent of one's time be invested in the prewriting stage, one percent in the actual writing, and fourteen percent in editing and revision.

Combined analysis of quality of ideas, mechanical skills, and number of words written showed significant improvement by the research group in all skills associated with expository writing but little change, except in the number of words written, by the control group. As revealed earlier, these results cannot successfully show what may be one of the most important outcomes of the programme, namely, the willingness of research students to take greater risks through using increasingly complex language.

Of particular interest to the researcher is the way in which research students were able to increase the quality of their sentences, language, ideas, mechanical accuracy, and the number of words written as well as put extra time into the planning and editing stages. Although not used as a measure for the purposes of this study, several students in the research group commented that they enjoyed the writing exercise more during the posttest than during the pretest. Certainly, all students were in agreement that they wanted the programme to continue with a focus on other styles of writing, particularly poetic writing.

Strategy Use

Analysis of the researcher's diary revealed changes in the attentional behaviour of research students over the intervention period. Where students were easily distracted during the first four sessions, they became less so as the programme progressed. Noticeably, where research students had taken a long time to settle at the time of the pretest, they settled immediately during the posttest. Where, during the pretest, they had distracted one another, they remained totally focused and on-task throughout the posttest. Pressley and his colleagues (1993) have shown that good strategy users believe in the importance of shielding themselves from distractions when they are involved in important tasks. They resist competing distractions and emotions, are not impulsive in their application of strategies, and they monitor their own performance while using a strategy to evaluate their success in achieving their goal (cited in Meltzer, 1993).

In addition, one student approached the tutor several weeks after completion of the programme to request assistance with editing a current essay. She had used appropriate strategies to good effect, had written a draft with highlighted possible errors, and had corrected most errors already. She was now using the 'consult-an-expert' strategy for final editing. Discussion with this student revealed that, prior to the intervention programme, she had never engaged in such careful time management and monitoring of her own performance in order to achieve a goal related to written language. Subsequent discussion with the same student concerning this essay revealed that no specific feedback had been received from the teacher. The importance of working alongside subject teachers when teaching specific strategies was emphasised by the student's response of "That's what usually happens and even when teachers do tell me what I need to improve they don't show me how to do it."

Students agreed that using strategies that forced them to consider alternative perspectives helped them realise how much they already knew about a subject. Where, previously, they had tried to think of main points as they wrote their essays, listing main points during planning helped them order points prior to writing and freed the mind to concentrate on the mechanical aspects during the writing phase. This result agrees with research that suggests that students with learning disabilities may use all their available attentional resources in attending to the cognitive components of tasks and avoid using strategies that require considerable effort (Meltzer, 1993).

The high level of pre- and posttest performance on the part of the control group supports the perception that their strategy use had, in Vygotsky's (1978) words, "gone

underground” allowing students to operate at a higher level in other areas, such as the number of words written and quality of ideas (cited in Meltzer, 1993).

One student ventured the opinion that some teachers did not seem to appreciate the value of planning and editing strategies in the writing process so there was little incentive in the regular classroom to maintain strategy use. In response, another student commented that this was not the case in Social Studies where marks were awarded for planning and teachers expected to see evidence of prior thinking. An example provided was that of teachers frequently asking students to write down what they already knew on a topic and to then devise their own questions. Analysis of junior exam papers provided evidence of students being encouraged to use a variety of planning, thinking, and editing strategies, and awarded marks for doing so. Social Science teachers had focused specifically on strategy instruction during several professional development sessions throughout the year.

Pre-intervention analysis of research students’ writing profiles supported Meltzer’s (1993) findings that there are four broad areas in which children with specific learning disabilities frequently experience problems, (1) difficulty in the control and organisation of multiple mental activities that needed to be executed either simultaneously or in close succession, (2) lack of flexibility in switching among different strategies when required, (3) failure to adequately use self-regulatory strategies such as planning, checking, and revising, and (4) limited knowledge of the range of strategies that might be used on various tasks. Where during the pretest, research students demonstrated all these characteristics, post-intervention results revealed no evidence of them.

Gallagher (1997) states that, "Whether in athletics or in intellectual striving, the ability to make complex processes automatic allows easy access to relevant knowledge and frees up attentional resources that can then be directed toward other aspects of the task" (p.19). Results from the study support the view that combining cognitive skills or strategies with an effective associative network of concepts and systems of ideas allows for better organisation of ideas and makes it easier to access the information on demand. Obviously, the question for educators is how to develop most effectively such an associative network.

An unexpected aspect of the study was the rapidity with which strategies and ideas were learnt and applied by the research students. Prior to intervention the researcher was concerned about the short duration of the intervention programme. As Gallagher (1997) points out, 'the few educational interventions that are reported to be successful for gifted achievers have stressed that programmes must be intensive, consistent and prolonged since complex behaviour patterns established over a long period of childhood will not be turned around without substantial effort' (p.15).

A study carried out by Horrex (1992) involved 39 students with comprehension difficulties in an intervention programme that compared the effects of strategy-plus-attribution training, strategy-only training, and no training conditions on reading comprehension. While the results revealed no significant improvement in students' reading comprehension there was a significant improvement in students' use of comprehension strategies. Horrex (1992) suggested that extended training could have possibly brought the reading comprehension results up to the level of significance. The StAR programme was intensive and consistent, but not prolonged. Long-term results

may reveal limited maintenance of skills taught during the programme but short-term results clearly show that research students were able to apply the strategies effectively after brief exposure to strategies taught, even under relatively stressful conditions.

Van Tassel-Baska (1997) identified precocity, intensity, and complexity as three characteristics common to gifted learners. There was sufficient evidence to suggest that research students demonstrated all three of Van Tassel-Baska's designated characteristics of giftedness. This may help explain why the students were able to learn relatively complex material over such a brief period of time. Van Tassel-Baska (1997) suggests that very gifted learners can "master new material in one-third the time of typical learners" (p.131). One of the more agreed upon characteristics of giftedness is the rate at which these students learn new information and integrate it into their everyday use. Certainly, students involved in this study appeared to move rapidly through the four levels of skill learning described by Haring and Eaton (1978) as moving from strategy acquisition to sophisticated strategy application. These are:

1. Acquisition. This refers to the process whereby a student acquires the mechanics of a strategy and learns how to apply it in a specific problem solving situation.
2. Proficiency. This describes the stage of learning where a student internalises the strategy and is able to use it rapidly and efficiently in problem solving situations.
3. Generalisation. At this point a student is able to apply the strategy in a new context with a similar type of problem.

4. **Adaptation.** At this highest level a student is able to evaluate the strategy's effectiveness and modify it in order to make its use more appropriate to current needs.

The second characteristic identified by Van Tassel-Baska (1997), intensity, was evident in students' reactions to the topics proposed. Initially, there was a tendency to express points of view verbally and without consideration for alternative points of view. Use of Po and PMI strategies modified this tendency to retain a singular perspective but, fortunately, students continued to be passionate in the expression of their ideas. Complexity was revealed in a general preference on the part of students to consider real-world problems that demanded consideration of many perspectives. The desire to develop the programme further to investigate strategies for creative writing may also be regarded as evidence of complexity.

Horrex (1992) made the observation that "the degree of practice required to help students become sophisticated strategy users appears to be a critical factor" (p.110). While findings from this current study do not disagree with that principle, it is worth pointing out that not all students require prolonged intervention programmes in order to bring about substantial changes.

Perhaps uniquely, students who are both gifted and learning disabled may benefit most from brief, intensive, and highly relevant intervention programmes which are then maintained within the context of their regular classrooms. There remains strong support for a strategy instruction programme for teachers running parallel to the intervention programme for teachers (Bellanca & Fogarty, 1993). It is, after all, the

subject teachers who will decide whether or not to present students with opportunities to spontaneously select and deploy these strategies in a variety of appropriate contexts. GLD students involved in this study displayed most of the characteristics described by Silverman (1996) as being frequently associated with academically gifted students. They responded well to the challenges offered, demonstrated extensive vocabularies, were extremely curious, asked fascinating questions, learned basic skills better, more quickly, and with less practice than might be required of most students, and took great pleasure in intellectual ability. Two characteristics often associated with academically talented students which were not typically displayed by the research students were, (1) excelling in reading comprehension, and (2) being able to sustain longer periods of concentration and attention than their age peers.

Typically, all of the research students displayed one or more of the signs Silverman (1996) suggested were common to gifted students with learning disabilities. They tended to have speaking vocabularies that were more sophisticated than their written vocabularies. They struggled with decoding words and demonstrated initial avoidance of written work despite being voluntary participants in the programme. Most of the students experienced initial difficulty with sequencing material and demonstrated weaknesses in language mechanics such as grammar, punctuation and capitalisation. Results show evidence of positive change in the areas that were specifically addressed during the programme, such as use of more elaborate vocabulary, enthusiasm for the writing process, and appropriate sequencing of material.

Limitations of This Study

This study failed to provide conclusive evidence that, without intervention, GLD students experience higher levels of learned helplessness than their gifted non-learning disabled peers. It is not possible, from this study, to tell whether the relatively low levels of learned helplessness were because the students were academically talented and, perhaps, able to understand and rationalise their difficulties, or whether other factors were involved. As mentioned previously in this chapter, the voluntary aspect of participation in the programme may have influenced the low level of learned helplessness characteristics exhibited by research students. It is unclear to the researcher how this situation could have been dealt with differently since informed consent is one of the most important principles of current research. A similar study carried out with students with learning disabilities who are not academically gifted may produce quite different results.

The particular attributional tool used may have limited the information gained because it covered many different fields within education rather than focusing on those tasks related to specific learning disabilities. Within fields, attributions may vary according to task difficulty, the value the individual places on the task, or cultural or socioeconomic background (Watson, 1993). Watson (1993) expressed the view that knowing how students perceive ability and effort is an important precursor to interpreting students' attributional responses according to attributional theory. As a measuring instrument that forced a choice of attributions, SEAT may produce patterns that conform to the attribution model but not to real life situations.

Another limitation of this study was the lack of opportunity to work closely with all teachers of research students to demonstrate strategy instruction and its application within the context of their particular subject. Running a professional development programme for teachers concurrent with an instructional strategies programme for students would enable teachers to be supported as they develop the skills and understandings required to provide appropriate in-class support for students on the programme. Teachers would also be informed about the principles of metacognition and the use of appropriate strategies for different tasks, allowing easier transfer for students of knowledge to other contexts. Additionally, strategies taught in the intervention programme would benefit all students, not just those with learning disabilities.

While results from the intervention programme clearly show that GLD students can benefit from appropriate intervention over a relatively short period of time, it is not possible to determine, from this study, whether the effects would continue over a prolonged period of time. Follow-up assessments would be necessary to determine whether or not the effects were long term. In addition, students were keen to continue the programme and learn strategies for other types of writing. This was not possible within the constraints of this study but would clearly be desirable in any fully developed intervention programme.

The dual position of the researcher, as both the tutor for the intervention programme and the researcher for this study, may raise concerns about the degree of validity and reliability of the study undertaken. It could be argued that the results would be more valid if an independent researcher had analysed the writing samples or adopted the role

of tutor. However, either scenario would have necessitated close collaboration between two people equally committed to the study, an option not available at the time.

Finally, an additional limitation on this study was the lack of highly gifted students for the control group. As can be seen in the results chapter, PAT scores are outside the normally acceptable range for gifted students, with eight of the twenty students achieving below the 80th percentile for reading comprehension. These students were included in the student on the basis of other indications of high performance, including teacher observation. However, for the purposes of this study, it would have been desirable to have students within the control group who were able to unquestionably demonstrate gifted performance. This may account for the self-efficacy profile scores for the control group being lower than those for gifted students in Baum et al.'s (1993) study. The lower self-efficacy rating meant that no pretest difference existed between the control and research groups thus nullifying the first hypothesis, that pre-intervention academic attribution profiles of students who are both gifted and learning disabled will show more characteristics of learned helplessness than will the profiles of their gifted, non-learning disabled peers.

Recommendations for Future Research

Students involved in this study may not maintain the high skill levels achieved during the programme without further intervention and/or in-service training of teachers in the principles of Triple Alliance theory and strategy instruction. A follow-up study would help ascertain whether or not maintenance of skills had been achieved. Certainly,

students stated that they receive little instruction of this nature in their regular classes, although there was clear evidence that some Social Sciences teachers, in particular, were addressing this need.

The combination of academic self-efficacy, learned helplessness characteristics, and academic achievement within this study meant that it was not possible to separate their effects clearly. It appeared, from this current study, that the self-efficacy profiles of academically gifted students closely matched those of academically gifted students with learning difficulties. Future research could investigate this further as a topic of study separate from academic achievement. Such research could investigate similarities and differences in self-efficacy between academically gifted students and non-academically gifted students, and also between students with and those without specific learning difficulties.

Another area worthy of future research would be that of classroom-based investigation and intervention. If research into the effectiveness of intervention programmes is to benefit students directly it must be carried out in as authentic an environment as possible, utilising resources currently and reasonably available to schools. Intervention carried out by researchers who provide staffing and resources additional to that currently available to schools may be valid but it does not overcome the resourcing difficulties faced by most schools faced with having to overcome barriers to learning for students.

Appropriate training is critical to the success of intervention programmes designed to enhance academic self-efficacy and achievement of students. The field of education

could benefit significantly if regular classroom teachers were trained to utilise strategies to enhance academic self-efficacy and achievement in students. To this end, teachers would need extensive training in practices and principles associated with Triple Alliance theory. Future research could investigate the effectiveness of various teacher training programmes relevant to the promotion and implementation of cognitive and metacognitive strategies, and strategies designed to enhance motivation for learning. It might be particularly revealing to ascertain whether the principles of Triple Alliance theory are incorporated into current pre-service teacher training programmes.

CHAPTER 6

SUMMARY AND CONCLUSIONS

This study examined the effect of an intervention programme combining strategy instruction and attribution retraining on the attributional and skill profiles of a group of academically talented students with specific learning disabilities. The challenge was to provide learning conditions conducive to maximising learning opportunities for these students so that their true levels of ability could be reflected in work production. It was predicted that, following intervention, the academic and attributional profiles of GLD students would more closely resemble those of their gifted non-learning disabled peers.

The intervention programme was embedded within the context of Social Sciences and, more specifically, expository writing skills. Combining attribution retraining with

strategy instruction arose from research showing that the best way to ensure students learn to use strategies effectively is to take affective as well as cognitive factors into account (Graham & Harris; 1993; Meltzer, 1993; Putnam, Deshler, & Schumaker, 1993; Rimm, 1997; Swanson, 1993; VanTassel-Baska & Feldhusen, 1988). The focus on teaching planning, writing, and editing strategies developed from the work of Swanson (1993) who suggests that students with learning disabilities fail to apply appropriate strategies when carrying out certain tasks and fail to effectively monitor their own progress. It was predicted that a combination of strategy instruction and attribution retraining would provide an appropriate learning environment for GLD students. The special characteristics of students who are both academically talented and have specific learning disabilities were also taken into account. Students with surprising and perplexing mixes of ability and disability require special conditions not necessary for other students (Baum et al., 1993; VanTassel-Baska, 1997).

Results from the present study show that attributional and academic profiles of GLD students not only more closely approximated those of their gifted non-learning disabled peers following intervention, but also, in most cases, matched or exceeded the achievement levels of the control group. However, no significant pre-intervention between-group difference existed for attributions associated with learned helplessness. The intervention programme appeared to significantly influence the skill levels of GLD students and their effective application of strategies, suggesting that the principles of the Triple Alliance theory provide an effective framework for teaching and learning (Short Weissberg-Benchell, 1989).

Students' comments also suggest that providing corrective feedback referring to effort and the use of appropriate strategies was effective in assisting students to reflect on and improve their writing skills. It would appear that a combination of appropriate feedback scripts and metacognitive strategies assist students evaluate their own efforts, abilities and achievements and can help them develop the necessary skills and attitudes to become successful learners. Students should be encouraged to verbalise questions about tasks to clarify how much they know already, how much they need to know, and whether they have the necessary skills and resources to complete the tasks completely (Meltzer, 1993; Hanko, 1994).

Students were consistent in their desire to be involved in future programmes should any be offered and were unanimous in desiring that all teachers develop awareness of the importance of using direct strategy instruction and specific corrective feedback in their teaching. It must be remembered, however, that this programme was effective for a special group of students who exhibited both specific learning disabilities and the ability to learn rapidly. This study, in isolation, does not provide evidence that any similar programme would work for students without specific learning disabilities.

This study did not provide evidence of the relative merits of attribution retraining and strategy instruction separately. An investigation into the separate benefits or otherwise of strategy instruction and attribution retraining would be of educational interest but would require comparisons across four groups; attribution retraining only, strategy instruction only, a combination of both, and a control group with no intervention.

Educational Implications

The reality for educators is that students who are both academically talented and specifically learning disabled currently exist in our schools. The reality for these students and for their parents is that little is being done to meet their very special needs. Schools are responsible for removing barriers to learning for all students (Ministry of Education, 1991). Ignorance on the part of educators and administrators of the impact a learning disability may have on academic achievement has been shown to lead to resistance to implementing instructional and institutional changes (Greenbaum et al., 1995).

Government and school policies determine who will benefit from available resources. Policy development and resource distribution should be influenced by knowledge about current best practice. Without a solid foundation of research in this complex field academically talented students who also experience learning disabilities are likely to be overlooked when limited resources are allocated. It is hoped that this study will contribute to the body of knowledge surrounding identification of and intervention for a group of students currently under-recognised and under-resourced in New Zealand schools. Without intervention, many GLD students never enter gifted programmes, depriving them of all the opportunities such programmes offer (Supplee, 1989).

Classroom teachers are usually acutely aware of students whose needs are not being met under the current system. Hanko (1994) suggests that students who are discouraged and failing to progress unwittingly extend their sense of hopelessness to their teachers, who are made to feel similarly hopeless, and become trapped in “an

emotionally draining, self-fulfilling, vicious spiral of collusion” (p.167). Teachers need to develop the awareness and skills necessary to enable them to develop and implement programmes suitable for students who are failing to progress at the rate suggested possible by their apparent level of ability.

Results from this study indicate that GLD students can make rapid progress and overcome specific areas of learning disability when taught within the context of a differentiated programme. Some of the students included in this study had previously received remedial instruction for reading and writing, and others had been in classes for gifted students. None, however, had previously participated in a programme designed specifically for students with this blend of both high academic ability and specific learning disability. One of the major difficulties for New Zealand teachers is that few have received training in this specialist field. It would seem that important differences exist between GLD students and those from either of the contributing groups, gifted or learning disabled, although results from this study suggest that the attributional profiles of GLD students more closely resemble those of gifted students than those of learning disabled students.

According to Baum et al. (1993) programmes for GLD students should serve to validate individual differences and help students understand who they are, as well as minimising the effects of areas of weakness. Programmes for GLD students should have personnel who are able to correct areas of weakness within an enriched teaching environment. To achieve this, educators familiar with the requirements of the academically talented also need to become skilled in the identification, prevention, and remediation of learning difficulties. Torgesen (1983) suggests that educators must address the remediation of

strategic processing inefficiencies in particular if children and adults with learning disabilities are to achieve satisfying and productive lives. Ultimately, it is the quality of the interaction between the teacher and the learner in combination with the skills of the teacher that will determine a programme's success (Sturges, 1997).

Identification of GLD students and their specific areas of learning disability are key factors in addressing their special needs. GLD students are often adept at disguising their disabilities, particularly when their performance is commensurate with that of their normally achieving peers (Landrum, 1989). In identifying GLD students, Baum et al. (1993) stress the importance of obtaining evidence that supports the presence of a specific learning disability on one hand and the potential for giftedness on the other. The presence of well-above-average ability, creativity, and task commitment in areas of students' strengths are useful indicators of talent (Renzulli & Reis, 1985). This study utilised a variety of identification methods, including standardised tests and teacher identification checklists to identify GLD students.

Once identified, the needs of GLD students are best addressed in an environment that emphasises the cognitive as well as the affective domains. Results from this study suggest that a programme based on a combination of attributional retraining and strategy instruction, implemented within the framework of Triple Alliance theory, can be successful in bringing about desired outcomes for students. This combination of theories supports Rogers (1982) statement that the full promise of attribution theory will not be realised until "fuller attention is given to education research drawing on other theoretical systems" (p. 242).

Understanding by students that effort plus appropriate strategy use results in successful outcomes was critical to the success of the StAR programme. Children must believe that an effortful use of strategies can help them overcome challenges they face (Licht, 1993). Rimm (1997) suggests that children are more likely to manage internalised pressures and be motivated to achieve if school and home environments foster successful relationships between effort and outcomes. Students in this study were taught to view failures as learning opportunities rather than as further proof that they are incapable of achieving. The use of simple feedback scripts, written and verbal, reinforced their use of appropriate strategies and effort and reminded them that they had the ability to achieve the desired outcomes.

While the issue of transfer was not directly addressed in this study it is clear, from research and comments from students, that students must be given authentic opportunities to apply strategies across a variety of curriculum areas and outside the school environment. As strategies become increasingly automatic they “go underground” and free up higher-order processes for other activities, such as quick decision-making (Vygotsky, 1978, cited in Meltzer, 1993). It is not until strategies have reached this stage that students are able to access them readily under a variety of different circumstances. This requires opportunity for practice. Clearly, educators need to be made aware of the importance of strategy use and trained in their application to a variety of situations. One way in which the researcher attempted to promote transfer was to finish each lesson with a brief discussion of how the strategies learned during that period could be applied in other situations.

The StAR programme was based on principles embraced by Poplin (1988, cited in Reid, 1993). These are:

1. Learning is the construction of meaning.
2. The individual is self-regulating and self-preserving.
3. The best predictor of what will be learned is what is already known.
4. Error plays an important role in learning.
5. Feelings affect learning.
6. Learning is enhanced when people trust those they are learning from.
7. Learning is a primary human function that does not require coercion (.

This researcher considers that the integration of these principles into the philosophy of the StAR programme contributed significantly to its effectiveness. Students made frequent references to feeling 'safe' and 'enjoying the atmosphere' in the room. Certainly, their willingness to continue the programme suggested they required no coercion to engage in further learning.

Another important implication for education is the amount of time required for strategy instruction, reflection, and the planning stage of writing. As the demand grows for more curriculum areas and increased content, students and teachers are faced with a reduction in the time available to address basic literacy and numeracy needs. Swanson (1984) discovered that the mean percentage of time spent in strategy instruction in most classrooms was less than ten percent and that less than three percent of teacher-student interaction addressed metacognitive variables such as the nature of the task the children were engaged in, the relationship between the task and the strategies that would promote success with that task, and self-monitoring (cited in Palinscar, Winn, David,

Snyder, & Stevens, 1993). Outcomes from this study suggest that spending more time on these aspects of the learning process results in students having to spend considerably less time on the writing of drafts. It also meant that students' ideas were better organised and more relevant to the topic.

An important issue addressed by this study is how GLD students are, or are not, currently being catered for within the New Zealand education system. No less than any other student with special needs, the GLD student deserves to have special provision made to accommodate and address his or her learning needs. Van Tassel-Baska (1997) identified the formation of instructional groups for students of differing abilities as the most effective and efficient way of delivering a differentiated curriculum. Studies clearly show that little differentiation is occurring in heterogeneous classrooms, even when the teacher is supportive of differentiated programmes (Van Tassel-Baska, 1997).

Classrooms today are increasingly filled with students of diverse backgrounds, interests, and experiences. These students learn in different ways and have varied preferences for modes of expression (Tomlinson, & Kalbfleisch, 1998). Teachers of heterogeneous classes with little or no support for differentiated instruction are faced with defeat before they begin. Differentiated programmes for students with special needs can produce positive results providing the tutor is competent in all aspects of instruction and has knowledge of underlying principles and theories relating to the needs of the particular group of students. This requires that significant decision-makers in schools, such as principals and members of boards of trustees, provide more than verbal support for such programmes. It is their responsibility to provide time, material, and trained personnel to ensure successful outcomes for all students.

Reversing patterns of low achievement, relative to ability, in academically talented students requires commitment, flexibility, patience, good problem-solving skills, and instructional expertise. Raising the academic levels of GLD students contributes significantly to the academic achievement level of the whole school, a desirable goal for any school that takes its role as provider of education seriously. It is worth reminding educators that learners do not normally choose academic failure, criticism, peer ridicule or rejection, as the preferred course of action. For GLD students, the combination of high internal motivation and early and ongoing failure can lead to unrealistic expectations, unrealised goals, and a powerful sense of failure (Sturgess, 1997). If an able student is failing there has to be a reason other than an intrinsic desire on the part of that student to do so.

Historical evidence abounds of people with both special talents and disabilities who, given the opportunity to develop their potentials, can make a significant impact on society (Gallagher, 1997; Johnson, Karnes, & Carr, 1977). Well-known examples are Ludwig van Beethoven, Franklin D. Roosevelt, Helen Keller, Vincent van Gogh, Albert Einstein, and Thomas Edison. Failure to identify and nurture giftedness among the disabled is unjust to them and counterproductive to the development of society.

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APPENDIX A

Tables

TABLE 15

Self-Efficacy and Attribution Scores
CONTROL GROUP

LEARNED HELPLESSNESS: – beyond individual control

Success – external, unstable attributions (task ease, luck)

Failure – internal, stable attributions (lack of ability, shyness)

	Success								Failure								SE		Failure			
	Ability		Effort		Luck		Task ease		Ability		Effort		Luck		Task difficulty		Shyness		Rating		Rating	
1.	0	1	1	0	0	0	7	6	0	0	0	0	0	0	0	0	0	0	83	89	0	0
2.	8	9	3	4	0	0	1	0	0	0	0	0	0	0	0	0	1	1	88	90	1	2
3.	6	2	0	1	0	0	4	8	0	0	1	0	0	0	1	2	0	0	80	81	7	7
4.	1	0	5	4	0	0	3	5	0	0	0	0	0	0	0	0	1	0	88	91	1	0
5.	1	2	0	0	0	0	5	5	0	0	0	0	1	0	0	1	0	0	80	86	2	2
6.	0	0	0	1	1	0	2	3	0	0	0	0	0	0	0	0	1	0	74	81	1	1
7.	3	2	4	4	1	2	0	1	0	0	0	0	0	0	1	3	1	0	84	82	3	4
8.	2	2	2	2	0	0	1	4	0	0	0	0	0	0	1	0	0	0	72	85	4	0
9.	9	10	3	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	94	96	2	2
10.	2	4	3	5	0	1	0	3	0	0	0	0	0	0	0	2	0	0	75	91	3	3
11.	1	3	4	3	0	0	4	6	0	0	0	0	0	0	0	0	0	0	86	91	0	0
12.	4	2	5	9	0	0	1	1	0	0	0	0	0	0	0	0	0	0	86	81	1	0
13.	4	3	5	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	86	85	0	1
14.	7	7	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	84	88	0	1
15.	5	0	4	3	0	0	1	9	0	0	0	0	0	0	0	0	0	0	89	97	0	0
16.	5	4	2	8	2	0	4	1	0	0	0	0	0	0	0	0	1	0	94	94	1	1
17.	7	4	4	2	0	0	0	6	0	0	0	0	0	0	0	0	0	0	87	87	0	0
18.	5	4	3	3	0	0	3	3	0	0	0	0	0	0	0	0	0	0	90	90	0	0
19.	7	5	6	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	97	0	0
20.	3	2	1	1	0	1	2	3	0	0	2	2	0	0	0	0	0	0	76	79	3	6

TABLE 16

Self-Efficacy and Attribution Scores

RESEARCH GROUP

LEARNED HELPLESSNESS: – beyond individual control

Success – external, unstable attributions (task ease, luck)

Failure – internal, stable attributions (lack of ability, shyness)

	Success								Failure								SE Rating		Failure Rating			
	Ability		Effort		Luck		Task ease		Ability		Effort		Luck		Task difficulty						Shyness	
21.	1	3	4	4	2	1	2	2	0	0	0	0	1	0	0	0	0	0	80	90	3	0
22.	8	0	2	6	0	3	0	6	0	0	0	0	0	0	0	0	0	0	86	98	2	0
23.	3	3	4	1	2	0	1	9	0	0	0	0	0	1	0	0	1	1	76	77	7	12
24.	3	3	1	2	0	0	3	6	0	0	1	0	2	0	0	0	0	0	80	87	5	2
25.	0	3	4	2	0	2	2	2	1	1	0	0	0	0	0	1	1	1	76	79	5	8
26.	7	3	4	6	0	0	1	5	0	0	0	0	0	0	0	0	0	0	88	91	1	2
27.	1	1	4	3	0	0	4	4	0	0	0	0	0	0	0	0	0	0	86	85	0	1
28.	3	0	2	1	0	1	0	5	1	0	1	1	0	0	0	0	0	0	74	84	4	1
29.	5	6	3	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	83	93	3	0
30.	0	1	3	2	0	0	6	0	0	0	1	2	0	0	0	1	0	0	85	79	1	5
31.	1	3	5	5	0	1	2	1	0	0	0	0	1	0	0	0	0	0	85	92	1	0
32.	4	2	3	3	2	0	1	2	0	0	0	0	0	0	0	0	1	1	90	80	1	4
33.	5	1	4	3	0	0	2	10	0	0	0	0	0	0	0	0	0	0	88	99	1	0
34.	1	3	2	4	0	0	1	1	0	0	0	1	1	1	1	1	0	0	77	80	4	5
35.	1	4	1	4	0	0	2	6	0	0	0	0	0	0	0	0	0	0	79	97	2	0

Average S.E.A.T. scores for the groups

	Gifted non-LD Students		Gifted LD Students	
	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Overall self-efficacy rating	84	88	82	87
Academic failure	1.5	1.5	2.7	2.7

TABLE 17

Writing Sample Component Analysis
Control Group

	Score									Percentage			Number		Number			
	Opening sentences		Difference	Closing sentence		Difference	Ideas		Difference	Mechanical accuracy rate		Difference	lines written		Difference	words written		Difference
1.	8	6	-2	2	3	1	7	7	0	94	94.5	.5	23	25	2	214	251	37
2.	8	8	0	3	3	0	10	12	2	95	97	2	22	22	0	201	200	-1
3.																		
4.	6	6	0	2	2	0	12	5	-7	93	92	-1	21	24	3	215	177	38
5.	5	7	2	1	1	0	3	7	4	90	92.5	2.5	13	15	2	120	133	13
6.	6	6	0	0	2	2	3	9	6	95	93	-2	10	20	10	83	173	90
7.	8	4	-4	2	2	0	11	4	-7	94	98	4	22	17	-5	159	130	-29
8.	8	9	1	1	0	-1	11	5	-6	94	92	-2	25	25	0	233	242	9
9.	7	6	-1	3	1	-2	10	4	-6	96	98	2	25	25	0	235	304	69
10.	8	8	0	2	2	0	8	9	1	95	94	-1	18	22	4	173	237	64
11.	6	8	2	3	3	0	9	11	2	92	93	1	22	24	2	208	263	55
12.	7	9	2	2	3	1	12	18	6	92	97	5	18	25	7	191	383	192
13.	6	6	0	2	2	0	4	6	2	87	94	7	18	20	2	122	175	53
14.	7	7	0	2	3	1	5	11	6	99	92	-7	8	23	15	93	276	183
15.	8	7	-1	3	3	0	5	5	0	93	95	2	25	20	-5	171	158	-13
16.	8	6	-2	2	3	1	9	10	1	97.5	96	-1.5	21	25	4	199	213	14
17.	8	6	-2	2	1	-1	6	4	-2	94	93	-1	17	20	3	160	147	-13
18.	6	7	1	2	3	1	10	9	-1	97	94	-3	23	25	2	189	172	15
19.	5	6	1	2	3	1	8	3	-5	93	96	3	21	23	2	181	196	15
20.	9	7	-2	2	2	0	6	10	4	88	92	4	22	19	-3	224	175	49

TABLE 18

Writing Sample Component Analysis
Research Group

	Score			Percentage						Number								
	Opening sentences		Difference	Closing sentence		Difference	Ideas		Difference	Mechanical accuracy rate		Difference	lines written		Difference	words written		Difference
21.	6	8	2	3	3	0	4	8	4	93	94	1	17	25	8	122	175	53
22.	6	9	3	2	2	0	5	7	2	94	97	3	16	25	9	114	182	68
23.	8	9	1	0	3	3	5	6	1	96	96	0	7	21	14	69	179	110
24.																		
25.	8	9	1	0	3	3	4	13	9	95	96	1	14	25	11	73	148	79
26.	8	9	1	1	2	1	4	9	5	82	92	10	15	20	5	97	154	57
27.	6	9	3	3	3	0	8	9	1	94	94	0	23	25	2	212	224	12
28.	8	8	0	2	2	0	6	7	1	76	88	12	12	17	5	102	128	26
29.																		
30.	7	9	2	1	2	1	2	14	12	90	99	9	13	24	11	97	172	75
31.	3	5	2	1	2	1	3	7	4	87	92	5	9	22	13	67	132	69
32.	7	9	2	0	3	3	3	10	7	94	96	2	9	19	10	62	133	71
33.	5	9	4	1	3	2	4	15	11	86	94	8	17	25	8	131	209	78
34.	8	9	1	1	3	2	5	11	6	89	93	4	15	25	10	117	231	114
35.	9	9	0	0	3	3	8	12	4	96	99	3	10	19	9	89	148	59

TABLE 19

Writing Sample Strategy Use Analysis

CONTROL GROUP

	Rework draft Minimal	Rework draft	Rework draft Extensive	Mind-map	PMI	PO	Essay Format	Try column	Dot Errors	Venn Diagram	T-Chart	Concept tree
1	✓											
	✓											
2	✓											
	✓											
3												
4	✓	✓										
	✓											
5	✓	✓										
	✓											
6	✓	✓										
	✓											
7	✓											
	✓											
8	✓	✓										
	✓											
9	✓	✓										
	✓											
10	✓											
	✓											
11	✓	✓										
	✓											
12	✓											
			✓									
13	✓											
	✓											
14			✓									
		✓										
15												
16	✓											
	✓											
17	✓											
	✓											
18	✓											
		✓										
19			✓									
			✓									
20		✓										
		✓								✓		

TABLE 20

Writing Sample Strategy Use Analysis
Research Group

	Rework draft Minimal	Rework draft	Rework draft Extensive	Mind-map	PMI	PO	Essay Format	Try column	Dot Errors	Venn Diagram	T-Chart	Concept tree
21	✓		✓									
22	✓	✓		✓		✓						
23	✓	✓		✓	✓			✓				
24												
25	✓	✓		✓	✓				✓			
26		✓	✓									
27	✓		✓	✓				✓				
28	✓	✓		✓				✓	✓			
29												
30	✓		✓									
31	✓	✓		✓			✓	✓	✓			
32	✓	✓										
33		✓	✓	✓								
34	✓	✓		✓	✓							
35	✓		✓	✓	✓				✓			

TABLE 21

Writing Attitudes Survey

CONTROL GROUP:

N = 20

	1. strongly agree		2. mostly agree		3. unsure		4. mostly disagree		5. strongly disagree	
1. Writing about a topic helps you learn about it.	2	2	12	13	4	4	2	1	0	0
2. It does not matter how you go about writing as long as you finish the job.	1	0	14	3	4	4	8	9	5	4
3. Writing is a waste of time.	0	0	1	0	3	3	6	5	10	12
4. Setting goals before you start writing is important.	3	5	7	7	5	5	3	2	0	1
5. Thinking about who will read your writing is an important thing to consider when writing.	0	0	8	10	4	4	7	6	1	0
6. I like to write.	6	6	7	7	0	0	6	5	1	2
7. The approach I'm using now is better than the approach I was using last year.	2	2	4	6	11	10	2	1	1	1
8. I am a good writer.	1	1	6	5	7	7	4	5	2	2
9. Before you start writing creating a plan that shows the organisation of the main points you will write about is important.	5	6	8	9	4	2	1	3	2	0
10. Editing and revising assignments are important.	10	9	8	8	1	2	1	0	1	1

TABLE 22

Writing Attitudes Survey

RESEARCH GROUP:

N = 13

	1. strongly agree		2. mostly agree		3. unsure		4. mostly disagree		5. strongly disagree	
1. Writing about a topic helps you learn about it.	0	2	7	7	3	3	3	1	0	0
2. It does not matter how you go about writing as long as you finish the job.	0	0	0	0	1	1	7	5	5	7
3. Writing is a waste of time.	0	0	1	2	1	0	3	8	8	3
4. Setting goals before you start writing is important	4	6	4	3	3	2	1	1	1	1
5. Thinking about who will read your writing and what the reader already knows is an important thing to consider when writing.	2	6	7	6	3	1	1	0	1	0
6. I like to write.	3	3	4	2	3	4	3	4	0	0
7. The approach I'm using now is better than the approach I was using last year.	2	8	3	3	6	1	1	1	1	0
8. I am a good writer.	0	1	3	3	6	8	4	0	0	1
9. Before you start writing creating a plan that shows the organisation of the main points you will write about is important.	2	8	1	3	4	2	4	0	2	0
10. Editing and revising assignments are important.	4	7	6	5	2	1	1	0	0	0

TABLE 23

COMMENTS

RESEARCH GROUP

	What helped me improve?	What I know now that I didn't know before.	Strategies that worked well for me and why.	Strategies I will continue to use.	Strategies I probably won't use.
21		How important brainstorming is and to give words a go even if you know they're not right.	<ul style="list-style-type: none"> Brainstorming helps me get my ideas out. PO for more ideas Try column for writing the draft Consulting an expert for the final proof –read Underlining possible errors. 	<ul style="list-style-type: none"> Mind-mapping PO Try column PMI Consult an expert Reading aloud 	<ul style="list-style-type: none"> COPS Essay format ADERP Dot/Errors MFS
22	I know now that I have ability. The strategies and the effort really helped me a lot so in order to improve I need to put in more effort and use the strategies.	I now know a whole lot of strategies which are very useful to me.	<ul style="list-style-type: none"> Brainstorming – helps my ideas flow onto the paper. PMI – helps me put ideas in the right place. Read aloud – it shows where there are words missing. PO – makes you consider positive and negative points. 	<ul style="list-style-type: none"> Brainstorming PMI Read aloud PO 	<ul style="list-style-type: none"> COPS Essay format ADERP Dot/Errors MFS
23	It has helped me write more and feel prouder about myself and the work I do.	I now know easier ways to write pieces of written work that have good marks attached to them.	<ul style="list-style-type: none"> PMI PO Brainstorm Try column 	<ul style="list-style-type: none"> PMI PO Brainstorm Try column 	<ul style="list-style-type: none"> ADERP MFS
25	I think I already had the ability but the new strategies improved my ability and encouraged me to put more effort into my writing.	I now know that setting out and planning ideas before writing is important.	<ul style="list-style-type: none"> Read aloud Mind-mapping PO PMI (especially) <p>These were the easiest and most helpful strategies for me.</p>	<ul style="list-style-type: none"> PMI Try column ADERP PO <p>I will use them even though I haven't completely mastered them.</p>	<ul style="list-style-type: none"> Essay format, because I don't yet fully understand it.
26	The brainstorming and the PMI gave me more ideas to write about.	I now know how to set an essay out properly and how to get more ideas from brainstorms.	<ul style="list-style-type: none"> PMI Brainstorm Dot/errors Read aloud <p>These helped me think of ideas and to check up on my work easily.</p>	<ul style="list-style-type: none"> PMI Brainstorm Dot/errors Read aloud 	<ul style="list-style-type: none"> MFS
27	Not sure but I know I hated writing essays so I didn't put in the effort but now I do put in the effort even though writing still isn't my favourite past-time.	<u>All</u> of them.	<ul style="list-style-type: none"> Essay format, so I don't forget to cover everything Brainstorm PMI 	<ul style="list-style-type: none"> PMI Brainstorm Essay format Consult and expert 	<ul style="list-style-type: none"> PO Dot / possible errors ADERP
28	My ability and strategies improved a lot.	I know how to use the strategies.	<ul style="list-style-type: none"> PMI – this helped me divide my ideas into categories. Brainstorm – this helped me think of more ideas. Consult and expert – they told me what I should and shouldn't do. 	<ul style="list-style-type: none"> PMI Brainstorm PO Consult and expert Read aloud 	<ul style="list-style-type: none"> Dot / errors Essay format COPS SEE Try column

29	The way I look at the tasks through using different strategies. It has helped me stay on track better.	I learned all the strategies – I didn't know any of them before.	<ul style="list-style-type: none"> • PMI • Mind-map – helps me cover all the possible ideas. • PO – so I could relate to the argument on the other side. • COPS – helped me sort out my punctuation, etc. • Consult an expert – gets others' opinions. 	<ul style="list-style-type: none"> • PMI • Mind-map • PO • Consult and expert • Read aloud • COPS • Dot/errors 	<ul style="list-style-type: none"> • Essay format • MFS • Try column • Read aloud
30	Learning the strategies helped me improve tremendously.	I now know the right strategies to use and that I have to put a lot of effort in.	<ul style="list-style-type: none"> • PMI • Brainstorming <p>These 2 strategies helped me get all my ideas out.</p>	<ul style="list-style-type: none"> • PMI • Brainstorming • Consult and expert 	<ul style="list-style-type: none"> • MFS • COPS • ADERP • Try column • Dot/errors • Essay Format
35	I have now learnt the strategies I should have been able to use all along.	I know strategies that work for me.	<ul style="list-style-type: none"> • Mind-map • ADERP • Dot/errors <p>These strategies work for me because I understand how and when to use them.</p>	<ul style="list-style-type: none"> • Mind-map • Dot/errors 	<ul style="list-style-type: none"> • ADERP

APPENDIX B

Instruments

SELF-EFFICACY FOR ACADEMIC TASKS

Name: _____ Form: _____ Male _____ Female _____

What marks do you usually get in school? (Tick one).

- A's A's and B's B's B's and C's
 C's C's and D's D's lower than D's

1. Writing a report



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------

I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

2. Helping other students learn



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------

I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

3. Answering questions aloud in class



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------

I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

4. Sharing ideas about school subjects with other students



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------

I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

5. Talking to a teacher about a school subject



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------

I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

6. Doing social studies assignments



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------

I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

7. Talking about a subject in front of the class



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------

I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

8. Doing homework



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

9. Taking important tests



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

10. Obeying class rules



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

11. Sitting short tests the teacher gives



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

12. Using a dictionary



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

13. Writing a letter



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

14. Doing art projects



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

15. Taking part in musical activities



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

16. Doing a science experiment



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

17. Paying attention when the teacher is talking



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

18. Following directions



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

19. Asking questions in front of the class



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

20. Writing a story or a poem



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------

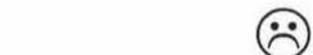


I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

21. Solving maths word problems



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

22. Knowing maths facts



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

23. Writing neatly



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

24. Reading aloud in front of other students



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

25. Reading silently



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

26. Reading class or library books



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

27. Doing reading comprehension exercises



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

28. Playing team games during P.E.



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

29. Working on a computer



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

30. Spelling



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

31. Finishing work at my desk



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

32. Doing exercises during Fitness



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

33. Working with other students



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

34. Doing school assignments



I have ability	I work hard	Luck	Easy task
----------------	-------------	------	-----------



I'm not smart	I don't try	Unlucky	Too hard	Too shy
---------------	-------------	---------	----------	---------

Self-Efficacy for Academic Tasks – Student Profile

Name: _____ Form: _____ Male ____ Female ____

Marks student usually gets in school _____ Perceived: _____
 Actual: _____ (teacher endorsed)

1. Self-efficacy rating – overall sense of academic self-efficacy (student’s perception of competence on school-related tasks).

Total number of smiles _____ x3 = _____
 Total number of neutrals _____ x2 = _____
 Total number of frowns _____ x1 = _____ **SUM** = _____

2. Academic failure rating – sense of academic failure

Total number of frowns _____

Success	Question numbers	Failure	Question numbers
Ability		Lack of ability	
Effort		Lack of effort	
Luck		Absence of luck	
Task ease		Task difficulty	
		Shyness	

3. Success explanations

Number of smiles chosen _____	#	%
Number of times ability selected _____	_____	_____
Number of times effort selected _____	_____	_____
Number of times luck selected _____	_____	_____
Number of times task ease selected _____	_____	_____

4. Failure explanations

Number of frowns chosen _____	#	%
Number of times lack of ability selected _____	_____	_____
Number of times lack of effort selected _____	_____	_____
Number of times absence of luck selected _____	_____	_____
Number of times task difficulty selected _____	_____	_____
Number of times shyness selected _____	_____	_____

CHARACTERISTICS CHECKLIST

	<u>Rarely</u>	<u>Sometimes</u>	<u>Often</u>	<u>Almost always</u>
<u>Interest, Attitude</u>				
1. Participates in activities eagerly.	_____	_____	_____	_____
2. Impatient with others who show confusion, disinterest.	_____	_____	_____	_____
3. Body movement, posture indicate high degree of interest.	_____	_____	_____	_____
4. Expresses an 'outside' interest in the topic	_____	_____	_____	_____
5. Expresses a desire to learn more	_____	_____	_____	_____
<u>Above-average ability</u>				
1. Grasps concepts quickly.	_____	_____	_____	_____
2. Gives example related to concepts.	_____	_____	_____	_____
3. Asks questions that seek <i>depth</i> of information.	_____	_____	_____	_____
4. Enjoys trying to solve complex problems.	_____	_____	_____	_____
5. Evaluates, analyzes examples.	_____	_____	_____	_____
<u>Creativity</u>				
1. Has unique solutions to problems.	_____	_____	_____	_____
2. Sketches, draws in addition to or instead of verbalizing ideas.	_____	_____	_____	_____
3. Manipulates, elaborates ideas	_____	_____	_____	_____
4. Generates many ideas and possible solutions.	_____	_____	_____	_____
5. Can visualize scenes from different perspectives.	_____	_____	_____	_____
<u>Task Commitment</u>				
1. Can concentrate for long periods of time.	_____	_____	_____	_____
2. Asks questions or gives examples <i>after</i> instruction has been completed.	_____	_____	_____	_____
3. Is not easily frustrated when involved with a task.	_____	_____	_____	_____
4. Concerned with clarity, quality of product.	_____	_____	_____	_____
5. Can organize ideas well.	_____	_____	_____	_____
6. Indicates lasting interest.	_____	_____	_____	_____

Additional comments:

(Emerick, 1985)

(Adapted from Ellis, 1993)

THE WRITING ATTITUDES SURVEY

Name: _____ Form: _____ Male _____ Female _____

Instructions

The questions below ask you to indicate how you feel about different aspects of writing.

For each question, circle the number that best shows what you really feel.

1 = strongly agree 2 = Mostly agree 3 = Unsure 4 = Mostly disagree 5 = Strongly Disagree

- 1 2 3 4 5 1. I think writing about a topic helps you learn about it.
- 1 2 3 4 5 2. It really does not matter how you go about writing as long as you finish the job.
- 1 2 3 4 5 3. Writing is a waste of time.
- 1 2 3 4 5 4. Setting goals before you start writing is important.
- 1 2 3 4 5 5. Thinking about who will read your writing and what the reader already knows about your topic is an important thing to consider when writing.
- 1 2 3 4 5 6. I like to write.
- 1 2 3 4 5 7. The approach I'm using now is a lot better than the approach I was using last year.
- 1 2 3 4 5 8. I am a good writer.
- 1 2 3 4 5 9. Before you actually start writing, creating a plan that shows the organization of the main points you will write about is important.
- 1 2 3 4 5 10. I think that editing and revising assignments are important.

WRITING TASK SURVEY

NAME: _____

1. Circle the number that shows the level of success or failure you believe you achieved on this task.

Totally Unsatisfactory Excellent standard
1. _____ 2|_____ 3|_____ 4|_____ 5.

2. Rate your reaction to the task.

A. Ability

I did not have the skills needed to complete it successfully.

Felt confident that I had the skills to do well.

1. _____ 2|_____ 3|_____ 4|_____ 5.

B. Strategies

I didn't use any useful strategies.

excellent results.

I used appropriate strategies, with

1. _____ 2|_____ 3|_____ 4|_____ 5.

C. Effort

I didn't put enough effort in to do well.

effort as I could.

I put in as much

1. _____ 2|_____ 3|_____ 4|_____ 5.

D. Motivation

The topic was boring.

The topic was very interesting

1. _____ 2|_____ 3|_____ 4|_____ 5.

E. Attitude.

I don't like this type of problem.

I really enjoy this type of problem

1. _____ 2|_____ 3|_____ 4|_____ 5.

1. Writing Task: Listed below are some strategies you may have used for writing your essay.

Rate each strategy on how useful each one was in the completion of the writing task. If you are not familiar with the strategy mentioned rate it as **1**.

Complete the sentence for those strategies you used.

A. HIGHLIGHT KEY WORDS IN THE TOPIC STATEMENT

Did not use the strategy	Somewhat useful	Extremely useful
1. _____	2 _____	_____ 3.

I used this strategy to _____

B. Mind-map or Brainstorm for ideas

Did not use the strategy	Somewhat useful	Extremely useful
1. _____	2 _____	_____ 3.

I used this strategy to _____

C. 5W & H

Did not use the strategy	Somewhat useful	Extremely useful
1. _____	2 _____	_____ 3.

I used this strategy to _____

D. COMPARE & CONTRAST (T-CHART OR VENN DIAGRAM)

Did not use the strategy	Somewhat useful	Extremely useful
1. _____	2 _____	_____ 3.

I used this strategy to _____

E. PMI CHART

Did not use the strategy	Somewhat useful	Extremely useful
1. _____	2 _____	_____ 3.

I used this strategy to _____

Attribution Retraining Survey

To be completed at the end of each session.

Name: _____ Session # _____

1. What did you do during today's session?

2. How successful were you in achieving your goal for this session?

If successful:

3a. What helped you achieve your goal?

If unsuccessful:

3b. What prevented you from achieving your goal?

4. What would help you do differently next time?

5. How, if at all, did you change the strategy you were taught today?

6. Rate today's performance under each heading.

a. Ability

I did not have the skills needed to complete it successfully.

1. _____ 2| _____ 3| _____ 4| _____ 5.

Felt confident that I had the skills to do well.

b. Strategies

I didn't use any useful strategies.

1. _____ 2| _____ 3| _____ 4| _____ 5.

I used appropriate strategies, with excellent results.

c. Effort

I didn't put enough effort in to do well.

1. _____ 2| _____ 3| _____ 4| _____ 5.

I put in as much effort as I could.

7. General comments and reflections (write on the back of the page if necessary).

(Adapted from Ellis & Colvert, 1979.)

STUDENT: _____ FORM: _____ DATE: _____

COMPONENT ANALYSIS

Figure 4.5 SAMPLE STRUCTURAL COMPONENTS SCORING FORM

<u>Opening sentences</u>				<u>Main ideas</u>				
Orients reader	0	1	2	3	<u>Details</u>			
Establishes position	0	1	2	3	<u>Main ideas</u>			
Introduces main ideas	0	1	2	3	2 = clearly stated and cued; complete sentence 1 = clearly stated; complete sentence			
<u>Closing Sentence</u>								
Restates position or provides closure	0	1	2	3	<u>Details</u>			
					1 point per sentence that elaborates on main idea			

Figure 4.6 SAMPLE WRITING MECHANICS SCORING FORM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Totals
Paragraph																										
Sentence																										
Punctuation																										
Spelling																										
Capitalization																										
Appearance																										

Comment: _____

APPENDIX C

Programme outline
Letter to parents and consent form
Letter to Board of Trustees
Letter to Heads of Department
Feedback forms

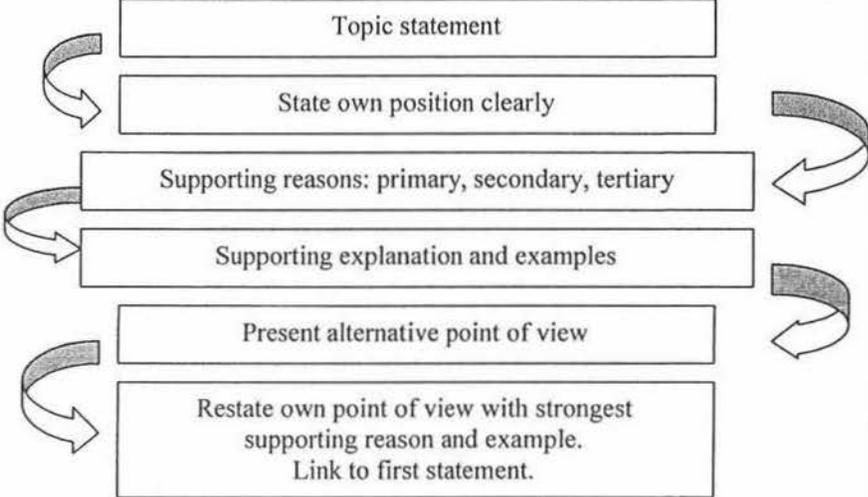
STRATEGY & ATTRIBUTION RETRAINING (STAR PROGRAMME)

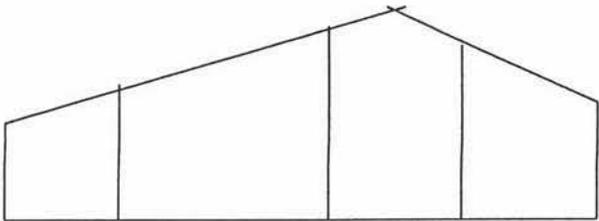
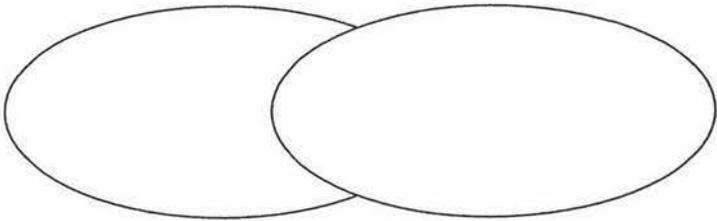
LESSON FOCUS	MATERIALS & SURVEYS REQUIRED
<p>Introduction Discuss programme goals Characteristics of GLD Strategy + Ability + Effort = Success Corrective Feedback Request permission – individual and parent Complete SEAT survey</p>	<p>Letters of permission Information for students – GLD characteristics Programme goals SEAT survey forms x 15</p>
<p>Transactional Writing b. Write for 10 minutes on the following topic: <i>Leaders are born, not made.</i> c. Edit your writing using a pen of a different colour. d. Re-write your report. e. Complete the writing survey.</p>	<p>Refill paper, Green folders & Planning books Variety of blue and red pens Writing Surveys x 15</p>
<p>Planning strategies Hand out & discuss corrective feedback forms. Identify key words in topic statement. Create a mind-map or brainstorm. Complete Essay Format Checklist (EFC) P.M.I. Write draft essay.</p>	<p>Refill paper & folders Pens</p>
<p>Editing strategies Review strategies ADERP – discuss Editing – COPS Consult an Expert (person or dictionary). Read aloud ‘Try’ column & Dot over possible errors. Re-write neatly.</p>	<p>Refill paper & folders Pens</p>
<p>Writing strategies Discuss effectiveness of editing strategies. Discuss transfer of strategies across the curriculum. Consider overall presentation. MFS – missing words, full-stops, spelling. Hand essays in.</p>	<p>Refill paper & folders Pens</p>

<p>Writing – Planning Hand out feedback forms and discuss. Generate ideas for new topic. Revise planning & editing strategies briefly. Write draft.</p>	<p>Refill paper & folders Pens</p>
<p>Editing Review editing strategies. Discuss presentation strategies. Rewrite essays. Hand in.</p>	<p>Refill paper & folders Pens</p>
<p>Essay # 2 (own choice) Hand out feedback forms & discuss. Students read through passage. Discuss & agree on useful strategies. Introduce venn diagram strategy. Write draft. Edit.</p>	<p>Refill paper & folders Pens</p>
<p>Presentation Review essays & feedback. Identify lessons learned and changes made. Discuss best strategies, suggestions for change. Discuss: Ability+Strategies+Effort=Success. Discuss how the process would work in other situations (transfer). Complete Attribution Surveys and Strategy Surveys.</p>	<p>Refill paper & folders Pens Attribution Surveys x 15 Strategy Surveys x 15</p>
<p>Writing: post-intervention a. Write for 10 minutes on the following topic: <i>We're all in this together.</i> b. Edit your writing using a pen of a different colour. c. Re-write your report.</p>	<p>Refill paper & folders Pens Ask Sd to administer to SA at the same time</p>
<p>11. Administer SEAT & Writing Attitude survey Complete Writing Attitude Surveys. Complete SEAT.</p>	<p>SEAT surveys x 35 Writing Attitude Surveys x 35</p>
<p>NOTES</p>	

1. Pre-intervention Writing Sample Topic Statement: Leaders are born, not made.
2. Transactional Writing Topic Statement: Cloning is simply multiple birthing by another name.
3. Task 2 Writing Theme: Group agreement – ideas from de Bono’s (1987) 6 Hats exercises.

STRATEGIES

Key words							
Mind-map/web/brainstorm							
Essay Format Checklist							
PO – beyond Yes & No & PMI	<table border="1" data-bbox="579 1289 1332 1572"> <thead> <tr> <th data-bbox="579 1289 807 1351">Pluses</th> <th data-bbox="807 1289 1075 1351">Minuses</th> <th data-bbox="1075 1289 1332 1351">Interesting</th> </tr> </thead> <tbody> <tr> <td data-bbox="579 1351 807 1572"></td> <td data-bbox="807 1351 1075 1572"></td> <td data-bbox="1075 1351 1332 1572"></td> </tr> </tbody> </table>	Pluses	Minuses	Interesting			
Pluses	Minuses	Interesting					
ADERP writing plan	<p>Audience Draft Edit Rewrite Present</p>						
COPS editing strategy	<p>Capitals Overall appearance Punctuation Spelling and/or sense</p>						
Consult an expert							

Read aloud	
Try column	
Dot over possible errors	
MFS	Missing words Full-stops Spelling
STARC	Setting (time & place) Trouble or problem Action Result Characters
Sequence diagram	
Venn diagram	
Corrective Feedback 1. Success 2. Failure	Refer only to: Appropriate use of Strategy Innate Ability Role of Effort

WRITING TASK FEEDBACK

TO: _____ Date: _____ Topic: _____

ABILITY

1. Opening statement establishes your position	1	2	3	4	5
2. Main ideas are introduced clearly	1	2	3	4	5
3. Main ideas are linked to further explanation	1	2	3	4	5
4. Main ideas are linked to examples	1	2	3	4	5
5. Understanding of the topic	1	2	3	4	5

You have done the following well: _____

You could improve even further by: _____

STRATEGY USE

1. Identified audience appropriately	1	2	3	4	5
2. Effective planning	1	2	3	4	5
3. Effective editing	1	2	3	4	5
4. Effective re-writing	1	2	3	4	5
5. Effective presentation	1	2	3	4	5

You have done the following well: _____

You could improve even further by: _____

EFFORT

1. Plan	1	2	3	4	5
2. Draft	1	2	3	4	5
3. Edit	1	2	3	4	5
4. Re-write	1	2	3	4	5
5. Presentation	1	2	3	4	5

You have done the following well: _____

You could improve even further by: _____

YOUR COMMENT: _____

ANNE STURGESS

The Secretary
Board of Trustees
Onehunga High School
Pleasant Street
ONEHUNGA

28th February 1998

Dear Members of the Board of Trustees,

I am a graduate student in the MEd (Special Education) programme at Massey University. It is my intention to complete my thesis in the field of attribution retraining and students with learning difficulties. Since I have recently been appointed to the staff of Onehunga High I am seeking permission to carry out this research with Year 9 students at your school.

My particular interest is in working with students whose current academic achievements are inconsistent with their potential ability as perceived by teachers and/or parents and the students themselves. These students may be described as academically able with specific areas of learning disability. Circumstances seemingly beyond control and modification prevent them from achieving at an appropriate level. For this reason they present as an enigma in our schools and cause teachers a great deal of concern. Explicit teaching of strategies for reframing attributions will form the basis of the Attribution Retraining Programme. Similar procedures have been successful in increasing peoples' motivation to do better in school and other settings.

In addition to implementing the Attribution Retraining Programme, research will involve collecting pre- and post-intervention data on the academic profiles of a group of Year 9 students who will be divided into two groups; 1) a group of academically high-performing students, and 2) a group of academically under-achieving students whose profiles suggest the presence of specific (rather than generalised) areas of learning disability. Changes in academic self-perceptions and performance of these students will be assessed using a variety of measures.

This study will be of particular significance to those teachers currently working in the field of gifted education who believe they are failing to accurately identify gifted students whose abilities are masked by disabilities. It will also be of interest to teachers working with students exhibiting learning disabilities, gifted or otherwise, who have developed maladaptive attributions, since the principles of intervention are likely to apply to all students in this category.

Students, their parents, and teachers will be fully informed of the intent, process and outcomes of the study. The study will follow Massey University ethical guidelines which require that full and accurate information be provided and that participants have the right to withdraw from the study at any time. It is expected that the bulk of the study will take place during terms 2 and 3 of 1998 with completion by 15th December.

Greater detail of the study is contained in the attached research proposal for which approval has been granted by the Massey University Graduate Studies Committee. Professor James Chapman and Dr. Tracy Riley have agreed to act as supervisors. Please contact me should you require further information concerning the study. Thank you.

Yours faithfully

Anne Sturgess

ANNE STURGESS

To the Parents/Guardians of _____

Greetings

My name is Anne Sturges. I am currently employed at Onehunga High School and the Board of Trustees has given permission for me to undertake post-graduate thesis research through Massey University. I would greatly appreciate your permission to include _____ in this study, the details of which are described below.

- The aim of this study is to investigate differences between academically able students with and those without specific areas of learning disabilities. A programme for able students with learning difficulties will be implemented and the results analysed to determine changes in attitudes and competencies.
- Your child has been selected for participation in this programme because s/he has demonstrated that s/he has:
 1. The potential to achieve at a higher level in written language than the level at which s/he is currently performing.
 2. S/he has difficulty with the planning, writing and editing stages of written language (this may include organising ideas, spelling and grammar).
- Participation in the programme will involve attending 7 sessions over a period of 4 weeks. The final session will identify changes in attitudes towards learning and effective application of new strategies.
- Similar programmes have been successful in improving students' skills and increasing their motivation to do better in school.
- The study will follow Massey University ethical guidelines which require participants have the right to withdraw from the study at any time and may refuse to answer any particular questions at any time.
- Information given will be confidential to the research and any publications resulting from it. Anonymity and confidentiality will be respected at all times.
- You and/or your child have the right to decline to participate.
- You have the right to access a summary of the findings of the study when it is concluded.
- Records will be destroyed or stored in a research archive (e.g. for preparing reports, follow-up studies). You are asked to indicate your preference on the consent form.

The Massey University staff who are responsible for supervising this study are listed below. You are welcome to contact them regarding the study.

Professor James Chapman
Department of Educational Psychology
College of Education
Massey University
Private Bag 11.222
PALMERSTON NORTH

Dr. Tracy Riley
Department of Educational Psychology
College of Education
Massey University
Private Bag 11.222
PALMERSTON NORTH

If you are happy for _____ to participate in the study please complete the attached consent form and return it to me at Onehunga High School. Should you require further information please ring the school office and leave a message for me to contact you.
Thank you.

Yours faithfully
Anne Sturgess

LEARNING DIFFICULTIES THESIS PROJECT

CONSENT FORM

My signature below indicates that I fully understand the content of the information sheet and that the details of the project have been fully understood by me. I understand that I have the right to withdraw my child from the study at any time.

I am willing to participate in this study and I understand that the information gathered will be strictly confidential.

I consent for my child _____ to participate in this research project as set out in the information sheet.

I consent for records to be stored in record archives at Massey University.
YES _____ NO _____

Signed: _____

Name: _____

Date: _____

MEMO

TO: The Principal
FROM: Anne Sturgess
RE: Thesis research

As you are aware, it is my intention to carry out research into the effectiveness of a programme that combines strategy instruction with attribution retraining.

I would like to get the bulk of the practical component of the research out of the way during the first half of term 3, in order to leave the rest of the year free to focus on incoming (1999) students. Please find attached a copy of the time-frame I propose to follow providing it meets with your approval.

I will approach each of the teachers involved to ensure they are agreeable to students being withdrawn for the lessons indicated. Social Studies teachers of form 3 students who are likely to be affected have already agreed in principle and I will seek written agreement from them once I hear back from you. Other teachers who will be affected will be those who teach the students during the times they will be withdrawn, as is the case with any withdrawal programme.

Regards,
Anne

MEMO

TO: _____

FROM: Anne Sturgess

RE: Thesis research

Dear _____,

As you are aware, it is my intention to carry out research into the effectiveness of a programme that combines strategy instruction with attribution retraining.

I would like to get the bulk of the practical component of the research out of the way during the first half of term 3, in order to leave the rest of the year free to focus on incoming (1999) students. Please find attached a copy of the time-frame I propose to follow.

I have selected Social Studies as the curriculum context for the study because the focus is on written language skills of planning, writing, and editing formal reports. Although students would be withdrawn from regular classes for the 6 sessions necessary to implement the programme, Social Studies teachers would be involved only during the pre- and post-intervention data collection stages, unless their Social Studies class coincides with a withdrawal period.

I am seeking the cooperation of Social Studies teachers of the 'top' four 3rd form classes to obtain samples of formal report writing, which I will mark. Clear guidelines for administration will be provided. I would also appreciate receiving the exam marks of 3rd students from the 'top' 4 classes.

Teachers will receive feedback following the completion of the study and I have more detailed information about the programme which they are welcome to access.

Regards,
Anne

MEMO

TO: _____

FROM: Anne Sturgess

RE: Thesis research

Dear _____,

As you are probably aware, I have permission from the Onehunga High School Board of Trustees to carry out research into the effectiveness of a programme that combines strategy instruction with attribution retraining.

The focus for strategy instruction is the writing of formal reports (planning, writing, and editing), a skill that affects most curriculum areas.

Students will be withdrawn from regular classes for the 6 sessions necessary to implement the programme and the 2 lessons required to obtain pre-and post-intervention data.

I am seeking your cooperation to obtain copies of the following assessment data for students from the 'top' four 3rd forms:

1. TWS-2 spelling and dictation
2. Mid-year exam marks

I have more detailed information about the programme which you are welcome to access.

Regards,
Anne