EMOTIONAL INTELLIGENCE IN LEARNERS WITH ATTENTION DEFICIT DISORDER

by

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PROMOTER: PROF. H.E. ROETS

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Student Number: **586-656-1**

I declare that **EMOTIONAL INTELLIGENCE IN LEARNERS WITH ATTENTION DEFICIT DISORDER** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

…… ……

SIGNATURE DATE

(Mrs. C.A. Wootton)

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SUMMARY

This study was undertaken to analyse and evaluate the nature and quality of emotional intelligence in learners with Attention Deficit Disorder, and to investigate whether their emotional intelligence was enhanced, and whether the symptoms and behaviour of these learners improved, after exposure to a program on emotional intelligence. At the beginning of the study, the learners displayed an inaccurate appraisal of their emotional intelligence as being at a higher level than that of their peer group. After exposure to a program on emotional intelligence, these learners were able to accurately appraise their emotional intelligence. The results of this study indicate that the symptoms and behaviour of learners with Attention Deficit Disorder appear to be improved after exposure to a program on emotional intelligence. The enhancement of emotional intelligence therefore appears to be related to the symptoms and behaviour of learners with Attention Deficit Disorder. The researcher recognized the limitations of the research and made recommendations for future research on emotional intelligence in learners with AD/HD.

TITLE OF THE THESIS:

EMOTIONAL INTELLIGENCE IN LEARNERS WITH ATTENTION DEFICIT DISORDER

KEY TERMS:

Attention Deficit Disorder; origins of AD/HD; diagnosis of AD/HS; prevalence of AD/HD; co-morbidity of AD/HS; social and emotional issues in learners with AD/HD; origin of emotions; emotional intelligence; resilience and emotional intelligence; neurological aspects of emotional intelligence; education and emotional intelligence; intervention and emotional intelligence; assessment of emotional intelligence; Middle Childhood; Promoting Alternative Thinking Strategies (PATHS); Bar-On Emotion Quotient Inventory (BarOnEQ-i); Connors Teachers Rating Scale - Revised (CTRS-R).

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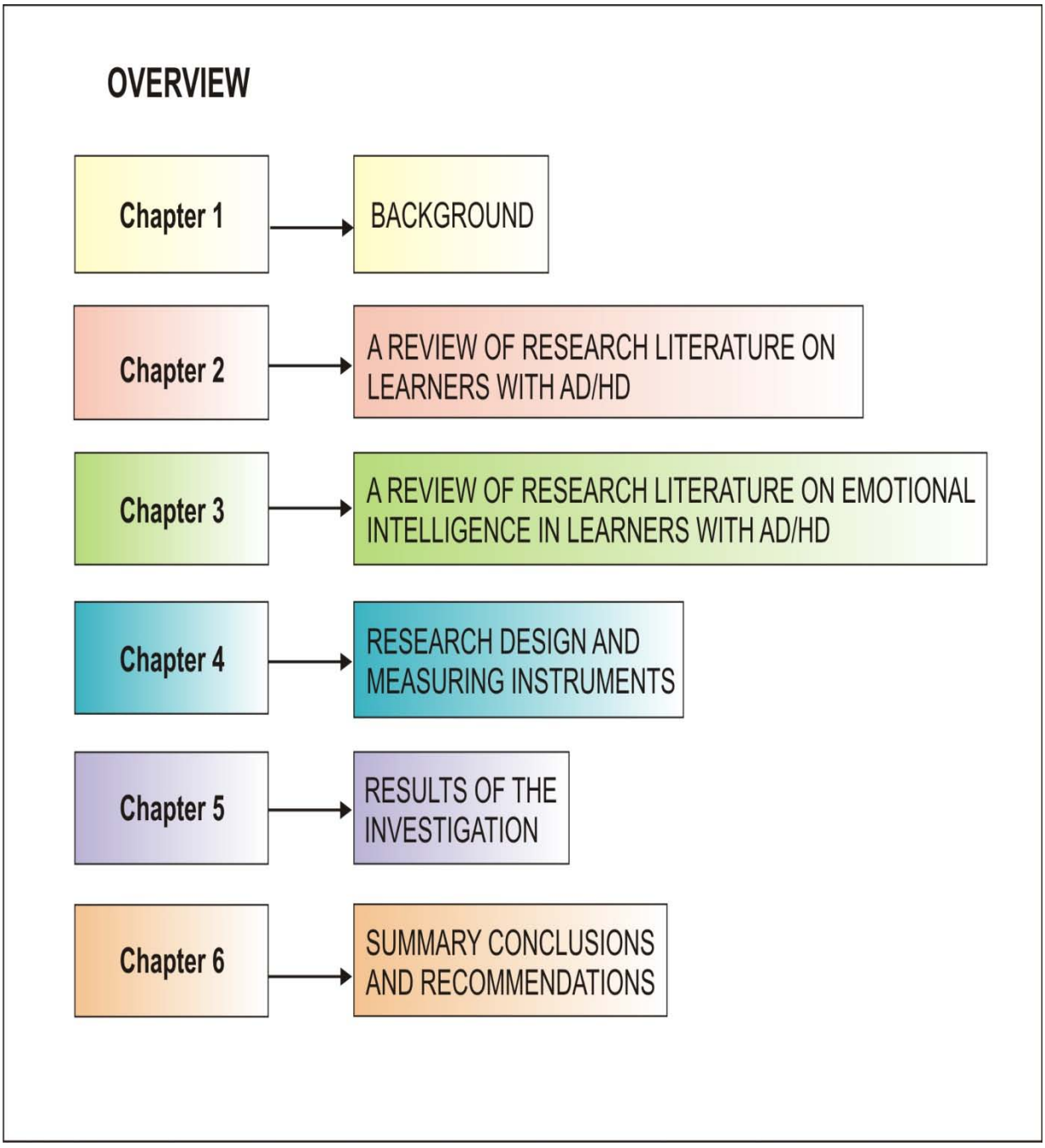

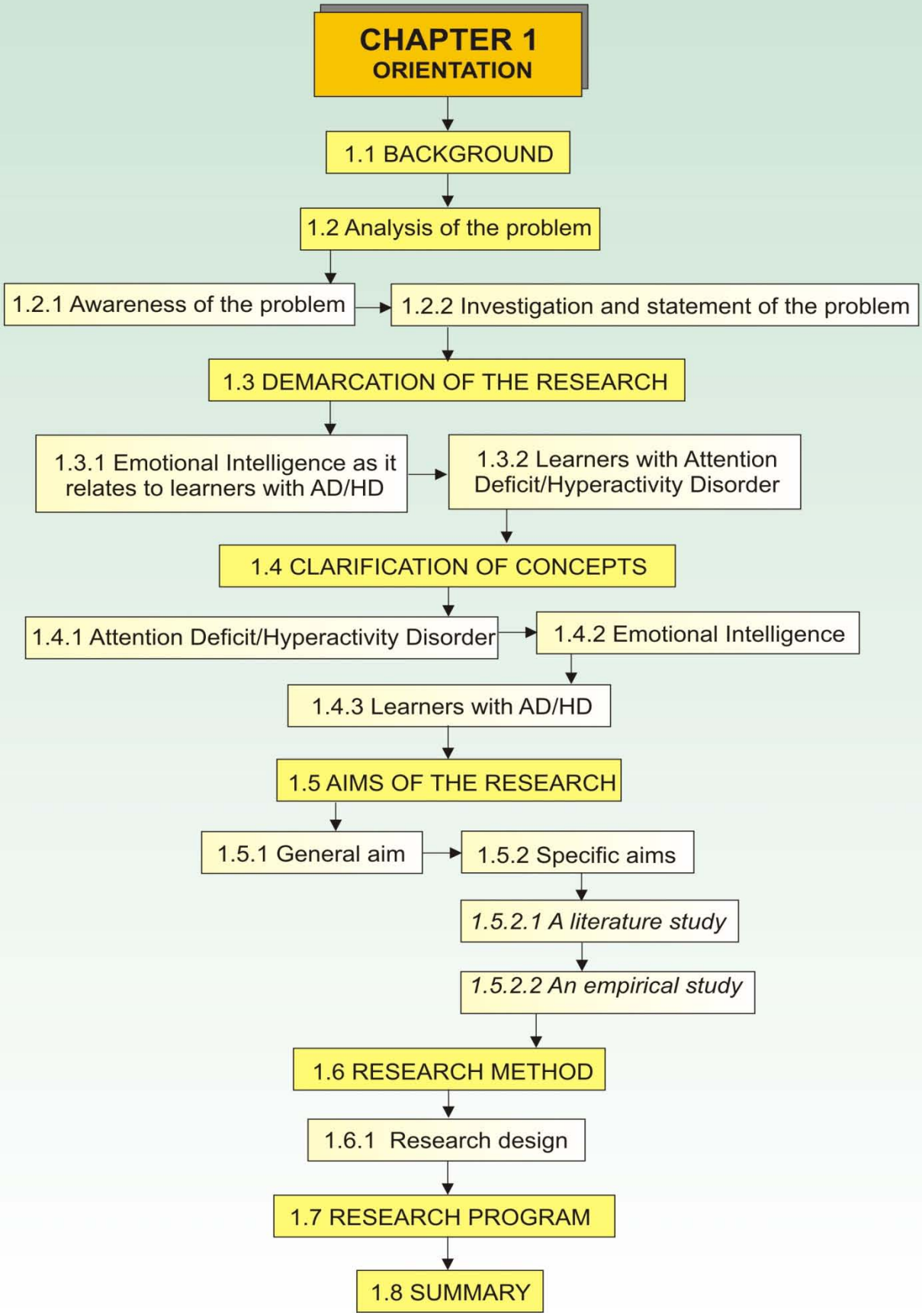
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CHAPTER 1

ORIENTATION

1.1 BACKGROUND

The Educational Psychologist is often confronted with the medically and psychologically complex issue of Attention Deficit Disorder, with or without hyperactivity (AD/HD) (Appendix VII). This condition pervades and disturbs functioning at all levels and is often an intense and stressful experience for the individual, affecting his social, emotional, physical and intellectual interaction with his world. The school going learner with AD/HD often experiences a negative identity, lowered self esteem, and poor social interactions. By the time the learner with the above symptoms and behaviour reaches an Educational Psychologist, there is usually an emotional overlay, which negatively affects the situation and further exacerbates the symptoms.

An emotional overlay such as anxiety, anger, and low frustration tolerance, has close ties with the concept of emotional intelligence, which acknowledges the centrality of feeling and emotion that permeates many aspects of the education process, and specifically the concept of AD/HD. For the purposes of this thesis, the term 'social and emotional intelligence' as posited by BarOn (2000) (Appendix VIII) will be used. Although many other diverse and closely related terms are used to describe this construct, a burgeoning body of literature suggests that most of these terms describe a common construct, or at least certain aspects related to that construct (BarOn, Maree & Elias, 2006; Goleman, 2003; Mayer & Geyer, 1996; Salovey & Mayer, 1990; Van Rooy & Visweswaran, 2004; Wiehe, 1997).

Emotional intelligence can be understood as a set of social and emotional skills that enable the individual to translate intellectual raw material into action and accomplishment (BarOn, Maree & Elias, 2003). This is particularly true in terms of the learner with AD/HD who displays specific clinical features and behavioural symptoms which prevent him (for the remainder of this thesis "he, his and him" refer to both genders) from reaching his potential, feeling a sense of accomplishment, and forming close and enduring interactions with others. The 'emotional brain' plays a central role in tagging all sensory information with an emotional label before it

even enters the higher circuits of cognitive thought and memory (Morris & Casey, 2005). The writer, in her experience within this context, notes that many learners with AD/HD appear to attribute negative emotional labels to situations, people and academic tasks, and to experience lowered emotional intelligence on many of the competencies proposed by BarOn (2000; 2003; BarOn & Parker, 2000). For instance, learners with AD/HD often appear to have lowered self-regard and emotional self-awareness, are frequently aggressive rather than assertive, lack emotional independence and are unable to actualize their own potential. In addition, they often lack empathy toward others, have difficulty identifying with a social group and being able to co-operate within this group, and fail to establish satisfying relationships with others. Stress tolerance and impulse control are often lowered, and difficulty is experienced with regard to being able to objectively evaluate feelings, adapt to new situations and effectively solve problems of a personal and inter-personal nature. Generally, learners with AD/HD often do not feel content with themselves, others and life in general, and can either take an overly optimistic view of life or an unusually pessimistic view. Research shows that there are many variations within the umbrella term 'AD/HD' and whilst some learners may experience all of the above descriptors of lowered emotional intelligence, others may experience only a few at a mild level of dysfunction, and yet others may experience a few (or many) at a high level causing severe dysfunction (Van Rooy & Viswesvaran, 2004).

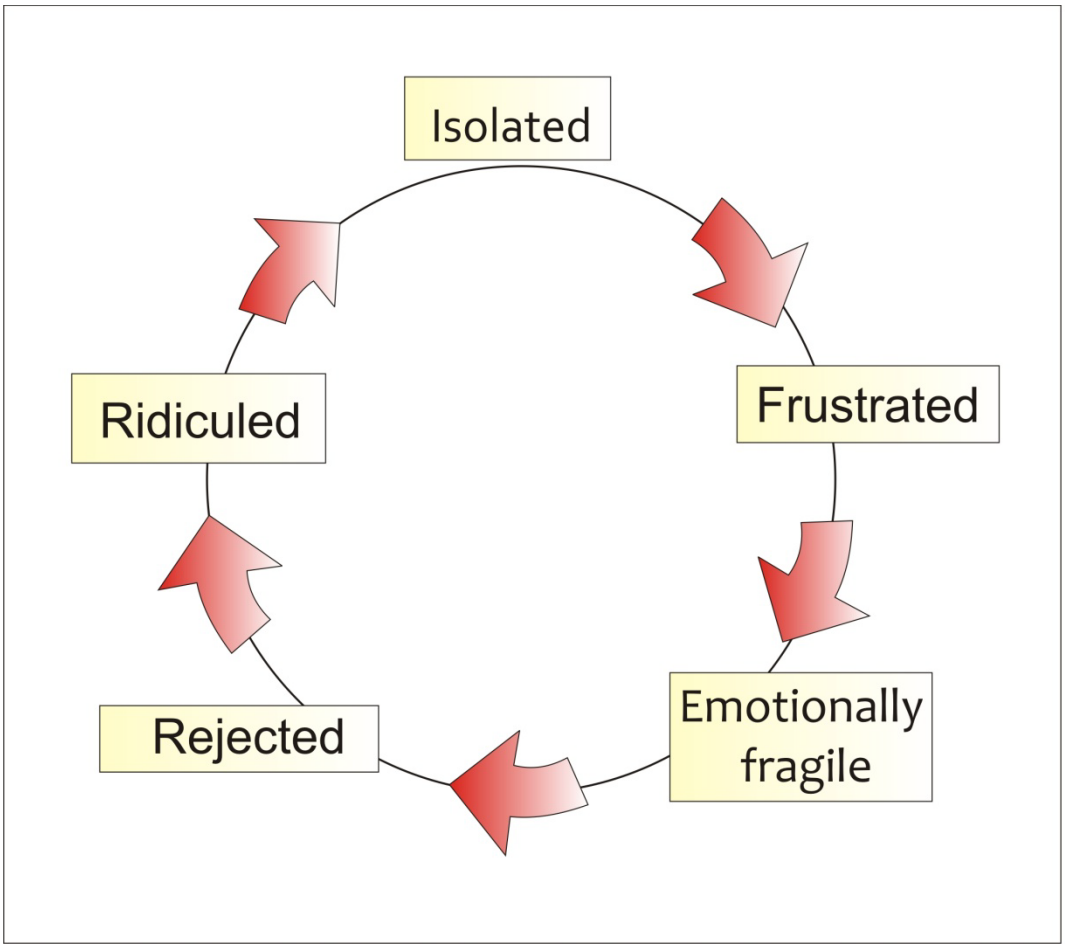
There seems to be much controversy about the diagnosis, causes and management of AD/HD (Amen, 2001a; Barabasz & Barabasz, 1996; Barkley, 1997a; Barkley, 1998; Davison, 2001; Halasz & Vance, 2002), even though clinical features and behaviours have been laid down by the American *Diagnostic and Statistical Manual of Mental Disorders – 4th edition* (DSM-IV) (Appendix VII). Although these criteria are usually used in the diagnosis of AD/HD, the United States National Institute of Health issued a consensus statement in 2000, concluding that the diversity of opinions about AD/HD brought into question the very existence of the disorder and the question of whether a reliable diagnosis can be made (Halasz & Vance, 2002). The conclusion was that the condition termed AD/HD should be treated with caution, and suggestions were made to view this disorder as a working hypothesis aimed at guiding scientific communication and clinical decision making. For the purposes of this thesis the researcher would like to adopt this suggestion, focusing on the social and emotional competencies, symptoms, behaviours and experiential world of specific learners who have

been formally classified as AD/HD. Although these learners may display widely differing temperaments and functional problems in their home, school and social settings, they still share core features of the disorder, such as: poor impulse control, social difficulties, and lowered academic performance. Some may experience co-morbid factors such as anxiety, obsessive compulsive disorder, tourettes syndrome, mood disorders and learning disorders. The focus of this research is not on the disorder itself, but on the emotional overtones seen in the symptoms and behaviour of these learners, and how this impacts on their ability to properly translate their innate raw potential into action and accomplishment.

1.2 ANALYSIS OF THE PROBLEM

1.2.1 Awareness of the problem

Figure 1.1 The learner with AD/HD



Having worked with children over a number of years, as both a remedial specialist and an Educational Psychologist, it has become increasingly apparent to the researcher that learners with AD/HD suffer enormously. It seems that in addition to their diagnosed disorder, they are specifically handicapped in an emotional sense, in that they often become isolated by their behaviour, which alienates them from peers and teachers alike, resulting in emotional fragility, frustration, low tolerance and a sense of not being able to 'fit' with the environment. In addition to this, the context in which these learners live, seems to become increasingly hostile towards them, and insensitivity seems to develop whereby they become rejected and ridiculed by their peers, excluded and even bullied.

In the course of her work as an Educational Psychologist, the researcher became increasingly intrigued by the pattern of emotional dysfunction that occurred when assessing these learners. Most learners with AD/HD displayed low self esteem, a high degree of impulsivity, resistant and oppositional behaviour, poor social skills, conflicted home environments, lack of awareness of their own emotions and how to manage them, anger, frustration and defensiveness – in short, lowered emotional intelligence. Some of these learners reacted to the confusion of their world and their inner thoughts with aggression, reacting impulsively and explosively to their environment, using attacking, disruptive and attention seeking behaviour. Others withdrew into an inner world and became unfocused, dreamy and disengaged, seldom responding to the outside world, missing instructions in class, never completing tasks, becoming loners with few interactions. Nearly all of these learners were underachievers, despite adequate levels of intelligence, and most displayed high levels of underlying anxiety and stress.

After reading widely on the topic, it became apparent that the emotional profile of learners with AD/HD corresponds with learners who have lowered social and emotional intelligence, namely: intrapersonal deficits in self-awareness and self-expression; inter-personal deficits in relationships; difficulties with emotional management and regulation; adaptability difficulties in reality, flexibility and problem solving; and difficulties with self motivation, optimism, and happiness. Because environmental factors have been suggested as critical in promoting or diminishing the risk to a child's academic and social performance, it is posited by the researcher that by developing strategies to manage and understand their emotions more

effectively, learners with AD/HD may experience the rigours of life more positively, and may have more emotional energy to invest in reaching their potential, and to becoming integrated members of their group.

1.2.2 Investigation and statement of the problem

The prevalence of AD/HD seems to be on the increase and widely considered to be between 3% and 15% worldwide (American Psychiatric Association, 1994; Du Paul & Stoner, 1994), and the figures in the United States range from 4% to 6% of the population (Amen, 2001a; Hallowell & Ratey, 1994; Koziol, 1994; Sears & Thompson, 1998). Picton (personal communication, 2005) from the Attention Deficit and Hyperactivity Disorder Support Group of Southern Africa reports that there are as yet no official figures representing the incidence level of AD/HD in South Africa, but that it is generally estimated to be between 4% and 10% of school going children. Traditionally, it was thought that children outgrew AD/HD and that the symptoms disappeared in adulthood, however, research (Amen, 2001a; Barkley, 1997a; Harrison, Manocha & Rubia, 2004; Sergeant, 2000; Wasserstein, 2005) shows that this is not the case and that AD/HD persists into adulthood. BarOn (2000) has investigated the relationship between AD/HD and emotional intelligence, and discovered that there is a close correlation between the competencies measured in the assessment for emotional intelligence, and the deficits that occur when AD/HD is present. Based on the problem under investigation, and the observations made by the researcher, it seems clear that emotional intelligence plays a role in the emotional well-being of learners with AD/HD.

This study thus proposes to explore the following problem areas:

- The levels of emotional intelligence of learners with AD/HD
- Whether these learners will be able to enhance their emotional intelligence following a program designed for this purpose
- Whether these learners will be able to improve their symptoms and behaviour following a program designed to improve emotional intelligence

Programs such as Emotional Literacy, Providing Alternative Thinking Strategies (PATHS), Child Development Project, Creating Confident Kids, and Self Science are shown to have

been effective in raising the levels of emotional intelligence in schools (Bar-On, 2003; Greenberg, 2007; Kelly, Longbottom, Potts and Williamson 2004; Morris & Casey, 2005; Sharp, 2001; Weare, 2006). Goleman (1996) in his review of the application of such programs in the United States, proposes that the application of emotional intelligence in the educational context continues to grow. In light of this research and the researcher's interest in investigating these two constructs, it seems feasible to investigate the possible positive effects of a program for social and emotional intelligence, on the symptoms and behaviour of AD/HD. Such programs, either in individual therapy, or in the context of the school, may help to ameliorate the symptoms and behaviour of the AD/HD learner. This will go a long way to establishing a better quality of life for the child with AD/HD and may reflect in higher academic achievement.

The discussion and investigation of the problem has raised many thoughts and queries, namely:

- What is the nature of emotional intelligence and how does it relate to the emotional life of learners with AD/HD?
- What level of emotional intelligence does the learner with AD/HD have on the BarOn Emotions Quotient Inventory Youth Version (BarOnEQ-iYV)?
- Is the emotional intelligence score of learners with AD/HD different from that of his peers?
- Does the learner with AD/HD show consistently low emotional intelligence across all the competencies?
- Will there be an improvement in the scores of emotional intelligence in the learner with AD/HD after a program on social and emotional intelligence has been implemented?
- Does the learner with AD/HD show consistently high scores on the Connors Teachers Rating Scale – Revised (CTRS-R) which indicates high levels of AD/HD?
- Do the scores for learners with AD/HD on the CTRS-R relate to their emotional intelligence scores on the BarOnEQ-iYV?
- Will the scores for learners with AD/HD that are high on the CTRS-R become lower after a program on social and emotional intelligence has been implemented?

These questions may lead to the following research question, which is a statement of the problem:

Can the enhancement of emotional intelligence alleviate the symptoms and improve/ change the behaviour of learner's with AD/HD?

The following hypotheses may be formulated:

- The emotional intelligence of learners with AD/HD will differ from the emotional intelligence levels of peers without AD/HD
- Learners with AD/HD will show a below average composite score of emotional intelligence on the emotional intelligence scale
- The levels of emotional intelligence in learners with AD/HD will differ within and between tests
- A program on emotional intelligence will be influential in developing emotional intelligence in learners with AD/HD
- AD/HD can be observed in the scores and profiles of learners with AD/HD on the attention deficit disorder scale
- The scores for learners with AD/HD on the attention deficit scale will relate to their emotional intelligence scores on the emotional intelligence scale
- A program on emotional intelligence will be influential in improving the symptoms and behaviour of learners with AD/HD

1.3 DEMARCATION OF THE RESEARCH

This research will be centred round the following concepts:

1.3.1 Emotional Intelligence as it relates to learners with AD/HD

The concept of emotional intelligence may be defined as the set of social and emotional skills, also described as competencies by BarOn (2000; 2003), that enable the individual to translate intellectual potential into action and accomplishment. The concept that emotional intelligence is a learned skill is encouraging in terms of implementing a program aimed at improving this construct for learners with AD/HD, in an educational setting. All aspects of emotional

intelligence will be explored and studied in order to develop a model of emotional intelligence that is pertinent to this study. The particular focus of this research will be on the role of emotional intelligence in learners with AD/HD. A programme will be selected on the basis of its relevance to the developmental level of the learners in this study. Careful consideration will be given as to whether the programme covers the five competencies of emotional intelligence as outlined by BarOn (1997b) (Appendix VIII). The programme will be embedded within the current available research on the success of programmes related to improving emotional intelligence in school going learners. The role of the Educational Psychologist will be clearly demarcated and investigated within the context of this study, and intervention strategies will be explored that may inform future work with learners with AD/HD.

1.3.2 Learner's with Attention Deficit Disorder

The focus of this research will be the role of emotional intelligence on the symptoms and behaviour of learners who have been diagnosed with AD/HD based on the presence of specific clinical features as laid down by the DSM-IV (1994). These symptoms include inattention and/or hyperactivity-impulsivity, with all symptoms present before the age of seven years, and present in two or more settings. There must also be clear evidence of significant impairment in social or academic functioning and it is important that the symptoms do not occur exclusively during the course of a pervasive developmental disorder, schizophrenia, or other psychotic disorders, or better accounted for by another mental disorder (Appendix VII). The concept of AD/HD will be thoroughly investigated, and all aspects of this disorder will be explored and integrated to encompass the model that has been used in this study. The symptoms and behaviours of the learners with AD/HD will be explored and investigated, and will be measured by means of a teacher rating scale. A greater understanding of the role of emotional intelligence in learners with AD/HD will be developed, and special focus will be given to whether a programme based on enhancing emotional intelligence, will improve the behaviour and symptoms of the learner with AD/HD.

1.4 CLARIFICATION OF CONCEPTS

The core concepts to be discussed in this study are:

- Attention Deficit Hyperactivity Disorder
- Emotional intelligence
- The learner with AD/HD

1.4.1 Attention Deficit Hyperactivity Disorder

The term AD/HD has been around since the turn of the century (Amen, 2001; Barabasz and Barabasz, 1996; Davison, 2001; Sears and Thompson, 1998). This disorder has been part of the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM) since its inception in 1952, albeit under different labels. The latest version appears in the DSM-IV (4th Edition, 1994) and refers to AD/HD as a cluster of symptoms, including a short attention span for routine tasks, distractibility, organizational problems, impulsivity and the presence of hyperactivity in certain cases. The symptoms should be present in more than one setting and the onset is usually before the age of seven.

1.4.2 Emotional intelligence

The nature and definition of emotional intelligence remains controversial, although Gardner's description of the personal intelligences, and Weschler's definition of intelligence in 1958 as "the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment" (Salovey & Mayer, 1990: p186), seem to fit within the concept of emotional intelligence, which may be defined as: the ability to recognize and appraise emotions in the self and others, as related to a set of verbal and non-verbal abilities that enable the recognition, expression, understanding and evaluation of emotions, in order to guide thinking and action to successfully cope with environmental demands and pressures, which leads to greater openness and empathy, lowered defensiveness and a higher level of social functionality (Gardner, 1999; Goleman, 2003; Mayer & Geyer, 1996; Salovey & Mayer, 1990; Van Rooy & Viswaren, 2004; Wiehe, 1997). BarOn (1997b; 2000; 2005) has developed a model to explain the abilities and properties of emotional intelligence, which include the above concepts, and add in: the ability to manage and control emotions, the ability to manage change, adapt and solve problems of a personal and interpersonal nature, and the ability to

generate positive affect and to be self motivated. For the purposes of this study, the definition proposed by BarOn will be used.

1.4.4 Learners with AD/HD

This study will concentrate on learners between the ages of nine and twelve years, who have been medically diagnosed with AD/HD. The stage of development of these learners will be considered in order to ascertain the factors that may impact or contribute to their emotional intelligence and to their AD/HD. The stages of moral, cognitive and social development of these learners according to the theories of Piaget, Vygotsky and Kohlberg (Mussen, Conger, Kagan & Huston, 1984; Mwamwenda, 1995) will be thoroughly explored. The learners will participate in a program called PATHS (Promoting Alternative Thinking Strategies), which places special emphasis on the developmental integration of affect, the vocabulary of emotion, and cognitive understanding as they relate to social and emotional affect (Kellyet al., 2004).

1.5 AIMS OF THE RESEARCH

For the purposes of clarity, this research will make provision for general and specific aims.

1.5.1 General aim

A literature review will be undertaken to analyze and evaluate the nature of emotional intelligence, the different aspects of AD/HD, such as: diagnosis, prevalence, different perspectives on AD/HD, biological considerations, medication and co-morbidity, and how these constructs are manifest in the symptoms and behaviour of the learner with AD/HD. Further investigation will be undertaken into the developmental stage of these learners with special emphasis on their stage of cognitive and moral development and how this may impact on their emotional intelligence.

1.5.2 Specific aims

This research is concerned with the identification of specific variables in emotional intelligence and to evaluate their possible influence on the symptoms and behaviour of learners with AD/HD. For the purpose of identifying the influence of the role of emotional intelligence on learners with AD/HD, these specific aims may be broken down into:

1.5.2.1 A literature study

This study aims to establish the meaning, nature and development of emotional intelligence, the domains of this construct and the levels of emotional intelligence of learners with AD/HD. The study will investigate the kinds of emotional problems experienced by learners with AD/HD, and whether some of these can be overcome by experiencing a program aimed at improving emotional intelligence. The developmental stage of the learners in the sample group will be explored and whether this influences emotional intelligence and the symptoms and behaviour of AD/HD. The study will survey the literature on AD/HD in relation to diagnosis, prevalence, differing perspectives, biological and neurological considerations, medication and co-morbidity of the disorder. Special attention will be given to the bio-psychosocial aspects and how the symptoms and behaviour are manifested. Emotional intelligence will be examined in terms of its origins, the meaning of the concept, how it links with traits, temperament and resilience, the neurological base of the construct, and the link with education. The assessment tools for emotional intelligence and the intervention program will be defined, explored and discussed. Criticisms of the construct will be considered.

1.5.2.2 An empirical study

This study will attempt to establish whether learners with AD/HD experience lowered emotional intelligence, and whether this is related to their symptoms and behaviour. A profile of emotional intelligence will be established for each learner with AD/HD and this will be compared to the peer group to investigate similarities and differences. A program will be implemented, which is aimed at improving the emotional intelligence of the learners in the sample group, and special focus will be given to the emotional intelligence of the AD/HD

learners within the group. The goal of the study will be to establish whether emotional intelligence can be observed in the symptoms and behaviour of learners with AD/HD, whether emotional intelligence is an important component of AD/HD, and whether the symptoms and behaviour of learners with AD/HD will improve after they have experienced a program on emotional intelligence.

1.6 RESEARCH METHOD

1.6.1 Research design

The research that is being conducted is intended to explore the role of emotional intelligence in learners with AD/HD. The researcher would like to investigate the construct of emotional intelligence in learners with AD/HD in order to investigate any influences it may have on the symptoms and behaviour of these learners. The Educational Psychologist will play an integral role in the process, and the results will help to inform future therapy with children who have AD/HD.

A literature study will be undertaken of all the relevant material in order to provide the necessary background information for this study, and to guide the formation of the suppositions about the research. In this case the phenomena under investigation are: AD/HD, emotional intelligence, the cognitive and moral developmental stages of the learner with AD/HD, as well as his experiential world, the programme to be implemented, and the nature of the tests to be used. The literature study will concentrate on a wide review of relevant writings such as books, periodicals, reports, documents, newspaper articles and first-hand accounts, that will give a broad background on the above concepts. Tentative hypotheses may emerge from the literature study, which may then be defined as conjectural statements about the relationships between the phenomena. The existing hypothesis conjectures that emotional intelligence does play a role in learners with AD/HD, and that a programme specifically designed to improve emotional intelligence, will enhance the emotional intelligence of learners with AD/HD and will lower the negative symptoms and behaviour related to AD/HD

Because the research is qualitative in nature, the samples are small. The empirical investigation will cover the following areas: the teachers concerned will complete a rating scale on the learner's with AD/HD, both at the beginning and at the end of the study; the learners with AD/HD will complete a questionnaire on social and emotional intelligence, participate in an intervention program for eight months, and then complete the same questionnaire on social and emotional intelligence at the end of the study; both the teachers and the learners will participate in a semi-structured interview to establish their perception about social and emotional intelligence, as well as the symptoms and behaviour of AD/HD. Background information on each learner with AD/HD will be accumulated from the extensive entrance criteria on each child entering the school, and academic results will be obtained from school records.

1.7 RESEARCH PROGRAMME

CHAPTER 1

This is an orientation chapter in which the background to the problem will be discussed. This will involve an analysis of the problem, focusing on awareness of the problem, as well as the investigation and statement of the problem. The aims of the research will be laid out, which will include the literature study and the empirical study. An outline of the research method will be included, along with the research design. The demarcation of the research will centre round the main constructs of social and emotional intelligence and Attention Deficit/Hyperactivity Disorder, and the cognitive, moral and social development of the learners with AD/HD in the study will be taken into account. Finally, the research program will be laid out in chapter form and a summary will be given.

CHAPTER 2

This is the first literature chapter and will concentrate on attention and AD/HD in relation to: diagnosis, prevalence, different perspectives on AD/HD, biological considerations, medication, and co-morbidity. Special attention will be given to the bio-psychosocial aspects of AD/HD and how the symptoms and behaviour of the disorder are manifested. Discussion will focus

on the use of functional behavioural assessments and semi-structured interviews to identify the nature of the symptoms and behaviours of the learners with AD/HD in this study.

CHAPTER 3

This is the second literature chapter and will focus on the development of emotions, and the social and emotional intelligence of learners with AD/HD. Specific reference will be made as to how the different theories and models of social and emotional intelligence apply to the learner with AD/HD. The applicability of the intervention program (PATHS) to be used with learners with AD/HD will be investigated and explored in this study.

CHAPTER 4

This chapter will focus on the specifics of the research design and its implementation.

CHAPTER 5

This chapter will interpret, evaluate and analyse the research findings.

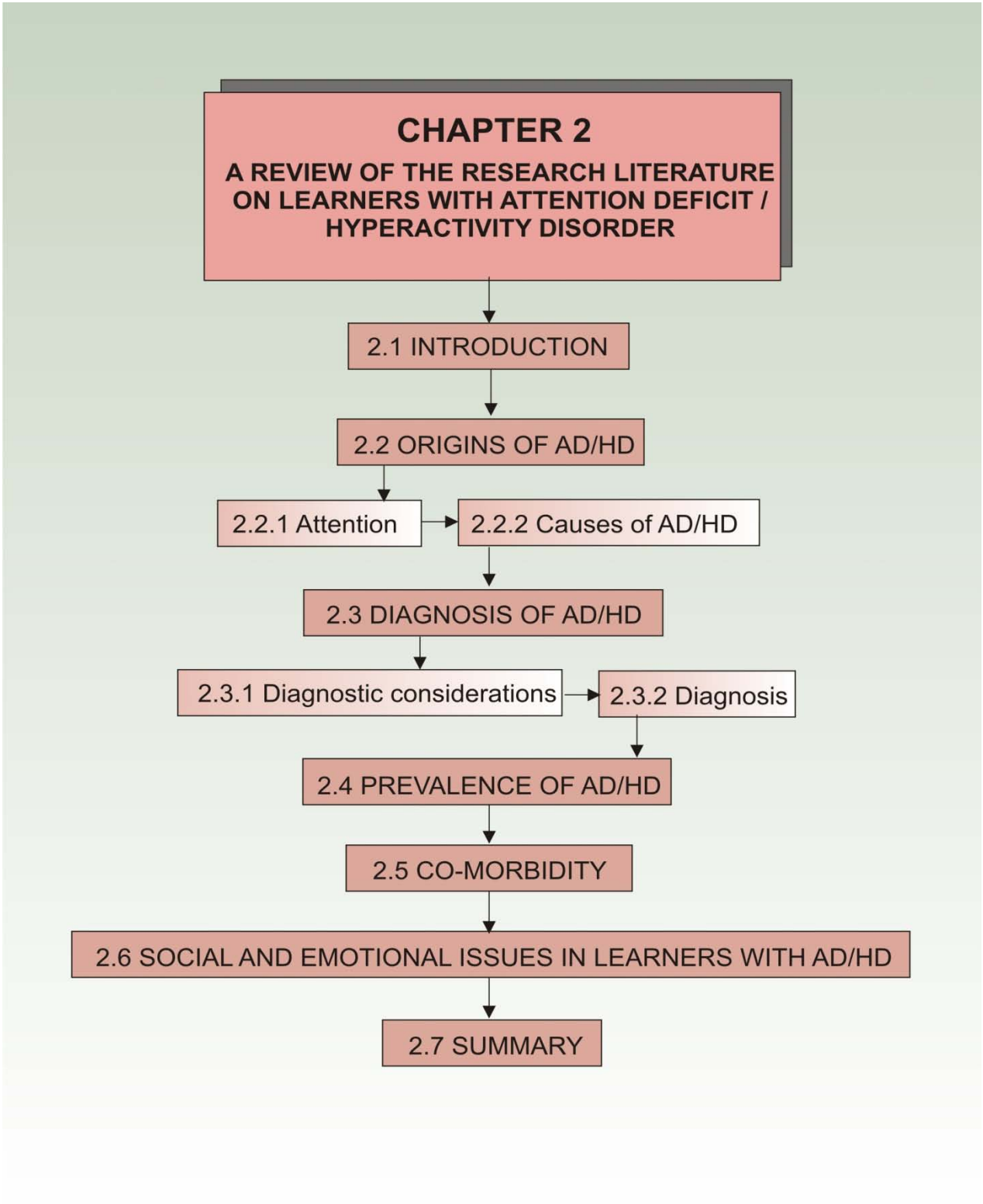
CHAPTER 6

This chapter will summarise the study, discuss limitations and provide conclusions and recommendations.

1.8 SUMMARY

The complex investigation into the role of emotional intelligence in learners with Attention Deficit/Hyperactivity Disorder, may lead to different outcomes all of which may indicate directions for further research. The problem has been stated, analysed and investigated as to its relevance and the aims have been demarcated to inform the research into the constructs under investigation. The research method has been discussed, the constructs to be investigated have been clarified, and the research problem has been delineated.

The following chapter will investigate the literature and discuss the findings on learners with Attention Deficit Hyperactivity Disorder (AD/HD). This will focus on AD/HD in relation to the diagnosis, prevalence, differing perspectives, biological and neurological considerations, medication and co-morbidity of this disorder. Special attention will be given to the bio-psychosocial aspects and how the symptoms and behaviour are manifested. Discussion will focus on the identification of the symptoms and behaviour of learners with AD/HD.


CHAPTER 2
A REVIEW OF THE RESEARCH LITERATURE ON LEARNERS WITH ATTENTION DEFICIT / HYPERACTIVITY DISORDER
2.1 INTRODUCTION
2.2 ORIGINS OF AD/HD
2.2.1 Attention
2.2.2 Causes of AD/HD
2.3 DIAGNOSIS OF AD/HD
2.3.1 Diagnostic considerations
2.3.2 Diagnosis
2.4 PREVALENCE OF AD/HD
2.5 CO-MORBIDITY
2.6 SOCIAL AND EMOTIONAL ISSUES IN LEARNERS WITH AD/HD
2.7 SUMMARY

2.1 INTRODUCTION

Attention Deficit Disorder, with or without hyperactivity (hereafter referred to as AD/HD) is both a medically and psychologically complex issue, which pervades and disturbs functioning at many different levels. Irrespective of etiology, AD/HD is often an intense and stressful experience for the individual. It affects his social, emotional, physical and intellectual interaction with the world in which he lives. For the purposes of this thesis, special emphasis will be placed on the social and emotional aspects of the learner with AD/HD. Whilst the diagnosis might be stressful to the individual and his family, AD/HD represents a crisis since it often leads to a negative identity, as well as lowered self confidence and self esteem for the learner, whilst also resulting in lowered academic achievement, social relationships, family life and adjustment (Cukrowicz, Taylor, Schatschneider & Iacono, 2006). Outcome data suggest that between 5% and 75% of adults still show significant levels of the symptoms of AD/HD, indicating that this is a long term dysfunction and therefore requires immediate and effective treatment during childhood (Wasserstein, 2005). In addition, if the AD/HD learner is treated with support and nurturance, aspects of this disorder can be channelled into creative productivity, as well as helping to decrease social maladaption which is so stressful to relationships (Wasserstein, 2005).

The concept of AD/HD seems to have been around since the turn of the twentieth century (Amen, 2001; Barabasz & Barabasz, 1996; Davison, 2001; Sears & Thompson, 1998). There is medical, educational and psychological interest in the area of AD/HD, which ranges from doubts as to whether the condition really exists, to diagnosing it as a disorder. More and more people seem to be suffering from this disorder and the figures in the United States range from 4 % to 6 % of the population.

This disorder has been part of the Diagnostic and Statistical Manual of the American Psychiatric Association since its inception in 1952, albeit under different labels. The latest version of the DSM IV-R which refers to the disorder as Attention Deficit/Hyperactivity Disorder encompassing a cluster of symptoms, including a short attention span for routine tasks, distractibility, organizational problems, impulsivity and the presence of hyperactivity in certain cases (Diagnostic Statistical Manual of Mental Disorders, 4th Edition, 1994).

It is thought that if AD/HD is unrecognized and unmanaged, there is an estimated 30% to 50% chance of school difficulties occurring, a higher possibility of problems with the law, and a risk of developing debilitating social and emotional problems. It is therefore imperative that research is aimed at methods of intervention which are aimed at improving the symptoms and behavior shown by the learner with AD/HD.

2.2 THE ORIGINS OF AD/HD

2.2.1 Attention

In order to discuss AD/HD, it is necessary to first discuss common conceptions of attention. It appears that there are six levels within the normal development of attention, which may provide guidelines as to when and how development occurs. Cooke and Williams (1994) propose the following levels:

Table 2.1. Levels of Attention (Cooke and Williams 1994).

Level 1	From birth to 1 year the child is extremely distractible to any and all external stimuli. The researcher postulates that the learner with AD/HD often performs at this developmental stage. This means that he experiences difficulty being able to attend to stimuli, finding any and all external stimuli distracting.
Level 2	From 2 to 3 years the child is able to concentrate and focus only on one stimulus at a time and does not tolerate intervention well. The researcher postulates that many learners with AD/HD perform at this level of attention, experiencing difficulty concentrating on more than one stimulus at a time, and displaying frustration and often aggression when an adult intervenes in the activity or tries to shift focus.
Level 3	From 2 to 3 years the child still needs to focus on one stimulus at a time, but is able to switch from one area of concentration to another and back to the original stimulus with the aid of an adult. The researcher postulates that learners with AD/HD are able to switch from one area of focus to another, only if they are helped by an adult.

Level 4	From 3 to 4 years the child is able to alternate his focus in both the visual and auditory fields, between somebody speaking to him and the task at hand. However, he is now able to spontaneously alternate his attention without the assistance of an adult.
Level 5	From 4 to 5 years of age the child is now able to understand the verbal instructions related to his task, without interrupting his activity to observe the speaker. The child may be able to work in a group even though his concentration span is still short. Some learners with AD/HD may reach this level of attention, but many need to interrupt the activity to properly attend to and understand the instructions that are given.
Level 6	From 5 to 6 years of age the child has fully integrated visual, auditory and manipulatory channels, and attention should be well established and sustained. Many learners with AD/HD are not able to reach this level of attention and show symptoms of frustration and lowered self confidence. Many 'gaps' begin to appear in their academic work which further reduces self esteem and confidence. Many of these learners begin to perceive themselves as 'stupid', 'incapable' and as not 'fitting in' with their peers.

In support of the levels of attention, research shows that learners with AD/HD experience difficulty in focusing on a relatively small area in the visual field, which is characteristic of an earlier developmental stage in learners without AD/HD (Tsal, Shalev & Mevorach, 2005). This inhibits the ability to selectively process relevant information, whilst being able to ignore distracting information. Several studies which focus on the unique attentional characteristics of AD/HD suggest deficits in sustained attention, defined as a lowering of the amount of attention for a given task, over time, as well as selective attention, defined as a difficulty in focusing on the significant, whilst being able to ignore the insignificant (Tsal et. al, 2005).

As children grow, they move from externalizing their executive functioning, which means they still need to describe a task as they are performing it, to internalizing it, which means that they no longer need the stimulation of their own voice to prompt them (Barabasz & Barabasz, 1996). A working memory needs to be established in which information can be held so that a task can be performed in the mind. Learners with AD/HD often experience great difficulty with working memory operations and this affects their ability to function effectively in the

classroom. This may also affect their ability to follow instructions, which is often put down to poor listening skills.

2.2.2 Causes of AD/HD

It seems that many researchers suggest a commonality of the genetic, neurological, behavioural and psychosocial contributory contexts of the disorder (Babarbasz & Barabasz, 1996; Barkley, 1990; Cohen, Gross, Hamburger, King, Nordahl, Rumsey, Semple & Zametkin, 1990). According to Barabasz and Barabasz (1996), attention deficit disorder with or without hyperactivity is characterized by the inability of the child to self-regulate focused attention. This is categorized as a developmentally disabling condition, which persists into adulthood if left untreated.

The contention of these authors is that AD/HD is a **biologically based disorder**, which has a pervasive negative impact on a wide range of adaptive functioning. Many new technologies show differences between the brains of individuals with AD/HD and the brains of those who do not suffer from this disorder, lending weight to the assumption that it is a biologically based condition.

Table 2.2. Technologies in brain research (Amen, 2001; Barabasz & Barabasz, 1996; Molfese, Molfese & Kelly, 2001; Richards, 2001; Thompson, 2002)

Electroencephalographic Studies (EEG)	Studies have revealed slower overall electrical activity in learners with AD/HD. The EEG is used to detect electrical activity generated by the brain via scalp electrodes (Molfese et al., 2001). Each time a group of neurons perform some function, they generate a small amount of electrical energy which passes through the brain and can be measured in the scalp in the form of continuous brain waves. They are thought to reflect changes in brain activity over time, reflecting a wide range of neural activity related to the neural and body self regulating systems, as well as the

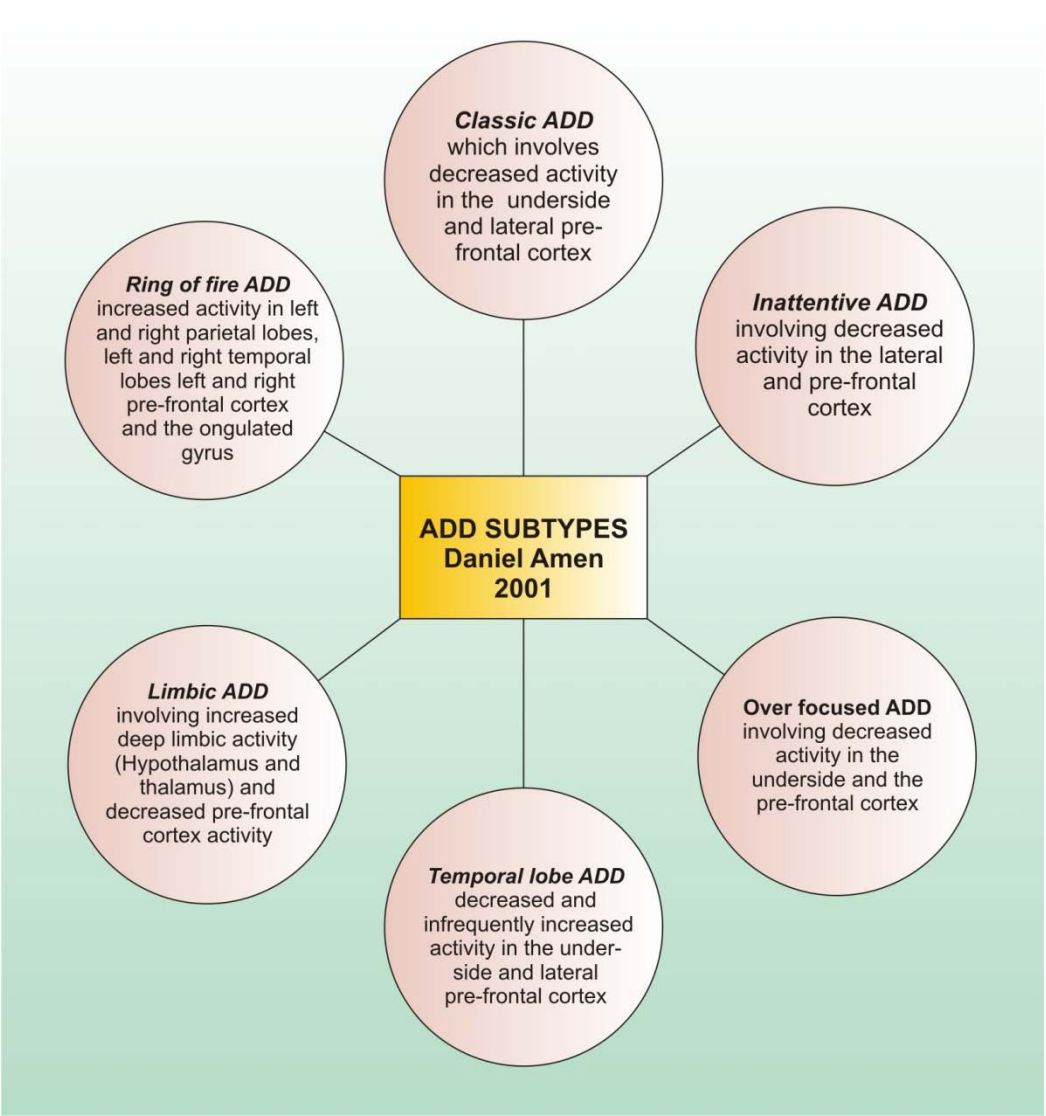
	various sensory and cognitive functioning in the brain at the same time (Molfese et al., 2001). The brain of the learner with AD/HD can be likened to a flickering light – a sudden burst of slow wave, either alpha or theta, in the middle of a complex task, is equivalent to the learner being tuned out for that period of time. (Thompson, 2002). When a learner is presented with a task that requires attention, such as reading or mathematics, the brain wave pattern usually shifts to the Beta frequency band, with a higher magnitude and projection to the frontal, usually the right frontal region. However, learners with AD/HD typically move into the slow theta band without any significantly increased activity in the frontal lobes (Barabasz & Barabasz, 1996). In a practical sense, this is associated with a wandering mind, unfocused thought and non-vigilance, whereas being actively involved requires a state associated with faster brain waves (Thompson, 2002).
Functional Magnetic Resonance Imaging (FMRI) Spectroscopic Imaging (FMRS)	Data from the functional neuro-imaging of the brain have shown a biological basis for many developmental disorders (Amen, 2001b; Richards, 2001). These techniques measure different physiological parameters of neural activation (Richards, 2001). The procedures are functional and not structural as they measure the activation of the functioning brain during the performance of tasks, rather than the neuro-anatomy of the resting brain. When part of the brain is used for thinking, the need for energy, nutrients and oxygen in that area increases. The FMRI is used to record the different chemicals in the brain whilst the subject is thinking and the FMRS gives information about the spatial position and chemical information of the brain (Richards, 2001). In contrast, the EEG and the

	Magneto Encephalography (MEG) measure brain activity with excellent temporal resolution, but poor spatial localization
Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET)	These scans have been available for more than 15 years. SPECT studies revealed reduced blood flow in areas of the brain when an individual is trying to concentrate, whilst PET scans have shown decreased glucose metabolism and therefore less activity in learners with AD/HD. The SPECT scan is a nuclear medical study that uses small doses of isotypes bound to neurospecific pharmaceuticals to study regional blood flow and therefore brain metabolic activity. Although CAT scans and MRI scans have better resolution, they offer images of the static brain and its anatomy, whereas the SPECT studies give information on the activity of the working brain.

The neurological explanation of AD/HD clearly implicates frontal lobe involvement (Amen, 2001b; Barabasz & Barabasz, 1996; DeShazo, Lyman & Grofer Klinger, 2002). These functions are executive in nature and involved in the development of plans and the organization of resources and are critical in the inhibitory behaviors related to attention, focus on distractions and irrelevant stimuli (Tsal et. al, 2005). In addition, executive functioning is also included in the following mental abilities: maintaining an appropriate problem solving set to achieve a future goal; deferring a response to a more appropriate time; representing a task mentally in working memory; cognitive flexibility and deduction based on limited information; planning and inhibitory control (DeShazo et al., 2002). Research using event–related potential studies, shows suggestive evidence of brain abnormalities which implicate other attentional functions such as: abnormalities in the right frontal region (sustained attention), in the right parietal region (orienting of attention), the corpus callosum (orienting of attention) and the right frontal lobes (sustained attention) (Tsal et. al, 2005). Although right frontal lobe dysfunction appears to be the basis of AD/HD, some research suggests that other areas of the brain are implicated in different types of AD/HD (Amen, 2001).

In 1993 Amen (2001) investigated 54 medication free learners with AD/HD and compared the results with 18 medication free learners who did not have AD/HD. The studies were undertaken whilst the learners were resting as well as whilst they were undertaking a task that required concentration. 65% of the learners with AD/HD had significant decreased activity in the pre-frontal cortex when they tried to concentrate as opposed to only 5% of the individuals without AD/HD. Amen (2001) used SPECT imaging to develop six different sub types of AD/HD, positing reduced functioning and activity in specific areas of the brain during tasks that required concentration.

Figure 2.1. Sub types of AD/HD (Amen, 2001).



Davison (2001) states that although this biologically based assumption assumes problem areas within the brain chemistry, neurological functioning or glucose absorption in the brain, there is a diametrically opposing point of view that posits a **social constructivist perspective**. This perspective proposes that AD/HD is caused or influenced by sociological situations and only becomes real through the construction of individuals who interact with these learners. Within this perspective, AD/HD becomes reified through social consensus and it is the contention of these authors (Barabasz & Barabasz, 1996; Finlan, 1993) that changes in the family structure, societal mores and child rearing practices have contributed to the development of the condition. Labelling can also be viewed as a socially constructed phenomenon rather than a medical condition.

At one stage, it was thought that AD/HD was a result of bad parenting or food allergies, and although these aspects may play a part in the disorder, there is growing evidence to show a **genetic base**.

Table 2.3. Evidence showing a genetic base to AD/HD. (Amen, 2001; Barabasz & Barabasz, 1996; Crawford, Dewey, Kaplan & Wilson, 2001)

Chromosomal abnormalities	Barabasz & Barabasz (1996) states that boys with AD/HD have been shown to have chromosomal anomalies, such as an extra Y, and in studies of hundreds of monozygotic and dizygotic twins, genetically inheritable characteristics played a significant role in the disorder. Amen (2001b) concurs with the above and states that the specific gene sites which are implicated include the HLA on Chromosome 6, the dopamine transporter gene on chromosome 5 and the D4 receptor gene on chromosome 11.
Mulitiple genetic influences	Other researchers state that AD/HD may represent a type of variable expressivity of multiple genetic influences acting in concert with each other (Crawford, Dewey, Kaplan & Wilson, 2001). The inheritable aspect of AD/HD seems to be well documented and it seems

	that siblings are approximately 5 to 7 times more likely to develop the disorder and that the child of a parent with AD/HD has a 50% chance of developing the disorder. Twin studies show a heritability of 80% explained by genetic factors.

Barabasz and Barabasz (1996) state that both dopamine and norepinephrine are directly related to AD/HD because these **neurotransmitters** affect both attention and the inhibition of responses. Research shows that there is less dopamine metabolite in the spinal fluids of learners with AD/HD than in learners without this disorder, as well as a significant depletion of norepinephrine (Amen, 2001b; Barabasz & Barabasz, 1996). Whereas dopamine can be described as the chemical which helps messages pass from one brain cell to another, with particular emphasis on nerve cells involved in emotion and movement, norepinephrine is critical to the vigilance and attention processing functions of the right hemisphere. In 1995, a study was undertaken which showed that learners with AD/HD are more likely to have a variation in one of the dopamine transporter genes (Barabasz & Barabasz, 1996). The role of methylphenidate (Ritalin) is to modulate the transportation of dopamine, which gives it more time to bind to the receptors in the brain. A "review of reviews" conducted by 15 co-authors examined 341 reviews of the effects of stimulant medication on learners with AD/HD (Swanson, Mcburnett, Wigal, Pfiffner, Lerner, Williams, Christian, Tamm, Willcutt, Crowley, Clevenger, Khouzam, Woo, Crinella & Fisher, 1993). It was found that this medication did not help 25% to 40% of learners with this disorder and that a large number of those on the medication, responded as well to placebos. Barabasz and Barabasz (1996) comment on the side effects of the medication, stating that it should not be underestimated. These side effects range from a short length of action, to lowered self esteem, to possible stunted growth, to insomnia and poor appetite, to cardiovascular symptoms problems and the escalation of facial and muscular tics in Tourettes Syndrome, to possible cognitive impairment, to physiological side effects and lastly to the increase of cancer in controlled studies of rats. It is the contention of Amen (2001a) that not all sub types of AD/HD can be effectively treated with methylphenidate.

Amen (2001a) states that one of the most common causes of AD/HD other than genetics, is **head trauma**, particularly if it involves the left pre-frontal cortex. Due to its location, the pre-

frontal cortex and temporal lobes are especially susceptible to head injuries. Depending on which areas have been affected, head injuries can result in different types of AD/HD, and often respond to the same treatments as do specific AD/HD types.

2.3 DIAGNOSIS OF AD/HD

2.3.1 Diagnostic considerations

Attention Deficit Disorder has been part of the psychiatric terminology of the Diagnostic and Statistical Manual since its inception in 1952. The core symptoms have been described through the use of different terminology: Version 1 referred to the disorder as the Hyperactivity of childhood; Version 2 called it the Hyperkinetic Reaction of Childhood; Version 3 used the term Attention Deficit Disorder with or without Hyperactivity; Version 3R called it Attention Deficit Hyperactivity Disorder; and Version 4 used the term Attention Deficit/Hyperactivity (Amen, 2001). The diagnostic criteria for AD/HD as categorized within the DSM-IV (Diagnostic Statistical Manual of Mental Disorders, 4th Edition, 1994) are stated in Appendix VII.

This manual for mental disorders reflects several major revisions and after several exhaustive clinical trials the diagnosis is now regarded as a much more reliable one than the earlier DSM-III R. The above criteria appear to be more rigorously grounded in the aspects of functional impairment that constitute the disorder (Barabasz & Barabasz, 1996). This is particularly relevant in terms of this thesis as the focus is on the functional impairment as it relates to the behavior and symptoms of the learner with AD/HD. The diagnosis requires an accumulation of several symptoms, emphasizing the fact that no single symptom is definitive of the disorder, with a typical onset by the age of 7 years. There is some criticism of this diagnostic classification on the grounds that it focuses on the behavioral deficits of inattention, hyperactivity and impulsivity, and fails to explain the cognitive and executive functions that are associated with the disorder (Barkley, 1997a). Learners with AD/HD tend to experience difficulties in task performance, especially when the task demands require executive functioning, or frontal lobe processing in order to solve complex problems (Barabasz & Barabasz, 1996). Difficulties in being able to organize and control their own behaviors may be

observed in the extreme performance variability that is evident in their schoolwork and/or task performance (Barkley, 1990). On the one hand, they may be able to focus for extended periods of time on computer or reading activities, but may be unable to adequately complete chores, homework or school tests. This variability may explain difficulties experienced by these learners within the social sphere, and high levels of impulsivity may add to their inability to respond appropriately to the needs of a specific situation or task. This may result in high risk taking behaviors when potentially destructive or even life threatening situations are not evaluated effectively. This in turn may lead to school difficulties, possible problems with the law, as well as social and academic problems. However the focus of the present diagnostic classification which directly describe the symptoms and behavior of the learner with AD/HD, are well suited to the nature and focus of this research.

2.3.2 Diagnosis

Some dissension appears to be present in relation to the methods used to determine the diagnosis of AD/HD (Wasserstein, 2005). Clinical evaluations of AD/HD should include a quantitative assessment of attention, problem solving and reflection skills. A clinical interview should also be undertaken with the parents, which should include a physical history. Common developmental markers of AD/HD are: noncompliance, difficulty with transitions and focused group activities, as well as a high rate of pervasive developmental delay, in preschoolers, difficulty in developing daily routines and in acquiring basic academic skills in school going children, as well as poor handwriting, poor social skills, and often learning disability (Wasserstein, 2005). Observation by the teacher in the form of a checklist or rating scale should document the child's level of attention, distractibility and behavior. The inattentiveness scale, which is used by clinicians to diagnose learners with AD/HD, includes symptoms related to unique deficits in: sustained attention, which is evident in the question "has difficulty sustaining attention in tasks or play activities"; selective attention, which is evident in the question "is easily distracted"; and executive attention, which is evident in the question "has difficulty organizing tasks and activities" (Tsal et. al, 2005). It seems that a well organized home life, structured teaching at school, organization in the school setting, and regimented cultures, can mitigate the expression of many AD/HD symptoms (Wasserstein, 2005). It is

interesting to note that there is no characteristic neuropsychological profile for AD/HD and as of yet, no definitive “test” for this condition (Wasserstein, 2005).

Functional assessments appear to be used widely and refer to a range of assessment methods such as questionnaires and rating scales used to describe and formulate hypotheses regarding variables that may control behavior (Gulley & Northrupp, 2001). A functional behavioral assessment may be defined as an attempt to find the purpose behind the problem behavior and as a search for an explanation for this behavior (Drasgow & Yell, 2001). The goal of functional assessment is therefore posited as the understanding of the maintenance contingencies of the problem behavior and the primary principle is that the function or purpose of the behavior is more important than its appearance or topography. In the case of learners with AD/HD, high levels of distractibility and impulsivity may lead to poor social interactions and emotionally labile behavior, which if left unchecked may result in repetitive cycles of worsening symptoms and behavior that eventually become extremely debilitating for the individual. Factors relating to the occurrence of the problem behavior are: *setting events* which do not trigger the problem itself, but influence the likelihood that other events will trigger it to occur; *antecedents* which are events or actions that immediately precede and trigger the problem behavior; and *consequences* which refer to events or actions that occur as a result of the problem behavior (Gulley & Northrupp, 2001). The purpose of functional assessments therefore is to determine the needs of students with disabilities and to institute an effective program to meet those needs. In terms of this thesis, the researcher proposes to determine the levels of social and emotional intelligence of learners with AD/HD, and to institute a program to enhance emotional intelligence, to establish whether this will alleviate some of their symptoms and behavior. This is in line with the goals of functional assessments.

Many functional assessments are used when attempting to diagnose AD/HD, typically a questionnaire in the form of a rating scale for the teacher, the parent and sometimes the child. This gives valuable information to the practitioner of the problem behavior. It also fulfils the requirement of the DSM IV, which is to determine that the behavior occurs in at least two settings. In this study the Connors Teacher Rating Scale Revised has been the chosen form of rating scale. This rating scale is one of the most widely used AD/HD scales in clinical practice and adheres closely to the DSM-IV criteria, addressing a wide spectrum of AD/HD

symptoms, including poor self image (Wasserstein, 2005). The learners in this study have already been medically diagnosed with the disorder, and the criteria have been satisfied. This rating scale will be used in a pre and post test evaluation of the learners with AD/HD to rate whether their symptoms and behavior have improved after the implementation of a program aimed at improving emotional intelligence.

2.4 PREVALENCE OF THE DISORDER

The prevalence of this disorder is widely considered to be between 3% and 15% and seems to be on the increase (American Psychiatric Association, 1994; Du Paul & Stoner, 1994; Whalen & Henker, 1991). There seems to be a correlation between learners with AD/HD and their families, who are often populated with a wide spectrum of neuro-psychiatric illnesses, such as mood disorders, Autism/Tourette's Syndrome, and anxiety disorder (Wasserstein, 2005). The difference in the rate of prevalence in learners with AD/HD shows a higher frequency occurring in boys than girls (Barabasz & Barabasz, 1996). However, this may be erroneous due to the fact that the symptoms are different. For example, females with AD/HD tend towards difficulties with affect, mood and emotion, are more socially withdrawn and experience more internalizing symptoms, whilst males with AD/HD tend to display more aggression and other forms of misbehavior. It is hoped that the prevalence rates will become more balanced with the use of the DSM IV diagnostic criteria, as they provide greater accuracy by sub-typing both predominantly inattentive and predominantly hyperactive impulsive patient populations.

Many researchers have expressed concern about an over diagnosis of learners with AD/HD, with some estimates ranging as high as 30% of boys within the American population (Dawson, Le Fever & Morrow, 1999; Erdman, 1998; Smelter & Rausch, 1996). The Drug Enforcement Administration claim there has been a 600% increase in the production and use of methylphenidate to treat learners diagnosed with AD/HD in the United States since 1990 (Davison, 2001). However, Amen (2001a) disagrees with this statement, stating instead that although AD/HD affects approximately 6% of the American population, less than 2% receive treatment. The National Institute of Health supports this latter statement contributing figures

which show that less than one in eight learners who meet with the diagnostic criteria for AD/HD were taking medication for this disorder (Amen, 2001).

2.5 CO-MORBIDITY

Originally the term co-morbidity was borrowed from medicine, and referred to at least two diseases. However, as it has been translated into the mental health world, there appears to be a missing factor that has prevented its application, and that is the empirically based distinction between symptom and disease or disorder (Crawford et al., 2001). There is criticism of the term co-morbidity because of its unsubstantiated presumption that each aetiology is independent. The preference is to use a term such as atypical brain development, which indicates the underlying impairment of learners who display developmental delay, which manifests in various symptoms. There seems to be some confusion as to whether the symptoms should be viewed as independent disorders or as variable manifestations of a single problem such as atypical brain development (ABD) (Crawford et al., 2001). There is growing concern amongst clinicians and researchers that the DSM diagnostic categories do not reflect the way in which these disorders reflect real people and mention that it is an unusual learner whose atypical development is limited to one area (Crawford et al., 2001).

The research that has been undertaken by Crawford et al., (2001) indicates that 19% of their sample group was categorized as pure AD/HD, whereas 80% of the sample group had AD/HD with at least one other disorder. This seems to indicate that learners who suffer from one disorder or developmental difficulty, are at significant risk for having at least one other disorder at the same time. Amen (2001) concurs with this assumption and states that AD/HD often occurs with depression, obsessive compulsive disorder, Tourettes Syndrome, and a 40% occurrence with learning disabilities. Other researchers state that conduct disorder is co-morbid in approximately 15% - 35% of learners with AD/HD and that these learners are at a greater risk for the development of symptoms of other disorders such as substance use disorders, learning disabilities and depression (Cukrowicz, Taylor, Schatschneider, & Iacono, 2006). Specific descriptions of the difficulties of a learner with AD/HD may be of greater benefit to providing an intervention strategy, than the narrow confines of a category. The term atypical brain development allows for more scope to view the learner as having a

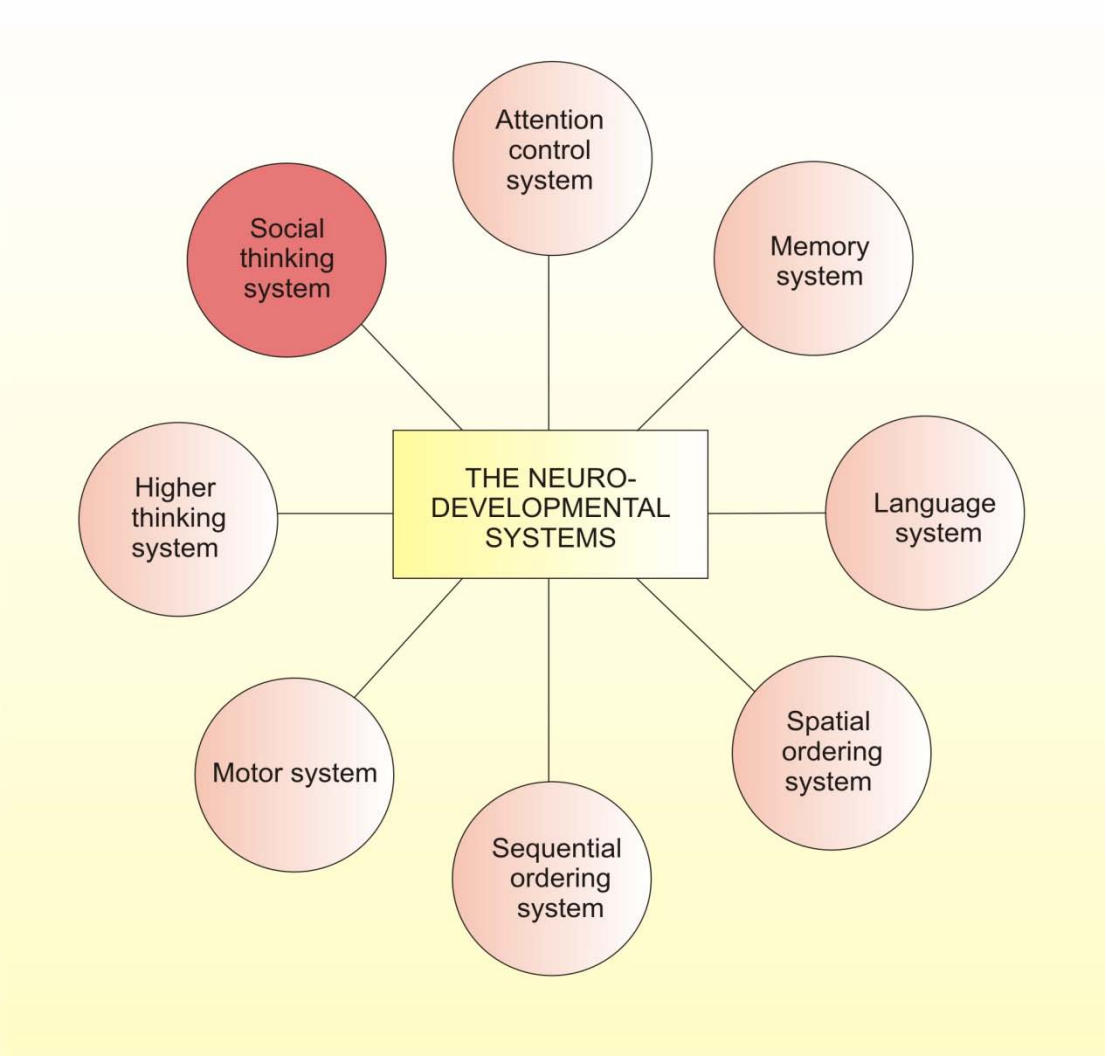
scattering of both strengths and weaknesses, illustrating the diversity of the human potential as well as the diversity within the disorder (Crawford et al., 2001). However, for the purposes of this thesis, the researcher will make use of the term AD/HD as defined in the DSM IV, but narrow the focus to the symptoms and behavior of learners with AD/HD, also taking into account the setting events, antecedents and consequences in order to evaluate whether a program to improve emotional intelligence is beneficial to learners with this disorder.

2.6 SOCIAL AND EMOTIONAL ISSUES IN LEARNERS WITH AD/HD

There appear to be many secondary psychological problems that tend to develop in relation to the primary neurological problem of AD/HD, and it is on these issues that this thesis is focused, particularly those pertaining to social and emotional intelligence. From a young age, the learner with AD/HD is exposed to repeated failures, misunderstandings, labelling, rejection, and other emotional mishaps which slowly erode his self esteem and confidence (Hallowell & Ratey, 1994). It is not unexpected that these learners develop a negative emotionality over time, which relates to their reactivity to stress and their emotional lability (Cukrowicz, 2006).

Levine (2002), describes eight neurodevelopmental systems (attention, memory, language, spatial ordering, sequential ordering, motor, higher thinking, and social thinking systems) that need to be working efficiently and together for an individual to function adequately. Of particular importance to the focus of this thesis is the Social Thinking System, which is highlighted in orange in Figure 3.5 below. The learner with AD/HD often experiences difficulties within this system in that he is unable to behave in a way that fits appropriately with his peers, experiences difficulties establishing new friendships as well as maintaining existing relationships, working collaboratively in groups, and/or dealing with conflict. Because interactions with peers assumes such immense importance during the school years – social pressure is perceived to exceed academic pressure - the learner with AD/HD often feels humiliated, rejected, frustrated, isolated and angry, which negatively effects his view of himself (Levine, 2002)

Figure 2.2. Neurodevelopmental systems (Levine, 2002).



With social ineptness or dysfunction, comes anxiety and sadness, which may even move towards depression and during this time, learners often shut down emotionally, or act out in an attempt to be recognized and accepted. Amen (2001a) has named this form of AD/HD, Limbic ADD and states that in addition to the core symptoms of AD/HD, this learner also experiences a tendency to be socially isolated, moody, negative and irritable, with a frequent tendency to feel hopeless, helpless and guilty. The deep limbic system or emotional centre of the brain shows too much activity on the SPECT imaging, which results in negativity and depression (Amen, 2001a). Learners with AD/HD often develop a very low self esteem, especially when they are labelled as lazy, defiant, a misfit, an oddity, bad, or naughty (Hallowell & Ratey, 1994). In order for these learners to reach their potential and to be able

to harness their creativity, make friends and become valuable members of society, they need to learn to become more socially and emotionally literate. This may have the effect of ameliorating their symptoms and behavior, allowing them to regain their self esteem and their sense of inner value.

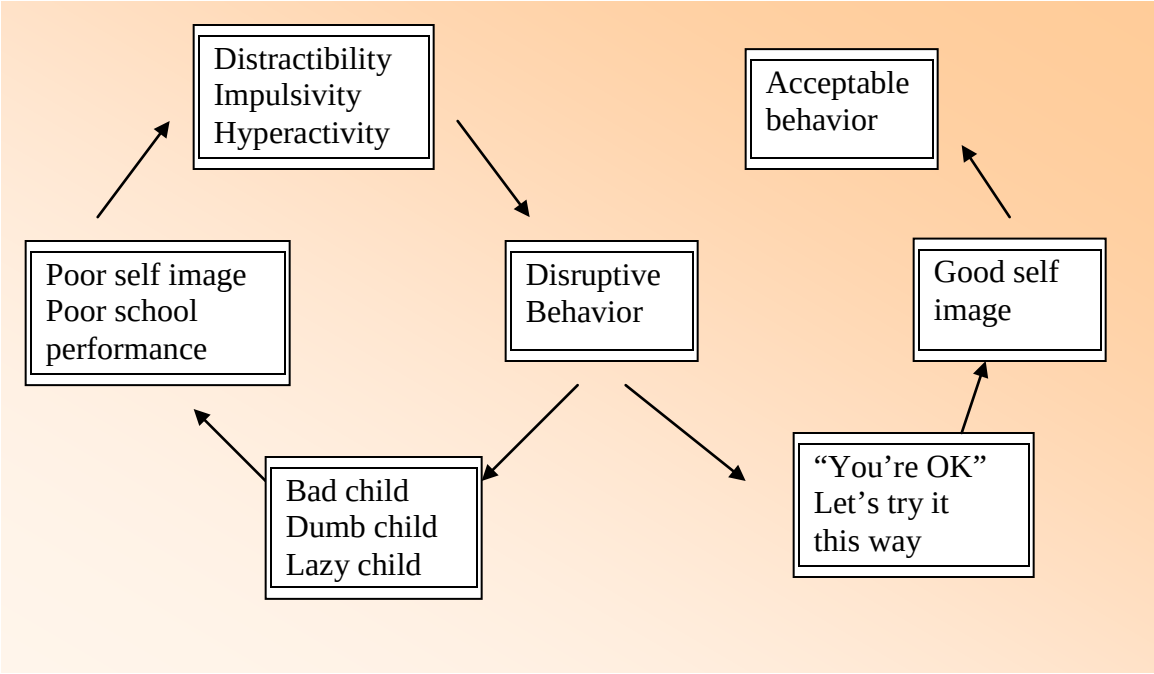
The learner with AD/HD frequently misinterprets social situations because he experiences difficulties interpreting and communicating the feeling part of language (Levine, 2002). He also finds it difficult to use an appropriate tone of voice, or recognize a tone in others, use a correct choice of words, or follow the rhythm of language (Levine, 2002). In support of this, Sears and Thompson (1998), comment that learners with AD/HD are not always able to understand their behavior from another person's point of view, which indicates that their cognitive development relating to cause and effect is not appropriate for their age. Although most children are able to learn empathy naturally, learners with AD/HD often need to be taught these moral qualities (Sears & Thompson, 1998). The learner with AD/HD may also find it hard to use 'code switching', which refers to being able to converse in a different and appropriate manner with different people and is an essential social language function. For instance, most children verbalize in a different way if they are addressing parents, peers, siblings, the Principal, or the teacher, and are quick to reject or tease the child who is out of step or unable to switch into their language code. Other critical areas in social language are the ability to use humour appropriately, to be able to request something without alienating others, to be able to understand and match the mood of another using the right language, and to be able to compliment another person to make them feel good (Levine, 2002). It is of vital importance for the learner with AD/HD to learn to express his feelings accurately, and to learn to be able to use good social language. A program which highlights these skills, such as the Promoting Alternative Thinking Strategies Program proposed in this thesis, should help learners with AD/HD to learn effective communication, in order to form meaningful and uplifting relationships with others, and in this way to lower the symptoms and behavior of AD/HD.

Social feedback cues are another area where learners with AD/HD struggle, as they often misinterpret body language and facial expressions. These learners often experience difficulty with self-monitoring and therefore fail to notice when they are annoying or infuriating another

person and continue their behavior with disastrous consequences. Sometimes, learners with AD/HD lack control over how they move their bodies in space, a neurological condition called dyssemia, and therefore appear clumsy and awkward, invade the space of others, and use hand gestures inappropriately (Levine, 2002). This alienates them from their peers and makes them the butt of teasing and jokes. Learners with AD/HD often struggle to work as a team, either dominating the team and wanting to be in control, or refusing to co-operate and contribute to the team which alienates them from the group. The PATHS program works on recognition of body language and facial cues whilst labelling feelings at the same time, as well as helping members to work in groups to act out different emotional scenarios. The goal is to improve social and emotional functioning in an attempt to lessen the symptoms and behavior of AD/HD.

In conclusion, it seems that in order for learners with AD/HD to be able to develop acceptable cycles of behavior, they need to learn how to interact with others effectively, to be able to empathize with others and to develop appropriate responses in their interactions. Because these learners do not inherently experience and learn these skills in a natural manner, they need to be taught the appropriate emotional and social language. The symptoms and behavior associated with AD/HD should trigger immediate interventions before the learner develops social isolation and low self esteem.

Figure 2.3. The A.D.D. Behavior Cycles (Sears & Thompson, 1998)



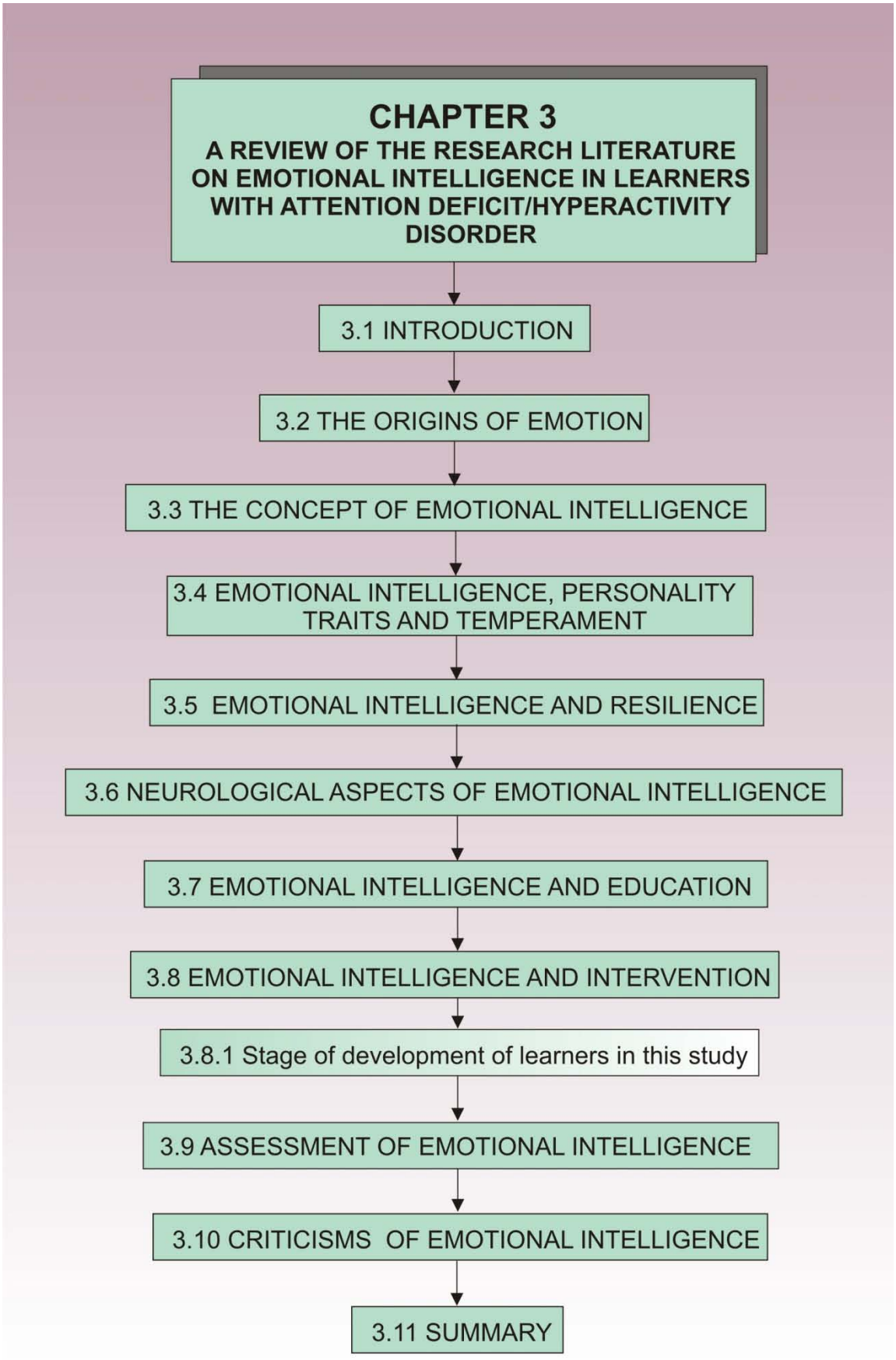
It appears from the above literature that symptoms of AD/HD such as an inability to concentrate, dreaminess, cognitive dysfunction, impulsivity and inattention will become more pronounced if the emotional needs of this learner are not understood, supported and nurtured. If the learner with AD/HD is able to learn to be more socially and emotionally competent through specific training in this area, the researcher proposes that this may help to ameliorate the symptoms of this disorder, and lead to a happier and better functioning individual, with learned skills to make a better 'fit' into his world.

2.7 SUMMARY

In the review of relevant literature, it can be seen that Attention Deficit Disorder with or without Hyperactivity is a medically and psychologically complex issue, with important ramifications for the learner from a social and emotional perspective. The origins of AD/HD were discussed in terms of attention, highlighting the different levels of attention throughout a child's development, with particular focus on the learner with AD/HD. Attention can be further delineated into sustained attention, orienting attention and selective attention, all of which can affect the ability to use working memory effectively. The learner with AD/HD experiences difficulty with all of these operations, which affect his ability to function effectively in the classroom, as well as to interact appropriately with his peers. The causes of AD/HD were discussed and it seems that there is a commonality of contributory contexts such as genetic, neurological, behavioral and psychosocial causes. In terms of AD/HD as a biologically based disorder, many new technologies such as EEG, FMRI, FMRS, SPECT and PET show neurological differences between learners with and without AD/HD. The social constructivist perspective advocates the influence of sociological situations on the learner with AD/HD, positing that changes in the structure of families, societal mores and child rearing practices have contributed to the development of this condition. There seems to be growing evidence of a genetic base, citing chromosomal abnormalities and multiple genetic influences which may act together to contribute to the disorder. The role of neurotransmitters such as dopamine, serotonin and norepinephrine, as they relate to attention deficits and the inhibition of responses, is better understood, and the role of stimulant medication has been explored. Another consideration is the effects of head trauma. The diagnosis of AD/HD has been under the spotlight, although the disorder has been reflected in the Diagnostic and Statistical

Manual in various forms, since 1952. Different assessments have been used in arriving at a diagnosis although it must be remembered that the learners who form part of this study have already been formally diagnosed by a medical professional. It is posited that functional assessments are relevant for the purposes of this thesis, which is to ascertain whether the symptoms and behavior of AD/HD have been ameliorated after exposure to a program aimed at improving emotional intelligence. The prevalence of AD/HD has been discussed as well as it's co-morbidity with other conditions. Social and emotional issues of learners with AD/HD are crucial to the focus of this thesis. The researcher has focused on the social dysfunctions of the learner with AD/HD such as difficulties interpreting and responding to social language, the ability to use 'code switching' and humour appropriately, and to be able to match the mood of another person using the right language. Social feedback cues are another important area where the learner with AD/HD experiences difficulty, as well as their lack of control over how they move their bodies in space. Certain behavior cycles develop between the learner with AD/HD and his environment, depending on whether the interaction is positive or negative. The PATHS program that will be used as an intervention, helps the learner to identify and label emotions, teaches skills and strategies for managing emotions and conflict resolution. The assumption is that if the learner with AD/HD can improve his social and emotional intelligence through training, this will help to lessen his symptoms and behavior.

The following chapter will investigate the literature and discuss the findings on social and emotional intelligence. Emotional intelligence will be examined in terms of its origins, the meaning of the concept, how it links with traits, temperament and resilience, the neurological base of the construct, and the link with education. The assessment tools for emotional intelligence and the intervention program will be defined, explored and discussed. Criticisms of the construct will be discussed and a final summary will conclude the following chapter.


CHAPTER 3
A REVIEW OF THE RESEARCH LITERATURE ON EMOTIONAL INTELLIGENCE IN LEARNERS WITH ATTENTION DEFICIT/HYPERACTIVITY DISORDER
3.1 INTRODUCTION
3.2 THE ORIGINS OF EMOTION
3.3 THE CONCEPT OF EMOTIONAL INTELLIGENCE
3.4 EMOTIONAL INTELLIGENCE, PERSONALITY TRAITS AND TEMPERAMENT
3.5 EMOTIONAL INTELLIGENCE AND RESILIENCE
3.6 NEUROLOGICAL ASPECTS OF EMOTIONAL INTELLIGENCE
3.7 EMOTIONAL INTELLIGENCE AND EDUCATION
3.8 EMOTIONAL INTELLIGENCE AND INTERVENTION
3.8.1 Stage of development of learners in this study
3.9 ASSESSMENT OF EMOTIONAL INTELLIGENCE
3.10 CRITICISMS OF EMOTIONAL INTELLIGENCE
3.11 SUMMARY

3.1 INTRODUCTION

The topic of social and emotional intelligence appears to be receiving widespread attention. In relation to literature, there seems be an increased number of publications about this topic, thus indicating the wealth of interest in the subject (Durbin, Klein, Hayden, Buckley & Moerk, 2005; Hartley, 2004; Kristjansson, 2006; Leckman & Mayes, 2007; Vanhatalo, 2007). The very nature of emotional intelligence as a construct has come under the spotlight, and attention has been given to what this construct means in terms of moral education, academic performance, and specifically the impact of intervention programs for learners with special needs (Zeidner, Matthews, & Roberts, 2001). Research suggests that individuals who are part of vulnerable groups, such as learners with Attention Deficit Disorder, are more susceptible to lowered emotional efficacy, otherwise termed emotional intelligence, which may be defined generally, as behavioural dispositions and self perceptions related to the manner in which they recognise, process and use emotion-laden information (Petrides, Frederickson & Furnham, 2004). It is stated further that low levels of emotional efficacy, combined with increased impulsivity and poor social skills often found in AD/HD learners, are likely to be implicated in various forms of antisocial behaviour, as well as higher levels of stress and emotional difficulties at school. These issues have the potential to undermine the psychological well-being and educational attainment of these learners, and it is therefore prudent that students are trained not only to master academic content, but moral content as well, in short to be able to be responsible and caring, to make healthy choices, to resolve conflicts, and to contribute to their community as committed, moral and effective citizens.

In this chapter, the researcher aims to give an overview of emotional intelligence, in which an attempt will be made to discuss the following:

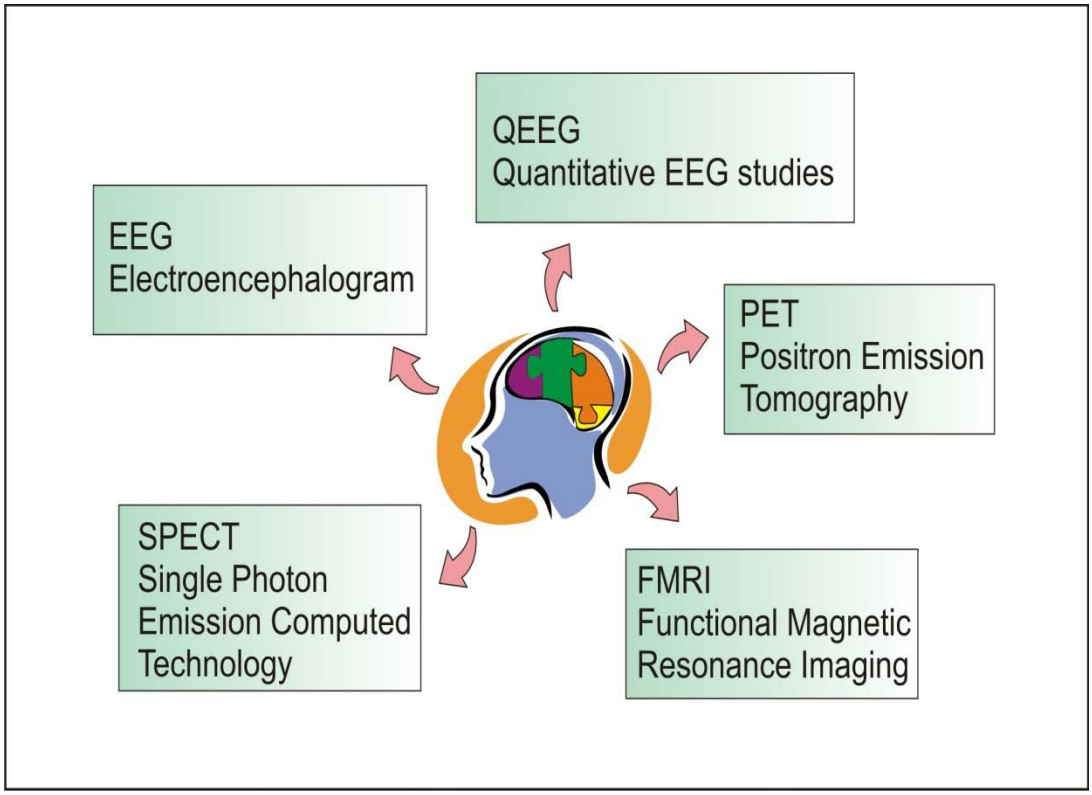
- the origins of emotional intelligence
- to define the term and track its development
- to consider the role of emotional intelligence in education
- to identify and discuss the intervention program and the assessment of AD/HD
- to evaluate criticism levelled against social and emotional theory and

- to look at the role emotional intelligence plays in learners with AD/HD, particularly in relation to their behavioural dispositions, self perceptions, empathy, impulsivity and assertiveness.

3.2 THE ORIGIN OF EMOTION

The neuroscientist Le Doux (2002) states that on an evolutionary timescale, the feeling part of the brain located in the limbic system, has an evolutionary pedigree dating back to the time when mammals first appeared, whereas the cognitive facilities of the human neocortex are more newly evolved. Research seems to show that the mammalian brain appears most adaptive during the early postnatal period and there is evidence to show that complex and challenging environments produce new and dense synapses in the cortex, which are then pruned or eliminated, depending on the nature of the stimulation and needs within the environment (Greenough & Black, 1992). This indicates the critical role of nervous system activity and sensory stimulation (environmental interaction), for the fine tuning of the brain and for normal development to occur. Scientists like Le Doux (2002), now know that the brain can create new circuitry and improve the density of the synapses throughout life, and this provides confirmation of the need to provide a rich and stimulating environment for the learner, with positive interactions with significant others – especially for the learner with AD/HD. An important aspect to consider is the view that emotions do not function independently of our bodies, unlike the cognitive processes of our brain, and therefore most emotions involve a bodily response (Damasio, 1994). If learners with AD/HD can be helped to better understand their bodily responses to emotions, in short to become more emotionally self aware, as well as how to manage these responses appropriately, this may help to ameliorate the symptoms and behaviour of AD/HD that they display. In fact, ongoing brain research suggests that increased connectivity between the amygdala, which is the seat of emotional behaviour, and the cortex, which controls more cognitive thought patterns, could restore much of the harmony and balance between reason and emotion (Morris & Casey, 2005).

Figure 3.1 Brain imaging techniques used in brain research.



The first interactive relationship that develops for the human brain is that between the baby and the primary caregiver, and is known as the attachment bond. Brain imaging resources such as those shown in Figure 3.1, have allowed scientists to understand how experience affects the flow and function of information within the brain, and has shown that the experience that has the most influence on the developing brain is that which is acquired in intimate relationships (Siegel, 2001; Fonagy, Gergely & Target, 2007). The early attachment bond plays a dominant role in the development of the brain and establishes the basis for the child's relationships with others, security in exploring the world, resilience to stress, and the ability to balance emotions and make sense of the inner and outer world (Siegel, 2001; 2007). It is interesting to note that the learner with AD/HD typically experiences difficulty relating to others, often displays feelings of insecurity and stress, demonstrates a poor ability to balance his emotions and make sense of the world around him.

Table 3.1 The link between AD/HD and Attachment Disorder.

Brain altering communication is triggered by deeply felt emotions that shape the brain's mental circuits which are responsible for memory, emotion and self-awareness.	*Children who experience early and sustained neglect as well as physical, emotional or sexual abuse, are likely to experience problems with attachment and are often misdiagnosed with AD/HD.*	*Because learners with AD/HD often display many similar symptoms to the child with attachment disorder, some researchers refer to AD/HD as attachment deficit disorder instead.*	***In the case of the learner with AD/HD, early attachment and sensory stimulation may not have occurred, thus interfering with the emotional development of the brain resulting in lowered social and emotional intelligence.***
Siegel, 2001; Shore, 1994.	*Brady, 2003.*	*Siegel, 2001; Shore, 1994.*	

Learners with AD/HD often experience difficulties with impulsivity, planning, attention, rational and well thought out decision making, self esteem and social interactions. Emotions are crucial for the decision making process and this is strongly based on feelings, whilst social intelligence, the ability to understand and feel other people's feelings and thoughts, as well as to be able to interact on a non-verbal level, shapes the outcome of social interactions – in fact care about others is crucial for human beings to connect effectively with their world (Goleman, 2006; Vanhatalo, 2007). The ability to care for others develops from the initial relationships that children develop with their primary caregivers during the attachment phase. The evolutionary role of the attachment relationship extends beyond the mere need to provide protection for the human infant, to the facilitation of the appropriate organization of the brain processes for the implementation of social cognition, and to aid in preparing the individual for the collaborative and cooperative existence with others for which the brain was designed (Fonagy et al. 2007). If this has not occurred during the development of the attachment relationship, as may be seen in the symptoms and behaviour of many learners with AD/HD, the fact that new circuitries can be created in the brain throughout life is of particular importance in exposing these learners to alternative thinking strategies in the context of emotion, in an attempt to bridge this gap and to strengthen and build new neural connections in the emotions centres.

Research now shows that the majority of brain structures implicated in emotion, motivation and social cognition, such as the cortical and subcortical components of the prefrontal cortex, are also implicated in the processing of emotions, which may indicate a critical set of relations between feeling and thought, extending into the concept that the basis of disorders in emotion occur in the same neural systems (Davidson, 2004; Fonagy et al., 2007; Grady & Keightley, 2002). Davidson (2004) adds that the prefrontal cortex is closely connected with affect-guided decision making, which is particularly pertinent for the learner with AD/HD, who often experiences difficulty within this area. In agreement with the theory that early environmental experiences shape aspects of prefrontal function, animal data explicitly manipulating early environment, results in both structural and functional asymmetric differences in the prefrontal cortex. The learner with AD/HD experiences many of the symptoms and behaviours of this disorder in terms of an emotional overtone, and it is hoped that neural circuitry can be supported and increased if the learner is exposed to a program which targets emotions.

3.3 THE CONCEPT OF EMOTIONAL INTELLIGENCE

Emotional intelligence is a term that has gained prominence particularly in the United States to refer to a number of competencies related to the understanding of the self, the understanding and management of emotions, the understanding of social situations and the management of relationships (Weare, 2006; BarOn et al. 2006). Although many closely related terms are used to describe this construct such as: emotional literacy, emotional competency, mental health, and well being (Weare, 2006), they all seem to describe a common construct, or at least aspects related to that construct (BarOn et al. 2006). For the purposes of this thesis the term emotional intelligence will be used, which can be understood as a set of social and emotional skills that enable the individual to translate intellectual raw material into action and accomplishment (BarOn et al. 2006).

Although there appears to be a lack of consensus about the social-emotional difficulties relative to the cognitive-academic disabilities among learners with AD/HD, it seems widely accepted that social cognition can be considered to be one of the most difficult areas for these learners (Bauminger, Edelsztein & Morash, 2005). During middle childhood, learners with

AD/HD are not only dealing with the complex emotional behaviour typical of that stage of development, but also demonstrate social and cognitive difficulties when processing social-emotional information (Bauminger et al., 2005). According to Gottman, Katz and Hooven (1997), there is also a set of general abilities that are understood to underlie the development of social and emotional competence. During middle childhood, the higher cognitive social-emotional capabilities such as the ability to understand complex emotions, to understand that another person may have a different perspective to oneself, and to appreciate that individuals can simultaneously experience multiple and mixed emotions towards the same situation or person, start to develop (Bauminger et al. 2005). It seems that learners with AD/HD are often unable to understand the intentions of others or their perspective of a situation, and lack planning strategies and the ability to develop social goals (Bauminger et al. 2005).

Salovey and Mayer (1990) conceptualised this construct first as “emotional competence” and then as “emotional intelligence” in 1996, which quickly became a media buzzword after the publication of a book by Goleman in 1995, bearing the same name (BarOn, 2005). Salovey and Mayer’s (1990) definition included the ability to appraise emotion in both the self and others, and the ability to be able to put strategies into place in order to deal with them effectively. At that time, this definition appeared to be the most widely accepted and all encompassing (Wiehe, 1997; Goleman, 1995). Van Rooy & Viswesvaran (2004) state that although the differing definitions of emotional intelligence are so varied, and the field is growing so rapidly, many of the definitions are complementary, and they propose that emotional intelligence may be conceptualised as the set of verbal and non-verbal abilities, that enable an individual to generate, recognize, express, understand, and evaluate their own and others emotions, in order to guide thinking and action to successfully cope with the environment. In the area of verbal and non-verbal abilities, the learner with AD/HD appears to experience difficulties in recognizing and talking about his own and other’s emotions, as well as displaying symptoms and behaviour which indicate that he is struggling to cope with the demands and pressures of the environment (Bauminger et al., 2005).

Zirkel (2000) discusses how attention has shifted from describing and assessing social intelligence, to understanding the purpose of interpersonal behaviour and the role played by it in the individual’s ability to adapt within the social context. To extrapolate this to the learner

with AD/HD, research shows that the ability to link cognitive and social-emotional areas, namely social cognition, is one of the most difficult areas for these learners (Bauminger et al., 2005).

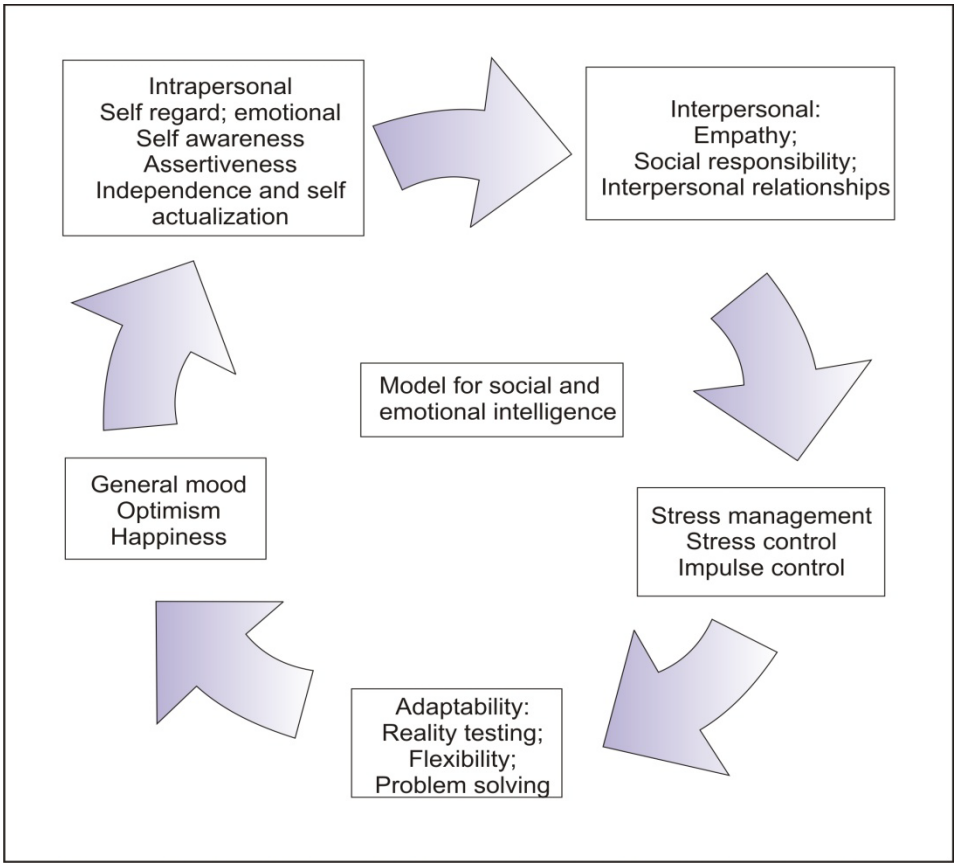
Salovey and Mayer (1990) as well as Mayer and Salovey (1993) refer to emotional intelligence as part of the personal intelligences, which fall within the umbrella of social intelligence. Personal intelligence can be divided into sub-sections, which include intra- and inter-intelligences. Intra-personal intelligence refers to the ability to be aware of one's own moods and emotions, to be able to label these feelings correctly, and to be able to put strategies in place to deal with them effectively. BarOn (2000) defines this even further, by including self-regard, emotional self-awareness, assertiveness, independence and self-actualisation, and includes assessment of each of these factors in the BarOn Emotional Quotient Inventory (BarOn EQ-i). Kale and Shrivastava (2003) suggest that this definition could be extended to the idea of an inner life, as well as a connection and integration in terms of integrating life with meaning and purpose. Inter-personal intelligence refers to the ability to monitor the moods and temperaments of other individuals and to be able to use this knowledge to predict their behaviour in the future (Mayer & Salovey, 1993). BarOn (2000) includes empathy, social responsibility and interpersonal relationships in his definition and includes assessment of these factors in the BarOn EQ-i. The symptoms and behaviour of learners with AD/HD may be linked with both intra- and inter-personal difficulties within their personal intelligence, in that they often experience difficulties in understanding complex emotions, or hidden and mixed emotions, which play an important role in efficient peer interactions in middle childhood (Bauminger et al., 2005).

The concept of emotional intelligence is generally divided into four dimensions:

- The ability to appraise emotions in both the self and others
- The expression of emotion
- The ability to regulate emotions in the self and
- The ability to use these emotions in adaptive ways

A model which encompasses these four dimensions of emotional intelligence and extends them further, is the five-component model of BarOn (2005). For the purposes of this thesis, this model will be used:

Figure 3.2 The five component model of BarOn (2005).



BarOn (2005) stresses the importance of the connection between the emotional and social components of emotional intelligence, and specifically, that interpersonal competence, which is the ability to understand others and relate to them, is dependent on intrapersonal competence, which is the ability to understand one's own emotions and to be able to express them. These key emotional intelligence (EI) components combine to help the individual to cope with environmental demands, determine effective human behaviour and lead to well-being (BarOn, 2005; 2000; 1997b). In other words, to perform well and be successful in life, seems to require the ability to make socially and emotionally intelligent decisions, more than just having a high IQ (BarOn, Tranel, Denburg & Bechara, 2003). This model seems particularly well suited to the learner with AD/HD in that it relates to many of the difficulties

that these learners experience. These learners exhibit symptoms and behaviour which show difficulties with interpreting social situations accurately, problems with the understanding of social cues, lower competence levels in empathy or understanding the perspectives and intentions of others, poor planning strategies and less well developed social goals, a lowered ability to predict the consequences of social situations, or the results of their own or others actions – in short, lowered social-emotional capabilities (Bauminger et al., 2005).

3.4 EMOTIONAL INTELLIGENCE, PERSONALITY TRAITS AND TEMPERAMENT

Jung, a contemporary of Freud and within the psychoanalytic tradition, contributed to the field of emotional intelligence, with his belief that each individual functions in a unique way and that there are fundamental traits which allow a belonging to a certain group or type (Myers, McCauley, Quenk, & Hammer, 1998). Myers et al., (1998) developed a personality type indicator based on this theory, which appears to dovetail with the theory of emotional intelligence, in that conscious and unconscious emotions and thoughts, shape who we are, what we learn, and how we act. The temperament paradigm refers to patterns of behavioural and emotional reactivity that are relatively stable over time and situation (Durbin, Klein, Hayden, Buckley, & Moerk, 2005). Low positive emotionality, which is often associated with AD/HD learners, is associated with risk through the alteration of mood states, cognition which is related to the expectation of rewards for behaviour, and goal directed behaviour (Durbin et al., 2005). In addition, these authors submit that positive emotionality, which is closely linked to the construct of extraversion, relates to positive mood states, as well as high sociability and environmental engagement, whereas negative emotionality is related to a propensity for negative affect and cognitions, as well as high levels of perceived stress. The learner with AD/HD, seems to evaluate his world and himself in a more negative way, and appears to experience high levels of stress in terms of peer rejection and low social acceptance. It is posited by the researcher that an intervention which incorporates training in social cognition, and the understanding and ability to label and discuss emotions, may help the learner with AD/HD to view his world from a different perspective with positive emotionality rather than negative emotionality. This in turn may help to lessen the symptoms and behaviour that he displays.

Although Kristjansson (2006) poses the question of whether the concept of emotional intelligence can be clearly referenced to an identifiable psychological state or process, Petrides, Frederickson and Furnham (2004) propose a clear conceptual distinction between two types of emotional intelligence, namely, trait emotional intelligence (hereafter referred to as trait EI) and ability emotional intelligence (hereafter referred to as ability EI).

Table 3.2 Two types of emotional intelligence (Petrides et al., 2004).

Trait emotional intelligence	**Ability emotional intelligence**
• Measured through self report questionnaires • Relates to behavioural dispositions and self-perceptions • Incorporates different dispositions from the personality domain such as empathy, impulsivity and assertiveness • Incorporates elements of social intelligence proposed by Thorndike (1920) and personal intelligence proposed by Gardner (1983).	• Refers to cognitive-emotional ability which is the individual's actual ability to recognize, process and utilize emotion- laden information. • Measured by maximum performance tests using correct and incorrect responses (Petrides et al. 2004)

Trait EI seems to best meet the requirements of this research in that it relates to the symptoms and behaviour of learners with AD/HD rather than a cognitive ability, and takes into account their behavioural dispositions and self perceptions, their social intelligence and personal intelligence. By exposing the learners in our school, particularly those with AD/HD, to the vocabulary of emotion, in order to gain a deeper understanding of emotions in relation to the self and to others, and to be able to understand situations from the perspectives of others, the researcher is hopeful that this will result in a better cycle of social interaction, and an alleviation of the specific symptoms and behaviours that these learners exhibit (Fonagy et al., 2007). Learners with AD/HD within our schools, may be able to link academic achievement with the skills necessary for succeeding in life in general, and to highlight the impact of emotions and emotional well-being on how and what is learned, as well as to develop positive relationships, as these provide the foundation needed in order for learning to take place.

Emotional states are said to be shorter in duration than mood states, more intense, and characterized by a number of different cognitive appraisals (Dunn & Schweitzer, 2005). It appears that emotions are more complex than moods, although moods are said to be more likely to influence judgements than are emotions. For example, when people were asked to rate life satisfaction, they provided higher ratings of life satisfaction on sunny days than on rainy days, and when asked to attribute their mood to the weather before making a judgement, there were no significant difference in ratings on sunny and rainy days (Dunn & Schweitzer, 2005). Fridja (1998) states that the meaning attributed to a situation or an event gives rise to an emotional response, which tends to be subjective and to relate to the way in which an individual perceives a situation. In this regard, learners with AD/HD appear to perceive the environment as confusing and sometimes threatening, and this subjective emotional response may influence the way that they react to and interact with their environment.

Diener (2000) proposes that personality type also affects the maintenance of levels of pleasant and unpleasant affect. It seems that advantageous and disadvantageous events move individuals temporarily away from their personal baselines, but over time they return to them. Emotions therefore become more important than an intellectual knowledge of a situation, and a tone of voice may have more meaning than the actual words that are used. Oatley and Johnson-Laird (1998) concur with this and add that emotions are at the centre of human, mental and social life, and are able to integrate and mediate experiences. Behaviour may be motivated by the desire to improve mood and Salovey et al., (2000), discuss research showing that self-defined chocolate addicts tended to eat more chocolate when they were in depressed moods, in an attempt to improve their mood, and another study showing that individuals participating in physical activity such as exercises, did so to increase positive feelings and reduce negative feelings. Social skills and self-confidence seem to relate to a subjective feeling of well-being and correlate with feelings of satisfaction about life (Diener & Fujita, 1995). It therefore seems relevant to improve the social skills and self-confidence levels of learners with AD/HD through a program which promotes alternative thinking strategies, to increase their feeling of well being and thus improve upon the symptoms and behaviour they exhibit.

3.5 EMOTIONAL INTELLIGENCE AND RESILIENCE

Psychological resilience, which may be defined as the ability to recover from negative emotional experiences and to adapt in a flexible manner, to the changing demands of stressful experiences, is closely linked to emotional intelligence (Tugade and Frederickson, 2004). Other concepts related to psychological resilience are, hardiness, optimism, and dispositional humour and it is suggested that the presence of positive emotions encourage the individual to attribute positive meanings to a situation, which in turn helps to build psychological resources such as resilience. Finding ways to enhance resiliency and the ability to bounce back from and successfully adapt to adversity is a major task of child mental health professionals (Leckman & Mayes, 2007). This may be particularly important for the learner with AD/HD in that he is constantly faced with adverse situations, such as social rejection and confusing emotional signals, which he is ill equipped to deal with. One of the most potent factors in the development of resiliency is the presence of a parent or mentor who can provide consistent nurturing and support, and serve as a positive role model (Leckman & Mayes, 2007). If this is the case, and we have already seen that the neural circuitry can constantly be developed, it seems imperative to provide such support and mentorship in the form of a caring adult for the learner with AD/HD. If this can help to build a stronger sense of resiliency, the learner with AD/HD may be better equipped to recover from the adverse situations that he often experiences in his world.

Salovey et al., (2000), state that there is strong evidence to show that negative mood states tend to increase susceptibility to illness, and that positive moods appear to enhance the immune system. It seems that positive emotional states signal that the environment is safe, whereas negative emotional states indicate that there may be aspects of one's environment that need to be corrected and addressed. Positive emotional states can facilitate healthy behavioural practices through the provision of resilience, which may be needed to confront a serious health problem, or problems encountered in the school setting, such as conflict situations, bullying or social dysfunctions (Salovey et al, 2000). In her work with learners with AD/HD, the researcher notes that these learners frequently become the target of bullying behaviour, are often in the midst of conflict situations and struggle to cope with social interactions.

Krivoy and colleagues (BarOn, 2003) compared the emotional intelligence of a group of adolescent cancer survivors in Israel, with a matched group of adolescents who did not have a history of cancer, using the BarOn EQ-I assessment. The hypothesis was that in order to cope with the strenuous demands of a life threatening disease and prolonged medical treatment, these survivors would have higher levels of emotional and social intelligence. The findings showed that the 35 young adults who were medically confirmed as 'cured of cancer' after not experiencing a relapse for at least 5 years, were more emotionally and socially intelligent than the 35 young adults in the control group, who were randomly selected from the general population and matched for age and gender (BarOn, 2003). If positive emotional states can influence and facilitate healthy behavioural practices, it may be helpful for learners with AD/HD to improve their levels of emotional and social intelligence, and therefore become more resilient. This resilience may help them to be able to recover from negative emotional experiences more easily, and to adapt in a more flexible manner to the changing demands of stressful experiences.

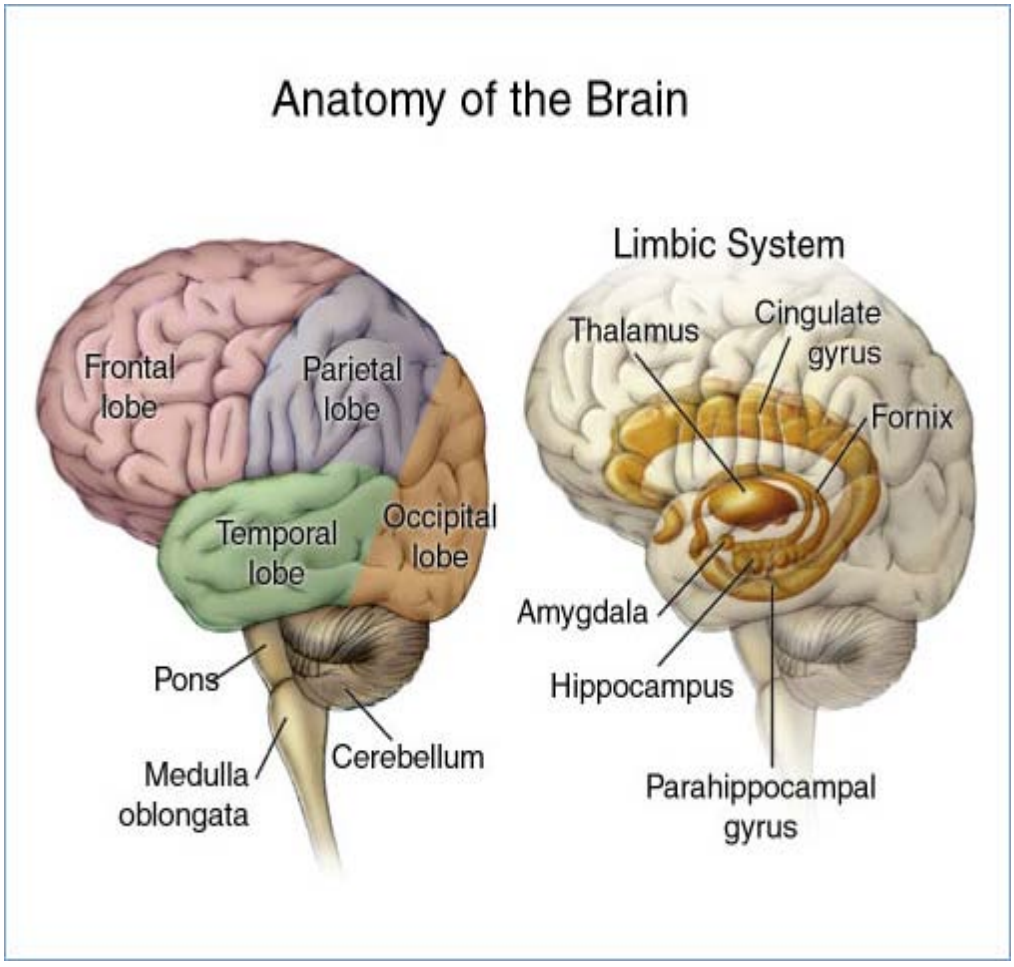
It appears therefore, that much of our success in life can be accounted for by emotional intelligence. It is proposed that if learners with AD/HD can be assisted in developing this area and therefore become more emotionally intelligent, there may be a significant improvement in how they view themselves and others, as well as how effectively they are able to cope with and manage their lives. Because they may be more capable of identifying and labelling their own emotions as well as the emotions of others, communicating these feelings and putting strategies in place in order to deal with them effectively, they may become more socially and emotionally competent, which may help to ameliorate and improve the symptoms and behaviour that these learners exhibit.

At this point it is relevant to discuss the neurological aspects of intelligence as a whole, in order to better understand the nature of the neurological link with both emotional intelligence and cognitive intelligence.

3.6 NEUROLOGICAL ASPECTS OF EMOTIONAL INTELLIGENCE

The brain may be viewed as a living system, made up of a dynamic unity between the body, mind and brain, which means that emotions include certain cognitive properties as part of their very nature (Cohen & Sandy, 2003). It is posited that the brain-mind connection is social in nature and that the search for meaning is innate, generated through patterning, and that emotions provide the fuel for patterning.

Figure 3.3 The Anatomy of the brain
http://www.ahaf.org/alzdis/about/AnatomyBrain.htm



It is speculated that individuals who are unable to appraise and verbally express their emotions, which is defined as Alexithymia, may experience a blocking of impulses from the right to left hemisphere at the corpus callosum, or that there may be a disconnection between the limbic system and higher cortical activities (Mayer and Salovey, 1993). BarOn (2005) adds

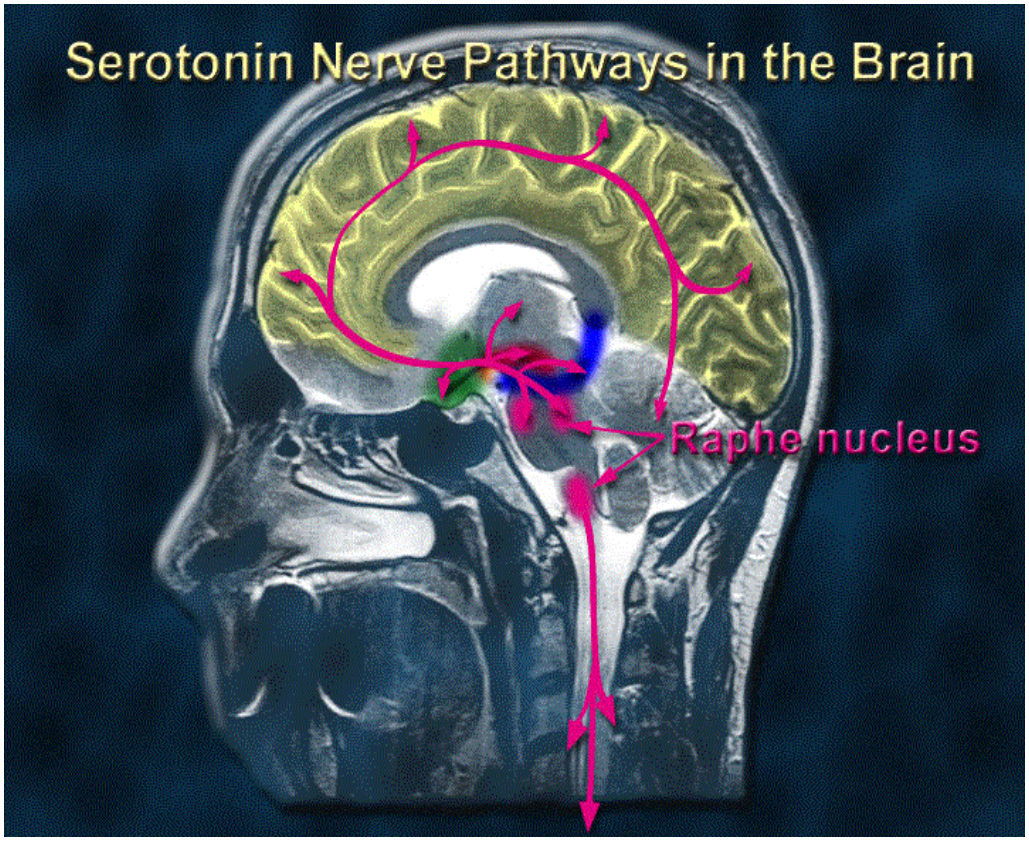
that alexithymia is considered by many to be the essence of emotional intelligence, in that it focuses on the ability, or in particular the inability, to recognise, understand and describe emotions. The word a-lexi-thymia is Greek for an inability to name or describe feelings. It is proposed that the non-pathological end of alexithymia, is psychological mindedness, which includes emotional awareness (BarOn et al, 2003). In the healthcare setting, the psychological mindset of individuals is evaluated, to examine the patient's ability to recognise, understand and describe emotions (McCallum & Piper, 2000).

Another development that grew out of the exploration of alexithymia, is research into the neural circuitry that governs emotional awareness (Lane & Schwartz, 1987). BarOn (2005) adds that this research is focusing on the specific subcortical and cortical circuitry that seems to play a major role in emotional intelligence, comprised mainly of the amygdala, the right somatosensory insular cortices and the ventromedial prefrontal lobe. In support of this, Lee, Kinford, Loring, Allison, Brown, Paul, Pillai & Lavin (2004) state that limbic structures, including the amygdala, anterior cingulated gyrus and orbital frontal cortex, have been associated with innate, automatic, and non-conscious routes to emotional states, whereas the role of the mesial and dorsolateral frontal lobes, as well as portions of the basal ganglia, are related to cognitive, explicit and conscious aspects of emotional production, evaluation and preparation for action. It is posited by BarOn et al., (2003) that cognitive intelligence is more dependent on cortical structures that support logical reasoning, whereas emotional and social intelligence is more dependent on limbic and related neural systems that support the processing of emotions and feelings, and for immediate behaviour suited more to survival and adaptation – in other words, these two major components of general intelligence are supported by separate neural substrates. In evolutionary terms, the relatively recent development of the neocortex, signals the means for an organism to guide behaviour through the environment (Cacioppo, 2004). It seems that the joint consideration of neurophysiological and psychological perspectives, enrich theory and research on human emotion (Cacioppo, 2004). Davidson (2004) concurs with this and also underscores the fundamental importance of the prefrontal cortex for emotional and motivational processes, linking higher levels of left prefrontal activity with aspects of resilience, as well as goal directed action planning. Considering the poor planning and organizational skills which are typical of the learner with AD/HD, it is possible that these learners do not exhibit enough left prefrontal activity.

However, it must be noted that although many authors have attempted to find a single neurocognitive theory to explain AD/HD, it is often difficult to specify which cognitive processes are specifically involved due to the inconsistency that often characterises the performance of learners with AD/HD (Asherson, Kuntsi & Taylor, 2005).

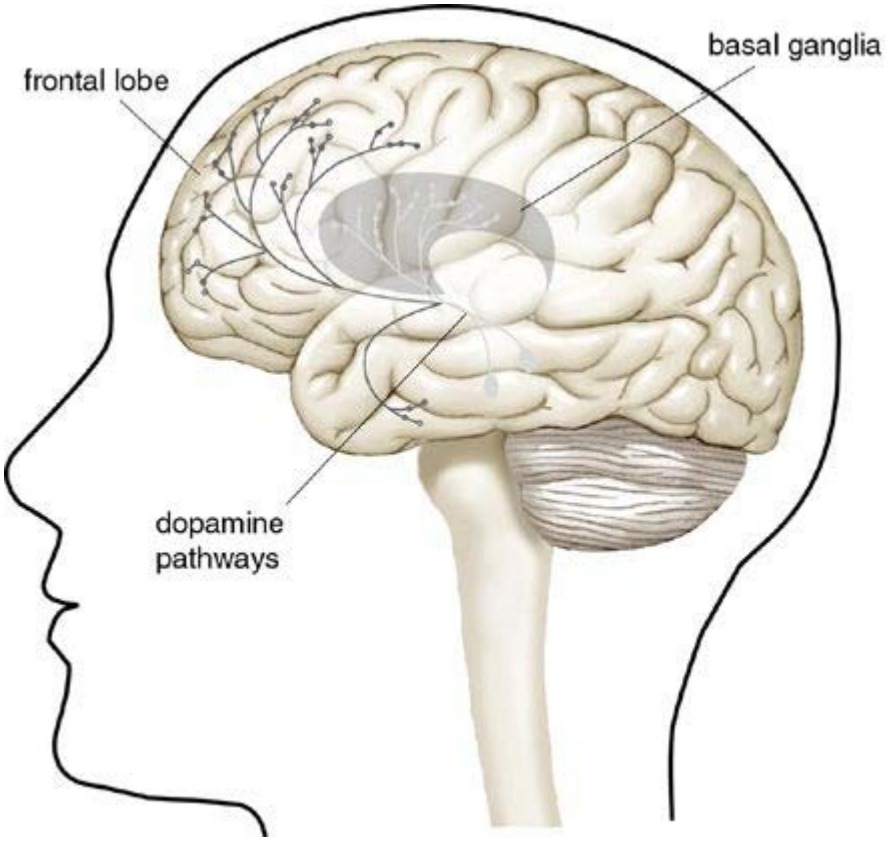
Although many genetic factors tend to explain familial aggregation of AD/HD, research shows a significant relationship between stress and the development of AD/HD symptoms (Starcher, 2002). Stress appears to directly affect the brain and neurochemical system, and to have the greatest effect on prefrontal, limbic, hypothalamic and brain stem functioning, which results in a variety of changes in the neurotransmitter systems (Starcher, 2002). Neurotransmitters in the noradrenergic and serotonergic systems react to stress through altered activations, which result in mood changes often noted in learners with AD/HD.

Figure 3.4 Serotonin nerve pathways in the brain
http://www.drugabuse.gov/pubs/teaching/teaching4/teaching3.html



The importance of serotonin cannot be underestimated (Shapiro, 1997). Serotonin is a known transmitter that affects an emotional reaction, by conveying emotional messages from the brain to different areas of the body. Serotonin helps the individual to deal with stress and is significant in the treatment of depression. Shapiro (1997) concludes that it influences body temperature, blood pressure, digestion and sleep, as well as helping the individual to deal with stress by inhibiting an overload of input to the brain. Social stress experienced in early life can produce chronic reductions in serotonin, which result in changes in behaviour and emotions, and can remain long after the early social stressors cease (Starcher, 2002).

Figure 3.5 Dopamine pathways in the brain (Carlson, 2000).
http://cmbi.bjmu.edu.cn/news/0010/45.htm



Other research confirms the importance of dopamine receptors and transporters in learners with AD/HD, and has now established that these learners have more of certain alleles of the genes coding for the dopamine D4 receptor and the dopamine transporter gene DAT1, which results in dopamine dysregulation (Asherson et al., 2005) Research indicates that short term

stress can stimulate dopamine release, whereas more chronic and enduring stress often results in a depression of the dopamine system, with a resultant exhaustion of dopamine and a decrease in dopaminergic response (Starcher, 2002).

It seems therefore that both genetic factors and stress levels play a strong role in AD/HD, which indicates the need for interventions aimed at addressing the high levels of stress that these learners experience, which in turn may balance the noradrenergic and serotonergic systems. It is proposed by the researcher that an intervention such as the PATHS program, which places primary importance on the developmental integration of affect, as well as to build the vocabulary of emotion and cognitive understanding, will assist the learner with AD/HD to manage his emotions and stress levels and to understand his own emotions and the emotions of others (Kelly et al., 2004).

Having noted that emotions and emotional intelligence are related on many different levels especially in terms of the learner with AD/HD, the focus will now move on to how emotional intelligence is involved in education.

3.7 EMOTIONAL INTELLIGENCE AND EDUCATION

As early as 3,000 years ago, formal education in Egypt, India and Greece focused on socialising children to become members of society (Cohen & Sandy, 2003). Ancient Greek education specifically focused on the enhancement of self-awareness and awareness of others as a valuable educational endeavour in and of itself. However, over the last century, social-emotional educational theory and practice, has moved towards the notion that linguistic and mathematical abilities represent the essential components of intelligence (Cohen & Sandy, 2003). This one-sided view of the overall nature of intelligence has powerfully shaped educational practice for decades. Schools have traditionally focused exclusively on the fundamental skills of literacy and cognitive competences, and have ignored the basic skills children, and specifically learners with AD/HD need for life, such as self awareness, emotional self-regulation, empathy and social skills, in short, social and emotional competencies, often considering them to be unimportant and lacking in scientific rigour (Cohen & Sandy, 2003; Goleman, 2003). Although there is some research that concurs with this viewpoint, other

research shows that new concepts such as emotional intelligence and emotional literacy have begun to permeate the educational lexicon, and state that over the past 5 years due recognition has been given to the interlink between cognitive and emotional skills, and behavioural functioning (BarOn, Maree & Elias, 2006; Hartley, 2004; Mayer, Salovey, Caruso, & Sitarenios, 2001).

In some ways, it seems that the upsurge of interest in emotional intelligence has been due to a backlash against long-standing claims that general intelligence, or raw brainpower, otherwise known as Intelligence Quotient (IQ), is the key to success in life, both academically and in terms of a career (Katz, 1998). Although there is general consensus that IQ does predict academic performance, it is thought that this only occurs with approximately 20 per cent real world success (Katz, 1998). Researchers are now considering emotional intelligence as a possible additional predictor of academic performance. It is thought that together with cognitive intelligence, emotional and social intelligence form important components of general intelligence (BarOn, Tranel, Denburg, & Bechara, 2003). Although cognitive intelligence is thought to relate primarily to higher order mental processing such as reasoning, emotional and social intelligence focuses more on perceiving, immediate processing and the application of emotional and social content, information and knowledge (BarOn et al, 2003).

As long ago as 1958, Weschler defined intelligence as the “aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment” (Salovey & Mayer, 1990, p186; Weschler, 1943), thus allowing for the inclusion of emotional intelligence within the broad conceptual domains of intelligence. In fact, Wechsler described the influence of non-cognitive factors on intelligent behaviour and included two sub-tests (comprehension and picture arrangement) to measure aspects of social intelligence, in his well-known test of cognitive intelligence. The processing of affective information may be seen as a mental ability or an aptitude, which falls under the umbrella of crystallized ability, which may be defined as intellectual functioning based on previous training, education and cultural background – in short, acquired knowledge (Davies, Stankov & Roberts, 1998). The underlying assumption is that the appraisal, recognition, expression, regulation and use of emotion, tends to develop within the boundaries of experience and

social interaction, which mirrors the development of other psychological processes, which in turn constitute crystallized intelligence. Shapiro (1997), states that emotional intelligence is not based on how smart a child is, but instead looks at the idea of emotional structures and how these may influence the equation.

Table 3.3 Studies to show the link between scholastic performance and social and emotional intelligence

Study 1	**Study 2**	**Study 3**
- 17% of scholastic performance is due to social and emotional intelligence as well as cognitive intelligence. - IQ correlates well with scholastic and academic performance but is a weak predictor of performance in inter-personal relationships at work, and the ability to cope with problems that arise on a daily basis. Bar-On (2003)	- 667 male and female students (average age 16). - Compared them on the Bar-On Youth Version Test with their grade point average. - Results showed a significant relationship between the two, with at least 17% of scholastic performance due to social and emotional intelligence in addition to cognitive intelligence. Parker and colleagues in Bar-On (2003)	- 448 first year students divided into a 'success' group and an 'unsuccessful' group using 1 standard deviation from the mean grade point average. - Results from the T-Test for independent samples showed significantly higher emotional intelligence scores for the 'successful' group. Swart (1996) in Bar-On (2003).

These findings suggest that students who are emotionally and socially intelligent perform better scholastically then those who are less emotionally and socially intelligent, but it is suggested that future research should examine the impact of the emotional intelligence competencies together with cognitive intelligence (BarOn, 2003).

Low self-esteem is also connected to emotions and research shows that people with low self-esteem try to avoid situations where they may become humiliated (Vanhatalo, 2007). This may relate to avoidance strategies used by AD/HD learners in terms of their academic work, where they tend to under achieve. It appears from research into the function of the brain, that a positive emotional state, such as feeling valued and safe as well as a sense of well being is important for optimal learning to take place (Weare, 2006). Conversely, constant exposure to

an environment that feels threatening and confusing can lead to stress related symptoms which are linked to the ready activation of the arousal system that underpins the posterior and sub-cortical functions, resulting in less efficient functioning of the prefrontal regions of the brain (Fonagy et al. 2007). This may be especially true in the case of the learner with AD/HD who often feels confused and threatened in his learning environment. Because stress-producing psychosocial factors can be directly correlated with AD/HD symptoms, it seems logical to assume that by changing the psychosocial factors that cause stress, AD/HD symptoms may be reduced (Starcher, 2002).

The new theoretical perspective offered by pedagogical theory, identifies the central task for early development as the need to come to understand that others have separate minds, with different knowledge contents and that being able to monitor one's internal and external world is the most adaptive and desirable strategy for optimal coping and social reality testing in the social domain (Fonagy et al. 2007). It may be possible that the frustration and anger displayed by learners with AD/HD in their social situations, is due to the fact that they expect other people to know what they are thinking and feeling, and to feel the same way as they do, therefore crossing their intentions seems purposefully hurtful and wilfully obtuse, rather than the result of a differing point of view (Birch & Bloom, 2004). With repeated exposure to the fact that his experiences are not always shared in the same way, the learner with AD/HD may begin to evolve his own subjective self, where he can appreciate overlapping knowledge, and yet understand the uniqueness and separateness of his self-experience (Fonagy et al. 2007).

Emotions appear to be at the centre of life itself and it seems pertinent to enquire about the most effective way to deal with these emotions in order to bring about emotionally intelligent behaviour and effective coping strategies (Myers, 2009). Emotions have long been recognized as having a place within the bounds of intelligence and Mayer and Geyer (1996) state that the ability to recognize emotions is basic to an individual's well being. In contrast to Eastern civilizations, where emotions are seen as part of thinking or the rational mind, as expressed in the Chinese word 'heart-mind', Western thought has long posited rational thought as inevitably opposed to the irrationality of emotion (Goleman, 2003). Hartley (2004) concurs with this viewpoint, adding that the bureaucratic form of the school has largely remained within education, with the prevailing thought that intelligence is a matter of reason

and not emotion. However, Kristjansson (2006) espouses the viewpoint that emotions are actually imbued with reason and that cognitions, defined as beliefs or recognitions, are central to emotional experience and can be cultivated and 'taught'. It seems that those who are better able to connect thought with emotions, are more socially functional and that this may reflect in higher levels of emotional intelligence. Higher emotional intelligence is often related to greater internal openness and empathy, as well as lowered defensiveness (Mayer & Geyer, 1996). It is posited that individuals who have a higher ability to predict emotions will have more social advantages and this suggests that these individuals may enjoy better long-term intimate relationships as well as better work histories. Tugade and Frederickson (2004) state that there is accumulating evidence to show that there may be individual differences in people's abilities to cognitively represent their emotions and to experience effective control over their emotional lives, which in turn, may allow some individuals to be more effective in how they manage their emotions during stressful situations.

BarOn (2003) proposes that individuals who are better at expressing their feelings, and therefore more assertive, are more emotionally independent, manage their emotions better and therefore more able to manage stress, are more realistic and effective in solving problems of a personal and inter-personal nature, and are more optimistic and self-motivated. It is posited by the present research, that these attributes would greatly enhance the success of the learner with AD/HD in school, from a personal, inter-personal and social perspective.

3.8 EMOTIONAL INTELLIGENCE AND INTERVENTION

During the nineties, there were predictions of gloom and doom with regard to youth, with suggestions that a wave of change was eroding the social world, along with moral and social decay (Grieve, 1997; Valente, 1998; Aronstam, 1996). The proposal therefore was to include emotional intelligence within the schools as part of the curriculum (Valente, 1998). In terms of intervention, the question is whether it is possible to educate learners with AD/HD who have lowered skills in this area, and in so doing to raise their ability to recognize not only the feelings of others, but also become more cognisant of their own emotions. BarOn (2003) discusses research by Stone-McCown, which showed that emotional intelligence was enhanced with an educational program called 'self-science', as well as another study

conducted by Sjoland, which demonstrated that emotionally and socially intelligent behaviour was enhanced after a workshop. The two emotional intelligence competencies which were enhanced the most after these programs, were emotional self-awareness and empathy, and it seemed that the individuals who began the program with the lowest EQ-I scores, were those that made the most progress. This is particularly encouraging in terms of this research as it is posited that learners with AD/HD would have low scores in emotional intelligence and would therefore benefit from a program aimed at improving these competencies.

In terms of emotional intelligence, it has been shown that impulsivity has its roots in early infancy and in this regard, Poole (1997) elaborates on the famous marshmallow test that was undertaken at the Stanford University Pre-School.

Figure 3.6 The marshmallow test undertaken at Stanford University Pre-School (Poole, 1997).

The participants in the study were four year old children who were each presented with a marshmallow. It was explained to the children that they were allowed to eat the marshmallow whenever they wanted to, but if they waited until the researcher returned from an errand, they would be given two marshmallows. The children were then videotaped and their reactions were recorded. Approximately one third of the children ate the marshmallow immediately, a third waited a little while and the remaining third waited until the researcher returned, and were given two marshmallows. A follow up study was undertaken 14 years later and the results showed that the patterns of impulsiveness were still the same. The 'grabbers' were still impulsive, which translated into impulsive and angry behaviour, whilst the 'waiters' developed into flexible, adaptable and conscientious adolescents, who were able to remain positive under pressure. Although no reference was made as to whether any of these children had AD/HD, the fact that impulsiveness is listed in the DSM IV as an indicator of AD/HD, may indicate that the 'grabbers' as described above, may well suffer from this disorder.

If it is known that impulsivity has its roots in early infancy, then the possibility of intervening at an early stage, to teach children about their behaviour and their emotions, may change the patterns of behaviour and prevent them from continuing in the same way. This relates to the focus of this research, which is to raise levels of emotional intelligence by educating learners

with AD/HD at an emotional level, in the hopes of changing their patterns of behaviour and raising their levels of emotional intelligence.

Programs such as Emotional Literacy, Providing Alternative Thinking Strategies (PATHS), Child Development Project, Creating Confident Kids, Emotion Coaching and Self Science are shown to have been effective in raising the levels of emotional intelligence in schools (BarOn, 2003; Gottman, 1997; Greenberg, 2007; Kelly, Longbottom, Potts and Williamson 2004; Morris & Casey, 2005; Sharp, 2001; Weare, 2006). Goleman (1996) in his review of the application of such programs in the United States, proposes that the application of emotional intelligence in the educational context continues to grow.

The PATHS curriculum was originally designed as an experimental approach for deaf children to learn a variety of processes involved in the expression, understanding and regulation of emotion. It is based on the ABCD model (affective, behavioural, cognitive, and dynamic) with special emphasis on the developmental integration of affect, the vocabulary of emotion and cognitive understanding as they relate to emotional and social competence (Kelly et al., 2004). Greenberg, Kusche, Cook, & Quamma (1995) state that the underlying assumption of the program is that during the maturational process, emotional development precedes most forms of cognitive development, and conclude that the relationship between affective understanding, cognition and behaviour are crucial in fostering socially competent action. The underlying assumptions of this program are as follows: that the extent to which children are able to understand and discuss emotions is related to their behaviour; how children are able to manage, understand and discuss emotions is related to developmental issues and is affected by socialization processes; the extent to which they are able to understand their own and others emotions is central to effective problem solving and; the school environment is a fundamental ecology and can be an effective vehicle for change (Kelly et al., 2004).

The PATHS curriculum has been chosen by the researcher to be used as the intervention program in this study. This program was chosen because of its clearly demarcated concept of emotion, previous research outlining the success of the program in multiple contexts, and the emphasis placed on the cognitive and developmental aspects of the child (Kelly et al., 2004). The researcher wanted to use a program that was already shown to be successful in

improving the emotional intelligence of students, so that in this study, the aim is not to evaluate the program, but to evaluate whether it would improve the symptoms and behaviour of learners with AD/HD. It is proposed by the researcher that these learners would benefit from the direct approach to teaching about emotions and how to manage these emotions, that the PATHS program offers. The learners with AD/HD would not be singled out, but would be exposed to the program as part of the whole class and any resultant impact on their symptoms and behaviour would be evaluated qualitatively on an individual level as well as in relation to the results of the larger group. In terms of how emotional intelligence can be applied in the educational context, it must be noted that the domains of emotional intelligence as defined by BarOn (2001) show considerable overlap with many of the most commonly identified aspects of social skills (Kelly et al., 2004). This is particularly relevant in terms of the learner with AD/HD as one of the deficits of this disorder is related to a certain dysfunction in social interactions.

This program seems to dovetail with the outline (Revised National Curriculum Statement Grades R-9. Teacher's Guide for the Development of Learning Programmes: Life Orientation) from the Department of Education in South Africa (2003), where it is suggested that teachers use experiential learning and teaching methods for life orientation and that the learning and teaching activities must focus on the acquisition of knowledge, skills, attitudes and values relevant to being able to function effectively in society. It is important to note that learning does not exist in isolation and that there are natural connections between and across learning areas (Department of Education, 2003). An outcomes-based curriculum aims to achieve knowledge whilst developing the appropriate skills for each learning area. The focus of assessment in life orientation is the process of learning and the changes that occur in knowledge, and not only on the product at the end of the learning experience. Although knowledge and skills may be assessed, values and attitudes are important areas of consideration, and refer to internal states that are closely linked with emotions (Department of Education, 2003). In order to assess life orientation, the following methods may be used: written tasks/tests, questionnaires/surveys, reflection worksheets, role-plays, presentations, journal entries, debates, and action research. Throughout the PATHS Program, the learners complete many of these assessment requirements during the course of the lessons.

3.8.1 Stage of development of learners in this study

The focus of this research will include learners with AD/HD between the ages of 9 and 12 years, who are in Grades 4 and 5. This stage of development is referred to as Middle to Late Childhood according to Hurlock and ranges from about 6 years of age to the time the learner becomes sexually mature (Feldman, 2008; Hurlock, 1975). The main developmental task during this time is the achievement of social acceptance by the group. The learner becomes more able to express his emotions in an appropriate manner, acquire new interests, develop new concepts, and have a clear idea of right and wrong. The over arching need is to belong to a group and to be accepted by them, and this will have a profound effect on his feelings of happiness or unhappiness (Hurlock, 1975). A clear hierarchy appears to develop in terms of a child's status, which may be referred to as the way in which members of a group evaluate a person and/or his role (Feldman, 2008).

Table 3.4 Status among middle and late childhood learners (Feldman, 2008).

High Status children	**Low Status children**
1. Greater access to resources such as games, toys, books and information. 2. Form friendships with high status children. 3. More likely to form exclusive and desirable cliques and play with a great number of children.	1. Follow the lead of high status children. 2. More likely to play with fewer children. 3. More likely to play with younger or less popular children

Popularity is a reflection of status and is reflective of social competence, which include being helpful and co-operative, having a good sense of humour, being able to ask for help when needed, not being overly reliant on others, and able to adapt to social situations (Feldman, 2008). Being unpopular may lead to the learner being neglected in that he receives little positive or negative attention from his peers, or rejected, in that he is actively disliked and treated in a negative manner. The learner with AD/HD tends to fit into the latter group, primarily because of a lack of social competence, and usually fits into the lower status group of learners. He may act in an immature or inappropriate manner, be overly aggressive or overbearing, as well as withdrawn or shy. Because the successful integration into a peer

group is the major task of this stage of development, unsuccessful adjustment may have long-term effects on the learner's development in adolescence and adulthood.

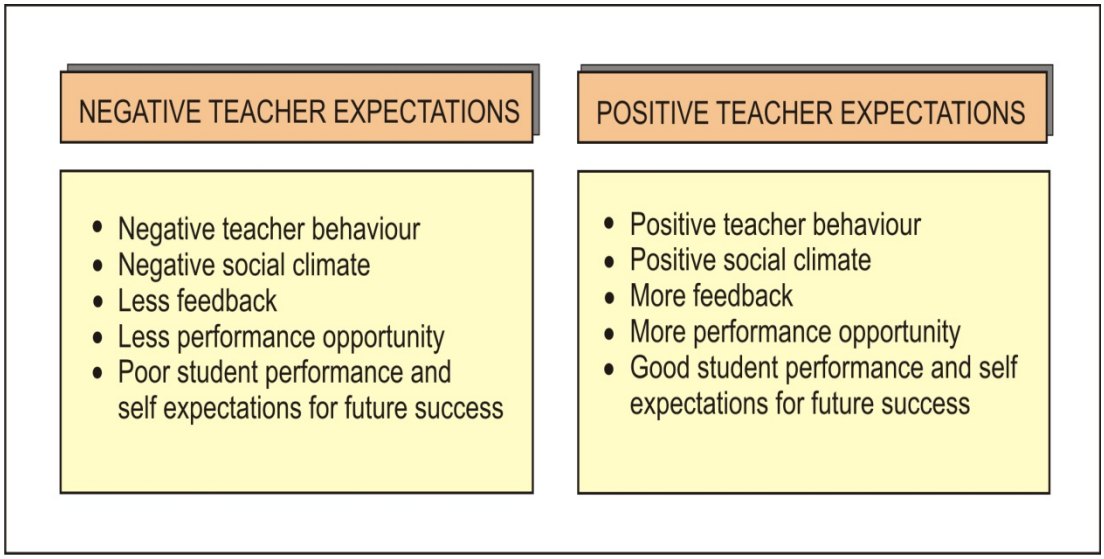
Figure 3.7 An outline of learners in Grades 4 and 5.
The Department of Education (2003)

1. A greater sensitivity as to the effect of their actions on others.
2. Consideration of the needs, desires and viewpoints of others.
3. The ability to function in a more co-operative manner when completing tasks in a group.
4. Independent tasks become more challenging and enjoyable.
5. Slowly revealing the wish to take control of their own learning.
6. Satisfying their curiosity about their world through active participation and critical enquiry into the learning process.
7. The need for more order, whilst still manifesting spontaneity and creativity.
8. Approaching activities more deliberately and methodically.
9. Increased ability to apply acquired methods in new contexts.
10. Increased ability to access, record and manipulate information.
11. Increased ability to investigate, compare and assess critically.

On reflection, it becomes clear that the development of emotional intelligence is a core function of this phase. As learners with AD/HD slowly develop during this phase, the domains of emotional intelligence become critical in the eventual outcome of each individual. Their intra-personal and inter-personal skills, ability to manage stress and to control their impulses, their adaptability and general mood will play a critical role in this development, and it is proposed that knowledge and understanding about themselves and others, will develop these skills in a positive manner.

It is proposed by the researcher that what matters most is that the school environment is a place where learners with AD/HD feel safe, included, self-reflective, and best able to learn – and the foundation is caring relationships (Freedman, 2003). In this environment, these learners may be more able to form close relationships with others, which in turn may create a value system more concerned with inner responsibility, an inner locus of control and standards of love and connectedness, loyalty and affection. In this regard, the teacher may play a very influential role on the successful adaptation of students during the stage of Middle to Late Childhood.

Figure 3.8 Teacher expectation and its effect on student performance (Feldman, 2008)



Teacher's expectations are conveyed to the children through modelling behaviour via complex verbal and nonverbal cues (Feldman, 2008). In light of this research and the researcher's interest in linking these two concepts, it seems feasible to investigate the possible positive effects of a program for emotional intelligence, on the symptoms and behaviour of AD/HD. If such programs, either in individual therapy, or in the context of the school, can indeed help to alleviate some of the symptoms of the learner with AD/HD, this may help to establish a better quality of life for the learner with AD/HD and may reflect in higher academic achievement.

Having discussed the different aspects of intervention, as well as the stage of development of the learners in this study, the next section will deal with how emotional intelligence can be assessed.

3.9 ASSESSMENT OF EMOTIONAL INTELLIGENCE

BarOn (2000) defines emotional intelligence as an array of non-cognitive capabilities, competencies, and skills that influence how an individual is able to cope with the demands and pressures of the environment (Brackett & Mayer, 2003). This is called a mixed-model approach and it is felt that the traits that are covered in this type of approach to emotional

intelligence, are predictive of real-life criteria. Stewart-Brown and Edmunds, (2003), reviewed instruments for assessing emotional and social competence in primary school settings, with a view to being able to identify instruments appropriate for children between the ages of 3 and 11 years of age, applicable to the general population. The instruments were scrutinised for their content, method of application, reliability, validity and appropriateness for screening, identifying, profiling and monitoring. Only 3 of the 45 instruments for assessing emotional and social competence in preschool and primary school settings were considered to be relevant. The BarOn EQ-iYV was found to be one of the instruments to have the most relevance for assessing emotional competence within this setting, as well as to be useful in monitoring the progress of children after interventions have been put in place. The Process-orientated Child Monitoring System (POMS) was found to be the most relevant for children between the ages of 4 and 5 and the Devereux Early Childhood Assessment (DECA) for children between the ages of 2 and 5 years (Stewart-Brown & Edmunds, 2003). As such, it seems appropriate to use the BarOn EQ-iYV assessment for the purposes of this dissertation, as it will be able to measure the construct effectively and monitor the progress of the learners after they have received the PATHS program. Davies et al. (1998) argue that measures of emotional intelligence suffer in terms of reliability, but Van Rooy & Viswesvaran (2004) state that the BarOn Emotional Quotient Inventory is one of the most widely used measures and demonstrates an overall reliability for internal consistency of .76 and a sufficient test-retest reliability (.85 after one month and .75 after 4 months).

The BarOn Emotion Quotient Inventory assessment instrument was originally constructed as an experimental instrument to examine the conceptual model of emotional and social functioning. The BarON EQ-iYV is designed to assess the emotional intelligence of children and adolescents between the ages of 7 and 18 years. It is a self-report measure of emotionally and socially intelligent behaviour, which provides an estimate of the underlying emotional-social intelligence of the individual, and is underpinned by the theoretical base of the Bar-On Emotional Quotient Inventory (BarOn EQ-I). A consensus of approximately 60 studies demonstrates that the EQ-i is a very reliable, valid and robust measure of the construct involved (BarOn, 2005). Because this is a self report assessment, it is interesting to note research findings that show that children seem to be the most knowledgeable source to report on their own behaviour and motivations, although their cognitive development,

truthfulness and desire for social acceptance may limit the accuracy of their reports (Baker, Jacobsen, Raine, Lozano & Bezdjian, 2007). It seems that although each rater provides a unique perspective on the child's behaviour, different informants tend to produce different reports. Although teachers may exhibit greater objectivity, they may also experience a limited knowledge of the learner's social interactions as these may mostly occur outside of the classroom (Baker et al., 2007). In light of this information, the researcher plans to elicit self report assessments from both the teacher and the learner with AD/HD as well as a semi-structured interview, to access as much information as possible.

Having discussed the origins of emotional intelligence, defined the term and tracked its development, considered its role in education, identified and discussed the intervention program and noted the assessment of AD/HD, the following section will focus on the criticisms that are levelled against the concept of emotional intelligence and how these have been dealt with in the literature.

3.10 CRITICISMS OF EMOTIONAL INTELLIGENCE

Mayer and Salovey (1993) cite criticisms of their assumptions that emotion is connected with intelligence.

Figure 3.9 Criticisms of emotional intelligence (Mayer & Salovey, 1993).

Criticism	**Defence**
Emotional intelligence is synonymous with social intelligence.	1. Emotional intelligence involves the manipulation of emotional content as well as emotions and social issues, whereas social intelligence does not process emotions (Mayer & Salovey, 1993). 2. The linking of emotional intelligence with social intelligence is in dispute, especially with regard to broad crystallized abilities (Davies et al, 1998) 3. Bar-On (2005) states that inter-personal and intra-personal competencies are closely linked and that the correct term should be social emotional intelligence.

There are no unique abilities (defined as variations in the way individuals perform tasks that have differing degrees of difficulty) connected with emotion.	1. There are several mechanisms that underlie emotional intelligence, especially that emotionality contributes to specific abilities (Mayer & Salovey, 1993). 2. Emotionally able individuals may be able to emphasize higher level processes and regulate their moods (Mayer & Salovey, 1993). 3. There is a class of mental operations (automatic and voluntary) which allows us to enhance or diminish our emotional experiences (Salovey & Mayer, 1993). 4. Some emotional intelligence factors are independent of both fluid and crystallized abilities, and several critical components might be conceptualized in terms of personality domains (Davies, 1998).

Hein (2003) in his review of a book on emotional intelligence, comments on the fact that the popular view of emotional intelligence defines it as a set of personality traits as opposed to a true form of intelligence. However, for the purposes of this thesis, the social and emotional traits researched and developed by BarOn in his assessment scale (EQ-iYV) give important and relevant information about the behaviour and symptoms of the learner with AD/HD. As such, this information is able to inform the researcher of specific social and emotional competencies experienced by the learner with AD/HD and to monitor whether an intervention using the PATHS program has any effect on these competencies. In light of the above criticisms and newer research on social and emotional intelligence, it seems that this construct forms part of a wider and on - going debate. New neurological breakthroughs in terms of imaging techniques are adding important information to the debate, moving the construct into a more scientific arena with exciting possibilities.

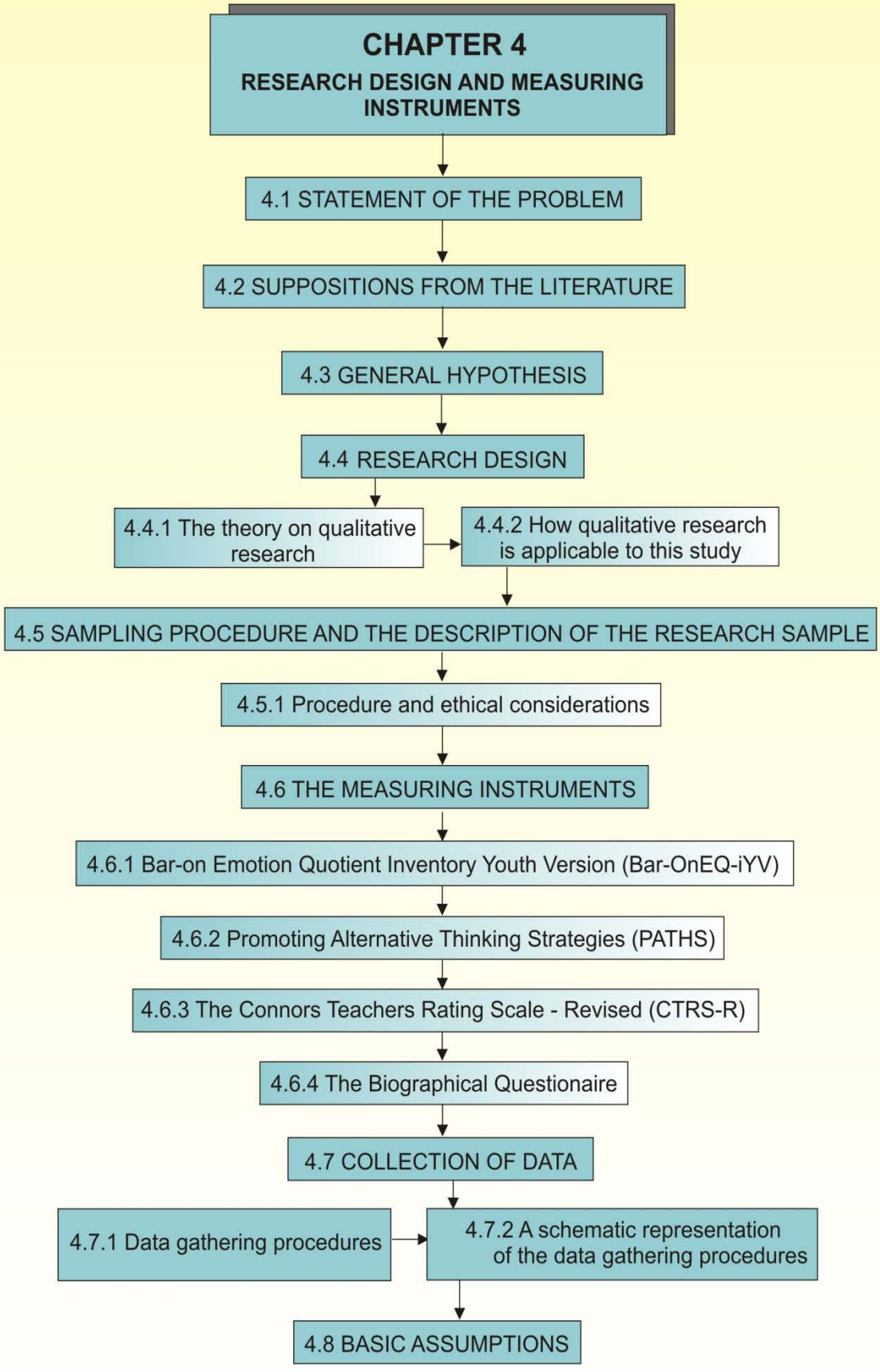
3.11 SUMMARY

In the review of relevant literature, it can be seen that there is continuing interest and debate in the central matter of emotional intelligence, and particularly as this applies to the learner with AD/HD. The feeling part of the brain appears to pre-date the cognitive facilities on an evolutionary timescale, and of particular importance to the learner with AD/HD, who experiences the symptoms and behaviour of this disorder, is the finding that the brain can create new circuitries throughout life. The exposure of these learners to alternative thinking strategies in terms of their emotions through the PATHS program, may assist them in strengthening and building new neural connections in the emotional centres of the brain. Because there are many related terms used to describe this construct, the researcher has elected to use the term emotional intelligence as developed by BarOn (2005). This appears to dovetail closely with the symptoms and behaviour shown by the learner with AD/HD. The construct as described by BarOn (2005) can be seen as trait emotional intelligence in that it relates to behavioural dispositions, which link with the symptoms and behaviour of the learner with AD/HD, rather than a cognitive ability, and is measured by means of a self report questionnaire. Genetic factors appear to explain much of the familial aggregation of AD/HD and neurotransmitters seem to play an important role in the regulation of the brain. Research is beginning to show that emotional literacy and emotional intelligence are beginning to permeate the educational lexicon, and there is much debate as to whether emotional intelligence can be accepted as having a place within the bounds of intelligence. Many intervention programs have been found to be effective in raising the emotional intelligence levels of students, and the PATHS curriculum seems to dovetail with the outline from the Department of Education in South Africa for life orientation. This program focuses on the emotional development of the learner and is a structured and well researched curriculum, well designed for the stage of development of the learners in the control group, and particularly suited to the learner with AD/HD. The BarOn EQ-iYV appears to be the most suitable assessment to assess the emotional competence of learners with AD/HD and to monitor the progress of these learners in terms of their symptoms and behaviour, after they have received the PATHS program. Lastly there appear to be some criticisms levelled against some of the assumptions of social and emotional intelligence and on - going research is constantly adding to the debate. For the purposes of this thesis, the researcher feels confident that the

construct of emotional intelligence as it pertains to the symptoms and behaviour of the learner with AD/HD, along with the BarOn EQ-iYV assessment and the PATHS program, are well suited to the present study.

The following chapter contains a discussion of the research design and the measuring instruments used in an empirical investigation of emotional intelligence in learners with AD/HD.

CHAPTER 4
RESEARCH DESIGN AND MEASURING INSTRUMENTS



4.1 STATEMENT OF THE PROBLEM

In the preceding two chapters, an overview of the current literature was given of the development of social and emotional intelligence, as well as an overview of Attention Deficit/Hyperactivity disorder (AD/HD) in learners. The question of emotional intelligence in learners with AD/HD has been observed as the focus of discussion in this thesis. An exploration into the origins of emotional intelligence, as well as how this concept links with resilience and education, the neurological implications, as well as possible interventions and assessments, has been undertaken. The origins, diagnosis, prevalence, and co-morbidity of AD/HD have been investigated, and links have been made with emotional intelligence. It is suggested in this research that the levels of emotional intelligence in learners with AD/HD are linked to the presence of symptoms and behavior associated with AD/HD. It is postulated that a program to raise the levels of emotional intelligence in these learners will ameliorate their symptoms and behavior.

This study thus proposes to explore the following specific research problems:

- What levels of emotional intelligence do learners with AD/HD have?
- Will learners with AD/HD be able to enhance their emotional intelligence following a program designed for this purpose?
- Will learners with AD/HD be able to improve their symptoms and behavior following a program designed to improve their emotional intelligence?

4.2 SUPPOSITIONS FROM THE LITERATURE

Research findings from the literature which was covered in relation to the topic, include many varying views on the main concepts of this thesis. At the same time they attempt to address the research question which is: “Can the enhancement of emotional intelligence alleviate the symptoms and improve/change the behavior of learners with AD/HD?” The following suppositions from the literature shed light on the different aspects of this research question and lead to hypotheses on these different areas.

4.2.1 Learners with AD/HD will have a different emotional intelligence score than learners without AD/HD

Research findings indicate that learners with AD/HD often experience negative emotionality, which can be linked to a lack of goal directed behavior, a propensity for negative affect and cognitions, as well as high levels of perceived stress (Durbin et al., 2005). It seems that the theory of emotional intelligence proposes that conscious and unconscious emotions and thoughts shape who we are, what we learn and how we act (Myers et al., 1998). The researcher posits that the learner with AD/HD seems to evaluate the world and himself in a more negative way, and appears to experience high levels of stress in terms of peer rejection and low social acceptance. On the other hand, learners without AD/HD appear to experience more positive emotionality which translates into high sociability and environmental engagement as well as positive mood states (Durbin et al., 2005). Learners with AD/HD seem to show lowered emotional intelligence in that they often experience difficulties interpreting social situations accurately, understanding social cues, lower competence levels in empathy, poor planning abilities and a lowered ability to predict the consequences of social situations as well as their own actions (Bauminger, Edelsztein & Morash, 2005). Research shows that popularity reflects social competence, being helpful and co-operative, having a good sense of humor, being able to ask for help when needed, and being able to adapt to social situations (Feldman, 2008). The learner with AD/HD tends to fit into the unpopular group, primarily because of lowered social competence, and this may result in rejection, in that this learner is actively disliked and treated negatively, or neglect in that he receives little positive or negative attention from his peers (Feldman, 2008).

4.2.2 Learners with AD/HD will show a below average composite score of emotional intelligence on the emotional intelligence scale

The composite score on the emotional intelligence scale is made up of the following components: Intrapersonal intelligence (self regard, emotional self awareness, assertiveness, independence and self actualization); Interpersonal intelligence (empathy, social responsibility, interpersonal relationships); Stress management (stress control, impulse control); Adaptability (reality testing, flexibility, problem solving); General Mood (optimism,

happiness) (BarOn, 2005). These key emotional intelligence (EI) components combine to help the individual to cope with environmental demands, determine effective behavior and lead to emotional well being (BarOn 1997b, 2000, 2005). Research shows that the learner with AD/HD experiences difficulties with many of these competencies which may translate into a below average composite score on the emotional intelligence scale (BarOn, Tranel, Denburg & Bechara, 2003; Bauminger et al., 2005).

4.2.3 The emotional intelligence of each learner with AD/HD will differ within and between tests

The symptoms and behavior of learners with AD/HD as addressed by the Connors Teacher Rating Scale Revised are as follows: oppositional behavior, inattention, hyperactivity, anxious/shy, perfectionism, social problems, as well as poor self image (Connors, Sitarenios, Parker, & Epstein, 1998; Wasserstein, 2005). The DSM IV categorizes learners with AD/HD as experiencing behavioral deficits of inattention, hyperactivity and impulsivity (Diagnostic Statistical Manual of Mental Disorders, 4th Edition, 1994). Both of the above classifications of this disorder directly describe the symptoms and behavior of the learner with AD/HD and are therefore well suited to the nature and focus of this research. Research shows that learners with AD/HD are prone to emotional mishaps which slowly erode their self esteem, develop a negative emotionality over time, and experience social and cognitive dysfunction (Amen, 2001a; Cukrowicz et al., 2006; Hallowell & Ratey, 1994; Levine, 2002). This may result in a lowered ability to appraise themselves accurately. Each learner with AD/HD may therefore show different levels of the competencies of social and emotional intelligence (intra-personal, inter-personal, stress management, adaptability, and general mood), which may lead to differences between sub tests and between tests, with a generally lowered overall composite score (BarOn, 2005; 2000; 1997b). This may directly influence the symptoms and behavior of the learner with AD/HD.

4.2.4 A program on emotional intelligence will be influential in developing emotional intelligence in learners with AD/HD

Research shows that emotionally and socially intelligent behavior can be enhanced with educational programs designed for this reason, and that individuals with the lowest scores of emotional intelligence usually make the most progress (BarOn, 2003; Greenberg, 2007; Kelly et al., 2004; Morris & Casey, 2005; Sharp, 2001; Weare, 2006). In order for optimal learning to take place, it is important that learners feel safe in their school environment, and that there is a foundation of caring relationships, a feeling of being valued and a sense of well being (Freedman, 2003; Weare, 2006). Research shows that Promoting Alternative Thinking Strategies (PATHS) program is successful in multiple contexts and that it has a clearly demarcated concept of emotion, as well as an emphasis on the cognitive and developmental aspects of the child (Kelly et al., 2004). By exposing learners with AD/HD to the vocabulary of emotion through the PATHS program, it is hoped that it will enhance the emotional intelligence of learners with AD/HD.

4.2.5 AD/HD can be observed in the scores and profiles of learners with AD/HD on the attention deficit disorder scale

The learners in this sample group have all been medically diagnosed with AD/HD by a medical practitioner, and it will be interesting to note whether the scores and profiles of each learner on the attention deficit disorder scale reflect this diagnosis. Research shows that the main purpose of the Connors Teachers Rating Scale Revised (CTRS-R) is as a screening process aimed at directing observations in the classroom, guiding enquiry in clinical situations, or characterizing the broad outlines of behavior in group investigations (Connors et al., 1998). As such, it is expected that this instrument will be able to show attention deficits in learners with AD/HD.

4.2.6 The scores for learners with AD/HD on the attention deficit scale will relate to their emotional intelligence scores on the emotional intelligence scale

It is posited by the researcher that learners with AD/HD will show lowered emotional intelligence on the emotional intelligence scale and higher scores on the attention deficit scale. Research shows that the social and emotional competencies help the individual cope with his environment in an adaptive and effective manner (BarOn et al., 2003; BarOn, 2005; 2000; 1997b). Low scores in any one of the competencies or in the composite score, show ineffective functioning which leads to difficulties with social and emotional interactions. This is directly related to the learner with AD/HD, who experiences difficulties and therefore high scores on one or all of the following: oppositional behavior, inattention, impulsivity, hyperactivity, anxiety, perfectionism and social problems (BarOn et al., 2003; Bauminger et al., 2005; Connors et al., 1998). It is hoped that as learners with AD/HD enhance their social and emotional competencies causing their score to be higher, there will be an inverse reaction on the scores for attention disorder, which will cause them to be lower.

4.2.7 A program on emotional intelligence will be influential in improving the symptoms and behavior of learners with AD/HD

The underlying assumptions of the PATHS program are the following: the extent to which children are able to understand and discuss emotions is related to their behavior; the relationship between affective understanding, cognition and behavior are crucial in fostering socially competent action; how children are able to understand their own and others emotions is central to effective problem solving; and the school environment is a fundamental ecology and can be an effective vehicle for change (Greenberg et al., 1995; Kelly et al., 2004). The learner with AD/HD reflects many of the symptoms and behaviors outlined above. His behavior is directly related to the difficulty he experiences in understanding and discussing emotions; the difficulty he experiences in understanding emotions, cognition and behavior results in socially inept actions; his inability to understand his own and others emotions effects his ability to solve problems; and the fundamental ecology of the school system is not always able to be an effective vehicle of change for this learner (Kelly et al., 2004).

4.2.8 Reflections on the criticisms of emotional intelligence:

- Emotional intelligence is synonymous with social intelligence

- There are no unique abilities (defined as variations in the way individuals perform tasks that have differing degrees of difficulty) connected with emotion

Researchers have studied and researched these criticisms and have attempted to address them (BarOn, 2005; Davies et al., 1998; Mayer & Salovey, 1993; Salovey & Mayer, 1990). The conclusion was drawn that the construct of emotional intelligence forms part of a wider and on-going debate. New neurological breakthroughs in the form of neuro-imaging techniques are adding important information to the debate, and moving it further into the scientific arena (Asherson et al., 2005; Fonagy et al., 2007; Morris & Casey, 2005; Siegel, 2001; 2007). The mixed-model approach, which defines emotional intelligence as an array of non-cognitive capabilities, competencies and skills that influence how an individual is able to cope with the demands and pressures of his environment, are best suited to the requirements of this thesis, and can function within the bounds of the above criticisms (BarOn, 2000; Brackett & Mayer, 2003).

4.3 GENERAL HYPOTHESES

The following general hypotheses were formulated to explore the concerns of the research problem:

- Learners with AD/HD will have a different emotional intelligence score than learners without AD/HD
- Learners with AD/HD will show a below average composite score of emotional intelligence on the emotional intelligence scale
- The particular symptoms and behavior of each learner with AD/HD will differ within and between tests
- A program on emotional intelligence will be influential in developing emotional intelligence in learners with AD/HD
- AD/HD can be observed in the scores and profiles of learners with AD/HD on the attention deficit disorder scale
- The scores for learners with AD/HD on the attention deficit scale will relate to their emotional intelligence scores on the emotional intelligence scale

- A program on emotional intelligence will be influential in improving the symptoms and behavior of learners with AD/HD

In the following section, different aspects of the research design will be discussed.

4.4 RESEARCH DESIGN

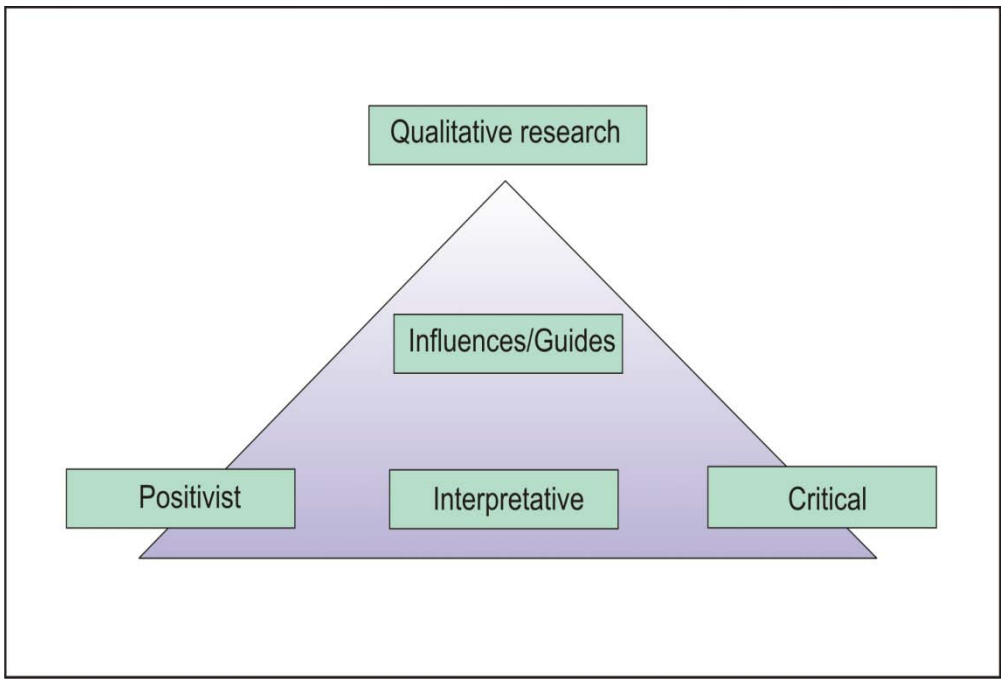
The research design can be described as the plan, recipe or blueprint for investigation (De Vos, 1998). This study follows the guidelines of symbolic interactionism in that it attempts to interpret the meaning that symbols such as actions, signs and words have for the subject (De Vos, 1998). For example, the learners with AD/HD will explore the meaning of their behavior, their non-verbal language and their levels of emotional intelligence, through discussion in the PATHS program, self report inventories, and semi-structured interviews with the researcher.

4.4.1 The theory on qualitative research

This research will follow the guidelines of qualitative research, which may be defined as the different use of qualitative techniques and data collection methods in relation to social interaction (De Vos, 1998). The samples are usually small and the informants have been selected purposively in order to best answer the research question. The aim is to extend and flesh out the area of study so that the most comprehensive and accurate account of the problem can be developed, and to this end, individuals have been examined in terms of their behavior, their interpretation of what is occurring, and any changes that may have happened in the process (Morse, 1994).

Qualitative research can be thought of as a process of systematic enquiry into the meanings used by individuals to make sense of their actions and to guide them (Grafanaki, 1996). The following figure clarifies one interpretation of the philosophical assumptions underlying qualitative research.

Figure 4.1 Underlying philosophical assumptions (Myers, 2009).



The terms used may be described as follows: *Positivist research* has guided and influenced qualitative research in that it assumes that reality is objective and can be described and measured independently and inference may be drawn from the sample to the population – this paradigm is the basis of quantitative research and attempts to objectively measure the social world, predict and control human behavior (De Vos, 1998; Myers, 2009). *Interpretative research* attempts to understand and interpret the meanings and intentions underlying human behavior, as well as the qualities of human behavior, rather than focusing on human behavior in terms of universally accepted laws and generalizations (De Vos, 1998). *Critical research* was developed between the late 1970's and the middle of the 1980's and its main aim is of social critique, seeking freedom in contemporary society from contradictions, conflicts and oppositions (De Vos, 1998; Myers, 2009).

It appears that qualitative research is a multi perspective approach to social interaction, which is made up of many different assumptions and labels. The primary aim is to achieve participant observations, interview, make use of focus groups, and qualitatively examine texts

(De Vos, 1998; Grafanaki, 1996; Myers, 2009). Ambert, Adler, Adler, and Detzner (1995) outline the focus and goals of qualitative research:

- The main aim is that it seeks depth in terms of a smaller group of individuals, with more intimate and personal information about these people.
- Qualitative research emphasizes that it is more important to understand how and why people behave, think and make meaning, than to focus on what they believe or do on a larger scale.
- The goals of qualitative research are multi-levelled and are particularly well suited to the study of social and emotional intelligence in learners with AD/HD, with a particular focus on their symptoms and behavior.

Qualitative research also falls within the context of discovery rather than verification. This means that new information may emerge, which may reflect new ways of thinking, or new behaviors may come to light, which in turn may modify existing ideas. Research shows that qualitative research can accommodate hypothesis testing, but that it is possible for there to be a shift in focus based on the requirements of the individual, whereby the exploration may encompass a rich 'context bound' milieu, rather than being guided solely by existing research perspectives (Ambert et al., 1995; De Vos, 1998).

In support, other researchers conclude that qualitative approaches have highlighted the different voices that exist and the need to make visible the voices of particular individuals, groups and communities that may not have been heard (Putney, Green, Dixon & Kelly, 1999). There is a need to understand the everyday activities and actions of everyday people, and in the particular case of learners with AD/HD, within their own particular settings, in order to evaluate how their actions and settings provide the academic knowledge and societal resources necessary for research.

Much criticism has been levelled at the small sample sizes in qualitative research and the resultant lack of general applicability of the research (Myers et al., 1998). However, if attention is paid to the rigor with which the study is constructed, this will offset many of these concerns. To this end, this study makes use of rigorous methods to make sure that the study can be replicated by other researchers with different subjects, and that the study will be able

to inform and enhance the reader's understanding of the subject (Myers et al., 1998). The main aim of qualitative research is to offer a perspective of a situation, with descriptions that have a richness and depth relating to the phenomena under study (Myers, 2000). Certain criticisms have been levelled at qualitative research, namely that it is not objective, and that it lacks rigor and is not scientific, but qualitative research shows that assessment should be made according to its own criteria of validity, objectivity and reliability. To this end, Schamberger, (1997) explores these concepts and defines the terms as follows:

- *Validity* – this refers to the extent to which the findings are accurate or reflect the underlying purpose of the study. The present study uses a more analytical approach, which utilizes some of the more formal aspects of qualitative research such as symbolic interactionism, as well as rigorous data analysis (De Vos, 1998).
- *Objectivity* – this refers to the ability of the researcher to do justice to the study. In the case of the subject to be interviewed, this infers a need to be respectful, open and sensitive. It is posited that objectivity cannot be fully reached within any research and that it is enough to merely strive towards it.
- *Reliability* – this refers to the procedures undertaken to ensure the research is reliable. In qualitative research, reference is made to interviewer reliability, which reflects skills such as sensitivity, the ability to listen, to be respectful and to be open minded and not judgemental. The present study relies on an underlying assumption of the analytical research perspective that reality can be analyzed and explained, but not predicted or controlled (De Vos, 1998).

4.4.2 How qualitative research is applicable to this study

- The methodology of this research relates to symbolic interactionism, and as such, knowledge about the problem under investigation arises from the understanding of symbols and meanings, as well as an understanding that reality can be analyzed and explained but not predicted or controlled (De Vos, 1998). By means of assessment, as well as interviews, participant observation, and some interpretative enquiry, the data will be gathered on learners with AD/HD and then analyzed in a systematic manner, within the qualitative research

paradigm (De Vos, 1998). The aim of this research is to describe, interpret and analyze the symptoms and behavior of learners with AD/HD in terms of their social and emotional intelligence, and the meaning that is attached. In this study, learners with AD/HD are observed through the intervention process by the researcher, in order to evaluate their social and emotional progress, and information is then gathered from the learners and their teachers, through interviewing techniques, and self report inventories. A biographical questionnaire has been designed by the researcher in order to compile a profile of each learner with AD/HD.

- As the focus of qualitative research is extended towards a smaller group of individuals with more intimate and personal information about these people, this study seeks to replicate this. As such a small group of 8 learners who have been medically diagnosed with AD/HD will be used as the sample group and will be observed from an intimate and personal perspective. Each learner will be dealt with individually and personally, and the learner will also be observed by the researcher within the larger group, in order to gain unique insights into each learner from their own individual perspective.
- The aim of qualitative research is to understand how and why people behave, think and make meaning on a personal level (Ambert et al., 1995). As such, this study explores the symptoms and behavior of learners with AD/HD, to investigate why they think and behave the way they do, as well as placing focus on the meaning they have attributed to their actions. This will be accomplished by means of the self report inventories, interaction and observation throughout the intervention process, and interviews.
- Because the goals of qualitative research are multi-levelled, this type of research is particularly well suited to the study of learners with AD/HD. For example, the learners will be studied in terms of their social and emotional intelligence, as well as the symptoms and behavior they exhibit. At a deeper and more personal level, the meaning they attribute to their behavior will be examined, as well as their perceptions of their own social and emotional intelligence, and the perceptions of their teachers in regard to their symptoms and behavior.

- Should any new information come to light, qualitative research allows the researcher to explore and/or investigate any new ways of thinking, within the richness and uniqueness of each specific context.

The next section will deal with the sampling procedure and a description of the research sample will be given.

4.5 SAMPLING PROCEDURE AND THE DESCRIPTION OF THE RESEARCH SAMPLE

A sample may be described as the sub-set of the population used in the study, for the purpose of understanding and explaining some facet of the population from which it was drawn (De Vos, 1998). In this particular study, non-probability sampling, which is completed without the use of randomization, was used. Accidental samples were used in that the researcher included in the sample group all cases of learners who had been medically diagnosed with AD/HD and are readily available to take part in the study. This type of sampling may also be referred to as a sample of convenience or availability (De Vos, 1998). Purposive samples were also used, in that the researcher included in the sample group all students who had been medically diagnosed with AD/HD within the larger group of students in Grade 4 and 5 at the same school. These students have been diagnosed as having the most characteristics, representativeness or typical attributes of the phenomena under study – namely the symptoms and behavior of learners with AD/HD (De Vos, 1998). In this way, the researcher was able to identify 8 students who suffer from this disorder, within a larger group of 94 students, who fall within the same age group, between the ages of 9 and 11 years of age.

The sample will include primary school learners between the ages of 9 and 11, in Grade 4 and 5 at the American International School of Johannesburg. This is a sample of convenience and it is therefore possible that younger and/or older learners may be added to the group through necessity. The predominant language is English, and each grade consists of 3 co-educational classes, with approximately 15 students in each class. An attempt has been made to equalize the numbers of boys and girls in each class. The total number of

learners in the sample will be approximately 90, but these numbers may drop if some of the learners do not consent to participate or if some of the learners leave the school during the research. All learners will receive the pre-test on the BarOnEQ-iYV(S) and the CTRS-R(L) and the post-test on the same measures. All learners will receive the treatment (the PATHS program aimed at improving emotional intelligence). It is assumed that the intelligence level of the learners in both the experimental and control groups will fall within the average range (80–100) or above, as each learner undergoes an entrance assessment and interview, and it is expected that learners with an intelligence below this level will not be placed within this school. Any students who are may fall into a lower category of intelligence, will be included in the research study so that they are not made to feel different, and the researcher will reserve the right to exclude the learner's data if necessary, in order to control for intelligence variables. The scholastic achievement of the learners in the sample group will be collected from their files at the beginning of the programme and a mean range will be computed for each learner. All students undergo the Scholastic Achievement Tests in October of each year, and these are sent to the United States for marking, and are compared with their age group in the United States. Learners with known psychiatric problems, will be included in the study so that they are not made to feel different, but the researcher will reserve the right to exclude these learners data if necessary, in order to control for medical conditions and co-morbidity. A heterogeneous sample was selected in order to search for the uniqueness of each case and yet also the commonalities that may exist between them by chance.

4.5.1 Procedure and ethical considerations

Ethical considerations included informed consent in which the participants were made aware of the nature and scope of the research. Particular care was taken not to violate the rights of the individual in relation to privacy, confidentiality and self-determination (De Vos, 1998). The parents or guardians of each child, as well as the head of the school, and the teachers concerned, received a letter outlining the purpose of the study, explaining the procedure and participation expected and requesting permission for their child, their school, and their class to participate in the study. The letter also stipulated that the data would be both anonymous and confidential and that there would be a guarantee that participation or non-participation in the study would have no effect on the child's school career, and would not affect them

negatively in any way. The nature of the research was explained to the learners verbally and their consent was gained before beginning the pre-tests. A verbal agreement was undertaken with each child, for their verbal consent to participate in the study. Feedback was available on request. At the end of the study, a written summary of group results and trends will be available for any interested parties. This will allow for feedback on group issues and will not compromise the anonymity of the participating learners. Individual feedback will be available on request for the 8 learners that form the particular sample group for this study.

Before commencement of the study, subject information sheets and consent forms were given to the Principal of the school and the teachers of the Grade 4 and 5 classes. Consent forms were explained and the necessary signatures obtained. Consent forms, subject information sheets and biographical questionnaires were sent home for the parents to read, complete, sign and return to the school within the specified time of one week. Once these were collected and recorded, the researcher addressed each class as a group, explained the procedure and nature of the research that was included in the information sheet, and each child who was given permission by their parents, gave their verbal consent. The learners were assured of the utmost confidentiality, respect and integrity on the part of the researcher. It is important that the participants understand that the role of the researcher is diagnostic and not judgemental (Morse, 1994).

All the children from the 6 classes in Grade 4 and Grade 5, were tested as a group within each class, during the last week of September, 2007, by the researcher. The test used was the BarOnEQ-iYV(S) and took approximately 30 minutes. The teachers were then asked to fill in the CTRS-R on each learner in their class who had been medically diagnosed with AD/HD, during that week. Rapport was developed and maintained with the learners in an attempt to maintain a quiet and controlled environment within the classroom. The group test was administered as prescribed within the administration and scoring manuals and all standardized instructions were followed precisely. The test was administered by the researcher in the order that had been prescribed, to maintain the integrity of the scale as a whole and to reduce the influence of extraneous variables on the learner's test performance. Each child was given a sharp pencil and an eraser. No time limits were imposed and the examiner was available at all times to answer questions about procedure.

The semi-structured interview was used to follow up on the learners with AD/HD, after the intervention program had been completed and they had undertaken the assessments described above. This is a flexible manner in which personal data can be gathered, that is at once both personal and detailed (Grafanaki, 1996). During a semi-structured interview, the researcher is able to interact with the learner at a personal level and as such, the researcher should have certain qualities in order for the process to unfold in a smooth and comfortable milieu. Above-average listening skills are a prerequisite, as well as qualities such as accurate understanding, warmth, acceptance and genuineness (Grafanaki, 1996; Schamberger, 1997). It is incumbent on the part of the researcher to follow up on the remarks of the learner in the form of a reflective summary, ask questions for clarification, as well as to avoid leading questions and interruptions. The development of a trusting relationship facilitates the gathering of data and the sensitivity and respect of the researcher affects the depth and quality of the data that is gathered (Grafanaki, 1996).

In the next section, the measuring instruments that were used in this research will be discussed in detail.

4.6 THE MEASURING INSTRUMENTS

In this section, the measuring instruments that have been used to conduct this research have been described in terms of the methods that were used, the applicability of the test to the particular research question and the reliability and validity of the tests where possible.

The following test was used as a pre and post test for all the learners in the sample group:

- Bar-On Emotions Quotient Inventory Youth Version (BarOn EQ-I YV)
  All learners in the sample group were exposed to the Promoting Alternative Thinking Strategies (PATHS) Program for 8 months.

The following test was used for the learners with AD/HD as a pre and post test by the teachers:

- Connors Teachers Rating Scale – Revised

  The learners with AD/HD underwent a semi-structured interview with the researcher, and the parents of these learners answered a biographical questionnaire.

4.6.1 Bar-On Emotion Quotient Inventory Youth Version (BarOn EQ-i YV)

This assessment instrument was originally constructed as an experimental instrument to examine the conceptual model of emotional and social functioning. The BarOn EQ-iYV is designed to assess the emotional intelligence of children and adolescents between the ages of 7 and 18 years. It is a self-report measure of emotionally and socially intelligent behaviour, which provides an estimate of the underlying social and emotional intelligence of the individual, and is underpinned by the theoretical base of the BarOn Emotions Quotient Inventory (BarOn EQ-I). Within the confines of the research question, it is hoped that this measuring instrument will be able to identify the social and emotional competencies of the overall sample group, with particular focus on learners with AD/HD.

The Youth Version of the Bar-On EQ-I is made up of 60 questions, all of which were read to the class as a whole. The learners first filled in their personal details at the top of each questionnaire: name, age, gender, birth date and today's date. The following instruction was read to the learners "Tell me how you feel, think or act most of the time in most places. Choose one, and only ONE answer for each sentence, and circle the number that matches your answer". The learners were then required to circle one of four possible answers to each question on a 4 point likert scale: Very seldom true of me (1); Seldom true of me (2); Often true of me (3); and Very often true of me (4). If learners experienced difficulty understanding the question, the researcher was able to give an explanation of this, using other examples. The individual's responses rendered a total EQ score and scores on the following 5 composite scales comprising 15 sub-scale scores: Intra-personal (comprising self-regard, emotional self-awareness; social responsibility, assertiveness, independence and self-

actualisation); Inter-personal (comprising empathy, social responsibility, and interpersonal relationship); Stress management (comprising stress tolerance and impulse control); Adaptability (comprising reality testing, flexibility and problem solving); General mood (comprising optimism and happiness). A brief description of the social and emotional intelligence competencies and skills measured by the 15 subscales may be found in Appendix VIII. Scores are standard scores based on 100 as the mean. Average or above average scores (86 – 129) indicate a well functioning individual who is effective in coping with environmental demands and who possesses an ability to be successful in various areas of life. Scores above 130 indicate atypical emotional functioning and these learners require individual interviewing. Lower scores (70 – 85) indicate under developed social and emotional skills, and when combined with Intelligence Quotient (I.Q) scores, this can be a powerful indicator of the respondent's general intelligence and potential to succeed in life. Of particular importance with regard to effective coping are low scores on the following scales: Reality Testing; Problem Solving; Stress Tolerance and Impulse Control. Knowledge of high and low scores help individuals identify strengths and weaknesses in their current functioning. The BarOn EQ-I YV also has an inconsistency index which controls for learners who have a tendency to contradict themselves, or who respond randomly. This index may render a questionnaire invalid. Although the assessment can be used individually, it was used for the whole group and took approximately 30 minutes.

A consensus of approximately 60 studies demonstrates that the EQ-iYV is a reliable, valid and robust measure of the construct involved (BarOn, 2005).

4.6.1.2 Reliability

Reliability refers to the consistency with which an instrument measures from one occasion to another, provided that the character being measured does not change – in short, the degree to which all the items on a scale consistently measure the same construct (BarOn & Parker, 2000; Visser, Garbers-Strauss & Prinsloo, 1995).

The BarOn EQ-iYV is one of the most widely used measures and demonstrates an overall reliability for internal consistency of .76 and a sufficient test-retest reliability of .85 after one

month and .75 after 4 months (Van Rooy & Viswesvaran, 2004; Davies et al., 1998). Preliminary normative data from approximately 10,000 subjects was collected from English speaking youth in the United States of America and Canada. The subjects were grouped into four different age groups, with the youngest being 7 years of age and the oldest being 18 years of age. Internal reliability was measured using Cronbachs Alpha for the 5 composite scales in the relevant age group (10 to 12 years of age), and yielded coefficients that ranged between .72 and .90 for males, and between .74 and .90 for females. Inter Item Correlation ranged between .19 and .37 for males, and between .19 and .37 for females. Test re-test reliability showed coefficients ranging between .77 and .88 after an interval of 3 weeks, on a group of 60 youths with a mean age of 13 – 15 years. The standard error of measurement which indicates how much an individual's scores may vary from his true score range between 1.98 and 2.73 for males, and between 1.93 and 2.76 for females (BarOn & Parker, 2000).

4.6.1.3 Validity

Validity refers to the extent to which a measuring instrument measures what it is supposed to measure (Visser et al., 1995). The factor structure of the Bar-On EQ-I YV was measured using the first 40 items from the first 4 scales in an exploratory factor analysis with a total normative sample of 9,172 youths. A principle components analysis with a variation rotation was used and it was found that all 40 factors loaded moderately on their matching factors and had very low loadings on the other 3 factors (BarOn & Parker, 2000). An inter-correlation of the scales was drawn from a normative sample, which showed that the BarOn EQ-I YV measures relatively distinct aspects of emotional intelligence (BarOn & Parker, 2000). Low to moderate correlations were found among the first 4 scales.

A validation summary of results shows that the BarOn EQ-I YV scales identify core features of emotional intelligence in children and adolescents (BarOn & Parker, 2000).

4.6.2 Promoting Alternative Thinking Strategies (PATHS)

The PATHS curriculum was originally designed as an experimental approach for deaf children to learn a variety of processes involved in the expression, understanding and regulation of

emotion. It is based on the ABCD model (affective, behavioural, cognitive, and dynamic) with special emphasis on the developmental integration of affect, the vocabulary of emotion and cognitive understanding as they relate to emotional and social competence (Kelly et al., 2004). Greenberg et al., (1995) state that the underlying assumption of the program is that during the maturational process, emotional development precedes most forms of cognitive development, and conclude that the relationship between affective understanding, cognition and behaviour are crucial in fostering socially competent action. The underlying assumptions of this program are as follows: that the extent to which children are able to understand and discuss emotions is related to their behaviour; how children are able to manage, understand and discuss emotions is related to developmental issues and is affected by socialization processes; the extent to which they are able to understand their own and others emotions is central to effective problem solving and; the school environment is a fundamental ecology and can be an effective vehicle for change (Kelly et al., 2004). The curriculum is contained in 6 volumes, covering four conceptual units, and five conceptual domains are covered in each unit. The different units are integrated and each one builds on the previous unit, and they are sequenced according to increasing levels of developmental difficulty. The program makes use of multi modal methods including visual, verbal and kinaesthetic cues, and uses dialoguing, role playing, story-telling, modelling by teachers and peers, attribution training and verbal mediation. It also contains lessons and teacher's scripts, pictures, photographs and activity sheets, home activities, supplementary ideas, letters and information necessary for parents (Kelly et al., 2004). Because the program is extensive and in its entirety covers a two year period, it was decided to complete the first year of instruction, which would cover a 25 lesson extract addressing feelings and relationships. The program will be taught to three whole classes with 15 learners in each class. Learners with AD/HD will be identified within this group and selected for more detailed history taking and observation.

The PATHS curriculum has been chosen by the researcher to be used as the intervention program in this study. This program was chosen because of its clearly demarcated concept of emotion, previous research outlining the success of the program in multiple contexts, and the emphasis placed on the cognitive and developmental aspects of the child (Kelly et al., 2004). The researcher wanted to use a program that was already shown to be successful in improving the emotional intelligence of students, so that in this study, the aim is not to

evaluate the program, but to evaluate whether it would improve the symptoms and behaviour of learners with AD/HD. It is proposed by the researcher that these learners would benefit from the direct approach to teaching about emotions and how to manage these emotions that the PATHS program offers. The learners with AD/HD would not be singled out, but would be exposed to the program as part of the whole class and any resultant impact on their symptoms and behaviour would be evaluated qualitatively on an individual level as well as in relation to the results of the larger group. In terms of how emotional intelligence can be applied in the educational context, it must be noted that the domains of emotional intelligence as defined by BarOn (2001) show considerable overlap with many of the most commonly identified aspects of social skills (Kelly et al., 2004). This is particularly relevant in terms of the learner with AD/HD as one of the deficits of this disorder is related to a certain dysfunction in social interactions.

This program seems to dovetail with the outline from the Department of Education in South Africa (2003), where it is suggested that teachers use experiential learning and teaching methods for life orientation and that the learning and teaching activities must focus on the acquisition of knowledge, skills, attitudes and values relevant to being able to function effectively in society. It is important to note that learning does not exist in isolation and that there are natural connections between and across learning areas (Department of Education, 2003). An outcomes-based curriculum aims to achieve knowledge whilst developing the appropriate skills for each learning area. The focus of assessment in life orientation is the process of learning and the changes that occur in knowledge, and not only on the product at the end of the learning experience. Although knowledge and skills may be assessed, values and attitudes are important areas of consideration, and refer to internal states that are closely linked with emotions (Department of Education, 2003). In order to assess life orientation, the following methods may be used: written tasks/tests, questionnaires/surveys, reflection worksheets, role-plays, presentations, journal entries, debates, and action research. Throughout the PATHS Program, the learners complete many of these assessment requirements during the course of the lessons.

4.6.3 The Connors Teachers Rating Scale – Revised (CTRS – R)

The CTRS is the result of over 30 years of research on childhood and adolescent psychopathology and problem behaviour, and assesses for AD/HD disorder in children and adolescents between the ages of 3 and 17. The main purpose of the CTRS is as a screening process for assessment, diagnosis and treatment monitoring, aimed at directing observations in the classroom, guiding enquiry in clinical situations, or characterizing the broad outlines of behaviour in group investigations. Teacher ratings have gained more importance in the diagnostic process, due to the changes in the Diagnostic and Statistical Manual of Mental Disorders (DSM), a screening process for assessment, diagnosis and treatment monitoring, which requires evidence of cross-situational (home and school) behavioural problems for an AD/HD diagnosis (Connors et al., 1998). Researchers have recommended that normative based criteria be used in addition to the categorical criteria (placing individuals into diagnostic categories) so frequently in use (Barkley, 1990; Connors, 2004). The Connors Rating Scale provides such a framework by reporting on the degree and severity of the problem by means of a score on a continuous scale (Connors, 2004). This is of particular importance in the context of this study as the focus is on the degree and severity of the symptoms and behaviour of AD/HD in learners, and the Connors Rating Scale provides a measure of functioning that is manifested overtly, as well as internal states indicative of emotional problems, psychosomatic conditions and perfectionism. The CTRS has been used to measure the effects of medication treatment on classroom behaviour, the effects and treatment outcomes in drug studies using psycho-stimulants, and the effects of non-drug interventions in the classroom.

In 1997, the original CTRS was revised, using a sample size of 8,000 with the following culture groups represented: African-American, Asian-American, Caucasion, Hispanic-Latino, and Native-American and measures the constructs: conduct problems, cognitive problems, anxiety problems and social problems. There are 59 items on the long version of the scale, using a 4 point likert scale, and this is scored individually by the teacher, which takes 15 – 20 minutes to complete. Each scale has the same mean of 50 and the same standard deviation of 10. The Connors Rating Scale–R (CRS-R) is sensitive to developmental trends related to age and gender, and is consistent with research and theory of AD/HD and related problems (Connors, 2004). Research indicates that cross-cultural applications showed no differences between ethnic groups, supporting the notion that the standardized norms of the CRS-R are

robust (Connors, 2004). The teacher scales usually provide the most economical and objective data on the learner with AD/HD and can provide a consistent normative framework in which to judge typical classroom behaviour (Connors, 2004). The CTRS-R produces scores on the following subtests: oppositional, social problems, cognitive problems,/inattention, DSM-IV symptom subscales, hyperactivity, Connor's AD/HD Index, anxious/shy, Connor's global index, perfectionism. The following table shows guidelines for subscale scores on the CTRS-R.

Table 4.1 Subscale scores on the CTRS-R (Connors, 2004).

T Score*	Percentile*	Guideline
70+	98+	Very Atypical (significant problems)
66 - 70	95 – 98	Moderately atypical (significant problems)
61 - 65	86 – 94	Mildly atypical (possible significant problems)
55 - 60	74 – 85	Slightly atypical (Borderline – should raise concern)
45 - 55	27 – 73	Average. Typical (No concern)
35 - 39	6 – 15	Mildly atypical (No concern)
30 - 34	2 – 5	Moderately atypical (No concern)
< 30	< 2	Markedly atypical (Not a concern)

**T Score = standard scores calculated from raw scores*

**Percentile = percentage of individuals in a group who scored lower than the respondents*

4.6.3.1 Reliability

Reliability refers to the consistency with which an instrument measures from one occasion to another, provided that the character being measured does not change – in short, the degree to which all the items on a scale consistently measure the same construct (BarOn & Parker, 2000; Visser, Garbers-Strauss & Prinsloo, 1995). Internal coefficients range between .75 and .90 and after 6 to 8 weeks, the test-retest reliability coefficient was found to range between .60 and .90 (Connors, 2004).

4.6.3.2 *Validity*

Validity refers to the extent to which a measuring instrument measures what it is supposed to measure (Visser et al., 1995). Validity in the Connors Rating Scale was obtained through factor analysis techniques on derivation and validation samples. Convergent and divergent validity was supported by examining the reliability between the CRS-R scores and other reliable measures (Connors et al., 2004). The range of internal consistency was found to be 0.77 to 0.96 and criterion validity was assessed and found to be acceptable.

4.6.4 The Biographical Questionnaire

This questionnaire has been given to the parent/guardian of the child to fill in. The questions in each section are designed to relate to specific information, which will give the researcher information about trends that either support or refute the assumptions stated in the literature on AD/HD. The sections cover the following topics: Gender; AD/HD Diagnosis according to the DSM-IV categories; Genetic occurrences of AD/HD in the family; Social circumstances and stress factors of the client; Birth problems; Head Trauma; Academic Records; Behaviour; and Social Development. It is hoped that this information will provide an overall picture of the sample group. The questions on the AD/HD diagnosis are important, as children who have been diagnosed with AD/HD but do not fit within this description, will be excluded from the sample group. Refer to Appendix VI.

4.6.5 The semi-structured interview

Research shows that the interview is the most common method of data collection in qualitative research and that it clarifies understanding about the closed worlds of individuals, families, organizations and communities (De Vos, 1998; Grafanaki, 1996; Morse, 1994; Schamberger, 1997). It is important that the interviewer is able to maximise the amount of valid and reliable information he is able to elicit from the individual, whilst at the same time minimising the distortions that may occur in his recollections of the events (De Vos, 1998).

A definite research agenda is often used in qualitative research, so that specific information may be gained about the phenomena under investigation. The research schedule or agenda is usually used as a guideline for the interviewer and contains questions and themes related to the research topic, which provides for a relatively systematic collection of data (De Vos, 1998). A major disadvantage of this type of interviewing that it is time consuming and that it results in a large amount of data which has to be interpreted, ordered and compared.

The semi-structured interview will cover the following topics:

- Anger management
- Organizational skills
- Completion of tasks
- Concentration issues
- Restlessness
- Impulsivity
- Anxieties
- Sensitivities
- Shyness
- Perfectionism
- Friendships and socialization
- Confidence
- Loneliness

The following section will deal with how the data was collected.

4.7 COLLECTION OF DATA

4.7.1 Data gathering procedures

Through the co-operation of the principal, teachers, parents and learners at the school, the sample group was gathered. The criteria for the learners with AD/HD were that they had a medical diagnosis of this disorder and that their parents had agreed to their participation in the study. The parent's of the learners with AD/HD contracted to maintain any existing

medication with the same dosage to control for any differences that may occur due to a change in medication. Each family was contacted telephonically and the study was described to them. The consent forms, biographical questionnaires and a description of the study, were then sent home for the parents to complete. The researcher administered the initial emotional intelligence assessments personally in an attempt to replicate the assessment sessions exactly with each group. The questionnaires were then gathered by the researcher to be personally marked and interpreted. The intervention program was conducted by the researcher to control for any different teaching styles and the post test was administered in the same manner as the initial assessment by the researcher. The semi structured interview was conducted by the researcher individually with each learner with AD/HD.

4.7.2 A schematic representation of the data gathering procedures:

- Contact was made with the principal, teachers concerned, parents and learners with AD/HD
- The nature of the research was explained and consent forms and biographical questionnaires were completed
- The teacher's completed the CTRS-R forms on the learners with AD/HD
- Dates and times were set up for the BarOn EQ-I YV pre test and the PATHS program, and these were duly completed
- The BarOn EQ-I YV post test was administered and the teachers completed the CTRS-R form on the learners with AD/HD
- The researcher conducted the semi-structured interview with the learners with AD/HD

In summary, the teacher's completed the Connor's Rating forms on the learners with AD/HD to establish their symptoms and behaviour. The researcher administered the BarOn EQ-I YV test to establish the emotional intelligence of the sample group before the PATHS intervention program. The researcher then conducted the PATHS program with the sample group for 8 months. The BarOn EQ-I YV test was again administered to the sample group to assess their levels of emotional intelligence and any changes that may have occurred. The teacher's filled in the Connor's Rating scale on the learners with AD/HD again to establish any changes that

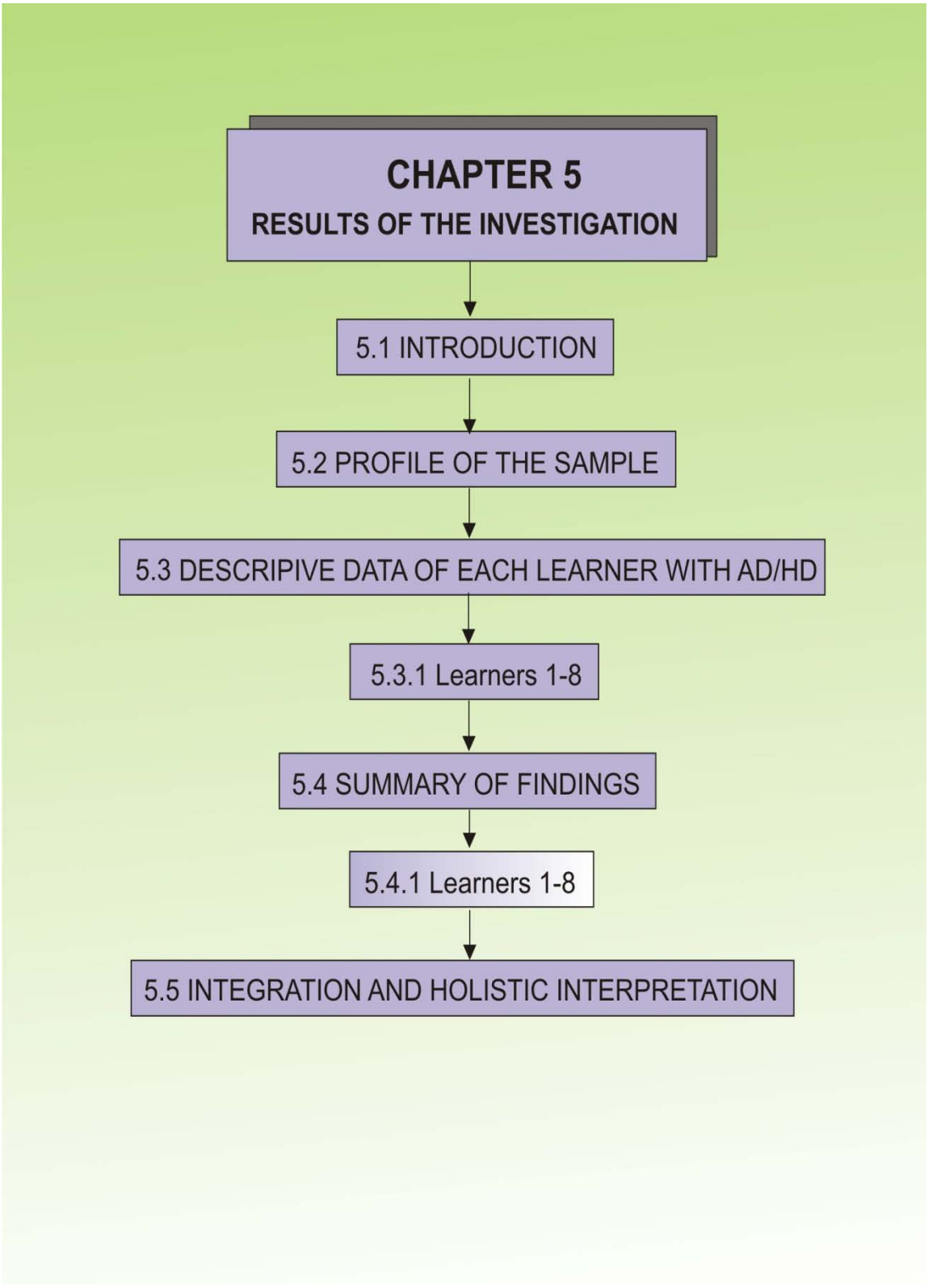
had occurred in their symptoms and behaviour after the PATHS intervention had taken place. The researcher then conducted the semi-structured interview with the learners with AD/HD to establish their personal feelings about their symptoms and behaviour. The researcher maintained the role of observer as participant in that there was an attempt to create a friendly atmosphere, to blend in with the setting and to interact in a casual and non threatening manner (De Vos, 1997). Confidentiality was facilitated by giving a number to each learner with AD/HD and no names were divulged.

A follow-up telephone call was made to the families of the learners with AD/HD to thank the respondents for their co-operation, but also to ensure that there were no emotional after effects. The families of the learners from the sample group were reminded that they could make an appointment to discuss the results of the emotional intelligence assessment personally with the researcher.

4.8 BASIC ASSUMPTIONS

The basic underlying assumption of this study is that learners with AD/HD experience lowered emotional intelligence, and that if they can learn more emotional skills through a program designed to this end, the symptoms and behaviour of their disorder will be ameliorated. It is assumed by the researcher that both the learners and the teachers will report accurately on their values and perceptions when they are given an opportunity and are assured of complete confidentiality and anonymity.

In summary then, the data has been collected in an ordered and systematic manner, according to clearly demarcated guidelines. The items were analyzed qualitatively in terms of their content and form. The following chapter will present the data and the results will be interpreted, analyzed and documented.


CHAPTER 5
RESULTS OF THE INVESTIGATION
5.1 INTRODUCTION
5.2 PROFILE OF THE SAMPLE
5.3 DESCRIPIVE DATA OF EACH LEARNER WITH AD/HD
5.3.1 Learners 1-8
5.4 SUMMARY OF FINDINGS
5.4.1 Learners 1-8
5.5 INTEGRATION AND HOLISTIC INTERPRETATION

5.1 INTRODUCTION

This chapter reports on the findings related to the empirical study undertaken to evaluate social and emotional intelligence in learners with AD/HD. The perceptions of both the learners with AD/HD and the teacher's who worked with these learners were evaluated. The levels of social and emotional intelligence were evaluated across the entire sample group before and after an intervention program (PATHS) aimed at improving emotional intelligence, was implemented. The sample group consisted of Grade 4 and 5 learners, and the learners with AD/HD were included within this sample group. As described in Chapter 4, 8 learners with AD/HD took part in this investigation. The entire sample group completed the assessment to evaluate their emotional intelligence (BarOn EQ-I YV) at the beginning and the end of the study, and the respective teacher's of the Learners with AD/HD completed the Connor's Teacher's Rating Scale (CTRS-R) at the beginning and end of this study, to determine the symptoms and behaviour of the learners with AD/HD. A final semi-structured interview was conducted with the learners with AD/HD at the end of the study. A biographical questionnaire was completed with the parent's of the learners with AD/HD to establish their history.

The data collected by means of the BarOn Emotions Quotient Inventory (Youth Version), the Connors Teachers Rating Scale – Revised, the Biographical Questionnaire and the semi-structured interview will be analyzed qualitatively. All results will be presented, analyzed and interpreted in this chapter.

5.2 PROFILE OF THE SAMPLE

Tables 5.1 – 5.10 display the demographic data of the entire sample group, the learners with AD/HD, and each learner with AD/HD from which the profile of each participant is sketched. A total of 11 learners with AD/HD were approached to participate in this research, but one learner declined and two learners were leaving the school before the end of the study. The parent's of these learners were contacted individually, subsequent to their identification from school records and by their respective teachers, as having a medical diagnosis of AD/HD. All learners in the total sample group are between the ages of nine and twelve years of age, and

the learners with AD/HD fulfilled the criteria for this research in that they had already been medically diagnosed with AD/HD.

The following section will show the demographics of the overall sample group, the overall group of learners with AD/HD, as well as the eight learners with AD/HD in table form, and then a holistic description will be given.

Table 5.1 Profile of entire sample group

	Male	Female
Numbers	56	33
Age	9 – 11 years of age	9 – 11 years of age
Grade 4	26	15
Grade 5	30	18
AD/HD diagnosis	7	4

Table 5.2 Profile of learners with AD/HD that have taken part in this study

	Male	Female
Numbers	5	3
Age	9 – 11 years of age	10 – 11 years of age
Grade 4	2	0
Grade 5	3	3
South African	1	1
American	2	2
Arabic	1	0
British	1	0
Only children	2	1
Intact marriage	3	2
Single parent	1	1

Remarried parent	1	0
AD/HD diagnosis	5	3

Table 5.3 Profile of Learner 1 with AD/HD

Gender	Female
Age	11 years of age
Grade	5
Culture group	American
Number of children	1
Natural child	Adopted
Intact marriage	Yes
AD/HD diagnosis	Yes
Medication	Yes
Academic level	*Low

**Low Academic level – 50% to 60%*
Average Academic level – 60% - 70%
High Academic level – 70%+

Table 5.4 Profile of Learner 2 with AD/HD

Gender	Female
Age	10 years of age
Grade	5
Culture group	South African
Number of children	2
Birth order	First
Natural child	Yes
Intact marriage	Yes
AD/HD diagnosis	Yes
Medication	Yes
Academic level	*Low

**Low Academic level – 50% to 60%*
Average Academic level – 60% - 70%
High Academic level – 70%+

Table 5.5 Profile of Learner 3 with AD/HD

Gender	Female
Age	10 years of age
Grade	5
Culture group	American
Number of children	2
Birth order	Second
Natural child	Yes
Single parent	Yes (Mother died when she was 2 years old)
AD/HD diagnosis	Yes
Medication	Yes
Academic level	*Low

**Low Academic level – 50% to 60%*
Average Academic level – 60% - 70%
High Academic level – 70%+

Table 5.6 Profile of Learner 4 with AD/HD

Gender	Male
Age	10 years of age
Grade	5
Culture group	American
Number of children	2
Birth order	Second
Natural child	No
Single parent	Yes (adopted)
AD/HD diagnosis	Yes
Medication	Yes

Academic level	*Low

**Low Academic level – 50% to 60%*
Average Academic level – 60% - 70%
High Academic level – 70%+

Table 5.7 Profile of Learner 5 with AD/HD

Gender	Male
Age	10 years of age
Grade	5
Culture group	Arabic
Number of children	5
Birth order	Third
Natural child	Yes
Intact marriage	Yes
AD/HD diagnosis	Yes
Medication	Yes
Academic level	*Low

**Low Academic level – 50% to 60%*
Average Academic level – 60% - 70%
High Academic level – 70%+

Table 5.8 Profile of Learner 6 with AD/HD

Gender	Male
Age	10 years of age
Grade	5
Culture group	South African
Number of children	1
Birth order	Only child
Natural child	Yes
Intact marriage	Dad divorced and remarried

AD/HD diagnosis	Yes
Medication	Yes
Academic level	*Average

**Low Academic level – 50% to 60%*
Average Academic level – 60% - 70%
High Academic level – 70%+

Table 5.9 Profile of Learner 7 with AD/HD

Gender	Male
Age	9 years of age
Grade	4
Culture group	American
Number of children	1
Birth order	Only child
Natural child	Yes
Intact marriage	Yes
AD/HD diagnosis	Yes
Medication	Yes
Academic level	*Low

**Low Academic level – 50% to 60%*
Average Academic level – 60% - 70%
High Academic level – 70%+

Table 5.10 Profile of Learner 8 with AD/HD

Gender	Male
Age	9 years of age
Grade	4
Culture group	British
Number of children	3
Birth order	Second
Natural child	Yes

Intact marriage	Yes
AD/HD diagnosis	Yes
Medication	Yes
Academic level	*Average

**Low Academic level – 50% to 60%*
Average Academic level – 60% - 70%
High Academic level – 70%+

Five learners with AD/HD are male and three learners with AD/HD are female. There are four learners who are American, two who are South African, one who is British and one who is Arabic. Two of the learners with AD/HD are in Grade 4 and the other six learners are in Grade 5. Four of the learners are members of intact families, two are adopted, one is a member of a single parent family as her mother died when she was three years of age, and one has a step mother as his father remarried when he was five years of age. All learners in this sample group have been medically diagnosed with AD/HD and all of these learners are on medication. It was agreed that their medication and dosages would remain the same for the duration of the study. Two learners achieve an average academic level and six learners achieve a low academic level.

5.3 DESCRIPTIVE DATA OF EACH LEARNER WITH AD/HD

For the purposes of confidentiality, the names of the participants have not been used. Instead the participants have been referred to as Learner 1, Learner 2 and so on.

5.3.1 Learner 1

5.3.1.1 Background of Learner 1

Learner 1 is an only child and was adopted by her American parents when she was five months old. Nothing is known about her biological parents, except that she was adopted from an orphanage in Jordan. Learner 1 has lived with her parents in Jordan, United Sates of America, Indonesia and South Africa. She has always been educated in the American International School system. Learner 1 was kept back one year due to her poor academic

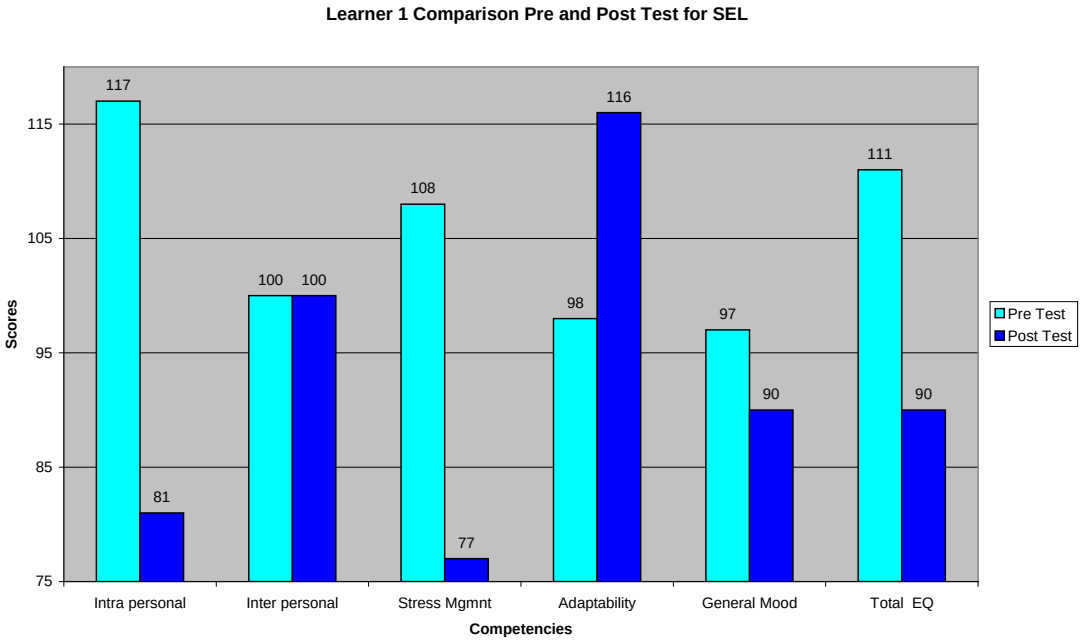
achievement. She was then diagnosed with AD/HD and medicated. This has helped with her concentration as well as her emotional lability. Learner 1 struggles with social interactions and is often insensitive and tactless. She has been teased and rejected by the other students during her school years. Learner 1 attends academic support classes every second day and receives counselling with the school counsellor when necessary.

5.3.1.2 Learner 1 and assessment of emotional intelligence

The BarOn EQ-I YV has been designed to assess the emotional intelligence of children and adolescents between the ages of seven and eighteen years. It is a self report measure which will provide an estimate of the underlying emotional and social intelligence of the learner, from their own unique perspective. Research shows that although children seem to be the most knowledgeable source to report on their own behaviour, their cognitive development, truthfulness, and desire for social acceptance may limit the accuracy of their reports (Baker, Jacobsen, Raine, Lozano, & Bezdjian, 2007). However, a consensus of studies demonstrates that the BarOnEQ-I YV is a very reliable, valid and robust measure of the construct involved (BarOn, 2005). The researcher will investigate the results of the learners with AD/HD using the BarOn EQ-I YV, and compare them to the results of the overall sample group. This will give more data on any difficulties the AD/HD learners may display when responding to a self report measure. It is expected that the learners with AD/HD may experience some difficulties with being able to accurately appraise themselves. Usually growth is measured when the post test shows higher scores than the pre test, and this can be seen in the results of the sample group of students who do not have AD/HD. In terms of this thesis, it will be considered to be growth or improvement if the learner with AD/HD begins with an unrealistically high result in the pre test and ends with a more accurate and reflective result, even if the scores are lower.

In terms of her social and emotional intelligence, Learner 1 scored herself in the following manner on the BarOn EQ-I YV:

Figure 5.1 **Graph showing the comparison of Learner 1's pre and post tests on emotional intelligence**



Intrapersonal Intelligence – Pre Test (117); Post Test (81) The pre test score indicates Learner 1's perception that she has a well developed emotional capacity (between 115 -129). After exposure to a program on emotional intelligence Learner 1 seems to have a more realistic perception of her Intrapersonal skills, perceiving them to be under-developed and in need of improvement. This indicates Learner 1's perception that she has a below average emotional capacity (between 70 - 85). This composite scale indicates whether an individual is in touch with his feelings, how good he feels about himself, and how positive he feels about what he is doing with his life. This competency includes:

Self Regard	the ability to look at and understand oneself, respect and accept oneself, accept one's perceived positive and negative aspects as well as one's limitations and possibilities
Emotional Self-Awareness	the ability to recognize one's feelings and emotions, differentiate between them and know what caused them

	and why
Assertiveness	the ability to express feelings, beliefs and thoughts and to defend one's rights in a non-destructive way
Independence	the ability to be self reliant and self directed in one's thinking and actions and to be free of emotional dependency
Self Actualization	the ability to realize one's potential capacities to strive to do that which one wants to do and enjoys doing.

Interpersonal Intelligence – Pre Test (100); Post Test (100) The pre test score indicates Learner 1's perception that she has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence Learner 1 still perceives herself to have an average and adaptive emotional capacity, and that her score has not changed. This composite scale taps interpersonal skills and functioning. This competency includes:

Empathy	the ability to be attentive to, to understand and to appreciate the feelings of others – to be able to 'emotionally read' other people
Social Responsibility	the ability to be a co-operative, contributing and constructive member of one's social group
Interpersonal Relations	the ability to establish and maintain satisfying relationships that are characterized by intimacy and by giving and receiving affection

Stress Management – Pre Test (106); Post Test (77) The pre test score indicates Learner 1's perception that she has an average and adaptive emotional capacity (between 86 and 114). After being exposed to a program on emotional intelligence, Learner 1 has developed a more realistic perception of how she is able to manage stress. She now perceives that she has an under developed emotional capacity (between 70 and 85) in this regard, and that her stress management needs to be improved. This composite scale shows how well the

respondent is able to withstand stress without falling apart or losing control, how well they are able to work under pressure, keep calm and control impulsivity. This competency includes:

Stress Tolerance	the ability to withstand adverse events and stressful situations without falling apart by actively and confidently coping with stress
Impulse Control	the ability to resist or delay an impulse, drive or temptation to act

Adaptability – Pre Test (96); Post Test (116) The pre test score indicates Learner 1's perception that she has an average and adaptive emotional capacity (between 86 and 114). After being exposed to a program on emotional intelligence, Learner 1 perceives her adaptability to have moved from an average level to a well developed level (between 115 and 129). Considering that Learner 1 shows extreme difficulty being flexible, and able to solve problems effectively, this seems to be an inaccurate appraisal of her levels of adaptability. This composite scale reveals how successfully the respondent is able to cope with environmental demands by effectively sizing up and dealing with problem situations. This competency includes:

Flexibility	the ability to adjust one's emotions, thoughts and behaviours to changing situations and conditions
Problem Solving	the ability to identify problems as well as to generate and implement potentially effective solutions
Reality Testing	the ability to assess the correspondence between what is experienced (the subjective) and what in reality exists (the objective)

General Mood – Pre Test (97); Post Test (90) The pre test score indicates Learner 1's perception that she has an average and adaptive emotional capacity (between 86 and 114). after exposure to a program on emotional intelligence, Learner 1 still perceives that she has an average and adaptive emotional capacity (between 86 and 114), but her score has lowered to a slightly more realistic level. This composite scale generally measures the

respondent's ability to enjoy life as well as his outlook on life and overall feeling of contentment. This competency includes:

Optimism	the ability to look at the brighter side of life and to maintain a positive attitude even in the face of adversity
Happiness	the ability to feel satisfied with one's life, to enjoy oneself and others and to have fun

Total E.Q. (Emotional Quotient) – Pre Test (111); Post Test (90) The pre test score indicates Learner 1's perception that she has an average and adaptive overall emotional capacity (between 86 and 114). after exposure to a program on emotional intelligence, Learner 1 still perceives that she has an average and adaptive overall emotional capacity (between 86 and 114), but this has lowered to a more realistic level. This shows growth in her ability to appraise herself more accurately. Total E.Q is a composite score of all the competencies and gives an overall measure of the concept emotional intelligence.

Figure 5.2 Graph of Learner 1's emotional intelligence compared to the whole group - pre test

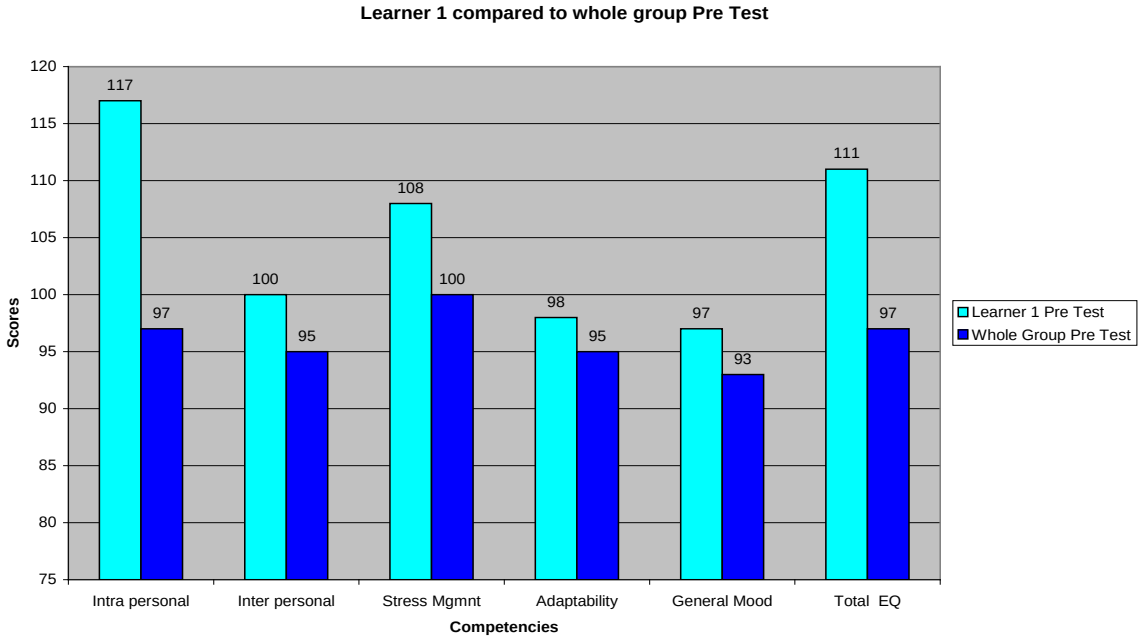
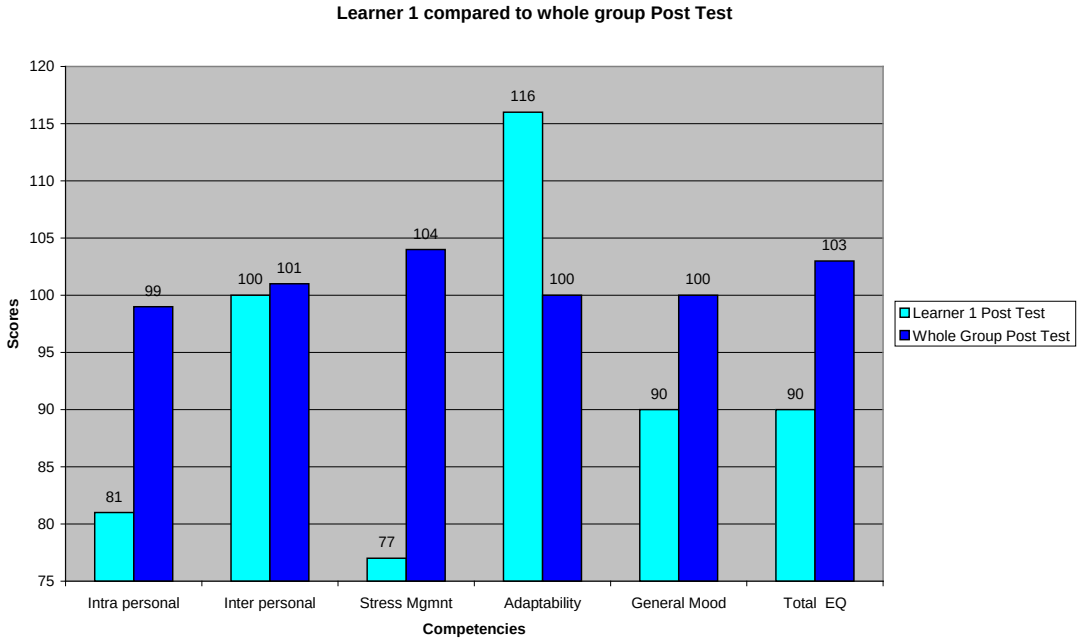


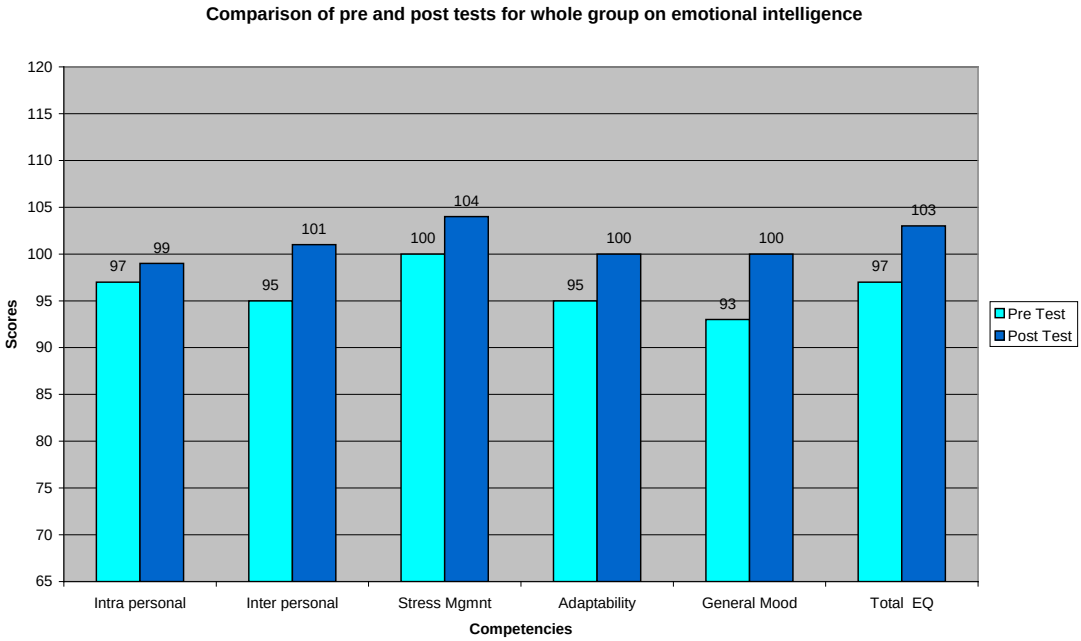
Figure 5.3 Graph of Learner 1's emotional intelligence compared to the whole group - post test



In comparison to the whole group it appears in the pre test that Learner 1 has an unrealistically positive perception of her emotional intelligence levels. Learner 1's scores fluctuate within each test as well as between the pre and post tests. She shows consistently higher scores on each competency in comparison to her peer group. This is in direct contrast to her actual situation in which she has difficulties with relationships, frequently experiences 'melt downs' when stressed, and shows a persistently labile mood, which swings from high to low. Learner 1 perceives herself to have well developed Intrapersonal skills (being in touch with her feelings, feeling positive about herself, being independent, strong and confident in conveying her ideas and beliefs). This contradicts research which shows that learners with AD/HD often experience difficulties understanding their own emotions and expressing them, low positive emotionality, a lowered ability to predict the consequences of social situations, or the results of their own or others actions (BarOn, 2005; Bauminger et al., 2005; Durbin et al., 2005). The realistic appraisal of one's emotional intelligence is therefore a crucial component of being able to make socially and emotionally intelligent decisions about life (BarOn, Tranel, Denburg & Bechara, 2003). After exposure to a program on emotional intelligence, Learner 1's scores are much more realistic, showing an understanding that she has lowered emotional intelligence in relation to her peer group. This reflects current research findings on

learners with AD/HD, which shows that learners with AD/HD experience difficulties with the following: knowing and understanding their own emotions, interacting socially with their peers, managing stress, adapting to their environment and general mood swings (BarOn et al., 2003; Bauminger et al., 2005; Davidson, 2004; Goleman, 2006; Petrides et al., 2004; Vanhatalo, 2007).

Figure 5.4 Graph showing the comparison of the whole group's pre and post tests on emotional intelligence



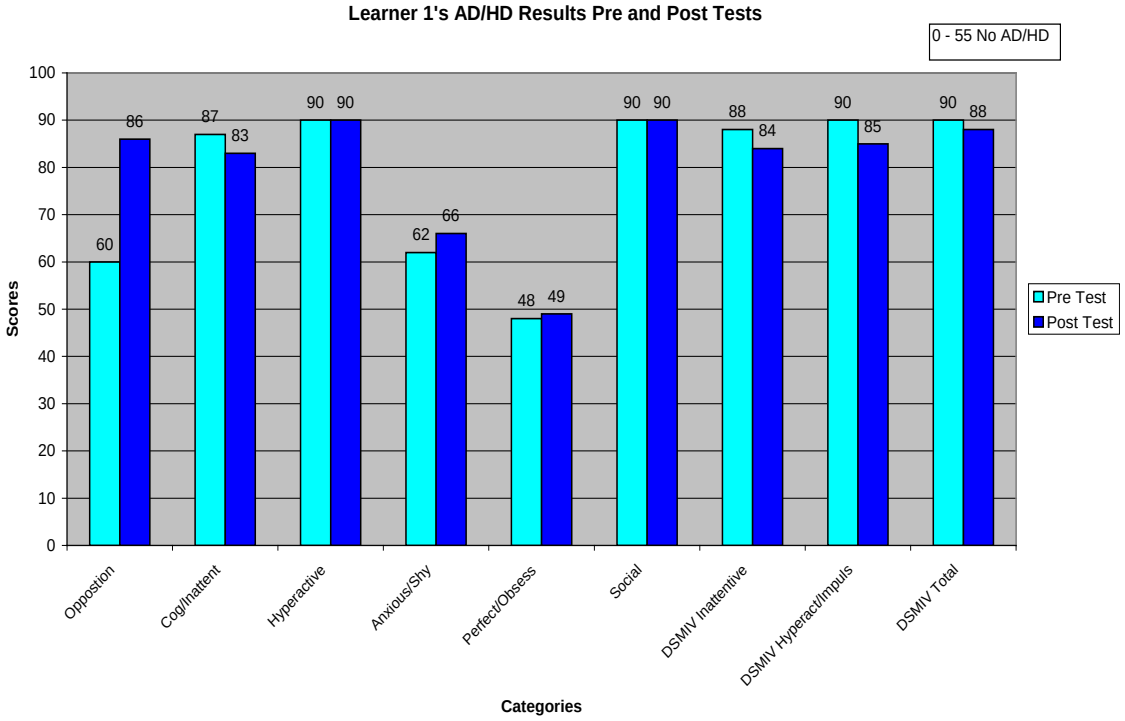
In contrast to learners with AD/HD, the sample group shows a consistent and gradual increase across all competencies after exposure to a program on emotional intelligence. This concurs with research which shows that emotional intelligence can be enhanced through exposure to programs that educate about emotional intelligence (BarOn, 2003; Greenberg, 2007; Kelly et al., 2004; Morris & Casey, 2005; Sharp, 2001; Weare, 2006).

5.3.1.3 Learner 1's AD/HD assessment

The Connors Teacher's Rating Scale – Revised Long Version (CTRS-R:L) (1997) has been chosen by the researcher as this rating scale is one of the most widely used AD/HD scales in clinical practice and adheres closely to the DSM-IV criteria, addressing a wide spectrum of

AD/HD symptoms (Wasserstein, 2005). The teacher scales usually provide the most economical and objective data on the learner with AD/HD and research shows that cross-cultural applications showed no differences between ethnic groups, supporting the notion that the standardized norms of this test are robust (Connors, 2004). The CTRS-R:L shows AD/HD symptoms of varying severity from a score of 55 upwards. All the AD/HD Learners in this sample group have been diagnosed with AD/HD and therefore will show scores above 55 on most of the sub scales. This research is investigating whether the AD/HD learners, after exposure to a program on emotional intelligence, will show a drop in some or all of their scores, thus indicating an improvement in their symptoms.

Figure 5.5 Graph showing the AD/HD results for Learner 1's pre and post tests



(Scores above 70 are in the 98th percentile and are very atypical, indicating significant problems)

Oppositional (Pre Test – 60 (74th-85th percentile); Post Test – 80) These scores indicate that Learner 1 increased in oppositional behaviour even after being exposed to a program on

emotional intelligence. This means that she became more likely to break rules, have problems with authority and became easily annoyed.

Cognitive problems/Inattention (Pre Test – 87; Post Test – 83) These scores indicate that Learner 1 showed a decrease in her inattentive behaviour after being exposed to a program on emotional intelligence. This means that she became slightly less likely to be inattentive, to have organizational problems, to have difficulty completing tasks, and to have concentration problems.

Hyperactivity (Pre Test – 90; Post Test – 90) These scores indicate that Learner 1 remained the same with regard to her levels of hyperactivity after being exposed to a program on emotional intelligence. This means that she experiences difficulty sitting still for very long, feels restless and impulsive.

Anxious/Shy (Pre Test – 62; Post Test – 66 These scores fall within the 86th – 94th percentile and are mildly atypical) These scores indicate that Learner 1 showed an increase in her anxious and/or shy behaviour after being exposed to a program on emotional intelligence. This means that she experiences an atypical amount of worries and fears, is often prone to be emotional and sensitive to criticism, and is shy and withdrawn.

Perfectionism (Pre Test – 48; Post Test – 49 These scores fall within the 27th to 73rd percentile indicating average or typical behaviour) These scores indicate that Learner 1 does not score above the cut off level of 55 for perfectionist behaviour. This means that she does not display the following behaviour: setting high goals for herself, very fastidious about the way she does things, and obsessive about her work.

Social problems (Pre Test – 90; Post Test – 90) These scores indicate that Learner 1 remained the same with regard to her social difficulties. This means that she is likely to perceive that she has few friends, has low self esteem and self confidence, and feels socially detached from her peers.

DSM-IV Inattentive (Pre Test – 88; Post Test – 84) These scores indicate that Learner 1 showed a decrease in the diagnostic criteria for Inattentive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Hyperactive/Impulsive (Pre Test – 90; Post Test – 85) These scores indicate that Learner 1 showed a decrease in the diagnostic criteria for Hyperactive-Impulsive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Total (Pre Test – 90; Post Test – 88) These scores indicate that Learner 1 showed a decrease in the diagnostic criteria for combined Inattention and Hyperactive-Impulsive type AD/HD.

Summary: Learner 1's scores increased on the oppositional subscale and the anxious/shy subscale showing symptoms and behaviour that has worsened. Her scores stayed the same on the hyperactivity and social problems subscales showing that her symptoms and behaviour did not change. Her scores on the cognitive/inattention, DSM-IV Inattentive, DSM-IV Hyperactive-Impulsive and the DSM-IV Total decreased, showing improved symptoms and behaviour on these subscales. Therefore on a total of nine subscales, Learner 1's scores decreased on two subscales, stayed the same on two subscales, improved on four subscales, and one subscale did not qualify. The overall diagnostic criteria according to the DSM diagnosis showed an improvement after exposure to a program on emotional intelligence, even though the majority of her scores are within the 98th percentile indicating very atypical behaviour with significant problems.

5.3.1.4 The results of the semi structured interview with Learner 1

A semi-structured interview was conducted with each Learner with AD/HD to establish the view of each learner on a number of themes related to AD/HD. These themes cover the following topics: anger management, organizational skills, completion of tasks, concentration issues, restlessness, impulsivity, anxieties, sensitivities, shyness, perfectionism, friendship and socialization, and loneliness. The researcher will establish whether the Learners with AD/HD perceive their own symptoms and behaviours in the same way that their teachers view them. In this way, personal information will be gathered, which will give insight into the closed world of the individual (De Vos, 1998; Grafanaki, 1996; Morse, 1994; Schamberger, 1997).

The themes and topics in the semi-structured interview are related to the CTRS-R:L to establish links in the symptoms and behaviour of AD/HD as perceived by the teacher and the Learners with AD/HD. The results in red indicate an agreement between the Learner with

AD/HD and the teacher's perception. The following scale will be used to indicate agreement: 0-40% - below average; 40-60% - average; 60-80% - above average; 80%+ - excellent.

Table 5.11 Table showing the results for the semi-structured interview with Learner 1

Learner 1	No	Yes	CTRS-R:L (Post test)
Do you become angry easily?		X	Oppositional - 80
Do you find it difficult to listen to adults?	X		Inattention – 83
Do you find it difficult to organize yourself?	X		Inattention – 83
Do you find it difficult to complete tasks?	X		Inattention – 83
Do you find it difficult to concentrate?		X	Inattention – 83
Do you find it difficult to sit still for very long?		X	Hyperactive/Impulsive – 90
Do you often feel restless?		X	Hyperactive/Impulsive – 90
Do you often act before you thinks about it?		X	Hyperactive/Impulsive – 90
Do you often feel worried?		X	Anxious/shy – 65
Do you often feel afraid?	X		Anxious/shy – 65
Are you very sensitive to criticism?		X	Anxious/shy – 65
Are you very anxious in unfamiliar situations?		X	Anxious/shy – 65
Are you often shy?	X		Anxious/shy – 65
Do you set high goals for yourself?	X		Perfectionist – 49
Do you like to do things perfectly?	X		Perfectionist – 49
Do you struggle to make friends?		X	Social problems – 90
Do you feel confident about yourself?	X		Social problems – 90
Do you often feel alone?		X	Social problems – 90

Summary

Learner 1 agreed with the teacher's perceptions of her symptoms and behaviour related to AD/HD on 13 of the questions out of a total of 18 questions. Learner 1's biggest area of disagreement lies within the Cognitive/Inattentive category. Unlike the teacher, Learner 1 does not perceive herself to experience problems with attention. The semi-structured

interview shows that Learner 1 and the teacher agree 72% of the time, which shows that Learner 1 has an above average awareness of her symptoms and behaviour and has made an accurate appraisal of herself with regard to AD/HD.

5.3.2 Learner 2

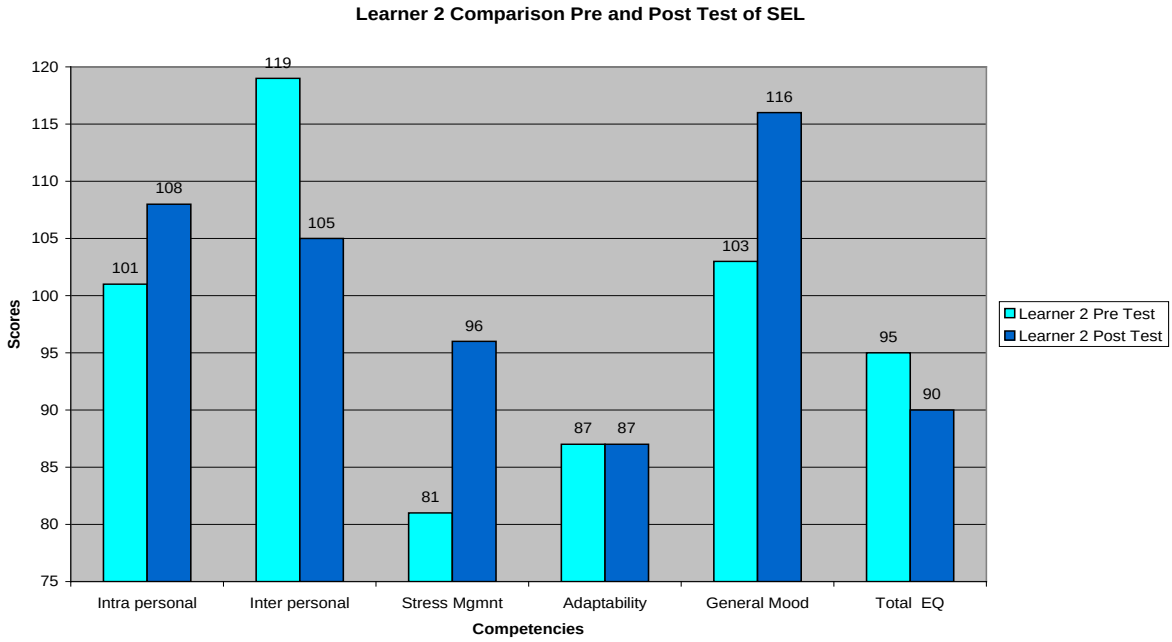
5.3.2.1 Background of learner 2

Learner 2 is the eldest of two children. She has lived with her family in South Africa all her life, and has always been educated in the American International School system. Learner 2 has always experienced poor academic achievement, with difficulty concentrating, staying focused and completing tasks. She was diagnosed with AD/HD and medicated when she was in Grade 1. This has helped with her concentration difficulties as well as her ability to complete tasks. Learner 2's mother complains of resistance and confrontational behaviour from her daughter at home, and described many bitter conflicts over homework issues. Learner 2 has adequate social interactions and has some friends. However, she experiences low self confidence and often perceives herself to be left out and with no friends. Learner 2 attends academic support classes every second day and receives counselling with the school counsellor when necessary.

5.3.2.2 Learner 2 and assessment of emotional intelligence

In terms of her social and emotional intelligence, Learner 2 scored herself in the following manner on the BarOn EQ-I YV:

Figure 5.6 **Graph showing the comparison of Learner 2's pre and post tests on emotional intelligence**



Intrapersonal Intelligence – Pre Test (101); Post Test (108) The pre test score indicates Learner 2's perception that she has an average emotional capacity (between 86 -114). After exposure to a program on emotional intelligence Learner 2 perceives her Intrapersonal skills to have improved. Although she still falls within the average range, this indicates better self awareness and more of a sense of well being. This composite scale indicates whether an individual is in touch with his feelings, how good he feels about himself, and how positive he feels about what he is doing with his life.

Interpersonal Intelligence – Pre Test (119); Post Test (105) The pre test score indicates Learner 2's perception that she has a well developed adaptive emotional capacity (between 115 and 129). After exposure to a program on emotional intelligence, Learner 2 now perceives herself to have an average and adaptive emotional capacity in this regard (between 86 and 114). This score fits well with her concerns about being able to make and maintain friendships. This composite scale taps interpersonal skills and functioning.

Stress Management – Pre Test (81); Post Test (96) The pre test score indicates Learner 2's perception that she has a below average emotional capacity (between 70 and 85). After

being exposed to a program on emotional intelligence, Learner 2 feels more confident about her ability to manage stress. She now perceives that she has an average emotional capacity in this regard (between 86 and 114) in this regard, and that her stress management has improved. This composite scale shows how well the respondent is able to withstand stress without falling apart or losing control, how well they are able to work under pressure, keep calm and control impulsivity.

Adaptability – Pre Test (87); Post Test (87) The pre test score indicates Learner 2's perception that she has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence Learner 2 still perceives herself to have an average emotional capacity for adaptability (between 86 – 114), which means that her adaptability levels have remained the same. This composite scale reveals how successfully the respondent is able to cope with environmental demands by effectively sizing up and dealing with problem situations.

General Mood – Pre Test (103); Post Test (116) The pre test score indicates Learner 2's perception that she has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 2 perceives that she has a well developed emotional capacity in this regard (between 115 and 129). The fluctuation of this score from average (103) to above average (116) may indicate some emotional lability, which is in agreement with her mother's description of her behaviour at home. This composite scale generally measures the respondent's ability to enjoy life as well as his outlook on life and overall feeling of contentment.

Total E.Q. (Emotional Quotient) – (95) The pre test score indicates Learner 2's perception that she has an average and adaptive overall emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 2 still perceives that she has an average and adaptive overall emotional capacity (between 86 and 114). Total E.Q is a composite score of all the competencies and gives an overall measure of the concept emotional intelligence.

Figure 5.7 **Graph of Learner 2's emotional intelligence compared to the whole group - pre test**

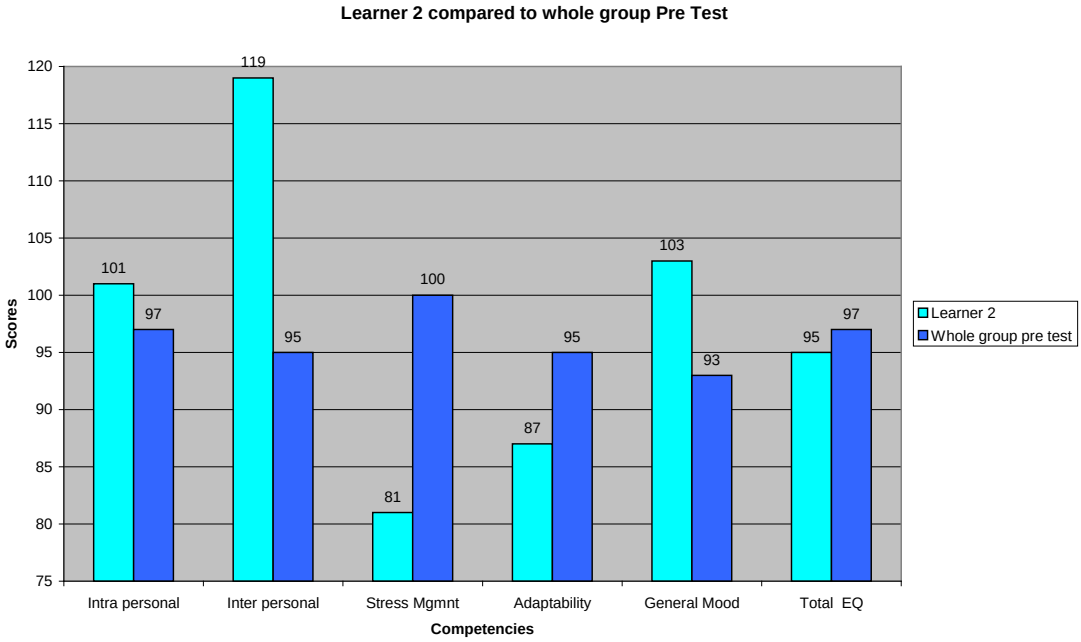
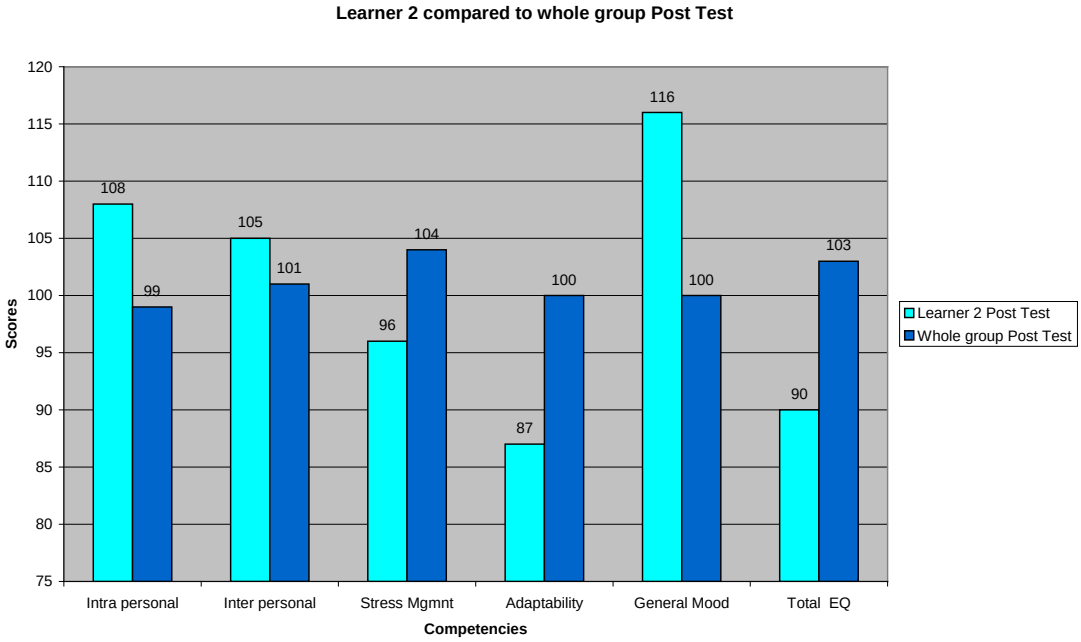


Figure 5.8 **Graph of Learner 2 's emotional intelligence compared to the whole group - post test**



In comparison to the whole group it appears in the pre test that Learner 2 has a perception that her emotional intelligence levels are higher than those of the sample group on the following competencies: intrapersonal skills, interpersonal skills and that her general mood is higher than that of her peers. Learner 2 perceives herself to have well developed Interpersonal skills (being able to emotionally 'read' other people, being a constructive and cooperative member of the social group, and being able to maintain mutually satisfying relationships). This may be an unrealistically high appraisal of this competency as Learner 2 displays lowered self confidence and has often approached the counsellor for help with friendship issues, perceiving herself to struggle to make and maintain friends. The realistic appraisal of one's emotional intelligence is a crucial component of being able to make socially and emotionally intelligent decisions about life (BarOn, Tranel, Denburg & Bechara, 2003). Learner 2 perceives herself to be especially low with regard to her ability to withstand stress without falling apart or losing control. This concurs with her mother's appraisal of Learner 2's inability to deal with conflict and stress at home over homework, focus and completing tasks.

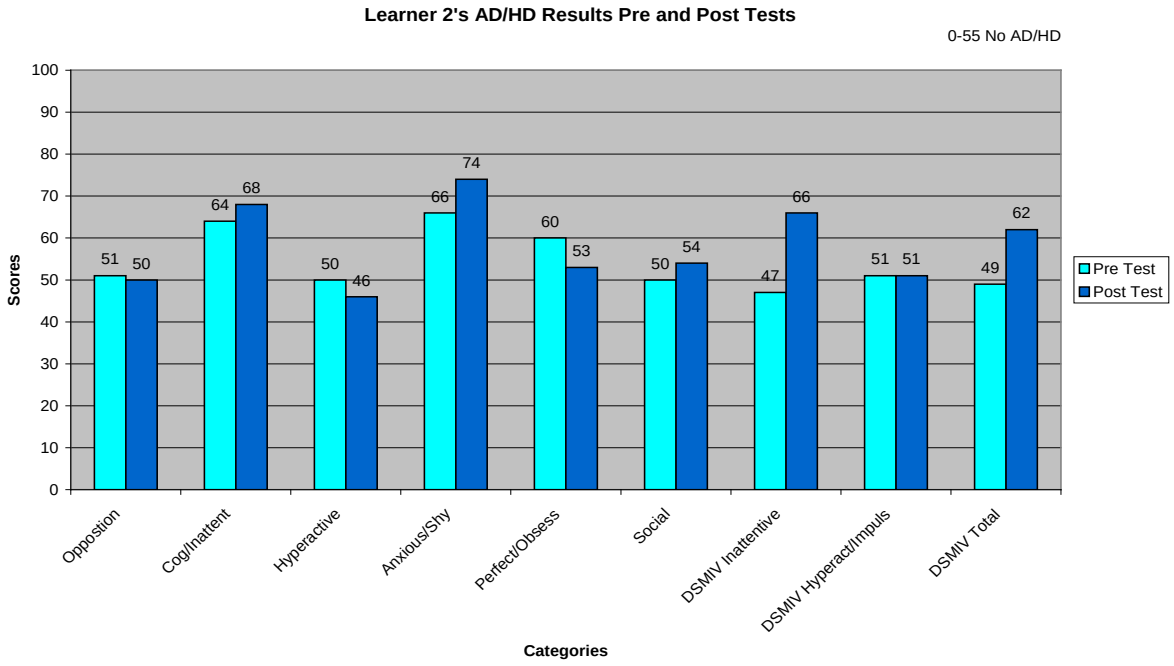
After exposure to a program on emotional intelligence, Learner 2's scores show that she perceives herself to be higher than the control group in intrapersonal skills, interpersonal skills and general mood. This does not reflect current literature which shows that learners with AD/HD have lowered self awareness, weaker social and interpersonal skills and a generally lowered mood than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Learner 2 perceives herself to be coping at a lower level than her peers with regard to stress management, adaptability and total E.Q. and this agrees with her mother's description of her symptoms and behaviour at home. After exposure to a program on emotional intelligence, Learner 2 seems to have grown in terms of emotional intelligence. She feels that she has improved or stayed the same for four of the competencies and her perception of her interpersonal skills has become more realistic. This shows growth.

It is interesting to note that similar to Learner 1, Learner 2's graph showing the comparison between the pre and post tests on social and emotional intelligence, also show a fluctuation of scores both between the competencies and between the tests. Because there is not a specific profile that will show typical development in terms of social and emotional intelligence

for learners with AD/HD, these similarities are noteworthy, and support research which shows that these learners experience difficulty with self awareness, awareness of others, managing themselves, and managing their relationships (Sharp, 2001; Weare, 2006). The sample group, in contrast, shows a consistency between the competencies and between the pre and post tests.

5.3.2.3 Learner 2's AD/HD assessment

Figure 5.9 Graph showing the AD/HD results for Learner 2's pre and post tests



(Scores above 70 are in the 98th percentile and are very atypical, indicating significant problems; scores below 55 show average functioning and indicate no concern)

Oppositional (Pre Test – 51; Post Test – 50) These scores indicate that Learner 2 is perceived by the teacher to function in an average way in terms of this category. This means that she is not likely to break rules, have problems with authority and became easily annoyed. Learner 2 improved marginally within this category after exposure to a program on emotional intelligence.

Cognitive problems/Inattention Pre Test – 64 (86th to 94th percentile); Post Test – 68 (95th – 98th percentile). These scores indicate that Learner 2 showed an increase in her inattentive behaviour after being exposed to a program on emotional intelligence. This means that she became slightly more likely to be inattentive, and more likely to have organizational problems, difficulty completing tasks, and concentration problems. Learner 2 moved from having mildly atypical attention issues, to moderately atypical attention issues, as perceived by the teacher.

Hyperactivity (Pre Test – 50; Post Test – 46) These scores indicate that Learner 2 is perceived to function in an average way by the teacher, in terms of hyperactivity. Her levels lowered somewhat after exposure to a program on social and emotional intelligence. This means that Learner 2 does not experience more than average difficulty sitting still for very long, restlessness and impulsivity.

Anxious/Shy Pre Test – 66 (86th to 94th percentile); Post Test – 74 (95th – 98th percentile). These scores indicate that Learner 2 showed an increase in her anxious and/or shy behaviour after being exposed to a program on emotional intelligence. This means that she experiences an atypical amount of worries and fears, is often prone to be emotional and sensitive to criticism, and is shy and withdrawn.

Perfectionism Pre Test – 60 (74th – 85th percentile); Post Test – 49 (Average. No concern.) These scores indicate that Learner 2 showed slightly atypical symptoms and behaviour before being exposed to a program on emotional intelligence, and that the teacher perceived her to function in an average way with regard to perfectionism, after the program on emotional intelligence. This means that Learner 2 no longer displays the following behaviour: setting high goals for herself, very fastidious about the way she does things, and obsessive about her work.

Social problems (Pre Test – 50; Post Test – 54) These scores indicate that Learner 2 is perceived by the teacher to function in an average way with regard to social issues. This means that she is perceived to have typical concerns about making friends and maintaining these friendships.

DSM-IV Inattentive Pre Test – 47 (27th – 73rd percentile); Post Test – 66 (95th – 98th percentile) These scores indicate that the teacher perceived Learner 2 to have shown an increase in the diagnostic criteria for Inattentive type AD/HD after exposure to a program on emotional intelligence, becoming moderately atypical.

DSM-IV Hyperactive/Impulsive (Pre Test – 51; Post Test – 51) These scores indicate that Learner 2 is perceived by the teacher to fall within the average range in the diagnostic criteria for Hyperactive-Impulsive type AD/HD. Her scores have not changed after exposure to a program on emotional intelligence

DSM-IV Total Pre Test – 49 (27^{th} – 73^{rd} percentile); Post Test – 62 (95^{th} – 98^{th} percentile) These scores indicate that the teacher perceived Learner 2 to have shown an increase in the diagnostic criteria for combined Inattention and Hyperactive-Impulsive type AD/HD. The teacher perceives Learner 2 to have moved from an average level to a mildly atypical level after exposure to a program on emotional intelligence.

Summary: Learner 2's scores worsened on the four following subscales in comparison to the whole group it appears in the pre test that Learner 2 has a perception that her emotional intelligence levels are higher than those of the sample group on the following competencies: intrapersonal skills, interpersonal skills and that her general mood is higher than that of her peers. Learner 2 perceives herself to have well developed Interpersonal skills (being able to emotionally 'read' other people, being a constructive and cooperative member of the social group, and being able to maintain mutually satisfying relationships). This may be an unrealistically high appraisal of this competency as Learner 2 displays lowered self confidence and has often approached the counsellor for help with friendship issues, perceiving herself to struggle to make and maintain friends. The realistic appraisal of one's emotional intelligence is a crucial component of being able to make socially and emotionally intelligent decisions about life (BarOn, Tranel, Denburg & Bechara, 2003). Learner 2 perceives herself to be especially low with regard to her ability to withstand stress without falling apart or losing control. This concurs with her mother's appraisal of Learner 2's inability to deal with conflict and stress at home over homework, focus and completing tasks.

5.3.2.4 The results of the semi structured interview with Learner 2

The themes and topics in the semi-structured interview are related to the CTRS-R:L to establish links in the symptoms and behaviour of AD/HD as perceived by the teacher and the Learners with AD/HD. The results in red indicate an agreement between the Learner with

AD/HD and the teacher's perception. The following scale will be used to indicate agreement: 0-40% - below average; 40-60% - average; 60-80% - above average; 80%+ - excellent.

Table 5.12 Table showing the results for the semi structured Interview with Learner 2

Learner 2	No	Yes	RS-R:L (Post test)
Do you become angry easily?	X		Oppositional - 50
Do you find it difficult to listen to adults?	X		Inattention – 68
Do you find it difficult to organize yourself?	X		Inattention – 68
Do you find it difficult to complete tasks?	X		Inattention – 68
Do you find it difficult to concentrate?	X		Inattention – 68
Do you find it difficult to sit still for very long?	X		Hyperactive/Impulsive – 46
Do you often feel restless?	X		Hyperactive/Impulsive – 46
Do you often act before you think about it?	X		Hyperactive/Impulsive – 46
Do you often feel worried?	X		Anxious/shy – 74
Do you often feel afraid?	X		Anxious/shy – 74
Are you very sensitive to criticism?	X		Anxious/shy – 74
Are you very anxious in unfamiliar situations?	X		Anxious/shy – 74
Are you often shy?	X		Anxious/shy – 74
Do you set high goals for yourself?		X	Perfectionist – 53
Do you like to do things perfectly?	X		Perfectionist – 53
Do you struggle to make friends?	X		Social problems – 54
Do you feel confident about yourself?		X	Social problems – 54
Do you often feel alone?	X		Social problems – 54

Summary

Learner 2 agreed with the teacher's perceptions of her symptoms and behaviour related to AD/HD on nine of the questions out of a total of 18 questions. Learner 2's biggest area of disagreement lies within the Cognitive/Inattentive category and the anxious/shy category. Unlike the teacher, Learner 2 does not perceive herself to experience problems with attention

or to be anxious and/or shy. The semi-structured interview shows that Learner 2 and the teacher agree 50% of the time, which shows that Learner 2 has an average awareness of her symptoms and behaviour and has made an average appraisal of herself with regard to AD/HD.

5.3.3 Learner 3

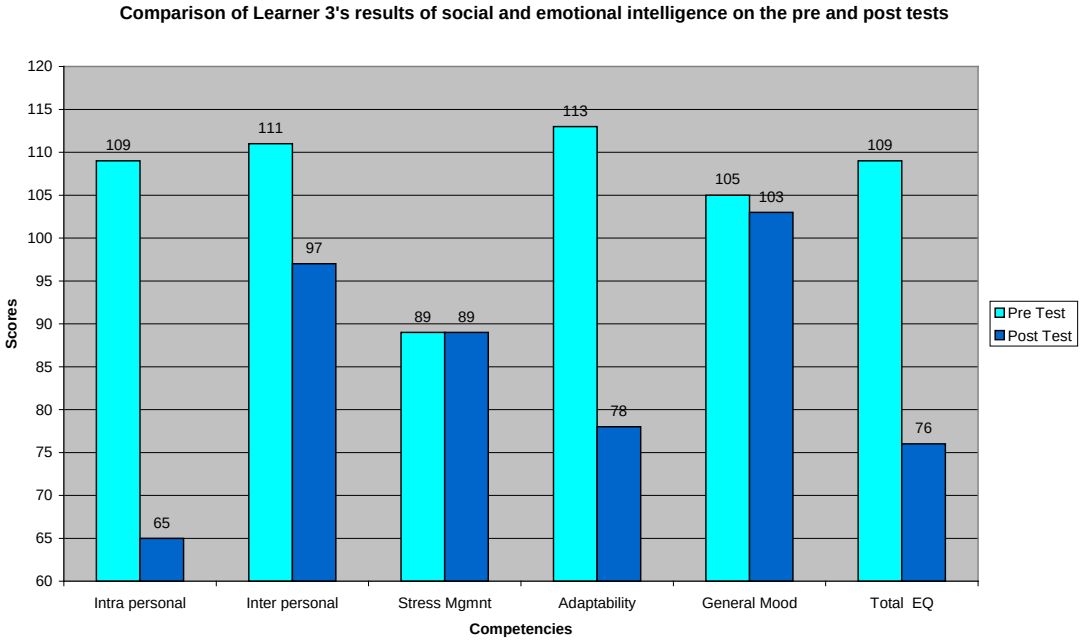
5.3.3.1 Background of learner 3

Learner 3 is the younger of two girls. She was born in the U.S.A. and lived there until she was four years of age. When she was three years old, her mother died in an accident. Learner 3 has lived with her family in various countries, and has always been educated in the American International School system. Learner 3 has always experienced poor academic achievement, with difficulty concentrating, staying focused and completing tasks. She was assessed in South Africa by an Educational Psychologist and diagnosed with AD/HD and has been medicated from Grade 1. Learner 3 has always been extremely emotionally labile, often displaying a depressed mood when she tends to be withdrawn and isolated. After her assessment, it was found that Learner 3 has an average intellectual capacity. She has attended play therapy and psychotherapy to help her process her mother's death and issues of abandonment and rejection. Learner 3 struggles to maintain friendships and often feels alone and rejected by her peers. Her father reports that Learner 3 experiences difficulties at home such as needing to sleep in his bed, being a very fussy eater, emotional outbursts, and conflict over homework which she struggles to start and finish. Learner 3 attends academic support classes every second day and receives counselling with the school counsellor.

5.3.3.2 Learner 3 and assessment of emotional intelligence

In terms of her social and emotional intelligence, Learner 3 scored herself in the following manner on the BarOn EQ-I YV:

Figure 5.10 Graphs showing the comparison of Learner 3's pre and post tests on emotional intelligence



Intrapersonal Intelligence – Pre Test (109); Post Test (65) The pre test score indicates Learner 3's perception that she has an average emotional capacity (between 86 - 114) in the pre test. After exposure to a program on emotional intelligence Learner 3 perceives herself much more realistically although her score has dropped markedly to under-developed (under 70). This shows growth in her ability to more accurately appraise herself and to be more self-aware. This composite scale indicates whether an individual is in touch with his feelings, how good he feels about himself, and how positive he feels about what he is doing with his life.

Interpersonal Intelligence – Pre Test (111); Post Test (97) The pre test score indicates Learner 3's perception that she has an average and adaptive emotional capacity (between 86 and 114) in the pre test. After exposure to a program on emotional intelligence, Learner 3 perceives her interpersonal intelligence to have dropped slightly but still to fall within the average range. This score indicates that Learner 3 has again become slightly more realistic or accurate in her appraisal of her interpersonal skills and functioning.

Stress Management – Pre Test (89); Post Test (89) The pre test score indicates Learner 3's perception that she has an average emotional capacity (between 86 and 114) in the pre test. After being exposed to a program on emotional intelligence, Learner 3 still perceives herself

to have an average emotional capacity (between 86 and 114) in this regard, and that her score has not changed. This composite scale shows how well the respondent is able to withstand stress without falling apart or losing control, how well they are able to work under pressure, keep calm and control impulsivity.

Adaptability – Pre Test (113); Post Test (78) The pre test score indicates Learner 3's perception that she has an average emotional capacity (between 86 and 114) in the pre test. After exposure to a program on emotional intelligence, Learner 3 now perceives herself to have dropped from an average level to a below average emotional capacity for adaptability (between 70 - 85). This indicates a much more accurate appraisal of her level of adaptability as Learner 3 struggles with change, and is not effective with problem solving skills. This composite scale reveals how successfully the respondent is able to cope with environmental demands by effectively sizing up and dealing with problem situations.

General Mood – Pre Test (105); Post Test (103) The pre test score indicates Learner 3's perception that she has an average emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 3 perceives herself to have dropped slightly but still to fall within the average range in terms of her general mood (86 – 114). This composite scale generally measures the respondent's ability to enjoy life as well as his outlook on life and overall feeling of contentment.

Total E.Q. (Emotional Quotient) – Pre Test (109); Post Test (76) The pre test score indicates Learner 3's perception that she has an average overall emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 3 perceives that she has a below average overall emotional capacity (between 70 and 85). This shows growth in self awareness and the ability to accurately appraise herself. Total E.Q is a composite score of all the competencies and gives an overall measure of the concept emotional intelligence.

Figure 5.11 Graph of Learner 3's emotional intelligence compared to the whole group - pre test

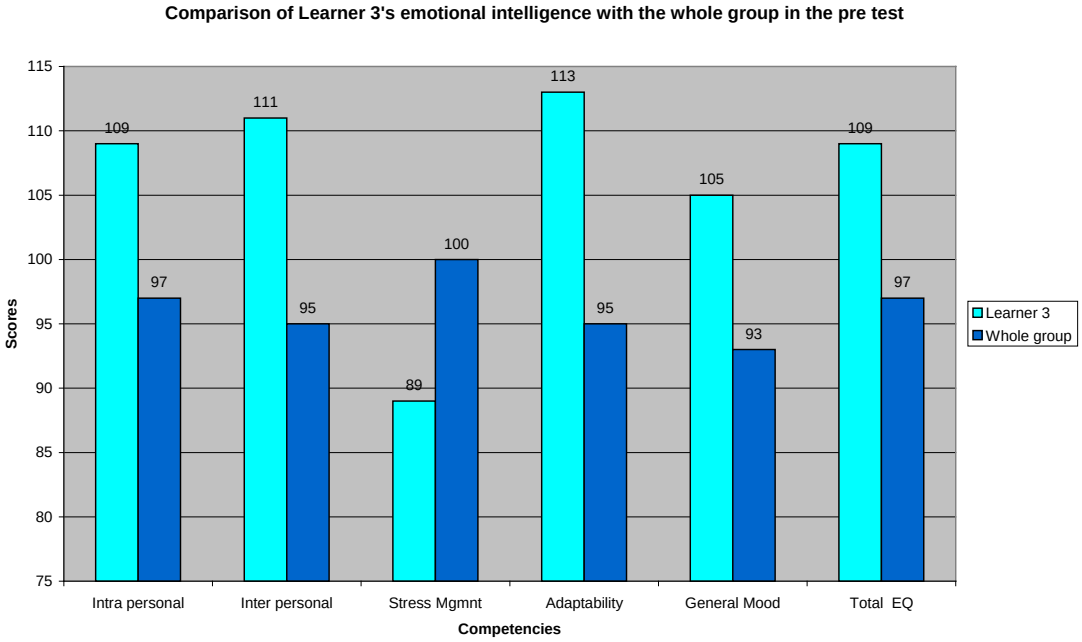
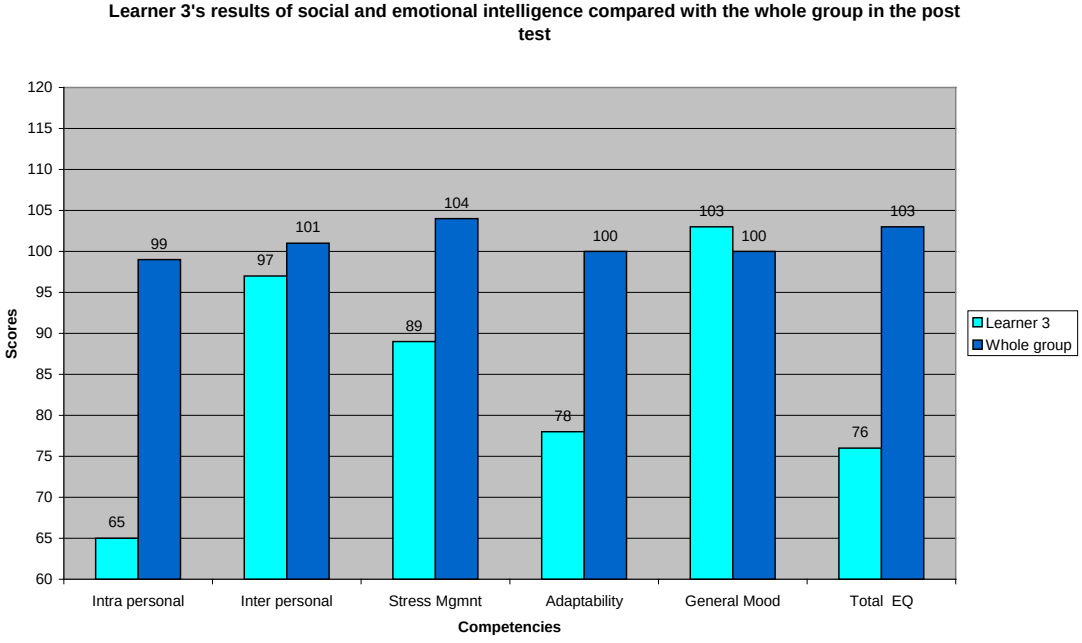


Figure 5.12 Graph of Learner 3 's emotional intelligence compared to the whole group - post test



In comparison to the whole group it appears in the pre test that Learner 3 has a perception that her emotional intelligence levels are higher than those of the sample group on every competency except stress management. Learner 3 perceives herself to be coping at a higher level than the rest of her peers in the following ways: being in touch with her feelings and positive about herself, being able to 'emotionally read' others, being a cooperative, constructive and contributing member of her group, able to establish and maintain satisfying relationships, able to cope with environmental demands by being flexible, realistic and effective in different situations, general mood, and lastly, having an overall competent and well developed emotional capacity. This may be an unrealistically high appraisal of her emotional intelligence as Learner 3 has presented as isolated and rejected by her peers, emotionally labile with moodiness and withdrawn behaviour. The realistic appraisal of one's emotional intelligence is a crucial component of being able to make socially and emotionally intelligent decisions about life (BarOn, Tranel, Denburg & Bechara, 2003).

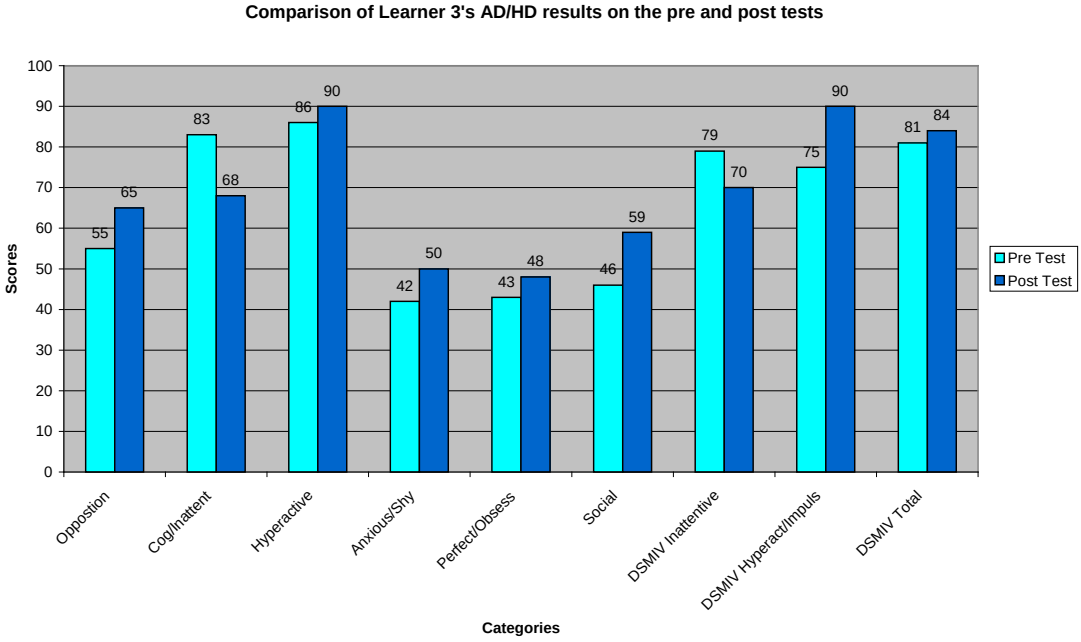
After exposure to a program on emotional intelligence, Learner 3 seems to have grown in her ability to appraise herself more accurately in terms of emotional intelligence. Learner 3's scores are now below those of the sample group in all but one competency (general mood). This reflects current literature which shows that learners with AD/HD have lowered self awareness, weaker social and interpersonal skills, poor stress management, and lower adaptability, than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Learner 3 now perceives herself to be coping at a lower level than her peers with regard to intrapersonal development, interpersonal development, stress management, adaptability, and total E.Q. She perceives herself to have a higher level of general mood than her peers. Learner 3 has shown growth in awareness of her emotional intelligence after exposure to a program on emotional intelligence.

Learner 3 shows a generally inflated perception of her emotional intelligence levels in nearly all of the competencies in the pre test. However, the scores on the post test show a much more realistic perception of her levels of emotional intelligence after exposure to a program on emotional intelligence. Because there is not a specific profile that will show typical development in terms of social and emotional intelligence for learners with AD/HD, these results support research which shows that these learners experience difficulty with self

awareness, awareness of others, managing themselves, and managing their relationships (Sharp, 2001; Weare, 2006). The sample group, in contrast, shows a consistency between the competencies and between the pre and post tests.

5.3.3.3 Learner 3's AD/HD assessment

Figure 5.13 Graph showing the AD/HD results for Learner 3's pre and post tests



(Scores above 70 are in the 98th percentile and are very atypical, indicating significant problems; scores below 55 show average functioning and indicate no concern)

Oppositional Pre Test – 55 (Average and typical); Post Test – 65 (86th – 94th percentile) These scores indicate that Learner 3's oppositional behaviour is perceived by the teacher as having worsened after exposure to a program on emotional intelligence. The teacher perceives her to have moved from displaying average and typical behaviour in the pre test, to displaying mildly atypical behaviour with possible significant problems in the post test. This means that she may possibly break rules, have problems with authority and became easily annoyed.

Cognitive problems/Inattention Pre Test – 83 (98th percentile); Post Test – 68 (86th – 94th percentile). These scores indicate that Learner 3 showed an improvement in her inattentive behaviour after being exposed to a program on emotional intelligence. She is perceived by

the teacher to have moved from displaying significant and very atypical behaviour, to being able to function in a moderately atypical manner with significant problems in the post test. This means that she became less likely to be inattentive, to have organizational problems, difficulty completing tasks, and concentration problems. Learner 3 has shown an improvement within this category after exposure to a program on emotional intelligence.

Hyperactivity Pre Test – 86 (98th percentile); Post Test – 90 (98th percentile) These scores indicate that Learner 3 has remained within the very atypical range with significant problems. She is therefore perceived by the teacher to experience significant problems in terms of hyperactivity. This means that Learner 3 experiences more than average difficulty sitting still for very long, restlessness and impulsivity, even after exposure to a program on emotional intelligence.

Anxious/Shy Pre Test – 42 (Average and typical); Post Test – 50 (Average and typical). These scores indicate that the teacher perceives Learner 3 to display average and typical behaviour and symptoms related to being anxious and shy, before and after being exposed to a program on emotional intelligence. This means that she is perceived by her teacher to experience an average or typical amount of worries and fears, to be typical in her response to criticism, and to be average with regard to shyness and withdrawn behaviour.

Perfectionism Pre Test – 43 (Average and typical); Post Test – 48 (Average and typical). These scores indicate average and typical behaviour with no concern. The teacher perceived Learner 3 to function in an average way with regard to perfectionism, before and after exposure to a program on emotional intelligence. This means that Learner 3 displays the following behaviour in an average or typical manner: setting high goals for herself, being fastidious about the way she does things, and obsessive about her work.

Social problems Pre Test – 46 (Average and typical); Post Test – 51 (Average and typical). These scores indicate that Learner 3 is perceived by the teacher to function in an average and typical manner with regard to social issues, before and after being exposed to a program on emotional intelligence. This means that she is perceived to have typical concerns about making friends and maintaining these friendships.

DSM-IV Inattentive Pre Test – 79 (98th percentile); Post Test – 70 (95th – 98th percentile) These scores indicate that Learner 3 showed an improvement in her inattentive behaviour after being exposed to a program on emotional intelligence. These scores indicate that the teacher perceived Learner 3 to have shown a decrease in the diagnostic criteria for

Inattentive type AD/HD after exposure to a program on emotional intelligence, moving from displaying very atypical behaviour to displaying moderately atypical with significant problems.

DSM-IV Hyperactive/Impulsive Pre Test – 75 (98th percentile); Post Test – 90 (98th percentile) These scores indicate that the teacher perceives Learner 3 to have remained within the very atypical range and that her symptoms actually worsened after exposure to a program on emotional intelligence. This means that Learner 3 is perceived by the teacher to fall within the very atypical range in the diagnostic criteria for Hyperactive-Impulsive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Total Pre Test – 81 (98th percentile); Post Test – 84 (95th – 98th percentile) These scores indicate that the teacher perceives Learner 3 to have remained within the very atypical behaviour range before and after being exposed to a program on emotional intelligence. She therefore falls within the very atypical range in terms of the diagnostic criteria for combined Inattention and Hyperactive-Impulsive type AD/HD, after exposure to a program on emotional intelligence.

Summary: Learner 3's scores were lowered on the two following subscales: cognitive/Inattention, and DSM-IV Inattention showing that her symptoms and behaviour have improved on these scales. Her scores on the opposition, hyperactivity, social subscales, DSM-IV Hyperactive-Impulsive subscale and DSM-IV Total subscale increased slightly which means that her behaviour and symptoms worsened somewhat. Her scores on the anxious/shy and perfectionist subscales were within the average and typical ranges and therefore do not qualify for discussion. Therefore on a total of nine subscales, Learner 3's scores worsened slightly on five subscales, improved on two subscales, and two subscales did not qualify because they were within the average range. The overall diagnostic criteria according to the DSM diagnosis showed that Learner 3 still falls within the very atypical range after exposure to a program on emotional intelligence.

5.3.3.4 The results of the semi structured interview with Learner 3

The themes and topics in the semi-structured interview are related to the CTRS-R:L to establish links in the symptoms and behaviour of AD/HD as perceived by the teacher and the Learners with AD/HD. The results in red indicate an agreement between the Learner with

AD/HD and the teacher's perception. The following scale will be used to indicate agreement: 0-40% - below average; 40-60% - average; 60-80% - above average; 80%+ - excellent.

Table 5.13 Table showing the results for the semi structured interview with Learner 3

Learner 3	No	Yes	CTRS-R:L (Post test)
Do you become angry easily?		X	Oppositional – 65
Do you find it difficult to listen to adults?	X		Inattention – 68
Do you find it difficult to organize yourself?		X	Inattention – 68
Do you find it difficult to complete tasks?		X	Inattention – 68
Do you find it difficult to concentrate?		X	Inattention – 68
Do you find it difficult to sit still for very long?		X	Hyperactive/Impulsive – 90
Do you often feel restless?		X	Hyperactive/Impulsive – 90
Do you often act before you thinks about it?		X	Hyperactive/Impulsive – 90
Do you often feel worried?		X	Anxious/shy – 50
Do you often feel afraid?	X		Anxious/shy – 50
Are you very sensitive to criticism?	X		Anxious/shy – 50
Are you very anxious in unfamiliar situations?	X		Anxious/shy – 50
Are you often shy?		X	Anxious/shy – 50
Do you set high goals for yourself?		X	Perfectionist – 48
Do you like to do things perfectly?	X		Perfectionist – 48
Do you struggle to make friends?	X		Social problems – 59
Do you feel confident about yourself?		X	Social problems – 59
Do you often feel alone?	X		Social problems – 59

Summary

Learner 3 agreed with the teacher's perceptions of her symptoms and behaviour related to AD/HD on 11 of the questions out of a total of 18 questions. Learner 3's biggest area of disagreement lies within the social problems category and the anxious/shy category. Unlike the teacher, Learner 3 does not perceive herself to experience social problems or to be

anxious and/or shy. The semi-structured interview shows that Learner 3 and the teacher agree 61% of the time, which shows that Learner 2 has an above average awareness of her symptoms and behaviour and has made an above average appraisal of herself with regard to AD/HD.

5.3.4 Learner 4

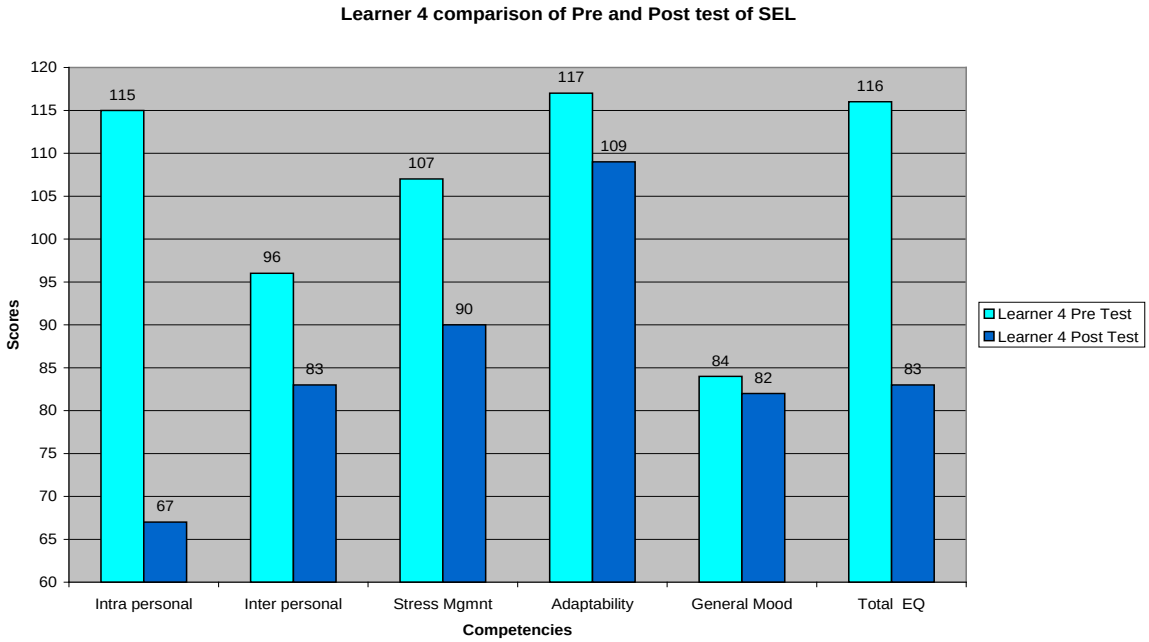
5.3.4.1 Background of learner 4

Learner 4 is the youngest of two children. He was born in Russia and was adopted from a Russian orphanage by a single American mother when he was 20 months old. Learner 4 showed signs of developmental delay and was severely under nourished. He was the equivalent weight of a 12 month old child at the time of adoption and did not thrive for the first year. Learner 4 has lived with his adopted American family in various countries, and has always been educated in the American International School system. Learner 4 has always experienced poor academic achievement, with difficulty concentrating, staying focused and completing tasks. He was assessed in the United States by an Educational Psychologist and an Individual Educational Plan has been drawn up for him. Learner 4 was diagnosed with AD/HD and a learning disability and was medicated when he was in Grade 2. He was extremely emotionally labile during Grade 3 and Grade 4, displaying fits of rage and obsessive compulsive behaviour. He was diagnosed with dysgraphia and uses a keyboard for his written work. After his assessment, it was found that Learner 4 has an average intellectual capacity and after many changes of medication, became much more stable in Grade 5. He achieved better academic success and eventually was able to make some friends. Prior to that he had been isolated and rejected by his peers and unable to form any lasting friendships. His mother reports that Learner 4 has become much more amenable at home, has friends over occasionally and is coping much better at school during his Grade 5 year. Learner 4 attends academic support classes every second day and receives counselling with the school counsellor when necessary.

5.3.4.2 Learner 4 and assessment of emotional intelligence

In terms of his social and emotional intelligence, Learner 4 scored himself in the following manner on the BarOn EQ-I YV:

Figure 5.14 Graphs showing the comparison of Learner 4's pre and post tests on emotional intelligence



Intrapersonal Intelligence – Pre Test (115); Post Test (67) The pre test score indicates Learner 4's perception that he has a well developed emotional capacity (between 115 -129). After exposure to a program on emotional intelligence Learner 4 perceives himself much more realistically although his score has dropped markedly from well developed to under developed (under 70). This shows growth in his ability to more accurately appraise himself and to be more self-aware. This composite scale indicates whether an individual is in touch with his feelings, how good he feels about himself, and how positive he feels about what he is doing with his life.

Interpersonal Intelligence – Pre Test (96); Post Test (83) The pre test score indicates Learner 4's perception that he has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 4 now perceives himself to have below average emotional capacity in this regard (between 70 and 85). This

score indicates that after exposure to a program on emotional intelligence, Learner 4 perceives that he has a below average overall emotional capacity (between 70 and 85). This shows growth in self awareness and the ability to accurately appraise himself. This composite scale taps interpersonal skills and functioning.

Stress Management – Pre Test (107); Post Test (90) The pre test score indicates Learner 4's perception that he has an average emotional capacity (between 86 and 114). After being exposed to a program on emotional intelligence, Learner 4 still perceives himself to have an average emotional capacity (between 86 and 114) in this regard, but that his appraisal is more accurately placed at a lower level. This composite scale shows how well the respondent is able to withstand stress without falling apart or losing control, how well they are able to work under pressure, keep calm and control impulsivity.

Adaptability – Pre Test (117); Post Test (109) The pre test score indicates Learner 4's perception that he has an above average or well developed emotional capacity (between 115 and 129). After exposure to a program on emotional intelligence, Learner 4 now perceives himself to have an average emotional capacity for adaptability (between 86 – 114). This indicates a much more accurate appraisal of his level of adaptability. This composite scale reveals how successfully the respondent is able to cope with environmental demands by effectively sizing up and dealing with problem situations.

General Mood – Pre Test (84); Post Test (82) The pre test score indicates Learner 4's perception that he has an under developed or below average emotional capacity (between 70 and 85). After exposure to a program on emotional intelligence, Learner 4 still perceives himself to have below average emotional capacity in this regard (between 70 and 85). This composite scale generally measures the respondent's ability to enjoy life as well as his outlook on life and overall feeling of contentment.

Total E.Q. (Emotional Quotient) – Pre Test (116); Post Test (83) The pre test score indicates Learner 4's perception that he has a well developed overall emotional capacity (between 115 and 129). After exposure to a program on emotional intelligence, Learner 4 perceives that he has a below average overall emotional capacity (between 70 and 85). This shows growth in self awareness and the ability to accurately appraise himself. Total E.Q is a composite score of all the competencies and gives an overall measure of the concept emotional intelligence.

Figure 5.15 Graph of Learner 4's emotional intelligence compared to the whole group - pre test

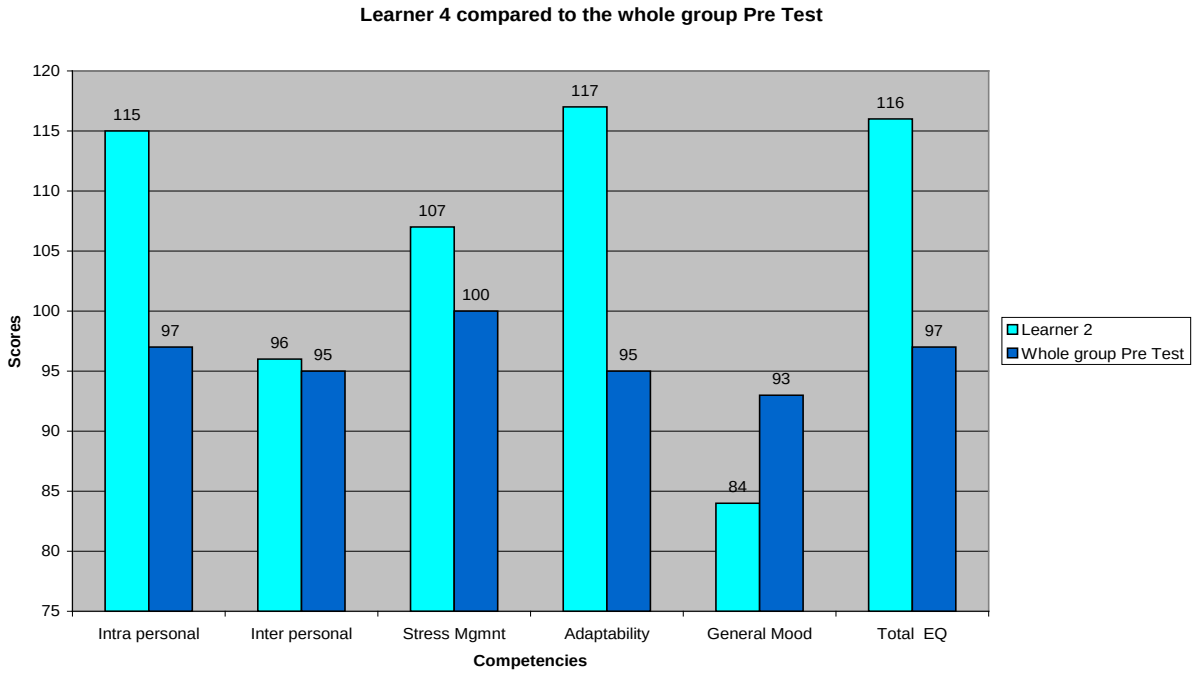
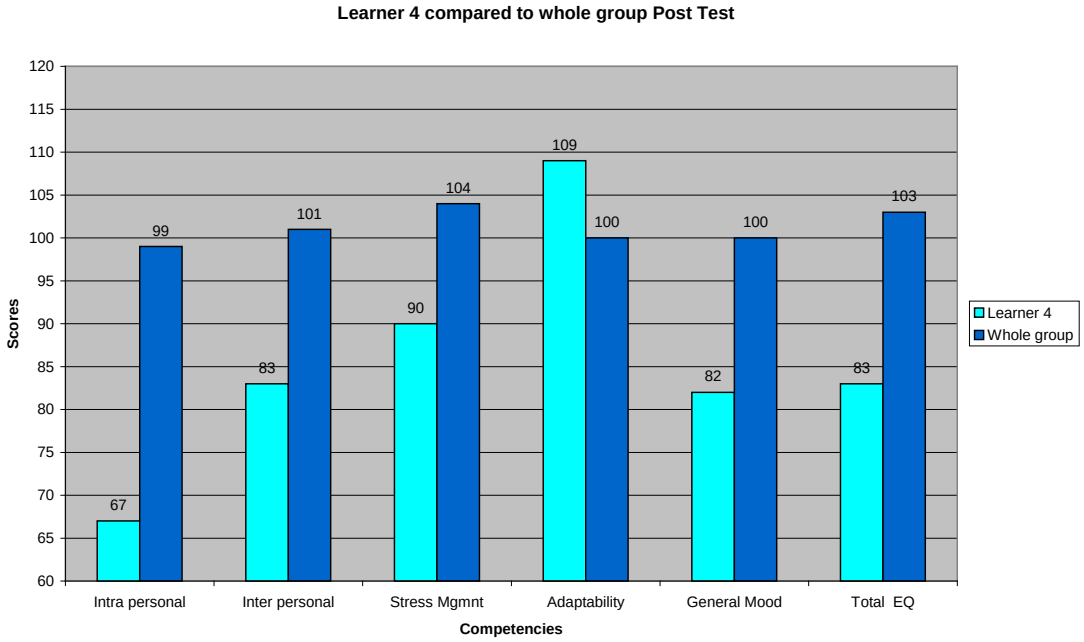


Figure 5.16 Graph of Learner 4 's emotional intelligence compared to the whole group - post test



In comparison to the whole group it appears in the pre test that Learner 4 has a perception that his emotional intelligence levels are higher than those of the sample group on every

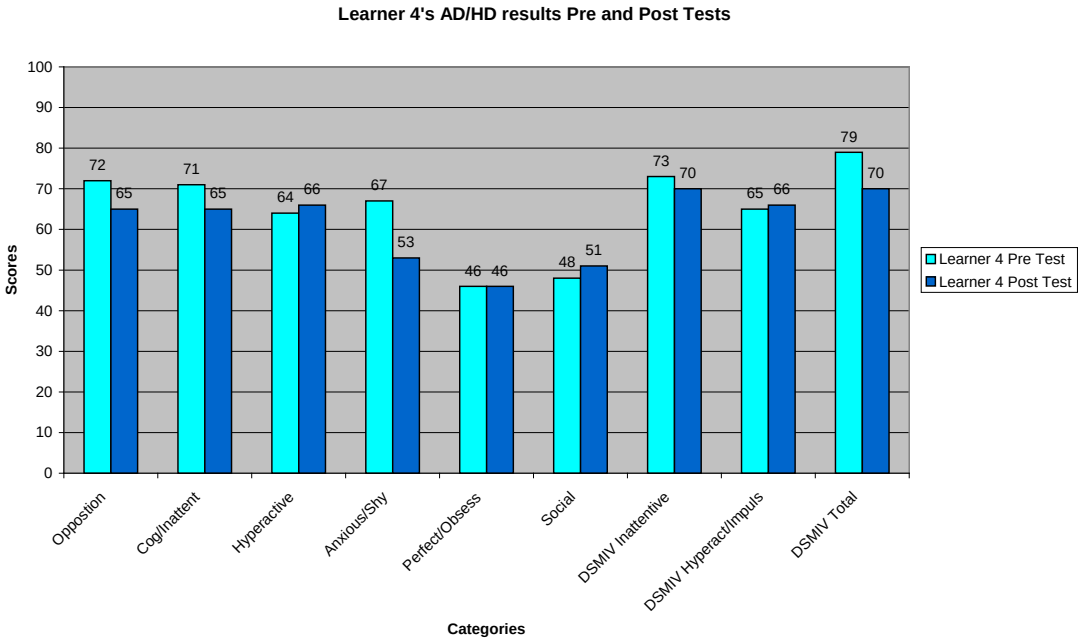
competency except general mood. Learner 4 perceives himself to be coping at a higher level than the rest of his peers in the following ways: being in touch with his feelings and positive about himself, being able to 'emotionally read' others, being a cooperative, constructive and contributing member of his group, able to establish and maintain satisfying relationships, able to cope with environmental demands by being flexible, realistic and effective in different situations, able to withstand stress without losing control, and lastly, having an overall competent and well developed emotional capacity. This may be an unrealistically high appraisal of his emotional intelligence as Learner 4 has presented as isolated and rejected by his peers and unable to form any lasting friendships, and as socially inadequate and unable to control or understand his emotions. The realistic appraisal of one's emotional intelligence is a crucial component of being able to make socially and emotionally intelligent decisions about life (BarOn, Tranel, Denburg & Bechara, 2003).

After exposure to a program on emotional intelligence, Learner 4 seems to have grown in his ability to appraise himself more accurately in terms of emotional intelligence. Learner 4's scores are now below those of the sample group in all but one competency (adaptability). This reflects current literature which shows that learners with AD/HD have lowered self awareness, weaker social and interpersonal skills, poor stress management and a generally lowered mood, than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Learner 4 now perceives himself to be coping at a lower level than his peers with regard to intrapersonal development, interpersonal development, stress management, and total E.Q. He perceives himself to have a higher level of adaptability than his peers. Learner 4 has shown growth in awareness of his emotional intelligence after exposure to a program on emotional intelligence.

Learner 4 shows a generally inflated perception of his emotional intelligence levels in nearly all of the competencies in the pre test. However, the scores on the post test show a much more realistic perception of his levels of emotional intelligence after exposure to a program on emotional intelligence. The sample group, in contrast, shows a consistency between the competencies and between the pre and post tests.

5.3.4.3 Learner 4's AD/HD assessment

Figure 5.17 Graph showing the AD/HD results for Learner 4's pre and post Tests



(Scores above 70 are in the 98th percentile and are very atypical, indicating significant problems; scores below 55 show average functioning and indicate no concern)

Oppositional Pre Test – 72 (98th percentile); Post Test – 65 (86th – 94th percentile) These scores indicate that Learner 4 has shown an improvement in his oppositional behaviour after exposure to a program on emotional intelligence. He is perceived by the teacher to have moved from displaying significant and very atypical behaviour, to being able to function in a mildly atypical manner with possible significant problems in the post test. This means that he may possibly break rules, have problems with authority and became easily annoyed. Learner 4 has shown an improvement within this category after exposure to a program on emotional intelligence.

Cognitive problems/Inattention Pre Test – 71 (98th percentile); Post Test – 65 (86th – 94th percentile). These scores indicate that Learner 4 showed an improvement in his inattentive behaviour after being exposed to a program on emotional intelligence. He is perceived by the teacher to have moved from displaying significant and very atypical behaviour, to being able to function in a mildly atypical manner with possible significant problems in the post test. This means that he became less likely to be inattentive, to have organizational problems,

difficulty completing tasks, and concentration problems. Learner 4 has shown an improvement within this category after exposure to a program on emotional intelligence.

Hyperactivity Pre Test – 64 (86th – 94th percentile); Post Test – 66 (95th – 98th percentile) These scores indicate that Learner 4 moved from being mildly atypical in the pre test to showing moderately atypical behaviour in the post test. He is therefore perceived by the teacher to experience significant problems in terms of hyperactivity. This means that Learner 4 experiences more than average difficulty sitting still for very long, restlessness and impulsivity, even after exposure to a program on emotional intelligence.

Anxious/Shy Pre Test – 67 (85th to 98th percentile); Post Test – 53 (Average and typical). These scores indicate that Learner 4 showed an improvement in his anxious and/or shy behaviour after being exposed to a program on emotional intelligence. This means that he is now perceived by his teacher to experience an average or typical amount of worries and fears, to be typical in his response to criticism, and to be average with regard to shyness and withdrawn behaviour.

Perfectionism Pre Test – 46 ; Post Test – 46. These scores indicate average and typical behaviour with no concern. The teacher perceived Learner 4 to function in an average way with regard to perfectionism, before and after exposure to a program on emotional intelligence. This means that Learner 4 displays the following behaviour in an average or typical manner: setting high goals for himself, very fastidious about the way he does things, and obsessive about his work.

Social problems Pre Test – 48; Post Test – 51 These scores indicate that Learner 4 is perceived by the teacher to function in an average and typical manner with regard to social issues. This means that he is perceived to have typical concerns about making friends and maintaining these friendships.

DSM-IV Inattentive Pre Test – 73 (98th percentile); Post Test – 70 (95th – 98th percentile) These scores indicate that Learner 4 showed an improvement in his inattentive behaviour after being exposed to a program on emotional intelligence. These scores indicate that the teacher perceived Learner 4 to have shown a decrease in the diagnostic criteria for Inattentive type AD/HD after exposure to a program on emotional intelligence, becoming moderately atypical with significant problems.

DSM-IV Hyperactive/Impulsive Pre Test – 65 (86th – 94th percentile); Post Test – 66 (95th – 98th percentile) These scores indicate that Learner 4 moved from being mildly atypical in the

pre test to showing moderately atypical behaviour in the post test. He is therefore perceived by the teacher to experience significant problems and to fall within the moderately atypical range in terms of hyperactive and impulsive behaviour. This means that Learner 4 is perceived by the teacher to fall within the moderately atypical range in the diagnostic criteria for Hyperactive-Impulsive type AD/HD after exposure to a program on emotional intelligence.
DSM-IV Total Pre Test – 79 (98^{th} percentile); Post Test – 70 (95^{th} – 98^{th} percentile) These scores indicate that Learner 4 moved from being very atypical with significant problems in the pre test to showing moderately atypical behaviour in the post test. He is therefore perceived by the teacher to still experience significant problems but to have dropped to the moderately atypical range in terms of the diagnostic criteria for combined Inattention and Hyperactive-Impulsive type AD/HD, after exposure to a program on emotional intelligence.

Summary: Learner 4's scores were lowered on the four following subscales: oppositional, cognitive/Inattention, anxious/shy, DSM-IV Inattention and DSM-IV Total showing that his symptoms and behaviour have improved on these scales. His scores on the Hyperactivity subscale and the DSM-IV Hyperactive-Impulsive subscale increased slightly which moved him from a mildly atypical range to a moderately atypical range showing significant problems. His scores on the perfectionist and social subscales were within the average and typical ranges and therefore do not qualify for discussion. Therefore on a total of nine subscales, Learner 4's scores worsened slightly on two subscales, improved on five subscales, and two subscales did not qualify because they were within the average range. The overall diagnostic criteria according to the DSM diagnosis showed an improvement of his symptoms and behaviour after exposure to a program on emotional intelligence.

5.3.4.4 The results of the semi structured interview with Learner 4

The themes and topics in the semi-structured interview are related to the CTRS-R:L to establish links in the symptoms and behaviour of AD/HD as perceived by the teacher and the Learners with AD/HD. The results in red indicate an agreement between the Learner with AD/HD and the teacher's perception. The following scale will be used to indicate agreement: 0-40% - below average; 40-60% - average; 60-80% - above average; 80%+ - excellent.

Table 5.14 Table showing the results for the semi structured Interview with Learner 4

Learner 4	No	Yes	CTRS-R:L (Post test)
Do you become angry easily?		X	Oppositional – 65
Do you find it difficult to listen to adults?		X	Inattention – 65
Do you find it difficult to organize yourself?	X		Inattention – 65
Do you find it difficult to complete tasks?		X	Inattention – 65
Do you find it difficult to concentrate?		X	Inattention – 65
Do you find it difficult to sit still for very long?		X	Hyperactive/Impulsive – 66
Do you often feel restless?		X	Hyperactive/Impulsive – 66
Do you often act before you think about it?		X	Hyperactive/Impulsive – 66
Do you often feel worried?	X		Anxious/shy – 53
Do you often feel afraid?	X		Anxious/shy – 53
Are you very sensitive to criticism?		X	Anxious/shy – 53
Are you very anxious in unfamiliar situations?		X	Anxious/shy – 53
Are you often shy?	X		Anxious/shy – 53
Do you set high goals for yourself?		X	Perfectionist – 46
Do you like to do things perfectly?		X	Perfectionist – 46
Do you struggle to make friends?		X	Social problems – 51
Do you feel confident about yourself?	X		Social problems – 51
Do you often feel alone?		X	Social problems – 51

Summary

Learner 4 agreed with the teacher's perceptions of her symptoms and behaviour related to AD/HD on 12 of the questions out of a total of 18 questions. Learner 4's biggest area of disagreement lies within the perfectionist category and the anxious/shy category. Unlike the teacher, Learner 4 perceives himself to be a perfectionist and to be anxious and/or shy. The semi-structured interview shows that Learner 4 and the teacher agree 66% of the time, which shows that Learner 4 has an above average awareness of his symptoms and behaviour and has made an above average appraisal of herself with regard to AD/HD.

5.3.5 Learner 5

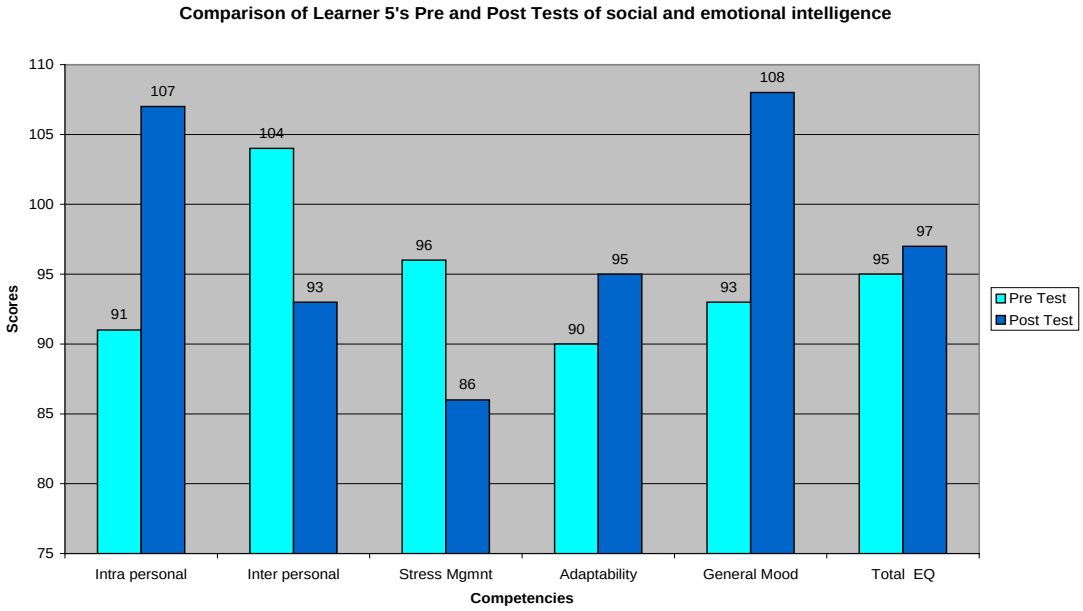
5.3.5.1 Background of learner 5

Learner 5 is the middle child of five children. He has two older brothers and two younger brothers. All of the four school going children experience academic difficulties and have received ongoing academic support throughout their school careers. Learner 5 was born in Saudi Arabia and has lived with his family in various countries. He has always been educated in the American International School system and has been in his present school for the last four years. Learner 5 has always experienced poor academic achievement, with difficulty concentrating, staying focused and completing tasks. He was assessed in South Africa by an Educational Psychologist and shows an average intellectual capacity. Learner 5 was diagnosed with AD/HD and a learning disability, and has been medicated since Grade 1. He appears to be on the fringes of his peer group with neither acceptance nor rejection from the other students. He struggles to achieve academic success. His mother reports that Learner 5 has few friends and is withdrawn and quiet at home. Learner 5 attends academic support classes every second day and receives counselling with the school counsellor when necessary.

5.3.5.2 Learner 5 and assessment of emotional intelligence

In terms of his social and emotional intelligence, Learner 5 scored himself in the following manner on the BarOn EQ-I YV:

Figure 5.18 **Graphs showing the comparison of Learner 5's pre and post tests on emotional intelligence**



Intrapersonal Intelligence – Pre Test (95); Post Test (107) The pre test score indicates Learner 5's perception that he has an average emotional capacity (between 86 -114). After exposure to a program on emotional intelligence Learner 5 perceives himself to have improved in this regard even though he still falls within the average range. This shows growth. This composite scale indicates whether an individual is in touch with his feelings, how good he feels about himself, and how positive he feels about what he is doing with his life.

Interpersonal Intelligence – Pre Test (104); Post Test (93) The pre test score indicates Learner 5's perception that he has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 5 still perceives himself to have an average emotional capacity with regard to interpersonal skills although he perceives that he has dropped in his ability to make and maintain relationships. This composite scale taps interpersonal skills and functioning.

Stress Management – Pre Test (96); Post Test (86) The pre test score indicates Learner 5's perception that he has an average emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 5 still perceives himself to have an average

emotional capacity (between 86 and 114), but he now perceives himself to be at a lower level. This shows growth in being able to appraise himself more accurately. This composite scale shows how well the respondent is able to withstand stress without falling apart or losing control, how well they are able to work under pressure, keep calm and control impulsivity.

Adaptability – Pre Test (90); Post Test (95) The pre test score indicates Learner 5's perception that he has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 5 still perceives himself to have an average emotional capacity for adaptability (between 86 – 114) although he perceives his adaptability to have improved slightly. This composite scale reveals how successfully the respondent is able to cope with environmental demands by effectively sizing up and dealing with problem situations.

General Mood – Pre Test (93); Post Test (108) The pre test score indicates Learner 5's perception that he has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 5 still perceives himself to have an average emotional capacity but that his general mood has improved. This composite scale generally measures the respondent's ability to enjoy life as well as his outlook on life and overall feeling of contentment.

Total E.Q. (Emotional Quotient) – Pre Test (95); Post Test (97) The pre test score indicates Learner 5's perception that he has an average and adaptive overall emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 5 perceives that he has an average overall emotional capacity and that this has improved slightly. Total E.Q is a composite score of all the competencies and gives an overall measure of the concept emotional intelligence.

Figure 5.19 **Graph of Learner 5's emotional intelligence compared to the whole group - pre test**

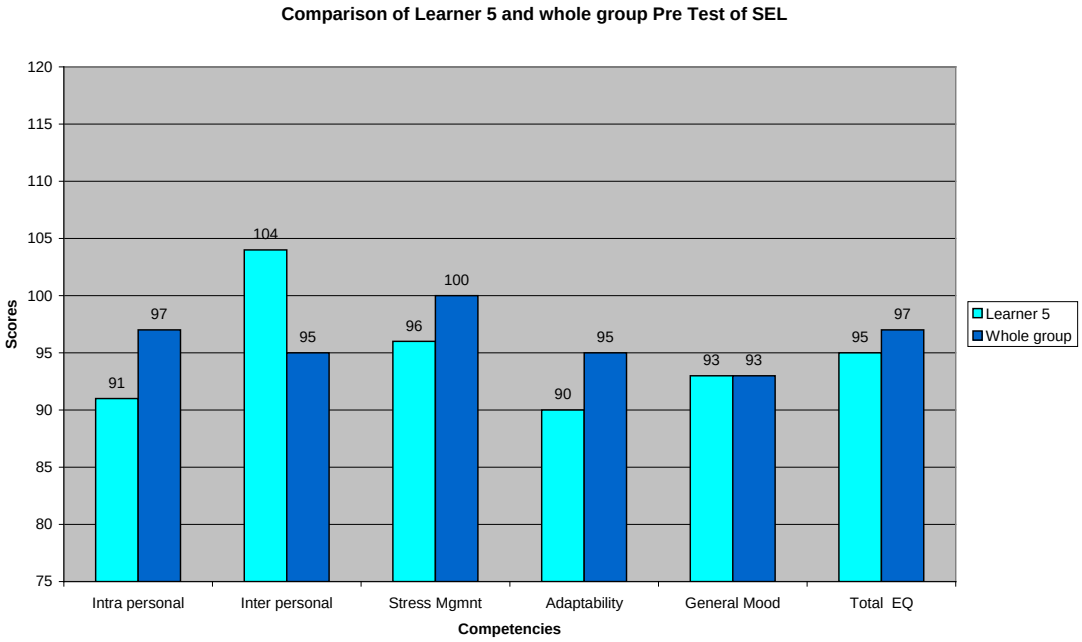
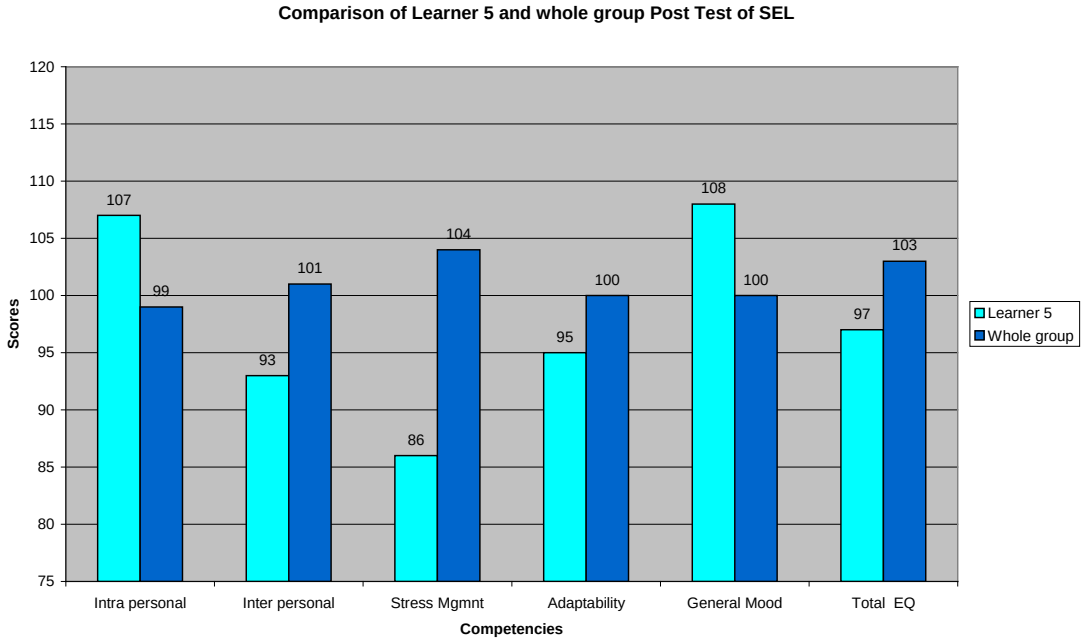


Figure 5.20 **Graph of Learner 5 's emotional intelligence compared to the whole group - post test**



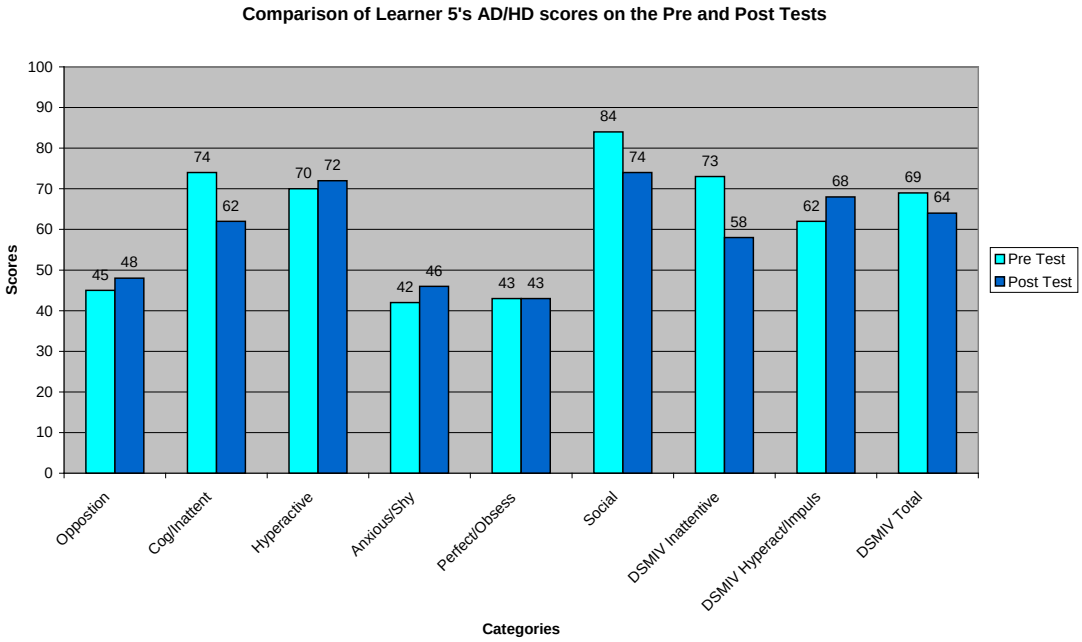
In comparison to the whole group it appears in the pre test that Learner 5 has a perception that his emotional intelligence levels are lower than those of the sample group on every competency except interpersonal skills and general mood. Learner 5 perceives himself to be coping at a higher level than the rest of his peers in his ability to make and maintain friendships. This is in contrast to his mother's perception that he does not have many friends and is often withdrawn and alone. On the whole Learner 5's profile appears to be a fairly realistic appraisal of his emotional intelligence which reflects research that shows that learners with AD/HD show lowered emotional intelligence capacity than their peer group who do not have AD/HD (BarOn, 2003; Bauminger et al., 2005).

After exposure to a program on emotional intelligence, Learner 5 perceives that he has improved on his intrapersonal skills and general mood to a point where he appraises himself as higher than the overall group of students who do not have AD/HD. This does not reflect the current trend in the literature as mentioned before. He perceives himself to be below the overall group in the following competencies: Interpersonal skills, stress management, adaptability and total E.Q. This reflects current literature which shows that learners with AD/HD have weaker social and interpersonal skills, poor stress management, lowered levels of adaptability, and a generally lower overall E.Q., than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Learner 5 has shown growth in some areas of emotional intelligence after exposure to a program on emotional intelligence.

Learner 5 shows a fluctuation of scores both within and between the tests. Although his scores remain within the average range on all the competencies, they have moved from the lower ends of the average range to the higher ends of the average range and vice versa, after exposure to a program on social and emotional intelligence. This shows a lack of awareness of levels of emotional intelligence for Learner 5. The sample group in contrast shows a general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence.

5.3.5.3 Learner 5's AD/HD assessment

Figure 5.21 Graph showing the AD/HD results for Learner 5's pre and post tests



(Scores above 70 are in the 98th percentile and are very atypical, indicating significant problems; scores below 55 show average functioning and indicate no concern)

Oppositional Pre Test – 45; Post Test – 48) These scores indicate average and typical behaviour with no concern. The teacher perceived Learner 5 to function in an average way with regard to oppositional behaviour, before and after exposure to a program on emotional intelligence. This means that Learner 5 shows average and typical behaviour with regard to breaking rules, problems with authority, and becoming annoyed. This subscale does not qualify for discussion.

Cognitive problems/Inattention Pre Test – 74 (98th percentile); Post Test – 62 (86th – 94th percentile). These scores indicate that Learner 5 showed an improvement in his inattentive behaviour after being exposed to a program on emotional intelligence. He is perceived by the teacher to have moved from displaying significant and very atypical behaviour, to being able to function in a mildly atypical manner with possible significant problems in the post test. This means that he became less likely to be inattentive, to have organizational problems, difficulty completing tasks, and concentration problems. Learner 5 has shown an improvement within this category after exposure to a program on emotional intelligence.

Hyperactivity Pre Test – 70 (98th percentile); Post Test – 72 (98th percentile) These scores indicate that the teacher perceives Learner 5 to display very atypical behaviour and symptoms with significant problems in both the pre test and the post test with regard to hyperactivity. He is therefore perceived by the teacher to experience significant problems in terms of hyperactivity. This means that Learner 5 experiences more than average difficulty sitting still for very long, as well as restlessness and impulsivity, even after exposure to a program on emotional intelligence.

Anxious/Shy Pre Test – 43; Post Test – 43 (Average and typical). These scores indicate average and typical behaviour with no concern. The teacher perceived Learner 5 to function in an average way with regard to anxious and shy behaviour, before and after exposure to a program on emotional intelligence. This means that Learner 5 is now perceived by his teacher to experience an average or typical amount of worries and fears, to be typical in his response to criticism, and to be average with regard to shyness and withdrawn behaviour.

Perfectionism Pre Test – 46 ; Post Test – 46. These scores indicate average and typical behaviour with no concern. The teacher perceived Learner 5 to function in an average way with regard to perfectionism, before and after exposure to a program on emotional intelligence. This means that Learner 5 displays the following behaviour in an average or typical manner: setting high goals for himself, very fastidious about the way he does things, and obsessive about his work.

Social problems Pre Test – 84; Post Test – 74 (98th percentile). These scores indicate that Learner 5 is perceived by the teacher to display very atypical behaviour and symptoms with significant problems in both the pre test and the post test with regard to social problems. He is therefore perceived by the teacher to experience significant problems in terms of social problems. Even though he has shown an improvement in which his score has lowered by 10 points, he still remains in the very atypical category, even after exposure to a program on social and emotional intelligence.

DSM-IV Inattentive Pre Test – 73 (98th percentile); Post Test – 58 (74th – 85th percentile) These scores indicate that Learner 5 showed an improvement in his inattentive behaviour after being exposed to a program on emotional intelligence. His symptoms and behaviour have changed from being very atypical with significant problems, to being slightly atypical with borderline problems. These scores indicate that the teacher perceived Learner 5 to

have shown a decrease in the diagnostic criteria for Inattentive type AD/HD after exposure to a program on emotional intelligence, slightly atypical.

DSM-IV Hyperactive/Impulsive Pre Test – 62 (86th – 94th percentile); Post Test – 68 (95th – 98th percentile) These scores indicate that Learner 5 moved from being mildly atypical in the pre test to showing moderately atypical behaviour in the post test. He is therefore perceived by the teacher to experience significant problems and to fall within the moderately atypical range in terms of hyperactive and impulsive behaviour. This means that Learner 5 is perceived by the teacher to fall within the moderately atypical range in the diagnostic criteria for Hyperactive-Impulsive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Total Pre Test – 69 (95th - 98th percentile); Post Test – 64 (86th – 94th percentile) These scores indicate that Learner 5 moved from moderately atypical with significant problems in the pre test to showing mildly atypical behaviour in the post test. He is therefore perceived by the teacher to still experience significant problems but to have dropped to the mildly atypical range in terms of the diagnostic criteria for combined Inattention and Hyperactive-Impulsive type AD/HD, after exposure to a program on emotional intelligence.

Summary: Learner 5's scores were lowered on the four following subscales: cognitive/Inattention, social behaviour, DSM-IV Inattention and DSM-IV Total showing that his symptoms and behaviour have improved on these scales. His scores on the Hyperactivity subscale and the DSM-IV Hyperactive-Impulsive subscale increased slightly which showed very atypical symptoms in the hyperactivity subscale, and moved him from a mildly atypical range to a moderately atypical range on the latter subscale, showing significant problems in both subscales. His scores on the oppositional, anxious/shy, and perfectionist subscales were within the average and typical ranges and therefore do not qualify for discussion. Therefore on a total of nine subscales, Learner 5's scores worsened slightly on two subscales, improved on four subscales, and three subscales did not qualify because they were within the average range. The overall diagnostic criteria according to the DSM diagnosis showed an improvement of his symptoms and behaviour after exposure to a program on emotional intelligence.

5.3.5.4 The results of the semi structured interview with Learner 5

The themes and topics in the semi-structured interview are related to the CTRS-R:L to establish links in the symptoms and behaviour of AD/HD as perceived by the teacher and the Learners with AD/HD. The results in red indicate an agreement between the Learner with AD/HD and the teacher's perception. The following scale will be used to indicate agreement: 0-40% - below average; 40-60% - average; 60-80% - above average; 80%+ - excellent.

Table 5.15 Table showing the results for the semi structured Interview with Learner 5

Learner 5	No	Yes	CTRS-R:L (Post test)
Do you become angry easily?		X	Oppositional – 48
Do you find it difficult to listen to adults?		X	Inattention – 62
Do you find it difficult to organize yourself?		X	Inattention – 62
Do you find it difficult to complete tasks?		X	Inattention – 62
Do you find it difficult to concentrate?		X	Inattention – 62
Do you find it difficult to sit still for very long?		X	Hyperactive/Impulsive – 72
Do you often feel restless?		X	Hyperactive/Impulsive – 72
Do you often act before you think about it?		X	Hyperactive/Impulsive – 72
Do you often feel worried?		X	Anxious/shy – 46
Do you often feel afraid?		X	Anxious/shy – 46
Are you very sensitive to criticism?		X	Anxious/shy – 46
Are you very anxious in unfamiliar situations?		X	Anxious/shy – 46
Are you often shy?	X		Anxious/shy – 46
Do you set high goals for yourself?		X	Perfectionist – 43
Do you like to do things perfectly?		X	Perfectionist – 43
Do you struggle to make friends?		X	Social problems – 74
Do you feel confident about yourself?	X		Social problems – 74
Do you often feel alone?		X	Social problems – 74

Summary

Learner 5 agreed with the teacher's perceptions of her symptoms and behaviour related to AD/HD on 12 of the questions out of a total of 18 questions. Learner 5's biggest area of disagreement lies within the perfectionist category and the anxious/shy category. Unlike the teacher, Learner 5 perceives himself to be a perfectionist and to be anxious and/or shy. The semi-structured interview shows that Learner 5 and the teacher agree 61% of the time, which shows that Learner 5 has an above average awareness of his symptoms and behaviour and has made an above average appraisal of herself with regard to AD/HD.

5.3.6 Learner 6

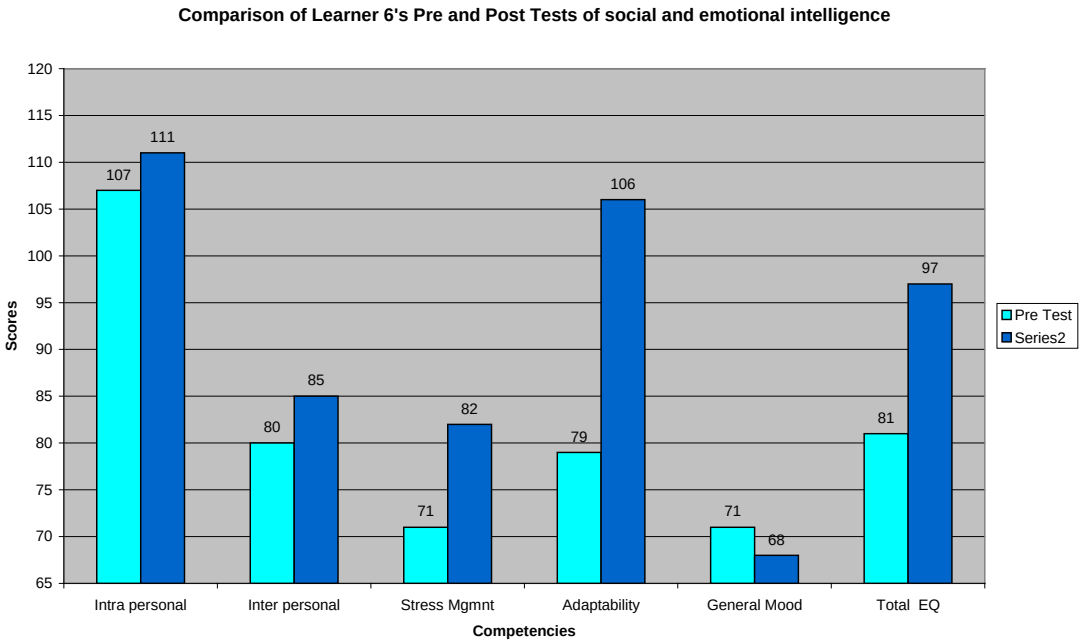
5.3.6.1 Background of learner 6

Learner 6 is an only child. His parents were divorced when he was young and he lived with his biological mother. She was unable to care for him adequately and when he was five years of age the biological father, who had remarried, was able to get custody of his son. Learner 6 has since lived with his father and step mother. He is South African and Afrikaans is his home language. His step mother is British and Learner 6 was moved to the American International School, where he has spent the last five years. Learner 6 was assessed by an Educational Psychologist and found to have an above average intellectual potential with scatter amongst the subtests. He has been diagnosed with AD/HD and has been on medication for this condition for the last four years. Learner 6's step mother reports that he is extremely difficult at home, both confrontational and aggressive. He lacks organization, is forgetful, does not complete tasks, lies easily and steals from home. Learner 6's academic achievement is at an average level. He received learning support for writing skills and attended English as a Second Language classes until he became more proficient at English. Because of impulsivity and aggression towards his peers, he does not have many friends and is often isolated and teased. He receives counselling with the school counsellor when necessary.

5.3.6.2 Learner 6 and assessment of emotional intelligence

In terms of his social and emotional intelligence, Learner 6 scored himself in the following manner on the Bar-On EQ-I YV:

Figure 5.22 Graphs showing the comparison of Learner 6's pre and post tests on emotional intelligence



Intrapersonal Intelligence – Pre Test (107); Post Test (111) The pre test score indicates Learner 6's perception that he has an average emotional capacity (between 86 - 114). After exposure to a program on emotional intelligence Learner 6 perceives himself to have improved in this regard even though he still falls within the average range. This shows growth. This composite scale indicates whether an individual is in touch with his feelings, how good he feels about himself, and how positive he feels about what he is doing with his life.

Interpersonal Intelligence – Pre Test (80); Post Test (85) The pre test score indicates Learner 6's perception that he has a below average emotional capacity (between 70 and 85). After exposure to a program on emotional intelligence, Learner 6 still perceives himself to have under developed emotional skills with regard to interpersonal skills. This score

indicates his awareness of his difficulties being able to make and maintain friendships. This composite scale taps interpersonal skills and functioning.

Stress Management – Pre Test (71); Post Test (82) The pre test score indicates Learner 6's perception that he has a below average emotional capacity (between 70 and 85). After exposure to a program on emotional intelligence, Learner 6 still perceives himself to have a below average emotional capacity to manage stress (between 70 and 85). This composite scale shows how well the respondent is able to withstand stress without falling apart or losing control, how well they are able to work under pressure, keep calm and control impulsivity.

Adaptability – Pre Test (79); Post Test (106) The pre test score indicates Learner 6's perception that he has a below average emotional capacity (between 70 and 85). After exposure to a program on emotional intelligence, Learner 6 still perceives himself to have improved with regard to adaptability, and to have moved from below average, to average (between 86 – 114). This composite scale reveals how successfully the respondent is able to cope with environmental demands by effectively sizing up and dealing with problem situations.

General Mood – Pre Test (71); Post Test (68) The pre test score indicates Learner 6's perception that he has a below average emotional capacity (between 70 and 85). After exposure to a program on emotional intelligence, Learner 6 perceives himself to have dropped to a markedly under developed level of general mood. This composite scale generally measures the respondent's ability to enjoy life as well as his outlook on life and overall feeling of contentment.

Total E.Q. (Emotional Quotient) – Pre Test (81); Post Test (97) The pre test score indicates Learner 6's perception that he has a below average overall emotional capacity (between 70 and 85). After exposure to a program on emotional intelligence, Learner 6 perceives that he has an average overall emotional capacity and that this has improved. Total E.Q is a composite score of all the competencies and gives an overall measure of the concept emotional intelligence.

Figure 5.23 **Graph of Learner 6's emotional intelligence compared to the whole group - pre test**

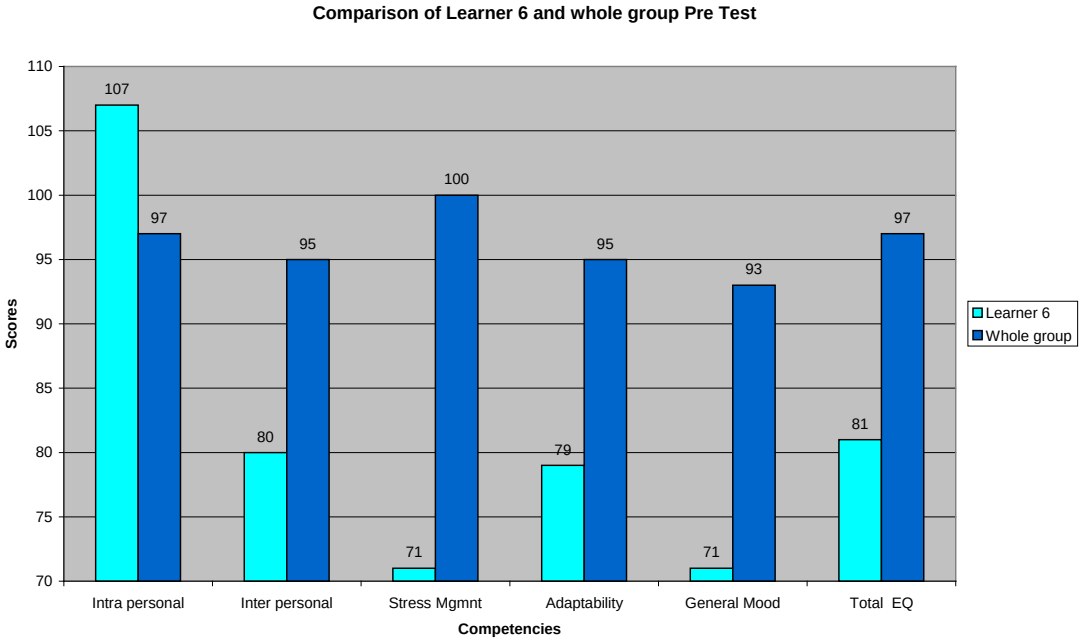
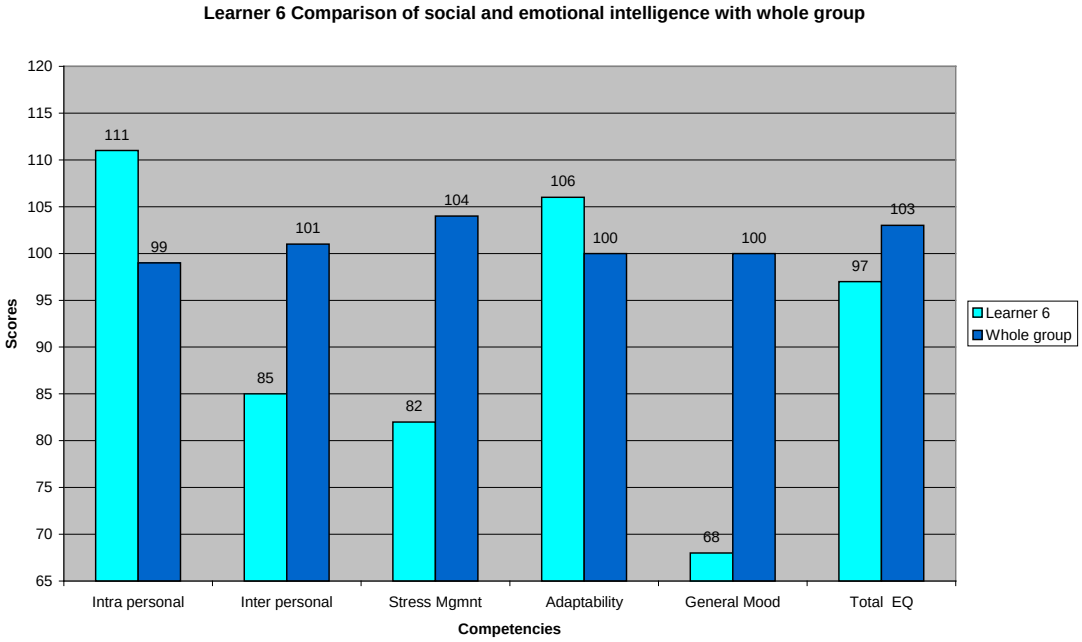


Figure 5.24 **Graph of Learner 6 's emotional intelligence compared to the whole group - post test**



In comparison to the whole group it appears in the pre test that Learner 6 has a perception that his emotional intelligence levels are lower than those of the sample group on every

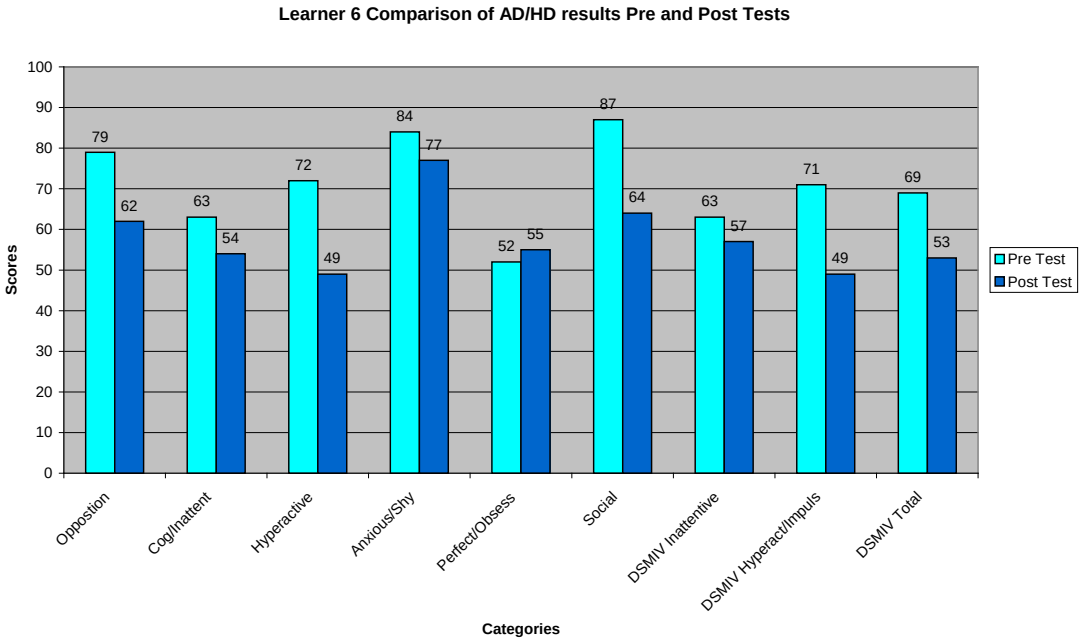
competency except intrapersonal skills. Learner 6 perceives himself to be coping at a higher level than the rest of his peers in terms of self regard, self awareness, assertiveness, independence, and self actualization. This is in contrast to his step mother's perception that he is emotionally unaware of himself, that he is destructive and aggressive rather than assertive, that he is emotionally dependent, and that he does not strive to achieve well at anything. On the whole Learner 6's profile appears to be a fairly realistic appraisal of his emotional intelligence which reflects research that shows that learners with AD/HD show lowered emotional intelligence capacity than their peer group who do not have AD/HD (BarOn, 2003; Bauminger et al., 2005).

After exposure to a program on emotional intelligence, Learner 6 perceives that he has improved on his intrapersonal skills and adaptability to a point where he appraises himself as higher than the overall group of students who do not have AD/HD. This does not reflect the current trend in the literature as mentioned before. He perceives himself to be below the overall group in the following competencies: Interpersonal skills, stress management, general mood and total E.Q. This reflects current literature which shows that learners with AD/HD have weaker social and interpersonal skills, poor stress management, lowered mood, and a generally lower overall E.Q., than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Learner 6 has shown growth in some areas of emotional intelligence after exposure to a program on emotional intelligence.

Learner 6 shows a fluctuation of scores both within and between the tests. Although his scores remain within the average range on all the competencies, they have moved from the lower ends of the average range to the higher ends of the average range, after exposure to a program on social and emotional intelligence. However general mood has worsened throughout the year and is now markedly under developed. For 5 of the 6 competencies, Learner 6 follows the sample group which shows a general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence.

5.3.6.3 Learner 6's AD/HD assessment

Figure 5.25 Graph showing the AD/HD results for Learner 6's pre and post tests



(Scores above 70 are in the 98th percentile and are very atypical, indicating significant problems; scores below 55 show average functioning and indicate no concern)

Oppositional Pre Test – 79 (98th percentile); Post Test – 62 (86th – 94th percentile) These scores indicate that the teacher perceives Learner 6 to have improved his level of oppositional behaviour and moved from very atypical behaviour to mildly atypical behaviour after exposure to a program on emotional intelligence. This means that Learner 6 now shows possible significant behaviour with regard to breaking rules, problems with authority, and becoming annoyed.

Cognitive problems/Inattention Pre Test – 63 (86th – 94th percentile); Post Test – 54 (Average and typical). These scores indicate that Learner 6 showed an improvement in his inattentive behaviour after being exposed to a program on emotional intelligence. He is perceived by the teacher to have moved from displaying mildly atypical behaviour, to being able to function in an average and typical manner in the post test. This means that he moved into the average and typical ranges in terms of inattentiveness, organizational problems, difficulty completing tasks, and concentration problems. Learner 6 has shown an improvement within this category after exposure to a program on emotional intelligence.

Hyperactivity Pre Test – 72 (98th percentile); Post Test – 49 (Average and typical) These scores indicate that the teacher perceives Learner 6 to have displayed very atypical behaviour and symptoms with significant problems in the pre test with regard to hyperactivity. After exposure to a program on emotional intelligence, the teacher perceives Learner 6 to have improved with regard to hyperactivity to an average and typical level. This means that Learner 6 experiences average and typical behaviour in relation to being able to sit still for very long, restlessness and impulsivity, after exposure to a program on emotional intelligence. He has shown enormous growth in this area.

Anxious/Shy Pre Test – 84 (98th percentile); Post Test – 77 (98th percentile). These scores indicate that the teacher perceives Learner 6 to show very atypical symptoms in terms of Learner 6's anxious/ shy behaviour. Although Learner 6 has improved marginally, he still falls within the very atypical range. This means that Learner 6 is perceived by his teacher to experience a very typical amount of worries and fears, to be very atypical in his response to criticism, and to be very atypical with regard to shyness and withdrawn behaviour.

Perfectionism Pre Test – 52 ; Post Test – 55. These scores indicate average and typical behaviour with no concern. The teacher perceived Learner 6 to function in an average way with regard to perfectionism, before and after exposure to a program on emotional intelligence. This means that Learner 6 displays the following behaviour in an average or typical manner: setting high goals for himself, very fastidious about the way he does things, and obsessive about his work.

Social problems Pre Test – 87 (98th percentile); Post Test – 64 (86th – 94th percentile). These scores indicate that Learner 6 is perceived by the teacher to have displayed very atypical behaviour and symptoms with significant problems in the pre test with regard to social problems. However, after exposure to a program on emotional intelligence, Learner 6 is perceived by his teacher to have improved to a mildly atypical level with possible significant problems. Learner 6 has shown growth with regard to his social problems.

DSM-IV Inattentive Pre Test – 63 (86th – 94th percentile); Post Test – 57 (74th – 85th percentile) These scores indicate that Learner 6 showed an improvement in his inattentive behaviour after being exposed to a program on emotional intelligence. His symptoms and behaviour have changed from being mildly atypical with possible significant problems, to being slightly atypical with borderline problems. These scores indicate that the teacher

perceived Learner 6 to have shown a decrease in the diagnostic criteria for Inattentive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Hyperactive/Impulsive Pre Test – 71 (98th percentile); Post Test – 49 (Average and typical) These scores indicate that Learner 6 moved from being very atypical in the pre test to showing average typical behaviour in the post test after exposure to a program on emotional intelligence. This means that Learner 6 is perceived by the teacher to fall within the average and typical range in the diagnostic criteria for Hyperactive-Impulsive type AD/HD after exposure to a program on emotional intelligence. Learner 6 has shown growth with regard to his hyperactive/impulsive behaviour.

DSM-IV Total Pre Test – 69 (95th - 98th percentile); Post Test – 53 (Average and typical) These scores indicate that Learner 6 moved from moderately atypical with significant problems in the pre test to showing average and typical behaviour in the post test. He is therefore perceived by the teacher to have dropped to the average and typical range in terms of the diagnostic criteria for combined Inattention and Hyperactive-Impulsive type AD/HD, after exposure to a program on emotional intelligence.

Summary: Learner 6's scores were lowered on the 8 following subscales: oppositional, cognitive/Inattention, hyperactivity, anxious/shy, social behaviour, DSM-IV Inattention, DSM-IV Hyperactivity/Impulsivity, and DSM-IV Total showing that his symptoms and behaviour have improved on these scales. His scores on the perfectionist subscale fell within the average and typical range for both the pre test and the post test and therefore will not be discussed. Therefore on a total of nine subscales, Learner 6's scores improved on eight subscales, and one subscale did not qualify because it was within the average range. The overall diagnostic criteria according to the DSM diagnosis showed an improvement of his symptoms and behaviour to become average and typical, after exposure to a program on emotional intelligence.

5.3.6.4 The results of the semi structured interview with Learner 6

The themes and topics in the semi-structured interview are related to the CTRS-R:L to establish links in the symptoms and behaviour of AD/HD as perceived by the teacher and the Learners with AD/HD. The results in red indicate an agreement between the Learner with

AD/HD and the teacher's perception. The following scale will be used to indicate agreement: 0-40% - below average; 40-60% - average; 60-80% - above average; 80%+ - excellent.

Table 5.16 Table showing the results for the semi structured Interview with Learner 6

Learner 6	No	Yes	CTRS-R:L (Post test)
Do you become angry easily?		X	Oppositional – 62
Do you find it difficult to listen to adults?	X		Inattention – 54
Do you find it difficult to organize yourself?		X	Inattention – 54
Do you find it difficult to complete tasks?		X	Inattention – 54
Do you find it difficult to concentrate?		X	Inattention – 54
Do you find it difficult to sit still for very long?		X	Hyperactive/Impulsive – 49
Do you often feel restless?		X	Hyperactive/Impulsive – 49
Do you often act before you think about it?		X	Hyperactive/Impulsive – 49
Do you often feel worried?		X	Anxious/shy – 77
Do you often feel afraid?		X	Anxious/shy – 77
Are you very sensitive to criticism?		X	Anxious/shy – 77
Are you very anxious in unfamiliar situations?		X	Anxious/shy – 77
Are you often shy?		X	Anxious/shy – 77
Do you set high goals for yourself?		X	Perfectionist – 55
Do you like to do things perfectly?		X	Perfectionist – 55
Do you struggle to make friends?		X	Social problem – 64
Do you feel confident about yourself?		X	Social problems – 64
Do you often feel alone?		X	Social problems – 64

Summary

Learner 6 agreed with the teacher's perceptions of his symptoms and behaviour related to AD/HD on nine of the questions out of a total of 18 questions. Learner 6's biggest area of disagreement lies within the inattention, hyperactive/impulsive, and perfectionist category. Unlike the teacher, Learner 6 perceives himself to be inattentive, hyperactive/impulsive, and

a perfectionist. The semi-structured interview shows that Learner 6 and the teacher agree 50% of the time, which shows that Learner 6 has an average awareness of his symptoms and behaviour and has made an average appraisal of himself with regard to AD/HD.

5.3.7 Learner 7

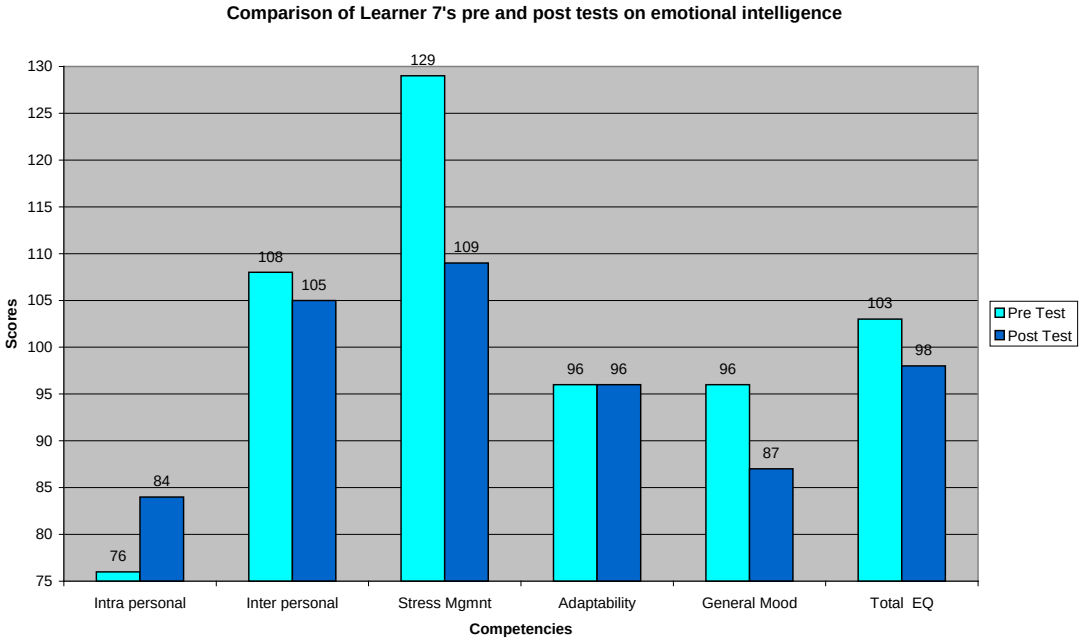
5.3.7.1 Background of learner 7

Learner 7 is an only child. He was born in the U.S.A. but has lived with his family in various countries. He has always been educated in the American International School system and has been in his present school for the last three years. Learner 7 has always experienced poor academic achievement, with difficulty concentrating, staying focused and completing tasks. He tends to daydream and to live in his own world which means that he misses much in a group situation. Learner 7 was assessed in U.S.A. by an Educational Psychologist and shows an average intellectual capacity. Learner 7 was diagnosed with AD/HD and possible mild Aspergers Syndrome. He has been medicated since Grade 2. He appears to have a couple of close friends and is generally ignored by the rest of the group. He struggles to achieve academic success. His mother reports that Learner 7 is a quiet person, who has a few close friends. She does not perceive him to experience any difficulties. Learner 7 attends academic support classes every second day and receives counselling with the school counsellor when necessary. He often presents with psychosomatic conditions such as headaches and stomach aches and his mother usually fetches him and takes him home. The nurse finds him to be chatty and friendly when he comes to the clinic to report an ailment.

5.3.7.2 Learner 7 and assessment of emotional intelligence

In terms of his social and emotional intelligence, Learner 7 scored himself in the following manner on the BarOn EQ-I YV:

Figure 5.26 Graphs showing the comparison of Learner 7's pre and post tests on emotional intelligence



Intrapersonal Intelligence – Pre Test (76); Post Test (84) The pre test score indicates Learner 7's perception that he has a below average emotional capacity (between 70 - 85). After exposure to a program on emotional intelligence Learner 7 perceives himself to have improved in this regard even though he still falls within the average range. This shows growth. This composite scale indicates whether an individual is in touch with his feelings, how good he feels about himself, and how positive he feels about what he is doing with his life.

Interpersonal Intelligence – Pre Test (108); Post Test (105) The pre test score indicates Learner 7's perception that he has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 7 still perceives himself to have an average emotional capacity with regard to interpersonal skills. This score indicates his awareness of his difficulties being able to make and maintain friendships.

This composite scale taps interpersonal skills and functioning.

Stress Management – Pre Test (129); Post Test (109) The pre test score indicates Learner 7's perception that he has an above average emotional capacity (between 115 and 129). After being exposed to a program on emotional intelligence, Learner 7 shows a much more accurate appraisal of his ability to manage stress effectively. He now perceives himself to have an average emotional capacity (between 86 and 114) which is much more realistic given the fact that he has AD/HD and mild Asperger's. This composite scale shows how well

the respondent is able to withstand stress without falling apart or losing control, how well they are able to work under pressure, keep calm and control impulsivity.

Adaptability – Pre Test (96); Post Test (96) The pre test score indicates Learner 7's perception that he has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 7 still perceives himself to have an average emotional capacity for adaptability (between 86 – 114) and that this has stayed the same. This composite scale reveals how successfully the respondent is able to cope with environmental demands by effectively sizing up and dealing with problem situations.

General Mood – Pre Test (96); Post Test (87) The pre test score indicates Learner 7's perception that he has an average and adaptive emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 7 still perceives himself to have an average emotional capacity even though his score has decreased. This composite scale generally measures the respondent's ability to enjoy life as well as his outlook on life and overall feeling of contentment.

Total E.Q. (Emotional Quotient) – Pre Test (103); Post Test (98) The pre test score indicates Learner 7's perception that he has an average and adaptive overall emotional capacity (between 86 and 114). After exposure to a program on emotional intelligence, Learner 7 perceives that he has an average overall emotional capacity and that this has become slightly lowered. Total E.Q is a composite score of all the competencies and gives an overall measure of the concept emotional intelligence.

Figure 5.27 **Graph of Learner 7's emotional intelligence compared to the whole group - pre test**

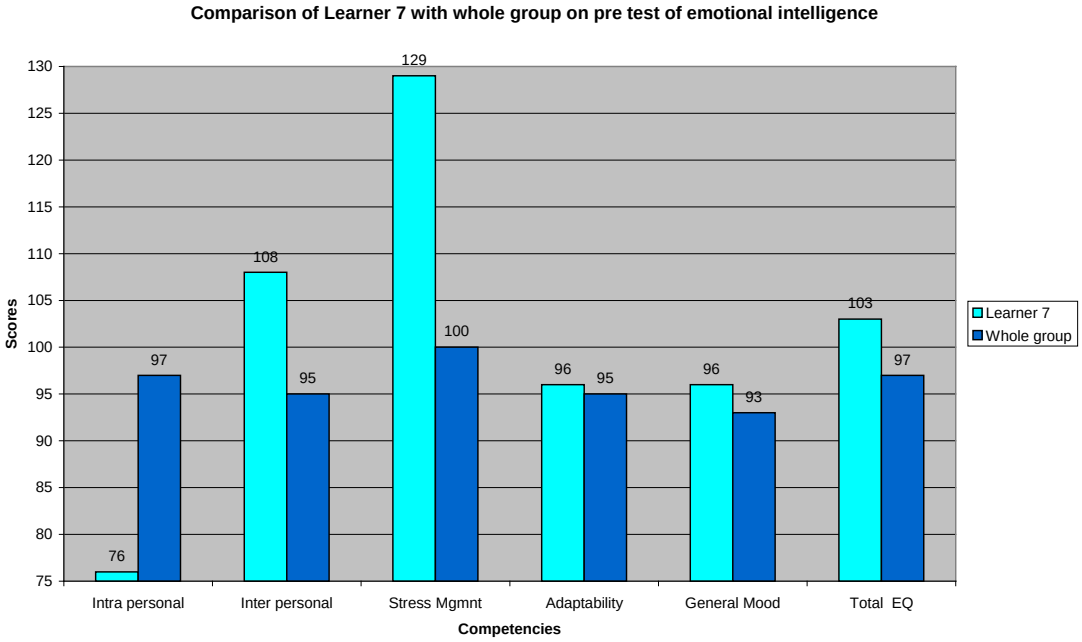
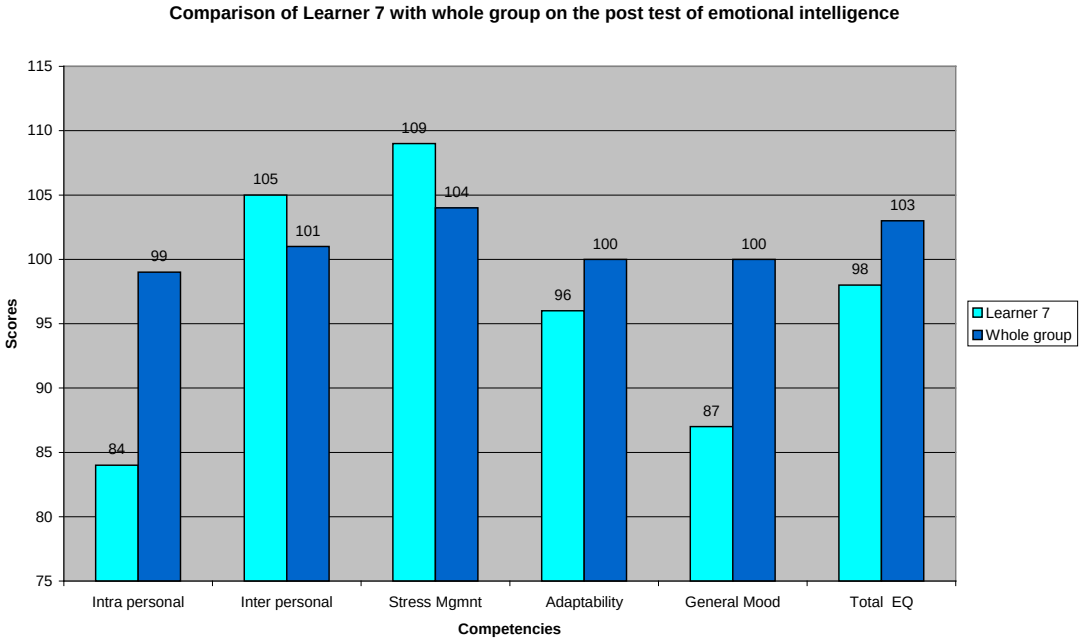


Figure 5.28 **Graph of Learner 7's emotional intelligence compared to the whole group - post test**



In comparison to the whole group it appears in the pre test that Learner 7 has a perception that his emotional intelligence levels are higher than those of the sample group on every competency except intrapersonal skills. Learner 7 perceives himself to be coping at a higher

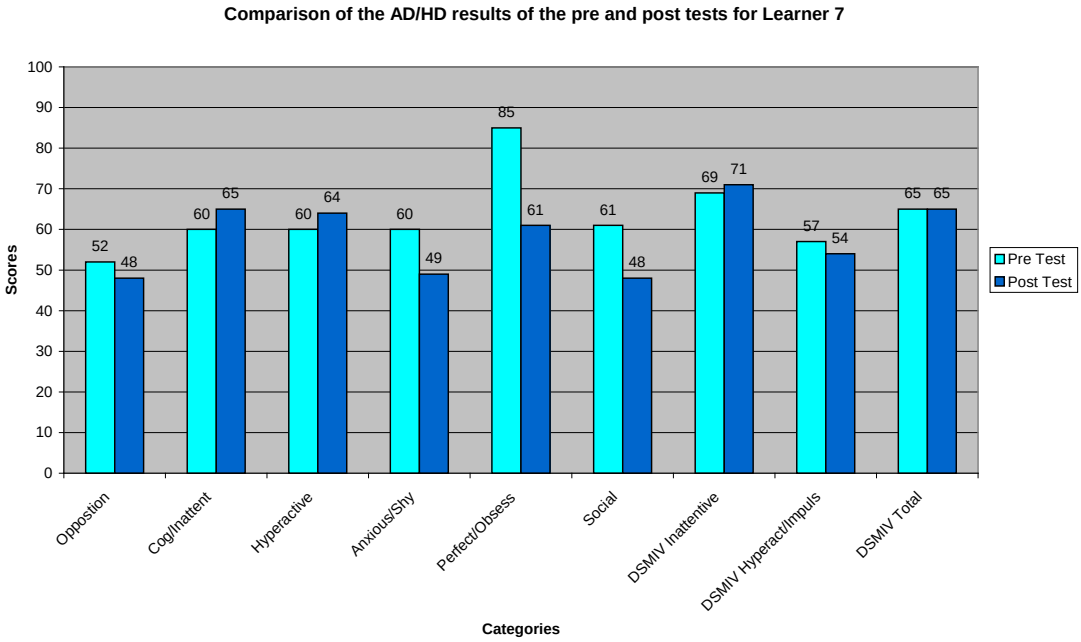
level than the rest of his peers in his ability to make and maintain friendships, his ability to manage his stress levels effectively, adaptability, general mood and total emotional intelligence. This is in contrast to current research which shows that learners with AD/HD show lowered emotional intelligence capacity than their peer group who do not have AD/HD (BarOn, 2003; Bauminger et al., 2005). The realistic appraisal of one's emotional intelligence is a crucial component of being able to make socially and emotionally intelligent decisions about life (BarOn et al., 2003). Learner 7 appears to have an unrealistic perception of his ability to manage stress, as he often presents with psychosomatic complaints when he feels pressured with upcoming assessments or work in class that he is unable to cope with.

After exposure to a program on emotional intelligence, Learner 7 perceives that his intrapersonal skills and general mood are higher than the overall group of students who do not have AD/HD. This does not reflect the current trend in the literature as mentioned before. He perceives himself to be below the overall group in the following competencies: Intrapersonal skills, adaptability, general mood, and total E.Q. This reflects current literature which shows that learners with AD/HD have weaker self awareness, lowered levels of adaptability, a lowered mood, and a generally lower overall E.Q., than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Learner 7 has shown growth in some areas of emotional intelligence after exposure to a program on emotional intelligence, and been more realistic in his appraisal of himself with regard to stress management. This shows growth.

Learner 7 shows a fluctuation of scores both within and between the tests. Although his scores remain within the average range on most of the competencies, he perceives himself to be below average on intrapersonal skills both before and after exposure to a program on emotional intelligence. However, this score has improved which places him within the upper limits of this range which shows growth. He also perceived himself to have enhanced skills for stress management in the pre test and after exposure to a program on social and emotional intelligence, his appraisal became more realistic. This shows growth. The sample group in contrast shows a general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence.

5.3.7.3 Learner 7's AD/HD assessment

Figure 5.29 Graph showing the AD/HD results for Learner 7's pre and post tests



(Scores above 70 are in the 98th percentile and are very atypical, indicating significant problems; scores below 55 show average functioning and indicate no concern)

Oppositional Pre Test – 52; Post Test – 48) These scores indicate average and typical behaviour with no concern. The teacher perceived Learner 7 to function in an average way with regard to oppositional behaviour, before and after exposure to a program on emotional intelligence. This means that Learner 7 shows average and typical behaviour with regard to breaking rules, problems with authority, and becoming annoyed. This subscale does not qualify for discussion.

Cognitive problems/Inattention Pre Test – 60 (74th - 85th percentile); Post Test – 65 (86th – 94th percentile). These scores indicate that Learner 7 showed a slight worsening in his inattentive behaviour after being exposed to a program on emotional intelligence. He is perceived by the teacher to have moved from displaying slightly atypical behaviour, to functioning in a mildly atypical manner with possible significant problems in the post test. This means that he became slightly more likely to be inattentive, to have organizational problems, difficulty completing tasks, and concentration problems.

Hyperactivity Pre Test – 60 (74th - 85th percentile); Post Test – 64 (86th -94th percentile) These scores indicate that the teacher perceives Learner 7 to show a slight worsening in his hyperactive behaviour after being exposed to a program on emotional intelligence. He is perceived by the teacher to have moved from displaying slightly atypical behaviour, to functioning in a mildly atypical manner with possible significant problems in the post test. This means that Learner 7 experiences possible significant problems sitting still for very long, as well as restlessness and impulsivity, even after exposure to a program on emotional intelligence.

Anxious/Shy Pre Test – 60 (74th – 85th percentile); Post Test – 49 (Average and typical). These scores indicate that Learner 7 moved from displaying slightly atypical behaviour with regard to anxious/shy behaviour, to average and typical anxious/shy behaviour with no concern, after exposure to a program on emotional intelligence. This shows growth. This means that Learner 7 is now perceived by his teacher to experience an average or typical amount of worries and fears, to be typical in his response to criticism, and to be average with regard to shyness and withdrawn behaviour.

Perfectionism Pre Test – 85 (98th percentile) ; Post Test – 61 (86th -94th percentile). These scores indicate that the teacher perceives Learner 7 to have shown improvement with regard to perfectionism after exposure to a program on emotional intelligence. He has moved from showing very atypical behaviour with significant problems, to mildly atypical behaviour with possible significant problems. This means that Learner 7 displays the following behaviour in a mildly atypical manner: setting high goals for himself, very fastidious about the way he does things, and obsessive about his work.

Social problems Pre Test – 61 (86th -94th percentile); Post Test – 48 (Average and typical). These scores indicate that Learner 7 is perceived by the teacher to have shown improvement with regard to his social behaviour after exposure to a program on emotional intelligence. He has moved from showing mildly atypical behaviour and symptoms with possible significant problems in the pre test to displaying average or typical social behaviour in the post test. This shows growth.

DSM-IV Inattentive Pre Test – 69 (95th - 98th percentile); Post Test – 71 (98th percentile). These scores indicate that Learner 7 showed a slight worsening of his inattentive behaviour after being exposed to a program on emotional intelligence. His symptoms and behaviour have changed from being moderately atypical with significant problems, to being very atypical

with significant problems. These scores indicate that the teacher perceives Learner 7 to have shown a slight worsening in the diagnostic criteria for Inattentive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Hyperactive/Impulsive Pre Test – 57 (74^{th} – 85^{th} percentile); Post Test – 54 (Average and typical). These scores indicate that the teacher perceives Learner 7 to have moved from being slightly atypical in his hyperactive/impulsive behaviour in the pre test, to showing average and typical behaviour in the post test, after exposure to a program on emotional intelligence. This shows growth. This means that Learner 7 is perceived by the teacher to fall within the average and typical range in the diagnostic criteria for Hyperactive-Impulsive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Total Pre Test – 65 (86^{th} - 94^{th} percentile); Post Test – 65 (86^{th} – 94^{th} percentile) These scores indicate that Learner 7 stayed the same from the pre test to the post test, showing mildly atypical behaviour after exposure to a program on emotional intelligence. He is therefore perceived by the teacher to be in the mildly atypical range in terms of the diagnostic criteria for combined Inattention and Hyperactive-Impulsive type AD/HD, after exposure to a program on emotional intelligence.

Summary: Learner 7's scores were lowered on the 4 following subscales: anxious/shy, perfectionism, social problems, and DSM-IV hyperactive/impulsive showing that his symptoms and behaviour have improved on these scales. His scores on the cognitive/inattention, hyperactivity subscale and the DSM-IV Inattention subscale increased slightly which showed that his symptoms and behaviour worsened slightly on these scales. His score on the DSM-IV Total subscale stayed the same. His score on the oppositional subscale was within the average and typical range and therefore does not qualify for discussion. Therefore on a total of nine subscales, Learner 7's scores worsened slightly on three subscales, improved on four subscales, stayed the same on one subscale and one subscale did not qualify because it was within the average range. The overall diagnostic criteria according to the DSM diagnosis showed an improvement of his symptoms and behaviour after exposure to a program on emotional intelligence.

5.3.7.4 The results of the semi structured interview with Learner 7

The themes and topics in the semi-structured interview are related to the CTRS-R:L to establish links in the symptoms and behaviour of AD/HD as perceived by the teacher and the Learners with AD/HD. The results in red indicate an agreement between the Learner with AD/HD and the teacher's perception. The following scale will be used to indicate agreement: 0-40% - below average; 40-60% - average; 60-80% - above average; 80%+ - excellent.

Table 5.17 Table showing the results for the semi structured Interview with Learner 7

Learner 7	No	Yes	CTRS-R:L (Post test)
Do you become angry easily?	X		Oppositional – 48
Do you find it difficult to listen to adults?	X		Inattention – 65
Do you find it difficult to organize yourself?		X	Inattention – 65
Do you find it difficult to complete tasks?		X	Inattention – 65
Do you find it difficult to concentrate?		X	Inattention – 65
Do you find it difficult to sit still for very long?		X	Hyperactive/Impulsive – 64
Do you often feel restless?		X	Hyperactive/Impulsive – 64
Do you often act before you think about it?		X	Hyperactive/Impulsive – 64
Do you often feel worried?		X	Anxious/shy – 49
Do you often feel afraid?	X		Anxious/shy – 49
Are you very sensitive to criticism?		X	Anxious/shy – 49
Are you very anxious in unfamiliar situations?		X	Anxious/shy – 49
Are you often shy?	X		Anxious/shy – 49
Do you set high goals for yourself?		X	Perfectionist – 61
Do you like to do things perfectly?		X	Perfectionist – 61
Do you struggle to make friends?	X		Social problem – 48
Do you feel confident about yourself?		X	Social problems – 48
Do you often feel alone?	X		Social problems – 48

Summary

Learner 7 agreed with the teacher's perceptions of his symptoms and behaviour related to AD/HD on 14 of the questions out of a total of 18 questions. Learner 7's biggest area of disagreement lies within the anxious/shy category. Unlike the teacher, Learner 7 perceives himself to be anxious and/or shy. The semi-structured interview shows that Learner 7 and the teacher agree 77% of the time, which shows that Learner 7 has an above average awareness of his symptoms and behaviour and has made an above average appraisal of himself with regard to AD/HD.

5.3.8 Learner 8

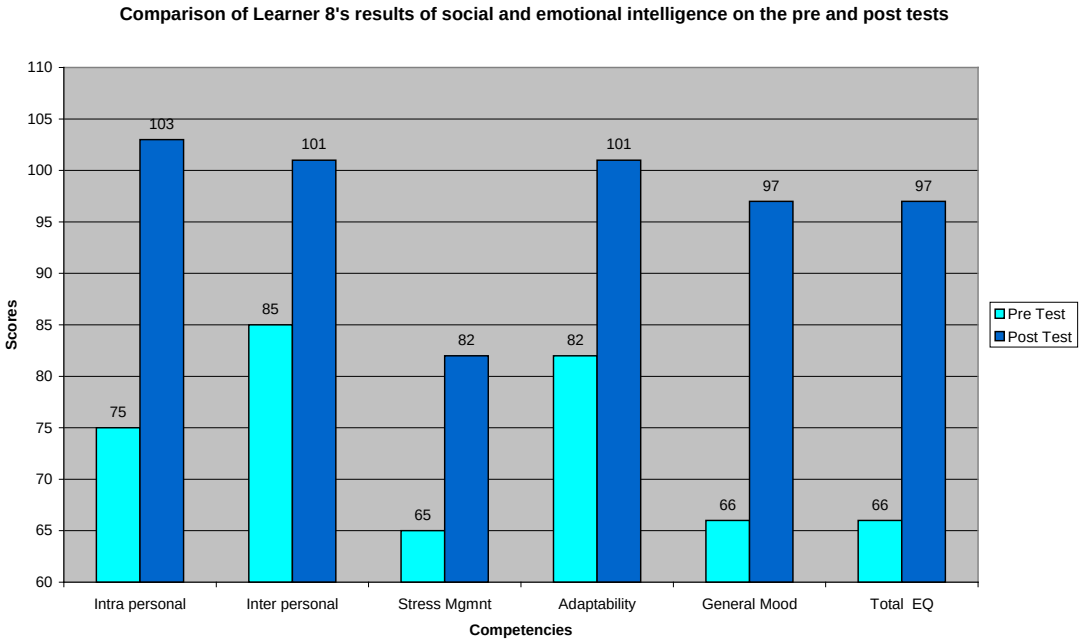
5.3.8.1 Background of learner 8

Learner 8 is the middle child of three children. He has an older sister and a younger sister. He was born in England and both his parents are British. He has lived with his family in various countries. He has always been educated in the American International School system and has been in his present school for the last three years. Learner 8 has always experienced average academic achievement, with difficulty concentrating, staying focused and completing tasks. He has a tendency to withdraw into his own world and will always be found with his nose buried in a book. Learner 8 has great difficulty with social interactions and is teased, humiliated and rejected by the group. He has no friends and is often alone and isolated. He was assessed in South Africa by an Educational Psychologist and shows an above average intellectual capacity. Learner 8 was diagnosed with AD/HD and has been medicated for two years. His mother reports that Learner 8 is difficult and oppositional at home with an explosive temper. He tends to be emotionally labile, easily angered and as easily in tears and remorseful for his behaviour. Learner 7 does not attend academic support but receives counselling on a regular basis with the school counsellor. He is often in the Principal's office for aggressive outbursts and violent behaviour.

5.3.8.2 Learner 8 and assessment of emotional intelligence

In terms of his social and emotional intelligence, Learner 8 scored himself in the following manner on the BarOn EQ-I YV:

Figure 5.30 Graphs showing the comparison of Learner 8's pre and post tests on emotional intelligence



Intrapersonal Intelligence – Pre Test (75); Post Test (103) The pre test score indicates Learner 8's perception that he has a below average emotional capacity (between 70 - 85). After exposure to a program on emotional intelligence Learner 8 perceives himself to have improved in this regard from below average to within the average range. This shows growth. This composite scale indicates whether an individual is in touch with his feelings, how good he feels about himself, and how positive he feels about what he is doing with his life.

Interpersonal Intelligence – Pre Test (85); Post Test (101) The pre test score indicates Learner 8's perception that he has a below average and adaptive emotional capacity (between 70 and 85). After exposure to a program on emotional intelligence, Learner 8 still perceives himself to have improved his interpersonal skills from below average to within the average range. This composite scale taps interpersonal skills and functioning.

Stress Management – Pre Test (65); Post Test (82) The pre test score indicates Learner 8's perception that he has a markedly underdeveloped emotional capacity (under 70). After being exposed to a program on emotional intelligence, Learner 8 perceives himself to have improved from being markedly under developed to being within the below average range. This shows that he has grown in his ability to manage stress effectively. This composite scale shows how well the respondent is able to withstand stress without falling apart or losing control, how well they are able to work under pressure, keep calm and control impulsivity.

Adaptability – Pre Test (82); Post Test (101) The pre test score indicates Learner 8's perception that he has a below average emotional capacity (between 70 and 85). After exposure to a program on emotional intelligence, Learner 8 still perceives himself to have improved from being at a below average level for adaptability, to being within the average range. This shows growth. This composite scale reveals how successfully the respondent is able to cope with environmental demands by effectively sizing up and dealing with problem situations.

General Mood – Pre Test (66); Post Test (97) The pre test score indicates Learner 8's perception that he has an average a markedly underdeveloped emotional capacity (under 70). After exposure to a program on emotional intelligence, Learner 8 still perceives himself to have improved his general mood from being within the markedly under developed range to being within the average range. This shows growth. This composite scale generally measures the respondent's ability to enjoy life as well as his outlook on life and overall feeling of contentment.

Total E.Q. (Emotional Quotient) – Pre Test (66); Post Test (97) The pre test score indicates Learner 8's perception that he has a markedly underdeveloped overall emotional capacity (under 70). After exposure to a program on emotional intelligence, Learner 8 perceives that he has improved from being markedly under developed with regard to his total emotional intelligence, to being within the average range. This shows growth. Total E.Q is a composite score of all the competencies and gives an overall measure of the concept emotional intelligence.

Figure 5.31 Graph of Learner 8's emotional intelligence compared to the whole group - pre test

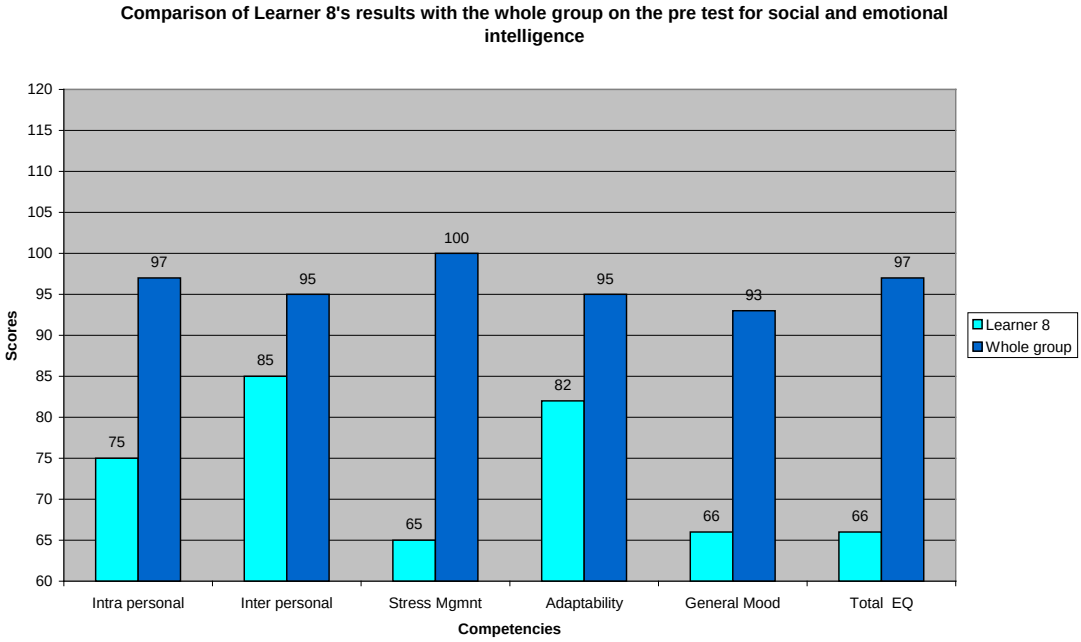
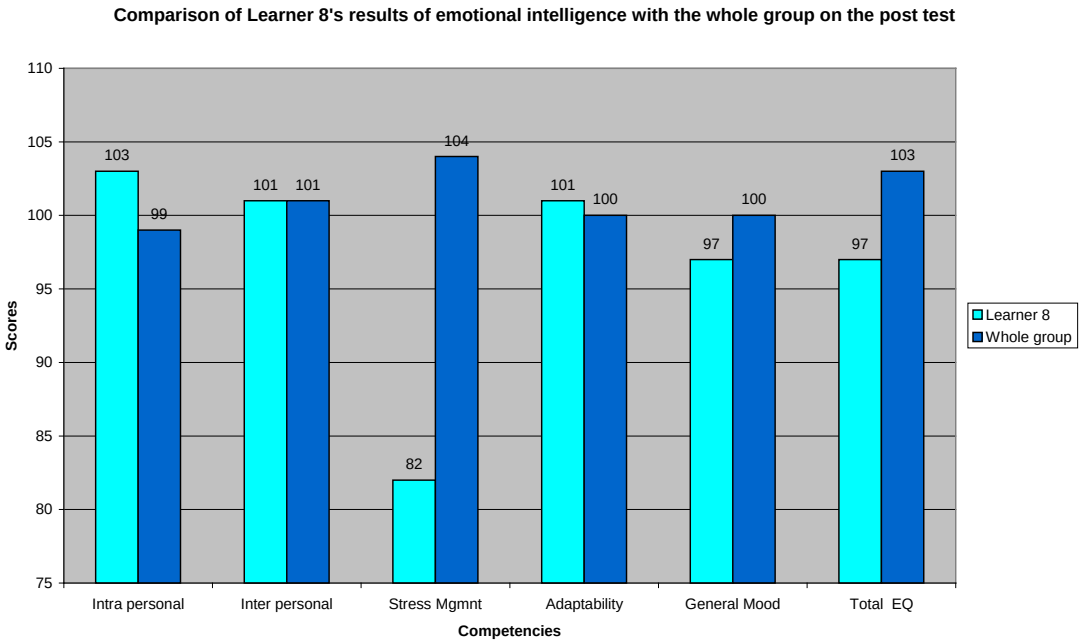


Figure 5.32 Graph of Learner 8's emotional intelligence compared to the whole group - post test



In comparison to the whole group it appears in the pre test that Learner 8 has a perception that his emotional intelligence levels are lower than those of the sample group on every

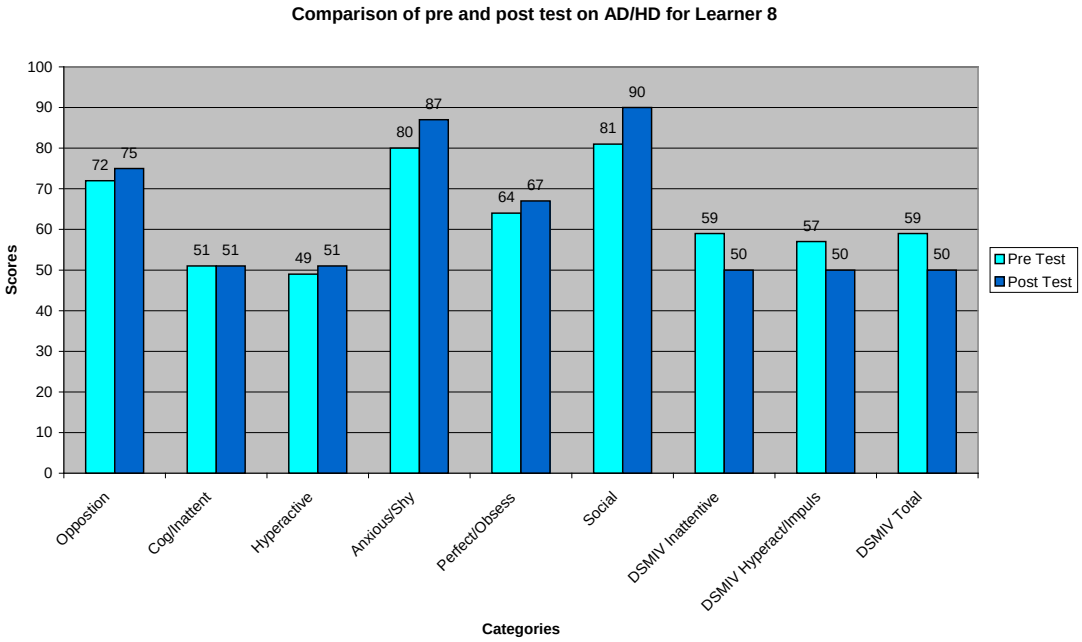
competency. Learner 8 perceives himself to be coping at a lower level than the rest of his peers in his self awareness, his ability to make and maintain friendships, his ability to manage his stress levels effectively, adaptability, general mood and total emotional intelligence. This concurs with current research which shows that learners with AD/HD show lowered emotional intelligence capacity than their peer group who do not have AD/HD (BarOn, 2003; Bauminger et al., 2005). The realistic appraisal of one's emotional intelligence is a crucial component of being able to make socially and emotionally intelligent decisions about life, and Learner 8 seems aware of areas that he particularly struggles with such as stress levels and mood (BarOn et al., 2003).

After exposure to a program on emotional intelligence, Learner 8 perceives that all of the competencies except for stress management, fall within the average range. He perceives that his intrapersonal skills and adaptability are higher than the overall group of students who do not have AD/HD. This does not reflect the current trend in the literature as mentioned before. Learner 8 has shown growth in all areas of emotional intelligence after exposure to a program on emotional intelligence, but does not show a realistic appraisal of his emotional intelligence levels in terms of intrapersonal skills, interpersonal skills and adaptability.

Learner 8 shows a fluctuation of scores both within and between the tests. All of his scores have improved and now fall within the average range after exposure to a program on emotional intelligence. However, as already mentioned, some of his scores may be an unrealistically high appraisal of his abilities. The sample group also shows a general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence. This concurs with research on learners who do not have AD/HD, which shows that emotional intelligence can be enhanced through exposure to programs that educate about emotional intelligence (BarOn, 2003; Greenberg, 2007; Kelly et al., 2004; Morris & Casey, 2005; Sharp, 2001; Weare, 2006).

5.3.8.3 Learner 8's AD/HD assessment

Figure 5.33 Graph showing the AD/HD results for Learner 8's pre and post tests



(Scores above 70 are in the 98th percentile and are very atypical, indicating significant problems; scores below 55 show average functioning and indicate no concern)

Oppositional Pre Test – 72 (98th percentile; Post Test – 75 (98th percentile) These scores indicate that the teacher perceives Learner 8 to show very atypical symptoms with significant problems related to oppositional behaviour, both before and after exposure to a program on emotional intelligence. This means that Learner 8 experiences great difficulty with regard to breaking rules, problems with authority, and becoming annoyed.

Cognitive problems/Inattention Pre Test – 51 (Average and typical); Post Test – 51 (Average and typical). These scores indicate that Learner 8 is perceived by the teacher to experience average and typical symptoms and behaviour with regard to cognitive/inattention, both before and after he was exposed to a program on emotional intelligence. This subscale does not qualify for discussion.

Hyperactivity Pre Test – 49 (Average and typical); Post Test – 51 (Average and typical) These scores indicate that the teacher perceives Learner 8 to experience average and typical symptoms and behaviour with regard to sitting still for very long, as well as restlessness and

impulsivity, even after exposure to a program on emotional intelligence, both before and after he was exposed to a program on emotional intelligence. This subscale does not qualify for discussion.

Anxious/Shy Pre Test – 80 (98th percentile); Post Test – 87 (98th percentile). These scores indicate that the teacher perceives Learner 8's anxious/shy behaviour to have worsened after exposure to a program on emotional intelligence, even though he still remains within the very atypical range. This means that Learner 8 is perceived by his teacher to experience significant problems with regard to his worries and fears, his response to criticism, and his shyness and withdrawn behaviour.

Perfectionism Pre Test – 64 (86 - 94th percentile) ; Post Test – 67 (95th -98th percentile). These scores indicate that the teacher perceives Learner 8's perfectionism to have worsened slightly after exposure to a program on emotional intelligence. He has moved from showing mildly atypical behaviour with possible significant problems, to moderately atypical behaviour with significant problems. This means that Learner 8 displays the following behaviour in a moderately atypical manner: setting high goals for himself, very fastidious about the way he does things, and obsessive about his work.

Social problems Pre Test – 81 (98th percentile); Post Test – 90 (98th percentile). These scores indicate that Learner 8 is perceived by the teacher to show severe problems with regard to his social behaviour. This has not improved after exposure to a program on emotional intelligence. He still shows very atypical behaviour and symptoms with significant problems in the post test.

DSM-IV Inattentive Pre Test – 59 (74th - 85th percentile); Post Test – 50 (Average and typical). These scores indicate that the teacher perceives Learner 8 to have improved with regard to his inattentive behaviour after being exposed to a program on emotional intelligence. This shows growth. His symptoms and behaviour have changed from being slightly atypical with borderline problems, to being average and typical. This means that Learner 8 falls within the average and typical range in the diagnostic criteria for Inattentive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Hyperactive/Impulsive Pre Test – 57 (74th – 85th percentile); Post Test – 50 (Average and typical). These scores indicate that the teacher perceives Learner 8 to have improved with regard to his hyperactive/impulsive behaviour after exposure to a program on emotional intelligence. This shows growth. His symptoms and behaviour have changed from

being slightly atypical with borderline problems, to being average and typical. This means that Learner 8 is perceived by the teacher to fall within the average and typical range in the diagnostic criteria for Hyperactive-Impulsive type AD/HD after exposure to a program on emotional intelligence.

DSM-IV Total Pre Test – 59 (74^{th} - 85^{th} percentile); Post Test – 50 (Average and typical) These scores indicate that the teacher perceives Learner 8 stayed to have improved with regard to the total score after exposure to a program on emotional intelligence. This shows growth. His symptoms and behaviour have changed from being slightly atypical with borderline problems, to being average and typical. He is therefore perceived by the teacher to be in the average and typical range in terms of the diagnostic criteria for combined Inattention and Hyperactive-Impulsive type AD/HD, after exposure to a program on emotional intelligence.

Summary: Learner 8's scores were lowered on the 3 following subscales: DSM-IV Inattention, DSM-IV hyperactive/impulsive, and DSM-IV Total showing that his symptoms and behaviour have improved on these scales. His scores on the oppositional, hyperactivity, anxious/shy, perfectionist, and social subscales increased slightly which showed that his symptoms and behaviour worsened slightly on these scales. His score on the cognitive/inattentive subscale stayed the same. Therefore on a total of 9 subscales, Learner 8's scores worsened slightly on 5 subscales, improved on 3 subscales, stayed the same on 1 subscale. The overall diagnostic criteria according to the DSM diagnosis showed an improvement of his symptoms and behaviour after exposure to a program on emotional intelligence.

5.3.8.4 The results of the semi structured interview with Learner 8

The themes and topics in the semi-structured interview are related to the CTRS-R:L to establish links in the symptoms and behaviour of AD/HD as perceived by the teacher and the Learners with AD/HD. The results in red indicate an agreement between the Learner with AD/HD and the teacher's perception. The following scale will be used to indicate agreement: 0-40% - below average; 40-60% - average; 60-80% - above average; 80%+ - excellent.

Table 5.18 Table showing the results for the semi structured Interview with Learner 8

Learner 8	No	Yes	CTRS-R:L (Post test)
Do you become angry easily?		X	Oppositional – 75
Do you find it difficult to listen to adults?	X		Inattention – 51
Do you find it difficult to organize yourself?	X		Inattention – 51
Do you find it difficult to complete tasks?	X		Inattention – 51
Do you find it difficult to concentrate?		X	Inattention – 51
Do you find it difficult to sit still for very long?		X	Hyperactive/Impulsive – 51
Do you often feel restless?		X	Hyperactive/Impulsive – 51
Do you often act before you think about it?	X		Hyperactive/Impulsive – 51
Do you often feel worried?	X		Anxious/shy – 87
Do you often feel afraid?	X		Anxious/shy – 87
Are you very sensitive to criticism?	X		Anxious/shy – 87
Are you very anxious in unfamiliar situations?		X	Anxious/shy – 87
Are you often shy?		X	Anxious/shy – 87
Do you set high goals for yourself?		X	Perfectionist – 67
Do you like to do things perfectly?	X		Perfectionist – 67
Do you struggle to make friends?		X	Social problem – 90
Do you feel confident about yourself?	X		Social problems – 90
Do you often feel alone?		X	Social problems – 90

Summary

Learner 8 agreed with the teacher's perceptions of his symptoms and behaviour related to AD/HD on 11 of the questions out of a total of 18 questions. Learner 8's biggest area of disagreement lies within the hyperactive, and anxious/shy categories. Unlike the teacher, Learner 8 perceives himself to experience problems with hyperactivity/impulsiveness, and not to be anxious and/or shy. The semi-structured interview shows that Learner 8 and the teacher agree 61% of the time, which shows that Learner 8 has an above average

awareness of his symptoms and behaviour and has made an above average appraisal of himself with regard to AD/HD.

5.4 SUMMARY OF FINDINGS

5.4.1 Learner 1

The results of Learner 1 on emotional intelligence show that her scores on the pre test showed an unrealistically positive appraisal, in that she perceived herself to be functioning at a higher level than the overall sample group in every competency. This supports research findings that show that learners with AD/HD experience difficulty with awareness of their emotions and therefore tend to evaluate themselves too high or too low (BarOn et al., 2003; BarOn, 2005; Bauminger et al., 2005; Durbin et al., 2005). In the post test, Learner 1's scores dropped or worsened on four of the six competencies (66%), one competency stayed the same (66%), and one score increased (66%). Even though Learner 1's scores on emotional intelligence dropped in the post test this showed a more accurate perception of her level of functioning, especially considering the difficulties she experiences socially, academically and emotionally. Her scores on each competency showed growth in self awareness and the ability to be able to appraise herself more accurately.

With regard to the AD/HD scale, in both the pre and the post tests, one category remained in the normal and typical range and therefore will not be discussed. Of the remaining eight categories on the AD/HD scale, the teacher perceived Learner 1 to show an improvement of her symptoms and behaviour on four of the subscales (50%), that she stayed the same on two of the subscales (25%), and worsened on one of the subscales (12%). Learner 1 showed an above average appraisal of her symptoms of behaviour of AD/HD in that when she answered the questions in the semi-structured interview, she agreed with 72% of the teacher's perceptions.

5.4.2 Learner 2

The results of Learner 2 on emotional intelligence show that her scores on three of the competencies in the pre test showed an unrealistically positive appraisal, in that she perceived herself to be functioning at a higher level than the overall sample group in these competencies. In the post test, Learner 2's scores dropped or worsened on two of the six competencies (33%), one competency stayed the same (17%), and three scores increased (50%). However, she still perceives herself to be higher than the control group in intrapersonal skills, interpersonal skills and general mood. This does not reflect current literature which shows that learners with AD/HD have lowered self awareness, weaker social and interpersonal skills and a generally lowered mood than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). The realistic appraisal of one's emotional intelligence is a crucial component of being able to make socially and emotionally intelligent decisions about life (BarOn et al., 2003).

It is interesting to note that similar to Learner 1, Learner 2's graph showing the comparison between the Pre and Post tests on social and emotional intelligence, also shows a fluctuation of scores both between the competencies and between the tests. This supports research which shows variability in performance of tasks in Learners with AD/HD (Barkley, 1990). The sample group, in contrast, shows a consistency between the competencies and between the pre and post tests.

With regard to the AD/HD scale, in both the pre and the post tests, four categories fell within the normal and typical range and therefore will not be discussed. Of the remaining five categories on the AD/HD scale, the teacher perceived Learner 2 to show an improvement of her symptoms and behaviour on one of the subscales (20%), and worsened on four of the subscales (80%). The overall diagnostic criteria according to the DSM diagnosis showed a worsening of her symptoms and behaviour after exposure to a program on emotional intelligence, although the majority of her scores are within the average or typical range indicating no significant problems. Learner 2 showed an average appraisal of her symptoms of behaviour of AD/HD in that when she answered the questions in the semi-structured interview, she agreed with 50% of the teacher's perceptions which shows that Learner 2 has

an average awareness of her symptoms and behaviour and has made an average appraisal of herself with regard to AD/HD.

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5.4.3 Learner 3

The results of Learner 3 on emotional intelligence show that her scores on five of the six competencies in the pre test showed an unrealistically positive appraisal, in that she perceived herself to be functioning at a higher level than the overall sample group in these competencies. This supports research findings that show that learners with AD/HD experience difficulty with awareness of their emotions and therefore tend to evaluate themselves too high or too low (BarOn et al., 2003; BarOn, 2005; Bauminger et al., 2005; Durbin et al., 2005). In the post test, Learner 3's scores dropped or worsened on four of the six competencies (66%), one competency stayed the same (17%), and one score increased (17%). Learner 3 seems to have grown in her ability to appraise herself more accurately in terms of emotional intelligence. Learner 3's scores are now below those of the sample group in all but one competency.

However, she still perceives herself to be higher than the control group in intrapersonal skills, interpersonal skills and general mood. This does not reflect current literature which shows that learners with AD/HD have lowered self awareness, weaker social and interpersonal skills and a generally lowered mood than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Because there is not a specific profile that will show typical development in terms of social and emotional intelligence for learners with AD/HD, these results support research which shows that these learners experience difficulty with self awareness, awareness of others, managing themselves, and managing their relationships (Sharp, 2001; Weare, 2006). The sample group, in contrast, shows a consistency between the competencies and between the pre and post tests. The realistic appraisal of one's emotional intelligence is a crucial component of being able to make socially and emotionally intelligent decisions about life (BarOn et al., 2003). Learner 3 has shown growth in awareness of her emotional intelligence, and the ability to appraise herself more accurately after exposure to a program on emotional intelligence.

With regard to the AD/HD scale, in both the pre and the post tests, categories fell within the normal and typical range and therefore will not be discussed. Of the remaining seven categories on the AD/HD scale, the teacher perceived Learner 3 to show an improvement of her symptoms and behaviour on two of the subscales (29%), and worsened on five of the subscales (71%). The overall diagnostic criteria according to the DSM diagnosis showed a worsening of her symptoms and behaviour after exposure to a program on emotional intelligence, although the majority of her scores are within the average or typical range indicating no significant problems. Learner 3 showed an average appraisal of her symptoms of behaviour of AD/HD in that when she answered the questions in the semi-structured interview, she agreed with 61% of the teacher's perceptions which shows that Learner 3 has an above average awareness of her symptoms and behaviour and has made an above average appraisal of herself with regard to AD/HD.

5.4.4 Learner 4

The results of Learner 4 on emotional intelligence show that his scores on five of the six competencies in the pre test showed an unrealistically positive appraisal, in that he perceived himself to be functioning at a higher level than the overall sample group in these competencies. This supports research findings that show that learners with AD/HD experience difficulty with awareness of their emotions and therefore tend to evaluate themselves too high or too low (BarOn et al., 2003; BarOn, 2005; Bauminger et al., 2005; Durbin et al., 2005). In the post test, Learner 4's scores dropped or worsened on all of the six competencies (100%). Learner 4 seems to have grown in his ability to appraise himself more accurately in terms of emotional intelligence especially as he presents as isolated and rejected by his peers, unable to form any lasting friendships, as socially inadequate, and as unable to control or understand his emotions. Learner 4's scores are now below those of the sample group in all but one competency.

Learner 4 shows a generally inflated perception of his emotional intelligence levels in nearly all of the competencies in the pre test. However, the scores on the post test show a much more realistic perception of his levels of emotional intelligence after exposure to a program

on emotional intelligence. The sample group, in contrast, shows a consistency between the competencies and between the pre and post tests.

With regard to the AD/HD scale, in both the pre and the post tests, two categories fell within the normal and typical range and therefore will not be discussed. Of the remaining seven categories on the AD/HD scale, the teacher perceived Learner 4 to show an improvement of his symptoms and behaviour on five of the subscales (71%), and worsened on two of the subscales (29%). The overall diagnostic criteria according to the DSM diagnosis showed an improvement of his symptoms and behaviour after exposure to a program on emotional intelligence. Learner 4 showed an average appraisal of her symptoms of behaviour of AD/HD in that when he answered the questions in the semi-structured interview, he agreed with 66% of the teacher's perceptions which shows that Learner 4 has an above average awareness of his symptoms and behaviour and has made an above average appraisal of himself with regard to AD/HD.

5.4.5 Learner 5

The results of Learner 5 on emotional intelligence show that his scores on five of the six competencies in the pre test showed a realistic appraisal, in that he perceived himself to be functioning at a lower level than the overall sample group in these five competencies. This supports research findings that show that learners with AD/HD show lowered emotional intelligence capacity than their peer group who do not have AD/HD (BarOn, 2003; Bauminger et al., 2005). In the post test, Learner 5 perceives that he has improved on two competencies to a point where he appraises himself as higher than the overall group of students who do not have AD/HD. This does not reflect the current trend in the literature as mentioned before. Learner 5 perceives himself to be below the overall group in four of the six competencies. Learner 5 has shown growth in some areas of emotional intelligence after exposure to a program on emotional intelligence.

Learner 5 shows a fluctuation of scores both within and between the tests. Although his scores remain within the average range on all the competencies, they have moved from the lower ends of the average range to the higher ends of the average range and vice versa,

after exposure to a program on social and emotional intelligence. This shows a lack of awareness of levels of emotional intelligence for Learner 5. The sample group in contrast shows a general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence.

With regard to the AD/HD scale, in both the pre and the post tests, three categories fell within the normal and typical range and therefore will not be discussed. Of the remaining six categories on the AD/HD scale, the teacher perceived Learner 5 to show an improvement of his symptoms and behaviour on four of the subscales (67%), and worsened on two of the subscales (33%). The overall diagnostic criteria according to the DSM diagnosis showed an improvement of his symptoms and behaviour after exposure to a program on emotional intelligence. Learner 5 showed an above average appraisal of his symptoms of behaviour of AD/HD in that when he answered the questions in the semi-structured interview, he agreed with 61% of the teacher's perceptions which shows that Learner 5 has an above average awareness of his symptoms and behaviour and has made an above average appraisal of himself with regard to AD/HD.

5.4.6 Learner 6

The results of Learner 6 on emotional intelligence show that his scores on five of the six competencies in the pre test showed a realistic appraisal, in that he perceived himself to be functioning at a lower level than the overall sample group in these five competencies. This supports research findings that show that learners with AD/HD show lowered emotional intelligence capacity than their peer group who do not have AD/HD (BarOn, 2003; Bauminger et al., 2005). In the post test, Learner 6's scores improved on five of the six competencies (83%), and worsened on one competency (17%). On the whole Learner 6's profile appears to be a fairly realistic appraisal of his emotional intelligence which reflects research that shows that learners with AD/HD show lowered emotional intelligence capacity than their peer group who do not have AD/HD (BarOn, 2003; Bauminger et al., 2005).

Learner 6 shows a fluctuation of scores both within and between the tests. Although his scores remain within the average range on all the competencies, they have moved from the

lower ends of the average range to the higher ends of the average range, after exposure to a program on social and emotional intelligence. However general mood has worsened throughout the year and is now markedly under developed. For five of the six competencies, Learner 6 follows the sample group which shows a general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence.

With regard to the AD/HD scale, in both the pre and the post tests, one category fell within the normal and typical range and therefore will not be discussed. Of the remaining eight categories on the AD/HD scale, the teacher perceived Learner 6 to show an improvement of his symptoms and behaviour on all of the subscales (100%). The overall diagnostic criteria according to the DSM diagnosis showed an improvement of his symptoms and behaviour after exposure to a program on emotional intelligence. Learner 6 showed an average appraisal of his symptoms and behaviour of AD/HD in that when he answered the questions in the semi-structured interview, he agreed with 50% of the teacher's perceptions which shows that Learner 6 has an average awareness of his symptoms and behaviour and has made an average appraisal of himself with regard to AD/HD.

5.4.7 Learner 7

The results of Learner 7 on emotional intelligence show that his scores on five of the six competencies in the pre test showed an unrealistically positive appraisal, in that he perceived himself to be functioning at a higher level than the overall sample group in these competencies. This supports research findings that show that learners with AD/HD experience difficulty with awareness of their emotions and therefore tend to evaluate themselves too high or too low (BarOn et al., 2003; BarOn, 2005; Bauminger et al., 2005; Durbin et al., 2005). In the post test, Learner 7's scores improved on one of the six competencies (17%), stayed the same on one competency (17%), and worsened on four competencies (67%). Learner 7 perceives that two of the competencies are higher than the overall group of students who do not have AD/HD. This does not reflect the current trend in the literature as mentioned before. He perceives himself to be below the overall group in four of the competencies. This reflects current literature which shows that learners with AD/HD

have weaker self awareness, lowered levels of adaptability, a lowered mood, and a generally lower overall E.Q., than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Learner 7 has shown growth in some areas of emotional intelligence after exposure to a program on emotional intelligence, and been more realistic in his appraisal of himself with regard to stress management.

Learner 7 shows a fluctuation of scores both within and between the tests. Although his scores remain within the average range on most of the competencies, he perceives himself to be below average on intrapersonal skills both before and after exposure to a program on emotional intelligence. However, this score has improved which places him within the upper limits of this range which shows growth. He also perceived himself to have enhanced skills for stress management in the pre test and after exposure to a program on social and emotional intelligence, his appraisal became more realistic. This shows growth. The sample group in contrast shows a general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence.

With regard to the AD/HD scale, in both the pre and the post tests, one category fell within the normal and typical range and therefore will not be discussed. Of the remaining eight categories on the AD/HD scale, the teacher perceived Learner 7 to show an improvement of his symptoms and behaviour on four of the subscales (50%), stayed the same on one competency (13%) and worsened on three of the subscales (37%). The overall diagnostic criteria according to the DSM diagnosis stayed the same in terms of his symptoms and behaviour after exposure to a program on emotional intelligence. Learner 7 showed an above average appraisal of his symptoms of behaviour of AD/HD in that when he answered the questions in the semi-structured interview, he agreed with 77% of the teacher's perceptions which shows that Learner 7 has an above average awareness of his symptoms and behaviour and has made an above average appraisal of himself with regard to AD/HD.

5.4.8 Learner 8

The results of Learner 8 on emotional intelligence show that his scores on all of the six competencies in the pre test showed a realistic appraisal, in that he perceived himself to be

functioning at a lower level than the overall sample group in these six competencies. This supports research findings that show that learners with AD/HD show lowered emotional intelligence capacity than their peer group who do not have AD/HD (BarOn, 2003; Bauminger et al., 2005). In the post test, Learner 8's scores improved on all of the six competencies (100%). Learner 8 perceives that two of the competencies are higher than the overall group of students who do not have AD/HD. This does not reflect the current trend in the literature as mentioned before. He perceives himself to be below the overall group in four of the competencies. This reflects current literature which shows that learners with AD/HD have weaker self awareness, lowered levels of adaptability, a lowered mood, and a generally lower overall E.Q., than their peers without AD/HD (BarOn et al., 2003; Bauminger et al., 2005). Learner 8 has shown growth in all areas of emotional intelligence after exposure to a program on emotional intelligence, but does not show a realistic appraisal of his emotional intelligence levels in terms of three of the competencies.

Learner 8 shows a fluctuation of scores both within and between the tests. All of his scores have improved and now fall within the average range after exposure to a program on emotional intelligence. However, as already mentioned, some of his scores may be an unrealistically high appraisal of his abilities. The sample group also shows a general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence (Fig. 34b). This concurs with research on learners who do not have AD/HD, which shows that emotional intelligence can be enhanced through exposure to programs that educate about emotional intelligence (BarOn, 2003; Greenberg, 2007; Kelly et al., 2004; Morris & Casey, 2005; Sharp, 2001; Weare, 2006).

With regard to the AD/HD scale, in both the pre and the post tests, two categories fell within the normal and typical range and therefore will not be discussed. Of the remaining seven categories on the AD/HD scale, the teacher perceived Learner 8 to show an improvement of his symptoms and behaviour on three of the subscales (43%), and worsened on four of the subscales (57%). The overall diagnostic criteria according to the DSM diagnosis showed an improvement in terms of his symptoms and behaviour after exposure to a program on emotional intelligence. Learner 8 showed an above average appraisal of his symptoms of behaviour of AD/HD in that when he answered the questions in the semi-structured interview,

he agreed with 61% of the teacher's perceptions which shows that Learner 8 has an above average awareness of his symptoms and behaviour and has made an above average appraisal of himself with regard to AD/HD.

5.5 INTEGRATION AND HOLISTIC INTERPRETATION

Of the 8 learners with AD/HD who participated in this research, there was a general fluctuation of the scores (six out of the eight learners) both between and within the tests. This is in direct contrast to the sample group, who showed a consistent and general increase in their levels of emotional intelligence across all the competencies after exposure to a program on emotional intelligence. A fluctuation of the scores may indicate a poor ability amongst the Learners with AD/HD to accurately appraise their emotional intelligence in the pre test.

Five of the eight learners with AD/HD perceived themselves to have scores that were better than the sample group of learners without AD/HD on the pre test, which indicates an inaccurate appraisal of their emotional intelligence. These five students all showed a lowered score on the post test, for most of the competencies, which indicates a worsening of their emotional intelligence. However, because their scores were inaccurately high in the pre test, the lowering of their scores may be interpreted as a more accurate appraisal of their levels of emotional intelligence after exposure to a program on emotional intelligence, and therefore may indicate growth in their awareness of their own emotional intelligence.

Of the three learners that appraised themselves as falling below the level of the sample group on levels of emotional intelligence, all three improved on their scores following exposure to a program on emotional intelligence, showing an accurate appraisal of their emotional intelligence, and mirroring the growth that occurred within the sample group. However, two of these three learners perceived at least two of their scores to be above the level of the sample group which shows an inaccurate perception with regard to their emotional intelligence levels in these competencies. Research shows that learners with AD/HD generally experience lower levels of emotional competence in all areas of emotional intelligence, and seven of the eight mother's who were interviewed before the study was

undertaken concurred with this viewpoint, stating differing difficulties that their children were experiencing with regard to their symptoms and behaviour.

Figure 5.34a Pre and post test results of learners with AD/HD

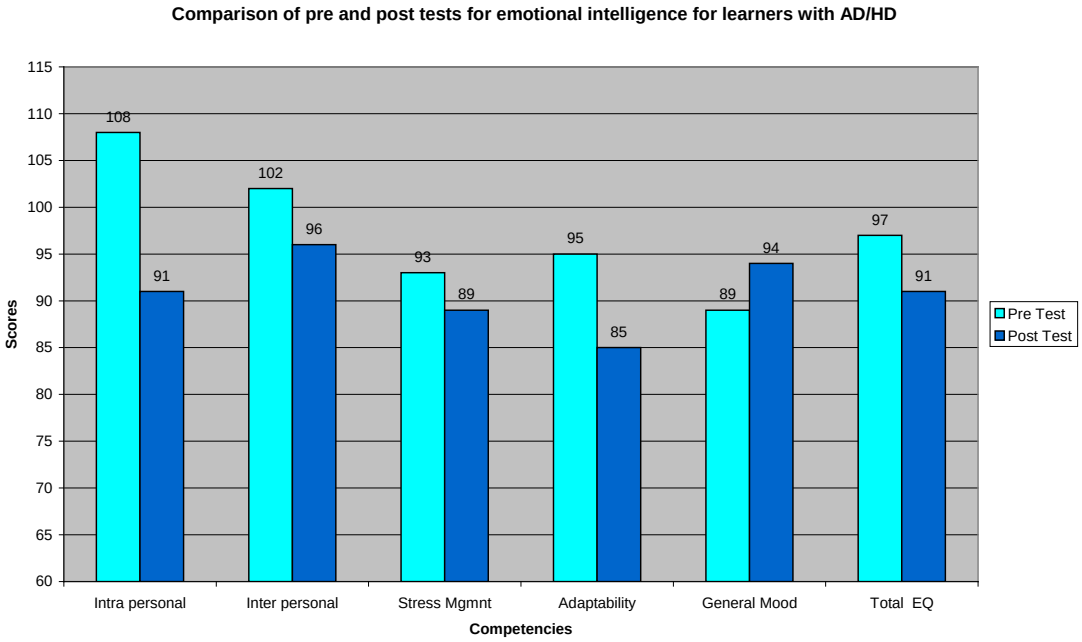
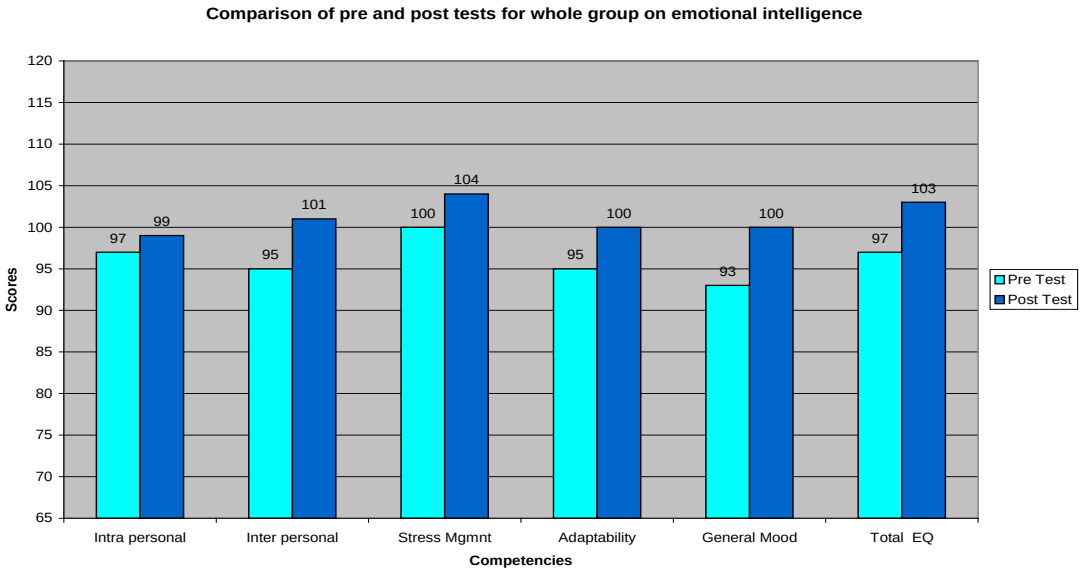


Figure 5.34b Pre and post test results of learners without AD/HD

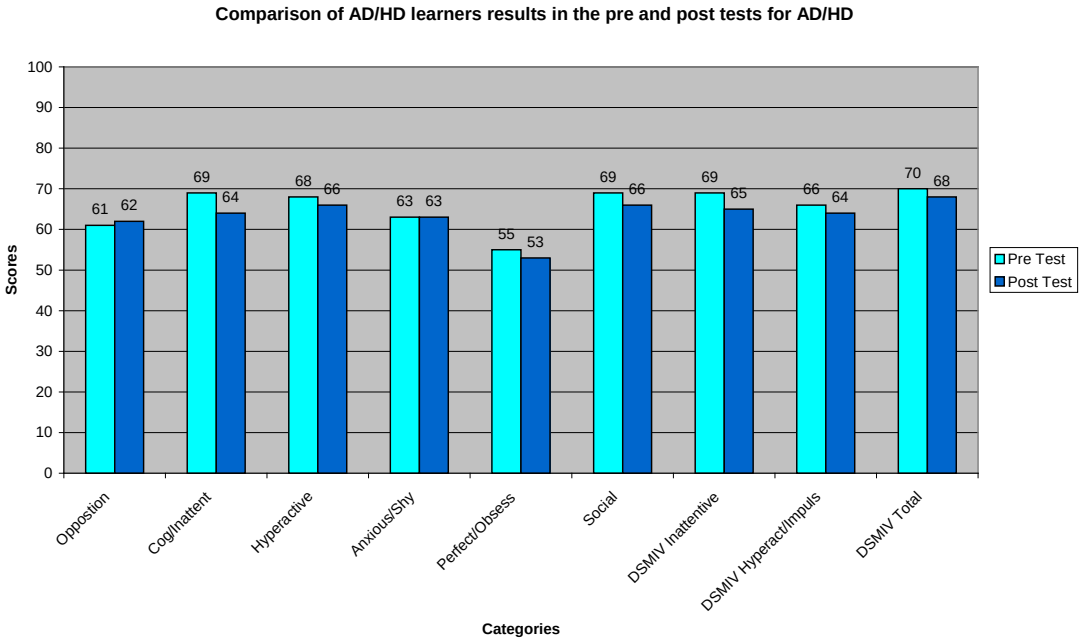


As can be seen on the graph, the learners with AD/HD perceived themselves at a lower and more accurate level on the post test, falling within the average range for all competencies

(86-114), except for adaptability which falls within the upper limits of the below average range (70-80). This shows that this group of learners became more able to evaluate themselves accurately after exposure to a program on emotional intelligence. However, their scores have dropped in the post test which technically indicates a lowering of emotional intelligence. It appears that learners with AD/HD have difficulty evaluating themselves with regard to emotional intelligence and provides valuable insight and information on this group of learners. This is directly opposite to the control sample, which showed a consistent and steady increase in all competencies after exposure to a program on emotional intelligence.

With regard to the symptoms and behaviour of AD/HD as perceived by the teacher, six learners showed an improvement in the Total DSM-IV scores for AD/HD, one learner stayed the same and one learner ‘s scores worsened. On the semi-structured interview, in which the learners with AD/HD were interviewed by the researcher to better understand their own perceptions of their symptoms and behaviour, six of the eight learners showed an above average (60%-80%) agreement with their teacher’s scoring. Two of the eight students showed an average (40%-60%) agreement and no learner fell within the below average category. This shows an accurate appraisal of their symptoms and behaviour.

Figure 5.35 AD/HD pre and post test results



In summary it appears that as a group, the teacher perceives that the learners with AD/HD do not exhibit perfectionist/obsessive behaviour, because their scores are 55 and below on both the pre and post tests. This means that their symptoms and behaviour is seen to be average and typical in this regard. The group of learners with AD/HD show an improvement on seven of the nine categories (their scores have lowered), have stayed the same on one category, and have worsened (their score was raised) on one category after exposure to a program on emotional intelligence. This shows growth.

The following general hypotheses were formulated to explore the following research problem:

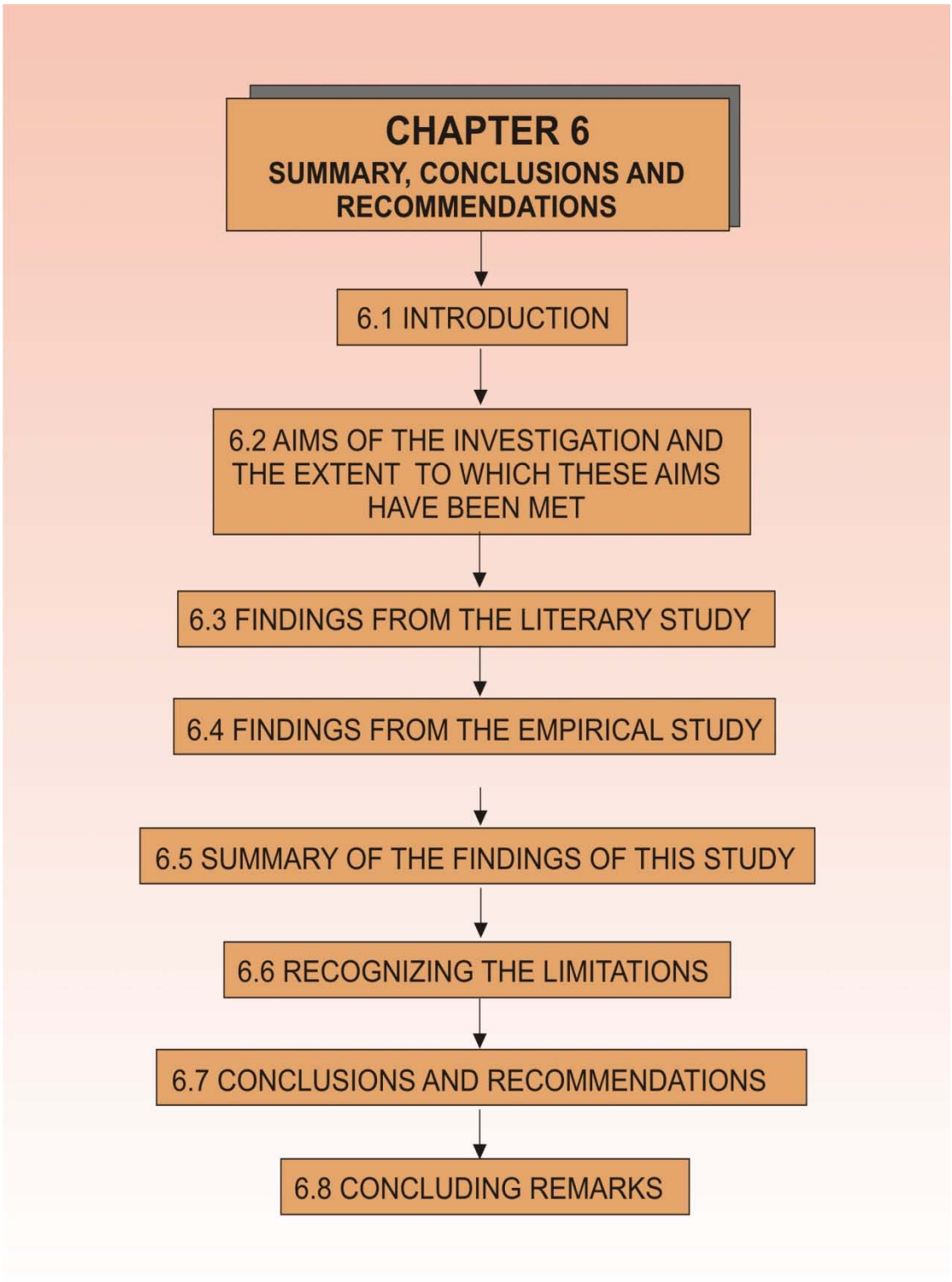
"Can the enhancement of emotional intelligence alleviate the symptoms and improve/change the behaviour of learner's with AD/HD?".

An attempt will be made to validate these hypotheses in light of the research that was undertaken.

- **The emotional intelligence of learners with AD/HD will differ from the emotional intelligence levels of peers without AD/HD.** This appears to have been validated in this study in that the learners with AD/HD displayed a different profile on both the pre and post tests of emotional intelligence, to the sample group of learners who do not have AD/HD. Learners with AD/HD showed a lowering of scores after exposure to a program on emotional intelligence, whereas the sample group showed increased scores after exposure to a program on emotional intelligence. There was scatter within and between the tests for the learners with AD/HD (Fig. 5.34a) whereas this was not present in the sample group of learners without AD/HD. (Fig. 5.34b).
- **Learners with AD/HD will show a below average composite score of emotional intelligence on the emotional intelligence scale.** This was not validated in this study as learners with AD/HD initially perceived themselves as experiencing levels of emotional intelligence that were higher than those of the sample group. In the post test, learners with AD/HD still perceived themselves to fall within the average range for emotional intelligence. (Fig. 5.34a).

- **The levels of emotional intelligence in learners with AD/HD will differ within and between tests.** This was validated in this study as learners with AD/HD showed a wide fluctuation in their scores on emotional intelligence both in the pre test and the post test. In addition, these learners showed a wide variation of scores between the competencies on the pre test and the same occurred on the post test. (Fig. 5.34a).
- **A program on emotional intelligence will be influential in developing awareness of emotional intelligence in learners with AD/HD.** This was validated in this study because the learners with AD/HD showed a more accurate appraisal of their emotional intelligence after exposure to a program on emotional intelligence. Their scores were initially unrealistically high in the pre test, compared to the sample group, as well as in comparison to their emotional profiles which displayed difficulties across all the competencies. Although their scores came down in the post test, the researcher proposes that this is due to an enhancement of their emotional intelligence through a better understanding of and awareness of their own emotions. (Fig. 5.34a).
- **AD/HD can be observed in the scores and profiles of learners with AD/HD on the attention deficit disorder scale.** This was validated in this study in that the learners with AD/HD displayed scores on the attention deficit disorder scale that fell within the range classified as AD/HD. This did not occur in one category, perfectionist/obsessive as the learners fell within the average and typical range for this category. (Fig. 5.35).
- **A program on emotional intelligence will be influential in improving the symptoms and behaviour of learners with AD/HD.** This has been validated in this study in that the learners with AD/HD showed an improvement (their scores went down) in seven of the nine categories, their scores stayed the same in one category, and their scores went up in one category. (Fig. 5.35). This shows a 78% growth in the improvement of the symptoms and behaviour of learners with AD/HD after exposure to a program on emotional intelligence.

The following chapter will deal with the resume of findings, implications, recommendations and suggestions for future research.


CHAPTER 6
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS
6.1 INTRODUCTION
6.2 AIMS OF THE INVESTIGATION AND THE EXTENT TO WHICH THESE AIMS HAVE BEEN MET
6.3 FINDINGS FROM THE LITERARY STUDY
6.4 FINDINGS FROM THE EMPIRICAL STUDY
6.5 SUMMARY OF THE FINDINGS OF THIS STUDY
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6.1 INTRODUCTION

The previous chapters have paid special attention to the emotional intelligence of learners with AD/HD. In this chapter, a resume will be outlined of the research that was undertaken. Findings derived from both the literature study and the empirical research will be outlined. This will be followed by conclusions, recommendations and suggestions for further research.

6.2 THE AIMS OF THE INVESTIGATION AND THE EXTENT TO WHICH THESE AIMS HAVE BEEN MET

The researcher stated in chapter one (1.5.1) that this study was generally aimed at analyzing and evaluating the nature of emotional intelligence, the different aspects of AD/HD, and how these constructs are manifested in the symptoms and behavior of learners with AD/HD. It was mentioned that there will be a specific focus on the developmental stage of these learners, their stage of moral and cognitive development, and how this may impact on their emotional intelligence. Specific aims (1.5.2) were divided into a literature search to cover certain areas and an empirical investigation to verify certain suppositions.

The main objectives of this study were:

- To identify the levels of emotional intelligence in Learners with AD/HD, as well as in a general sample group of learners who were not diagnosed with AD/HD, by means of an assessment on emotional intelligence (BarOnEQi-YV)
- To ascertain whether there had been an enhancement of emotional intelligence in all of these learners after exposure to a program (PATHS program) on emotional intelligence, by assessing these same students at the end of the study on the same assessment (BarOnEQ-iYV)
- To identify the levels of the symptoms and behaviour of the learners with AD/HD by means of the Connors Rating Scale for teachers (CTRS:L) before and after exposure to a program on emotional intelligence (PATHS program)

- To ascertain if there were any changes in the symptoms and behaviour of the learners with AD/HD and if this was in any way related to their emotional intelligence
- To use a semi-structured interview to ascertain the perceptions of the learners with AD/HD about their symptoms and behaviour, to investigate whether they were similar to the perceptions of the teacher as assessed by the Connors Teachers Rating Scale (CTRS:L)

Table 6.1 Main objectives and the extent to which they have been met

Main objectives	**The extent to which these objectives have been met**
1. To identify the levels of emotional intelligence in Learners with AD/HD, as well as in a general sample group of learners who were not diagnosed with AD/HD, by means of an assessment on emotional intelligence (BarOnEQi-YV).	The levels of emotional intelligence of the learners with AD/HD and the general sample group of learners who did not have AD/HD were successfully identified by means of this test.
2. To ascertain whether there had been an enhancement of emotional intelligence in all of these learners after exposure to a program (PATHS program) emotional intelligence, by assessing these same students at the end of the study on the same assessment (BarOnEQ-iYV).	The researcher was able to successfully identify whether there had been an enhancement of emotional intelligence of these learners by means of this test.
3. To identify the levels of the symptoms and behaviour of the	The levels of the symptoms and behaviour of the learners with AD/HD both

learners with AD/HD by means of the Connors Rating Scale for teachers (CTRS:L) before and after exposure to a program on emotional intelligence (PATHS program).	before and after exposure to this program were successfully identified by means of this test.
4. To ascertain if there were any changes in the symptoms and behaviour of the learners with AD/HD and if this was in any way related to their emotional intelligence.	The changes in the symptoms and behaviour of the learners with AD/HD were successfully identified and appear to be related to their levels of emotional intelligence.
5. To use a semi-structured interview to ascertain the perceptions of the learners with AD/HD about their symptoms and behaviour, to investigate whether they were similar to the perception of the teacher as assessed by the Connors Teachers Rating Scale (CTRS:L).	The semi-structured interview allowed insight into the perceptions of the learners about their symptoms and behaviour, and how these perceptions were similar to those of the teacher.

Qualitative research was used in this study, in an examination of what individuals are doing and how they interpret what is occurring, as well as participant observation, and a focus on small groups (Ambert, Adler, Adler, & Detzner 1995; De Vos, 1998; Morse, 1994).

The sample consisted of two groups. The general sample group consisted of 49 male learners and 29 female learners between the ages of nine and eleven, who had not been diagnosed with AD/HD. This group supported the literature which showed general trends in emotional intelligence after exposure to a program on emotional intelligence. This group was also used to compare the levels of emotional intelligence with that of the learners with AD/HD, in order to gain insight into the possible enhancement of emotional intelligence, after exposure to a program on emotional intelligence. In addition to this sample group, eight

learners who had been diagnosed with AD/HD, also between the ages of nine and eleven, formed a smaller sample group. All of the learners with AD/HD attended the American International School and had been in the American International schooling system for most of their academic schooling. Two of these learners were South African, four were American, one was from Saudi Arabia and one was British. Five of these learners were from intact marriages, two had single mothers and one was from a divorced family with a step mother. Of the eight learners with AD/HD, six of these learners showed a low academic level (50%-60%), and two learners showed an average academic level (60-70%). None of the learners displayed high academic achievement (70%+).

6.3 FINDINGS FROM THE LITERATURE STUDY

Relevant literature (such as books, articles in subject related publications and newspaper articles), were studied to investigate the research question. Table 6.2 summarizes the suppositions from the literature with regard to the outcome in the practical situation

Table 6.2 Suppositions from the literature and outcomes

Suppositions from the literature	**Outcomes**
1. Learners with AD/HD will have a different social and emotional intelligence score than learners without AD/HD	The learners with AD/HD support the literature by showing a different emotional score from the learners without AD/HD. However, whereas literature shows that learners with AD/HD show lowered emotional intelligence than their peers, these learners showed a perception that their emotional intelligence was higher than their peers in the pre test. After exposure to a program on emotional intelligence, their perceptions of their emotional intelligence dropped to a more realistic level, showing

	enhancement in their ability to more accurately appraise themselves.
2. Learners with AD/HD will show a below average composite score of emotional intelligence on the emotional intelligence scale.	Learners with AD/HD did not show a below average composite score of emotional intelligence either on the pre test or the post test of emotional intelligence. In the pre test these learners perceived themselves to be at the same average level as their peers who did not have AD/HD. In the post test these learners perceived themselves to be at a lower level within the average range and to be below the level of their peers without AD/HD on the composite score. The post test supports literature which shows that these learners experience difficulties with many of these competencies and is a more accurate appraisal of their emotional intelligence.
3. The emotional intelligence of each learner with AD/HD will differ within and between tests.	In support of the literature, this study showed that the emotional intelligence of the learners with AD/HD showed differences and fluctuations between the subtests as well as between the pre and post tests.
4. A program on emotional intelligence will be influential in developing emotional intelligence in learners with AD/HD	Although the sample group shows consistent growth and development in emotional intelligence after exposure to a program on emotional intelligence, contrary to literature, the learners with AD/HD showed inconsistent scatter between the sub tests and between the

	tests, and lowered scores. It appears that the learners with AD/HD were more able to accurately appraise themselves after exposure to a program on emotional intelligence, which may show development in this area.
5. AD/HD can be observed in the scores and profiles of learners with AD/HD on the attention deficit disorder scale.	The Connors Teacher's rating scale showed the attention deficit levels of all of the learners with AD/HD. This supports literature which shows that this scale is a reliable screening tool.
6. The scores for learners with AD/HD on the attention deficit scale will relate to their emotional intelligence scores on the emotional intelligence scale.	The study did not support this supposition. The emotional intelligence scores of the learners with AD/HD appeared unrealistically high in the pre test which is contrary to what literature shows. This means that their emotional intelligence scores did not relate to their scores for AD/HD in the expected way ie: lowered scores on the emotional intelligence test and higher scores on the AD/HD scale.
7. A program on emotional intelligence will be influential in improving the symptoms and behaviour of learners with AD/HD.	It appears from this study that after exposure to a program on emotional intelligence, the learners with AD/HD showed an improvement in their symptoms and behaviour. This supports research with learners who do not have AD/HD.
8. Criticisms of emotional intelligence have been dealt with effectively.	The mixed model approach which has been used in this study seems to be able to function within the bounds of the criticisms levelled against social and

	emotional intelligence.

6.4 FINDINGS FROM THE EMPIRICAL RESEARCH

After an evaluation of the literature, the researcher undertook an empirical study. A self report questionnaire on emotional intelligence (BarOnEQ-iYV) was administered to the general sample group and to the learners with AD/HD. The teacher filled out a Connors Rating form (CTRS:L) to evaluate the levels of AD/HD of the learners with AD/HD at the beginning of the study. After exposure to a program on emotional intelligence (PATHS) once a week for eight months, the general sample group as well as the learners with AD/HD completed the same self report questionnaire on emotional intelligence (BarOnEQ-iYV). The teacher completed the Connors Rating Scale (CTRS:L) to evaluate the levels of AD/HD of the learners with AD/HD at the end of the study. Finally the learners with AD/HD participated in a semi-structured interview, which explored their perceptions of their own symptoms and behaviour.

Qualitative analysis was used to interpret and analyze the gathered information and to establish if the following hypotheses, made in Chapter 1 (1.2.2) were met:

Table 6.3 The aims of the empirical study and the outcomes

Hypotheses	**Outcomes of the research**
1. The emotional intelligence of learners with AD/HD will differ from the emotional intelligence levels of peers without AD/HD	The results show that the learners with AD/HD showed a different profile from the sample group of learner without AD/HD both before and after exposure to a program on emotional intelligence. The learners with AD/HD, contrary to research findings, displayed an unrealistically high perception of their emotional intelligence in the pre-test and a high degree of scatter between the sub tests and between

	the pre and post tests. This was different to their peers without AD/HD in that they showed a consistently lowered profile in the pre test with consistently higher levels in the post test. This concurs with research findings and verifies this hypothesis.
2. Learners with AD/HD will show a below average composite score of emotional intelligence on the emotional intelligence scale	The results of the study did not support this hypothesis. The learners with AD/HD did not show a below average composite score of emotional intelligence either on the pre test or the post test. Although their symptoms and behaviour indicated lowered emotional intelligence, these learners *perceived* themselves to have higher levels of emotional intelligence than their peers who did not have AD/HD.
3. The levels of emotional intelligence in learners with AD/HD will differ within and between tests	The results of the study showed that 80% of the learners with AD/HD experienced fluctuations and variations of their scores both within the tests (between the sub tests) and between the pre and post tests. This verifies this hypothesis.
4. A program on emotional intelligence will be influential in developing emotional intelligence in learners with AD/HD	In terms of the traditional manner in which emotional intelligence is measured, scores should increase to show growth. This occurred within the sample group of learners who did not have AD/HD. The results of the study on learners with AD/HD showed that

	their scores decreased in the post test. However, the scores of these learners were unrealistically higher than those of their peers who did not have AD/HD, in the pre test. The researcher suggests that after exposure to a program on emotional intelligence, learners developed a better awareness of their emotional intelligence, which resulted in a more accurate (if lower) appraisal of themselves in the post test. The researcher therefore proposes that the results have verified this hypothesis.
5. AD/HD can be observed in the scores and profiles of learners with AD/HD on the attention deficit scale	The results of this study showed that the profiles of the learners with AD/HD fell within the AD/HD categories on eight of the nine sub tests. This confirms this hypothesis.
6. The scores for learners with AD/HD on the attention deficit scale will relate to their emotional intelligence scores on the emotional intelligence scale	The results of the study showed that the scores for learners with AD/HD on the attention deficit scale did not relate to their scores on the emotional intelligence scale. The expectation was that they would display lowered emotional intelligence and higher levels of AD/HD and that this relationship would reverse after exposure to a program on emotional intelligence. These learners did not perceive that they had lowered emotional intelligence in the pre test although they showed higher levels of AD/HD on the

	AD/HD scale pre test. This relationship did not reverse after exposure to a program on emotional intelligence. Although their level of AD/HD lowered (improved) after exposure to a program on emotional intelligence, their levels of emotional intelligence also lowered. Therefore, this hypothesis was not verified in this study.
7. A program on emotional Intelligence will be influential in improving the symptoms and behaviour of learners with AD/HD	The results of this study showed that the symptoms and behaviour of the learners with AD/HD improved on seven of the nine sub tests of AD/HD after exposure to a program on emotional intelligence. The researcher suggests that the development of emotional intelligence in these learners which resulted in a more accurate appraisal of themselves after exposure to a program on emotional intelligence lends weight to the verification of this hypothesis.

6.5 SUMMARY OF THE FINDINGS OF THIS STUDY

In summary, the findings of this study show differences in the symptoms and behaviour of AD/HD in learners with AD/HD after exposure to a program on emotional intelligence. It appears from the results of the study, that learners with AD/HD have difficulty evaluating themselves with regard to emotional intelligence and this provides valuable insight and information on this group of learners. The learners with AD/HD appeared more able to evaluate themselves more accurately after exposure to a program on emotional intelligence, and scored themselves at a more realistic level, which was lower than their first assessment in the pre test.

Considering the nature of the difficulties the learners with AD/HD were experiencing (poor social interactions, low self regard, lowered self awareness, high stress levels and anxiety, low adaptability, oppositional behaviour, and mood swings) according to their mothers and teachers, it is interesting to note that these learners did not perceive themselves in this way to begin with. After taking part in a program on emotional intelligence, which teaches an awareness of emotions both in the self and others, these learners showed a much better ability to appraise themselves more accurately, which translates into being able to perceive themselves more realistically, and as therefore experiencing the above difficulties. This shows growth in a different way to the growth shown by the sample group of peers who do not have AD/HD.

The sample group appeared to evaluate themselves accurately in the pre test in that their scores were initially lower and then improved after exposure to a program on emotional intelligence. It would be interesting to study a larger group of learners with AD/HD to see whether they conform to the findings of this study. The learners with AD/HD did not show agreement with either their teachers or their mother's perceptions of their emotional states or their symptoms and behaviour at the beginning of the study. However, these learners showed growth in self awareness after participating in a program on emotional intelligence, in that they were not only able to appraise themselves more accurately in this regard, but they agreed with their teacher's perceptions of them, and also improved their symptoms and behaviours of AD/HD at the end of the study. This means that the perceptions of the learners with AD/HD were in keeping with the teacher's perceptions and their mother's perceptions after the program on emotional intelligence. This would suggest the importance of exposing learners with AD/HD to programs to enhance their emotional intelligence, as there seems to be a link with this development, and the amelioration of the symptoms and behaviour related to AD/HD.

6.6 RECOGNIZING THE LIMITATIONS

In examining the emotional intelligence and the symptoms and behaviour of AD/HD of this group of learners with AD/HD, it is recognized that the results cannot be directly extended to

all learners with AD/HD. Emotional intelligence in learners with AD/HD was the focus of this study. Because of the constraints of factors such as availability and the costs involved, the sample of the empirical study was small. The implications of the characteristics of the sample drawn for the purposes of this study, are that the learners with AD/HD who participated in a program on emotional intelligence, became more able to appraise themselves accurately, (showing enhancement of their emotional intelligence), as well as showing an improvement in their symptoms and behaviour of AD/HD at the end of the study.

Whilst recognizing the program on emotional intelligence as an important mechanism in the enhancement of emotional intelligence in learners with AD/HD, the contribution by a complex interaction of other components such as peer influence, maturational development, teacher interaction, and the impact of other significant members of the family, is not disputed. It is recognized by the researcher that the nature of learners with AD/HD as recognized in the literature, may have adversely influenced the way these learners answered the self report questionnaire on emotional intelligence. The fact that the general mood of these learners improved after exposure to the program may relate to the nature of the program or to the variability and mood swings of these learners. It is recognized by the researcher that inclusion of the influence of academic achievement, as well as the implication or influence of family members, might have shed more light on the subject.

Although the literature has shown that learners who do not have AD/HD improve their scores after exposure to a program on emotional intelligence, learners with AD/HD show a different profile which may indicate enhancement and development of this construct. The researcher recognizes that there is no literature to support this view and that more research is required before this phenomenon can be verified.

It must also be recognized that a cross sectional assessment may misrepresent patterns of similarity and dissimilarity. A longitudinal study on the same subjects over a longer period of time, in which the program on emotional intelligence was taught to its completion (three years), would more than likely yield more conclusive results. This means that the study over several years of the levels of emotional intelligence of learners with AD/HD as this construct is enhanced and developed, may yield valuable longitudinal data on the influence and

efficacy of the program they were exposed to and its impact on their symptoms and behaviour of AD/HD.

A linear and unidirectional model also holds its limitations. The enhancement of emotional intelligence is a bi-directional process, involving continuing interaction and influence. It appears that the very nature of the interaction between the teacher who teaches the program on emotional intelligence and the learner with AD/HD may lead to changes within both the teacher and the learner. Whilst it is true that the learner with AD/HD may be socialized, understood, or misunderstood by the teacher and/or their parent/s and significant others in their environment, it is also true that the teachers concerned are often caused to re-evaluate their position with regard to how they feel about the learner with AD/HD, and/or their view on emotional intelligence – and indeed the nature of AD/HD – by these same learners. Significant changes occur on both sides in relation to their life-world and environment, due to the interaction that takes place throughout the duration of a program on emotional intelligence. It may therefore be worthwhile to also examine the effects of the learners with AD/HD on the development and enhancement of emotional intelligence on their educators and family members, and how their symptoms and behaviour have been ameliorated through this relationship.

6.7 CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

From the findings of this study, it may be concluded that the symptoms and behaviour of learners with AD/HD improved as their emotional intelligence was enhanced and developed. Perhaps, of significance is the finding that learners with AD/HD experience difficulty being able to accurately appraise themselves. Whereas prevailing research shows the expectation that learners with AD/HD experience lowered emotional intelligence (and this has been borne out by the perceptions of their mothers and teachers), these learners initially appraised themselves as having higher emotional intelligence than their peers who did not have AD/HD. However, after exposure to a program on emotional intelligence, their growth and enhancement of emotional intelligence was shown in their ability to appraise themselves more accurately and to acknowledge their difficulties. Hand in hand with this growth was the

amelioration or lowering of the symptoms and behaviour of the learners with AD/HD's. Another area of interest that was highlighted in this study is the fact that as the emotional intelligence of these learners developed and they became more self aware and accurate in their perceptions of themselves, there was also better congruence between their perceptions of their symptoms and behaviour of AD/HD and those of their teachers. This means that the learners with AD/HD were more able to accurately perceive themselves in terms of their symptoms of AD/HD at the end of the study.

The enhancement of emotional intelligence in learners with AD/HD appears to be related to learning about emotions and how these apply to them. In order to be more able to accurately appraise their own emotional intelligence, these learners seem to require specific training in what these emotions mean and how they are able to adapt and understand these concepts in relation to themselves. The enhancement of emotional intelligence of these learners with AD/HD seems to reflect the amount of exposure they have experienced with regard to emotional intelligence. Further study could possibly investigate the levels of emotional intelligence of the parent's of these learners, as well as any significant others involved in their life world. The types of interactions and communications that these learners are exposed to appear to be crucial in the development of their emotional intelligence. The modelling of emotional intelligent behaviour by the significant others in their environment may greatly influence their symptoms and behaviour. As such, further research could be directed towards identifying and enhancing the emotional intelligence of family members and teachers, which may result in more positive interactions and help to lessen the symptoms and behaviour of these learners.

Although the BarOnEQ-iYV is generally recognized as an accurate reflection of emotional intelligence, in the case of learners with AD/HD the results were quite unexpected. This brings into question the nature of self report questionnaires in the case of learners who have difficulty with self awareness. It is interesting to note that the learners who did not have AD/HD were able to appraise themselves accurately on a self report measure and to show growth after exposure to a program on emotional intelligence, in the expected manner. This study might be replicated using an ability based assessment which could then be linked to the academic achievement of these learners. The mixed ability assessment was better

suited to this particular study as the researcher was investigating the symptoms and behaviour of learners with AD/HD and not their abilities, but further research into this area might lead to interesting comparisons.

The size of the sample is too small to make meaningful generalizations to the general population and further research using larger sample groups, controlling for different variables and including other aspects may be advantageous in this regard.

It seems from the study that interventions aimed at developing the emotional intelligence of learners with AD/HD would be advantageous in enhancing their ability to appraise themselves more accurately – in short, their emotional intelligence. This study has resulted in a better awareness and insight into how learners with AD/HD perceive themselves and this has important implications for establishing appropriate intervention and treatment programs. Further research into the efficacy of such programs in South African schools may be advantageous.

6.8 CONCLUDING REMARKS

In this research a small sample was used in order to investigate and evaluate emotional intelligence in learners with AD/HD. It is hoped that the results of this study will point the way for further investigation into the very real contribution of emotional intelligence to the symptoms and behaviour of learners with AD/HD. Of equal importance for these learners, is the influence of programs aimed at enhancing emotional intelligence and the interactions that these learners experience with their educators, their family members and their peers. It seems significant that if those that influence the worlds of learners with AD/HD can enhance and develop the emotional intelligence of these learners, the chances of ameliorating their symptoms and behaviour rises. This may in some way help to alleviate the difficulties that learners with AD/HD experience, and may aid them in reaching their potential and becoming better adjusted within their worlds.

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Appendix I

Subject Information Sheet

Dear Participant,

My name is Carol Wootton and I am undertaking research into the field of Attention Deficit/Hyperactivity Disorder. My aim is to investigate the nature of the link between AD/HD and emotional intelligence. I propose to use a program formulated to improve emotional intelligence in the classroom, which the teacher of your child will implement over the period of one school year. Research already shows that this program improves emotional intelligence and the study will focus on whether this will have the same results on the AD/HD child and whether it will help him/her to exercise some control over the symptoms and behaviour of the AD/HD. The program focuses on developing and utilizing a larger emotions vocabulary; increasing the ability to discuss emotions; developing awareness of cues for recognizing emotions; developing negotiation and problem solving skills; and developing strategies for changing emotional states. Lessons and teachers activities will be provided as well as activity sheets, home activities, supplementary ideas, and letters and information for you, the parents, necessary for completing the program. Lessons include dialoguing, role playing, story-telling, modelling by teachers and peers, social and self-reinforcement, and verbal mediation. Prior to the commencement of the program, each child will undergo a group assessment on emotional intelligence, which will be administered by me, and will take approximately 30 minutes. The teacher will also fill out a rating scale on each child to determine the symptoms and behaviour that are present in the classroom. After the program has been completed by the teacher, the child will again be exposed to the above assessments to determine if any changes have taken place.

Participation in this study is completely voluntary and you are free to withdraw at any time, without providing any reasons and this will not affect your child's scholastic or academic progress in any way. Should you wish your child to participate in this study, the participant must already have been diagnosed with AD/HD. You will be required to complete a biographical questionnaire about your child's history. All information disclosed by you and the

teacher, as well as that resulting from the assessment will remain confidential. Your name will not appear on any publications and your total anonymity will be guaranteed. Upon completion, the results of the assessment will be discussed with you if required. The onus is on the parent, guardian or caretaker to contact the researcher with regard to feedback about the assessment and possible relevant interventions.

If you are happy to take part in this study, please read and sign the attached consent form.

Thank you
Carol-Anne Wootton

Appendix II

Parent Consent Form

I, the undersigned, have read the Subject Information Sheet, and consent to participate in the research study to be undertaken by Carol-Anne Wootton. I am the parent/ guardian/caretaker (delete what is not applicable) of_____, and give my consent that he/she may participate in this research. I undertake to complete the following:

- the biographical questionnaire to the best of my ability

In my capacity as parent/guardian/caretaker, I agree that my son/daughter will complete the following assessments:

- the BarOn Emotional Quotient Inventory Youth Version Short
- Semi structured interview with Mrs. Wootton

I agree that my son/daughter will be rated by the teacher on the following scale:

- The Connors Teacher Rating Scale - Revised

I grant permission/do not grant permission for the teacher and/or school personnel involved with my child to receive information and/or feedback about this assessment and/or research.
I am assured that total confidentiality will be guaranteed and that I may withdraw at any time without the need to provide reasons for doing so. I agree that I will contact the researcher, Carol-Anne Wootton, should I wish feedback about the assessment.

DATE:_____

PARENT/GUARDIAN_____

Appendix III

Teacher Consent Form

I, the undersigned, have read the Subject Information Sheet and consent to participate in the research study to be undertaken by Carol-Anne Wootton. I am the teacher of_____ and I consent that he/she may miss school for the time required to complete the assessment in the morning. This consent is subject to the consent of the Principal of my school. I undertake to complete the Connors Teachers Rating Scale – Revised on the identified children in my class. Total confidentiality has been guaranteed and I agree that feedback will only be given on request and with the permission of the parents or guardians of the child concerned. I am assured that I may withdraw from this study at any time without providing reasons for doing so and that there will be no repercussions.

DATE:_____

TEACHER:_____

Appendix IV

Principal Consent Form

I,_____in my capacity as Principal of the American International School of Johannesburg, have read the Subject Information Sheet and give my consent for teachers and children to participate in the research study to be undertaken by Carol-Anne Wootton. I give permission for the children concerned to miss school one morning for the time required to complete the assessment. I agree that access to academic and personal information about the child concerned will be allowed to Carol-Anne Wootton for the purposes of this research. I understand that total confidentiality is guaranteed and that I may withdraw from this study at any time without providing reasons for doing so and that this decision will not be treated negatively. I agree that feedback will only be given on request and with the permission of the parents or guardians of the child concerned.

DATE:_____

PRINCIPAL:_____

Appendix V

Child Consent Form (Verbal)

I,_____ agree that Carol Anne Wootton has explained her research to me as well as what I have to do. I understand that I will complete a test with Carol Anne Wootton and that this will take about 30 minutes to complete. I understand that I will miss school for that period of time, with the permission of my teacher, as the test will take place in the morning. I understand that my teacher will fill in a questionnaire about my behaviour. I understand that Carol Anne Wootton will ask me some questions which I will answer verbally. I understand that I can decide not to do this test at any time and that I do not have to give a reason for this. I have been assured by Carol Anne Wootton that I will not be in trouble if I do this. I understand that my name will not be used in her research and that my parent/s/guardian/s will be given feedback about my test if they ask for it and that my teachers may receive feedback if they are given permission by my parent/s/guardian/s. I understand that my teacher and my parent/s/guardian/s will fill in questionnaires about me.

I would like to participate in this study:

DATE:_____

CHILD:_____

Appendix VI

ALL ANSWERS WILL BE TREATED IN THE STRICTEST OF CONFIDENCE – NAMES HAVE BEEN CHANGED FOR THIS REASON. THIS INFORMATION WILL ONLY BE USED FOR THE PURPOSES OF THIS RESEARCH THESIS. I THANK YOU IN ADVANCE FOR YOUR ASSISTANCE.

Biographical Questionnaire

Date:……Age of Child:…….
Name of child:……Date of Birth:…….
School:……Grade:…….
Teacher:……
AD/HD diagnosed by:……..
Answer YES or NO to the following:

- often fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities……...
- often has difficulty sustaining attention in tasks or play activities……..
- often does not seem to listen when spoken to directly…….
- often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions)……...
- often has difficulty organising tasks and activities……...
- often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)……..
- often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books or tools)…….
- is often easily distracted by extraneous stimuli……
- is often forgetful in daily activities……...
- often fidgets with hands or feet or squirms in seat……..
- often leaves seat in classroom or in other situations in which remaining seated is expected…….
- often runs about or climbs excessively in situations in which it is inappropriate (in adults or adolescents it may be limited to subjective feelings of restlessness)……..
- often has difficulty playing or engaging in leisure activities quietly……...
- is often on the go or acts as if driven by a motor……
- often talks excessively……..
- often blurts out answers before questions have been completed…….
- often has difficulty waiting his turn……..
- often intrudes on or interrupts others (e.g., butts into conversations or games)……
- symptoms have been present since before the age of seven…….
- symptoms are present in more than one setting……..

Incidence of AD/HD in family?……..

Other Children in the family:

1. 2. 3.

Name:……
Age:……..
School:……..
Grade:……..
AD/HD diagnosis?……..
Other members of the family with an AD/HD diagnosis……

DEVELOPMENTAL HISTORY OF CHILD
GENERAL HEALTH
Specify any present medication……
Childhood illnesses……
Injuries (particularly to the head) and/or traumas……..
……
……..

THERAPY

Please indicate the name of the therapist and the length of therapy

Occupational……
Speech……..
Neurologist……
Psychologist……
Remedial Therapist……

BEHAVIOUR
Does your child accept discipline easily?…….At home?……..
At School?……
Does your child experience any of the following? Answer Yes or No
Fits of rage/aggressive behaviour……..
Lying……
Truancy……
Destructiveness……..
Other……
……

SOCIAL DEVELOPMENT

Good Average Poor

How does he/she socialise?……..
How does your child relate to:
Mother……..
Father……
Siblings……
Extended family……..
Teachers……..
Peers……

I acknowledge that the above information is correct:

Parent/Guardian:

Name:……Signature:……

Appendix VII

The Diagnostic Criteria for Attention Deficit Hyperactivity Disorder (AD/HD) as categorised within the Diagnostic Statistical Manual of Mental Disorders, 4th Edition, 1994 (DSM IV).

Either (1) or (2) :

1. six or more of the following symptoms of inattention have persisted for at least six months to a degree that it is maladaptive and inconsistent with the developmental level:

Inattention

- often fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities
- often has difficulty sustaining attention in tasks or play activities
- often does not seem to listen when spoken to directly
- often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions)
- often has difficulty organising tasks and activities
- often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books or tools)
- is often easily distracted by extraneous stimuli
- is often forgetful in daily activities

2. six or more of the following symptoms of hyperactivity-impulsivity have persisted for at least six months to a degree that it is maladaptive and inconsistent with developmental level:

Hyperactivity

- o often fidgets with hands or feet or squirms in seat
- o often leaves seat in classroom or in other situations in which remaining seated is expected

- o often runs about or climbs excessively in situations in which it is inappropriate (in adults or adolescents it may be limited to subjective feelings of restlessness)
- o often has difficulty playing or engaging in leisure activities quietly
- o is often on the go or acts as if driven by a motor
- o often talks excessively

<u>Impulsivity</u>

- often blurts out answers before questions have been completed
- often has difficulty waiting his turn
- often intrudes on or interrupts others (e.g., butts into conversations or games)

B. Some hyperactivity-impulsivity or inattentive symptoms that caused impairment were present before the age of seven.

C. Some impairment from the symptoms is present in two or more settings (eg., at school and at home)

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning

E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorders and are better accounted for by another mental disorder, or a Personality Disorder

Code Based on type:

01 Attention Deficit/Hyperactivity Disorder, Combined Type:
If both Criteria A1 and A2 are met for the past six months

02. Attention Deficit/Hyperactivity Disorder, predominantly Inattentive Type:
If criterion A1 is met but Criterion A2 is not met for the past six months

03. Attention Deficit/Hyperactivity Disorder, predominantly Hyperactive
Impulsive Type: if Criterion A2 is met but Criterion A1 is not met for the past six month

Appendix VIII

The Emotion Quotient Inventory (EQ-I) Scales and what they assess

EQ-I Scales	The EI Competencies assessed by each scale
Intrapersonal	**Self-awareness and self-expression**
Self-regard	*To accurately perceive, understand and accept self*
Emotional self-awareness	*To be aware of and understand one's emotions*
Assertiveness	*To effectively and constructively express ones emotions and oneself*
Independence	*To be self reliant and free of emotional dependency on others*
Self –actualisation	*To strive to achieve personal goals and actualise ones potential*
Interpersonal	**Self-awareness and interpersonal relationship**
Empathy	*To be aware of and understand how others feel*
Social responsibility	*To identify with one's social group and to co-operate with others*
Interpersonal relationship	*To establish mutually satisfying relationships and relate well with others*
Stress management	**Emotional management and regulation**
Stress tolerance	*To effectively and constructively manage emotions*
Impulse control	*To effectively and constructively control emotions*
Adaptability	**Change management**
Reality testing	*To objectively validate one's feelings and thinking with external reality*
Flexibility	*To adapt and adjust one's feelings and thinking to new situations*
Problem solving	*To effectively solve problems of a personal and inter-personal nature*
General mood	**Self-motivation**
Optimism	*To be positive and look at the brighter side of life*
Happiness	*To feel content with oneself, others & life in general*