

**An evaluation of the management of children with ADHD
(Attention Deficit Hyperactivity Disorder) in the classroom**

by

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Abstract

This research study has sought to examine and evaluate how the presence of children with Attention Deficit Hyperactivity Disorder (ADHD) impacts upon the educational and behavioural climate of the mainstream classroom. It also addressed the effectiveness of a range of approaches to the management of such children with ADHD in the classroom. These approaches included medical intervention in the form of a prescribed drug and the use of a behaviour management strategy.

The research focused on a sample of primary schools in the North Eastern Education and Library Board. The opinions of teachers were sought through the completion of questionnaires, and the results enhanced with information collected through semi-structured interviews. In this way a range of both qualitative and quantitative data was collected and collated in this small-scale research project.

Analysis of the information demonstrated that children with ADHD do impact upon the mainstream classroom and usually in a negative manner. The study found that a variety of approaches could be effective in managing ADHD children. In some cases the best solution was a combination of methods, generally involving the use of a prescribed medication alongside a behavioural management strategy. Results showed that the most effective form of behavioural management was a positive behaviour strategy or 'time out'.

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Introduction and Background to the Study

There has been considerable interest, debate, concern and even denial of the condition Attention Deficit Hyperactivity Disorder (ADHD) in recent years. Many professionals appear to believe that the term is perhaps over-used and is attached to any child who displays instances of unacceptable behaviour. Research, however, has highlighted some common recurring behavioural features amongst children so diagnosed.

Green and Chee (1997, p2) estimate that ADHD 'affects approximately 2 per cent to 5 per cent of all children.' This is endorsed by Holowenko (1999, p11) who estimates that it occurs in three to six percent of children.

With the current interest in ADHD, it seemed that a study on ADHD children in the classroom would be both topical and extremely useful for teachers and other professionals.

Consequently, this dissertation presents the findings of a small scale research project which sought to examine how the presence of children with ADHD impacts upon the educational and behavioural climate of the mainstream classroom. It also considers the effectiveness of a range of approaches in managing such children with ADHD. These include medical intervention in the form of a prescribed drug and the use of a Behaviour Management Strategy.

Literature Review

In considering how the presence of children with ADHD impacts upon the educational and behavioural climate of the mainstream classroom and also the effectiveness of a range of strategies for the management of such children, it will be necessary initially to examine in general terms the whole area of ADHD. In addressing these areas the possible educational implications of managing children diagnosed with ADHD should become evident. From this juncture the review will proceed to explore in more detail the various interventions that have been recommended for the condition. It is therefore proposed to review recent and relevant educational literature in the following categories:

- 1.1 The history of the condition ADHD
- 1.2 A definition of ADHD
- 1.3 How ADHD is caused
- 1.4 The diagnosis of ADHD
- 1.5 ADHD and associated comorbidities
- 1.6 Interventions in managing ADHD children

1.1 The history of the condition ADHD

It is considered that ADHD was first 'discovered' almost a century ago by English paediatrician George Still, although the condition was not given this title at the time. Through his work, with boys in particular, he observed that some evidenced difficult behaviours, which included inattention and resistance to discipline. Green and Chee

(1997, p10) state that, 'Still saw this as a chronic condition, biological (inborn) in nature and not caused by poor parenting or adverse environment.'

Subsequently, towards the end of the 1920s, interest in ADHD was sparked by the influenza epidemic when many people were left with brain damage and were demonstrating traits of the characteristics that Still had identified. From this knowledge it was felt that ADHD occurred as a result of brain dysfunction. However, researchers later found in the 1950s and 1960s that most children with ADHD had never suffered any form of brain damage. They decided to label the condition as Minimal Brain Dysfunction, which Green and Chee (1997, p11) viewed as implying that, 'the brain was effectively normal, but there was some subtle malfunction which accounted for the behaviours.'

Hyperactivity was the next focus for researchers in the 1960s and the condition then was not seen as being caused by brain damage. This perhaps inspired Feingold's theory in 1973 that there was a link between hyperactivity and diet. According to Green and Chee (1997, p12), Feingold believed that fifty percent of children labelled with hyperactivity would be helped by a change of diet, which involved the reduction of food additives. Green and Chee (1997, p12) reported that, in fact, when the government study took place, it emerged that a mere five percent of children had been helped.

In the next decade the effects of stimulants, in the form of medication, were being studied. Holowenko (1999, p13) states that, 'methylphenidate (Ritalin) had become the most prescribed drug for what was termed Attentional Deficit Disorder (ADD)

and then eventually Attentional Deficit/ Hyperactivity Disorder (AD/HD).’ The introduction of this drug caused much confusion and controversy. The media have often been apportioned blame for this sensation and still today many parents appear to be very sceptical and even critical about the use of prescribed medication for their children.

1.2 A definition of ADHD

Having a brief knowledge of the history of the condition ADHD leads conceptually to a contemporary definition of ADHD. Again controversy exists and many theories have evolved as to how children come to be diagnosed or labelled with this condition.

The DSM-IV test from American Psychiatric Association (1994) is largely used at present in the diagnosis stage of ADHD. This is a behaviour rating scale based on the diagnostic criteria for Attention Deficit Hyperactivity Disorder published in the DSM-IV (American Psychiatric Association, 1994) (**Appendix 1**). Nadder et al. (2001, p475) interpret this test as suggesting that the condition is a combination of overactivity/restlessness, inattention and impulsivity.

This combination of behaviours has recently been challenged and Attwood (2001, p17) prefers to concentrate on the impulsivity of children with ADHD. She suggests that when messages are incorrectly transmitted, ‘the inhibitors in the brain do not function effectively and fail to control a child’s impulses.’ She perceives ADHD to be caused by the lack of dopamine in the brain, a neurotransmitter which carries messages to the brain. This malfunction will result in children with ADHD acting on impulse as opposed to thinking first.

Similarly, Barkley (1995, p53) believes that, ‘ADHD involves an impairment in the ability of the individual to inhibit responses to situations or events.’ At this juncture it should be noted that an overlap may exist with Autistic Spectrum Disorder. Barkley (1995, p53) considers people with ADHD to have a problem with self-control and as a result suggests that a more appropriate label for the condition is the term developmental disorder of self-control (DDSC). This emerged from new research that suggested that the front part of the brain is not as active in those who have ADHD. Barkley (1995, p54) suggests that this frontal part of the brain is directly related to the ability to inhibit our behaviour and it gives us our powers of self-control. As a result this will contradict the view that a person’s upbringing or environment is largely responsible for their potential to display control. It also would appear to select only impulsivity from the three descriptor terms that are used to define ADHD in the DSM-IV test (1994).

More recently, and contrary to the inhibition hypothesis, Scheres et al. (2001, p347) have identified that ADHD could be, ‘a manifestation of an underlying self-regulatory defect.’ Douglas (1999) as cited in Scheres et al. (2001, p347) defines this as ‘a failure to allocate adequate effort to meet task demands.’ This may be viewed by some as a choice which has been exercised as opposed to an inability and Scheres et al. (2001, p347) describe this deficit in performing tasks as a ‘nonoptimal energetic state’.

Different subtypes of ADHD have also recently been defined and perhaps this caters more adequately for people who display different characteristics of the condition.

The Amen Clinic for Behavioural Medicine (2001) identifies five subtypes and labels them as: AD/HD combined type, AD/HD primarily inattentive subtype, Overfocused ADD, Temporal lobe ADD and Limbic ADD. The AD/HD combined type will present symptoms of both inattention and hyperactivity impulsivity while AD/HD primarily inattentive subtype, along with inattention, will also display characteristics of boredom and decreased motivation. Children with Overfocused ADD will have difficulty in varying attention and changing tasks. Temporal lobe ADD, along with inattention and/or hyperactivity impulsivity, will display characteristics of mood instability, aggression and some paranoia. In Limbic ADD there will be negativity, depression, sleep problems, low energy and low self-esteem, as well as inattention and/or hyperactivity impulsivity.

Recent research literature indicates that many uncertainties still exist in defining ADHD. In spite of differing views, however, Charman et al. (2001, p33), state that generally researchers, ‘agree on the basic premise that a primary inhibitory impairment underlies the behavioural and social difficulties that characterize ADHD.’

1.3 How ADHD is caused

There has been much speculation and debate on the actual causes of ADHD, some of which were mentioned briefly in the previous section. Many parents are led to believe that a child’s environment or nurture is to blame, and that they have, in some way, failed their children. Barkley (1995, p65) identifies this notion as a fallacy by informing parents that, ‘Your child was born with this problem; it is through no fault of his own ...you should neither assign blame to yourself nor accept it from others.’

Cooper and Shea (1998, p36) however, appear to believe that environmental factors have a bearing on the outcome of the behaviour. They suggest that ADHD is best viewed from a bio-psycho-social framework which is, 'concerned with the ways in which biological differences, which may result from genetic, congenital or environmental factors, interact with psychological and social factors and lead to specific behavioural and emotional outcomes.' Cooper and Shea evidently do not apportion all the blame to environmental factors but rather suggest that they have a role to play along with other factors in a child being diagnosed with ADHD.

Similarly, Barkley (1995, p55) views ADHD as having multiple contributory factors and offers some probable causes. One popular theory about the causes of the condition is that it is hereditary, a suggestion which Cooper and Shea (1998, p36) also appear to support. This is endorsed by Green and Chee (1997, p4), who state that, 'ADHD is a strongly hereditary condition'. They claim that children with ADHD are most likely to have a close relative with similar symptoms. Green and Chee (1997, p24) also inform us that siblings have a 30 to 40 percent risk of inheriting ADHD.

Other possible causes of ADHD, as identified by Barkley (1995, p56), are brain damage or abnormal brain development. Barkley continues to explain that this abnormal brain development is most likely to be caused by substances consumed during pregnancy. Complications during pregnancy or delivery may also interfere with the normal development of the brain. Subtle forms of brain damage may also be present in a child but Stewart and Olds (1973), as cited in Gelfand et al. (1988, p125), estimate that only ten percent of referrals for hyperactivity show a clear history of brain damage.

No single cause for ADHD has been recognised and many myths certainly exist. Barkley (1995, p77) admits that we have a lot more to learn about ADHD and its causes. He concludes, 'When we fully comprehend what causes this disorder, perhaps we will also discover how to cure it.'

1.4 The diagnosis of ADHD

Casual discussion with parents of children with ADHD might lead one to question just how ADHD is diagnosed and what means are used for identifying it. Many parents appear to be given a prescription for Ritalin after a first interview with a family doctor, and several other doctors seem reluctant to mention it at all. Gimpel and Kuhn (2000, p163) conducted a study to try and establish whether relying solely on parental views about their offspring would lead to an over-diagnosis of the condition. Instead of relying solely on parental interviews, they recommend that the diagnostic criteria from the DSM-IV test from the American Psychiatric Association (1994) be utilised. Gimpel and Kuhn (2000, p165) comment that while medical practitioners are encouraged to perform a complete diagnostic evaluation, many fail to fulfil this obligation in their encounters with patients suspected of having ADHD. In concluding, Gimpel and Kuhn (2000, p175) found their hypothesis to be true and that when parental views were taken in isolation then an over-diagnosis of the condition resulted.

However, in practice Green and Chee (1997, p69) estimate that 90 percent of children with ADHD can be diagnosed in the doctor's surgery by simply listening to the parents. They suggest that this is similar to the diagnosis of other medical conditions,

of which the parents will be asked to give a history. Nevertheless Green and Chee (1997, p3) also recommend that in order to diagnose the condition accurately the child should present with at least six out of the nine difficult behaviours referred to in the DSM-IV (1994).

Green and Chee (1997, p60) also advise that, 'there is no one definitive test for ADHD.' In fact the two authors assess children for ADHD in two very different ways, with one preferring to use questionnaires, objective testing and a history of the subject, while the other concentrates on the presentation of the child and the reports of teachers. Although they differ in this respect, they acknowledge that it is not the individual diagnostic method, but rather the positive response to the intervention that is important.

Similarly, Connor (1997, p19) warns that if a diagnosis of ADHD is being made then one must gather observations about the child's functioning in a range of settings and on a variety of tasks. He advises that attention levels can be linked to both intrinsic and extrinsic influences and that therefore care is required before attributing difficulties or deficits in attention. It is also important that a child who is simply inattentive or has some other learning difficulty is not misdiagnosed with ADHD. Pellegrini and Landers-Pott (1996, p29) claim that inattentive behaviour or hyperactivity should, in many circumstances, be perceived as, 'simple misbehaviour or other learning difficulties' and should not always be viewed as ADHD.

Emerging from the literature are many of the complexities that medical practitioners, educationalists and parents will confront in the diagnosis of ADHD. There does not

appear to be a uniform approach that is adopted by all, but perhaps this is acceptable as no two children with ADHD will be exactly the same. Care must also be taken so that the child is not misdiagnosed or even treated for ADHD when they are experiencing another condition.

1.5 ADHD and associated comorbidities

It is viewed that ADHD does not always exist by itself and a child with a diagnosis of this state may also have been diagnosed with, or suffer from, some other connected disability or disorder.

Kadesjo and Gillberg (2001, p487) put forward that, 'Our hypothesis is that ADHD is associated with major comorbid problems in a majority of all cases, and that, therefore, "pure ADHD", i.e. the type of ADHD most often referred to in systematic studies of the disorder, may be an atypical variant'. They advise that future studies regarding children with ADHD should address the whole range of comorbidities or associated conditions. Hutchinson et al. (2001, p242) also agree and assert that it is common for hyperactivity to appear comorbidly with other conditions.

Green and Chee (1997, p39) are much more modest in their estimation of the existence of comorbid conditions with ADHD. They suggest that just over half of those with ADHD will have an associated condition. They do, however, acknowledge that the occurrence of ADHD will greatly increase the possibility of a comorbid condition.

The most frequently occurring comorbid condition is thought to be Oppositional Defiant Disorder (ODD), which Green and Chee (1997, p39) suggest exists in 40 to 60 percent of ADHD cases. Other conditions that can also be present include Conduct Disorder, Depression, Tics and Tourette Syndrome, the ‘Clumsy Child Syndrome’, Obsessive Compulsive Disorder and Bipolar-Manic Depressive Disorder. Each one in turn will present further problems for any child with ADHD. It is important to remember that specific learning difficulties, such as dyslexia, may also be present.

Comorbid conditions associated with ADHD will almost certainly have effects in the classroom and the conjecture about “pure ADHD” that is made by Kadesjo and Gillberg (2001, p487) must be carefully considered. Green and Chee (1997, p52) further endorse this by expressing that, ‘The failure to see the association between ADHD and these comorbid conditions remains one of the most frequent causes of misunderstanding and incorrect treatment.’

1.6 Interventions in managing ADHD children

In this section several differing interventions will be considered under the following sub sections:

- 1.6.1 Medication
- 1.6.2 Behaviour management strategies
- 1.6.3 Diet
- 1.6.4 EEG Biofeedback

This list is by no means exhaustive or definitive and simply consists of some of the main interventions that have been recently reviewed in literature.

1.6.1 Medication

From an educational perspective there is usually limited contact with the intervention of a particular medication to treat children with ADHD. Some teachers may be asked to administer a tablet at lunchtime under the directions of the child's parents, but generally it is not a teacher's responsibility. A school psychologist or a clinical medical officer may be more involved as they liaise with parents, teachers and medical staff in order to assist a diagnosis and find the best means of treating the condition.

Many parents and teachers alike have seriously questioned the use of any form of medication, such as the drug Methylphenidate, or Ritalin as it is more commonly referred to, as a means of treating children with ADHD. One concern is that, while the immediate effects are generally favourable, the lasting effects are unknown. Taylor (1994), as cited in Prior (1997, p22), voices this anxiety and warns that there is a lack of, 'empirical evidence regarding long term psychological effects, beneficial or otherwise.' Parents may also fear that their children will become addicted to the medication, or fall into drug or solvent abuse. Green and Chee (1997, p130) are quick to dispel these fears and reassure their readers that there is no evidence to suggest that either side effect is a reality. Rather, Green and Chee (1997, p134) appear to be strong advocates for the use of a stimulant medication and maintain that, 'Any professional who questions the use of stimulants in ADHD must be viewed as out of touch with modern research literature.'

However, they are careful to point out to their readers that side effects do exist and categorise some of the risks as including 'Tics and Tourette' syndrome, sleep problems, rebound behaviour, growth retardation and headache or stomach ache.

They also warn that the child may become withdrawn, tearful, upset, ill-at-ease or even too focused. Holowenko (1999, p53) warns that while some children may not respond at all, some may actually deteriorate or become depressed. A child experiencing any of these side effects has the potential to alter the classroom environment and climate. In spite of this, Green and Chee (1997, p134) outweigh these possible side effects of stimulant drugs, by stating that they are now, 'accepted as the single most effective form of therapy.'

In contrast, Holowenko (1999, p55) argues that, 'Medication should not be used as the initial or sole treatment strategy for the management of AD/HD.' Holowenko agrees with Green and Chee to some extent, however, and concedes that there are many benefits to be gained from the prescription of Ritalin, such as better attention and reduced distractibility. Additionally, Holowenko (1999, p53) states that medication may indeed, 'provide a window of opportunity for careful teaching to take place.' If medication is utilised as a means of treating ADHD then it might have the potential to contribute to a child's ability to play a positive role in the teaching and learning environment. However, it is suggested that the use of this medication is only one aspect of managing the child with ADHD and careful consideration should also be given to other management strategies. Lovey (1998, p31) also agrees with Holowenko (1999, p55) and advises, 'The carefully planned intervention of the teacher, and co-operation between home and school in creating clear structure and boundaries can mean that the medication is just a temporary support, or, in some cases is not needed at all.'

1.6.2 Behaviour management strategies

If Ritalin is not to be administered, then what are the other management strategies available to both parents and teachers? Lovey (1998, p30) advises that a child with ADHD should be viewed in the same light as any child with special educational needs, whose education requires being catered for in an individual way. She suggests various ideas and strategies for managing a child with ADHD. Classroom observation is recommended as a means of establishing the main area of concern. Once this has been identified, targets can be set for improving the unacceptable behaviour. Clarke (1999, p44) advocates observation and note taking as important tools in behaviour intervention and modification. Careful monitoring is then required and Lovey (1998, p35) advises that a form of reward should be given to the child for improving their behaviour. If, on the other hand, the behaviour shows no improvement after two phases of the behaviour modification, then the child will need to be reassessed. Robards (1994), as cited in Isberg and Kjellman (1999, p371), additionally recommends, for the successful assessment of a child, a multidisciplinary approach which directly includes the significant people in that child's life, with 'day-to-day management and support.'

Such techniques, as employed by Lovey (1998), can be classified as behaviour modification techniques, which can be utilised both in the home and in the classroom. For the purposes of this study references will be made to the use of such a Behaviour Management Strategy in the classroom. There are differing techniques in behaviour modification and Gelfand et al. (1988, p133) suggest that the three most frequently used include a positive reinforcement for on-task behaviour, a response cost (loss of reinforcement) for inappropriate behaviours and a cognitive behaviour modification,

which emphasises self-control, and self-reinforcement. Similarly, Smith and Cooper (1996, p4) suggest that a behavioural approach will involve ‘identifying appropriate forms of rewards and sanctions and specifying individual programmes or ‘contracts’.’ Behaviour management programmes including T.E.A.C.C.H. or P.E.C.S (**Appendix 2**) can be helpfully implemented in the classroom, and will be considered in further detail in the next chapter. The remainder of this section aims to explore some of the differing techniques that may be applied in behaviour modification.

Firstly, positive reinforcement will be considered. Birkett (1998, p27) believes that this approach is worth consideration and states that, ‘Positive intervention must surely lead the pupil towards positive behaviour.’ Perhaps one of the most fundamental practices is to create a positive learning environment. Holowenko (1999, p34) suggests many different strategies that can be put to use in the classroom in order to effectively manage a child with ADHD. In organising the classroom the main aim as described by Holowenko (1999, p34) will be to, ‘plan and prepare a supportive learning environment that will enable an AD/HD child to feel comfortable, valued and understood.’ This principle could also form the basis of good practice for all children. Holowenko continues to describe practical arrangements which can assist in the management of a child with ADHD, for example, favourable seating arrangements, targets and rewards.

Castelijns (1996, p23), who was involved in a study on the subject of how teachers can help easily distracted children become more attentive, perceived ‘responsive instruction’ as a key concept in management styles. Most of the work took place with young children of a kindergarten age and Castelijns (1996, p31) found that,

‘...interactions in which the teacher frequently challenges reflection on work, gives positive feedback and offers implicit affective support [were] sufficient for enhancing attention for work in young children’.

Secondly, let us turn our attention to the consequences of unacceptable behaviour. Cowin et al. (1991, p129) state that, ‘We all learn from the consequences of our acts.’ If pain or loss comes as a result of our actions then it is more likely that we will try to avoid this end product. Similarly, if pleasure is the gain and we are consistently rewarded for a particular action then we will be more likely to repeat this behaviour. McNamara (1999, p17) acknowledges that this underlies the whole concept of behaviour modification and suggests that it is, ‘based on the assumption that pupil behaviour is substantially determined by its consequences.’ Consequences, penalties or response cost may include the loss of rewards or privileges.

Tactical ignoring is often used as a technique for treating undesired behaviour, especially with pupils who are seeking attention in a disruptive manner from the teacher. Rogers (1991, p49) advocates that minimal eye contact and verbal direction should be employed and that the student should be given positive reinforcement when they are back on task. Westwood (1993, p52) recommends that over-active behaviour should be ignored. Boyle (1990), as cited in Westwood (1993, p52), suggests, ‘Where this is not possible, time out, removal of the child from the positive reinforcement, has been shown to be effective in reducing hyperactivity’. Reprimands may also need to be employed as a means of managing undesirable behaviours.

Thirdly, let us consider a cognitive behaviour modification technique which emphasises self-control and self-reinforcement. The child will be encouraged to be reflective about their responses to particular situations with the intention of the child teaching him or herself to step back from a situation and be responsible for his or her own actions. This appears a good idea, but in practice Green and Chee (1997, p116) found the results very disappointing. They suggest that this may be due to the impulsivity of young children which prevents them from being able to think through a situation before acting.

These three management approaches to behaviour all appear to have merits and should have fewer side effects than medication. However, Green and Chee (1997, p81) discuss some difficulties that may arise for a child with ADHD involved in such a Behaviour Management Strategy. For it to be effective they propose that a child will need to listen, plan ahead, remember, consider and also be motivated. They recognise that a child with ADHD will have great difficulty in adhering to this sequence of commands and may even forget some of them. They believe instead that clear communication, simple instructions, and a small number of important rules with regular and repeated rewards will bear the best results. Tripp and Alsop (2001, p696), who were involved in a study to try and identify sensitivity to reward delay in children with ADHD found that, 'Preference for immediate reward appears to be a characteristic of children with ADHD'.

Another difficulty with a Behaviour Management Strategy will be evaluating how effective it actually is. Filbin et al. (1996), as cited in Wise (2000, p23), state that a behaviour plan is successful only when,

- 'i) The student maintains the desired behaviour over a period of time.
- ii) The student demonstrates the ability to self-monitor and correct their behaviour when necessary.
- iii) The student is able to demonstrate the desired behaviour across environments and with different people.'

The individual perceptions of those closely involved with a particular child with ADHD will vary and it would be very difficult to gauge exactly how effective such a Behaviour Management Strategy has been.

1.6.3 Diet

Diet has been previously mentioned in the section exploring the history of the condition ADHD (section 1.1), where it was stated that Feingold's theory was quickly dismissed in the 1970s. Although it has largely been proven to be ineffective with hyperactive children, this may not be strictly true. Westwood (1993, p52) claims that some parents have found the Feingold diet very helpful. Green and Chee (1997, p123) have also noted that, in a minority of ADHD children, the consumption of certain foods may make their behaviour more active. These foods include chocolate or substances containing artificial colourings. For a parent who is reluctant to use medication the careful monitoring of their child's diet may help alleviate some of the symptoms of ADHD.

An overgrowth of yeast may also be a contributory factor of attention deficit and hyperactivity with some children. This build up of yeast may occur as a result of repeated prescriptions of antibiotics. As the yeast feeds on sugar, a child who may have an overgrowth of yeast will display symptoms of sugar addiction. Sheppard

(2001) states that, 'Getting the yeast under control may be a major step in recovering from ADD/ADHD.'

1.6.4 EEG Biofeedback

EEG Biofeedback or Neurofeedback is an intervention which seeks to teach children how to increase the electrical activity in their brains. If this activity can be increased then the symptoms of ADHD may potentially be cured. The process involves the pupil training him or herself to increase the brain activity associated with sustaining attention by learning through mental exercises. Similarly they will train themselves to decrease the brain activity associated with inattentiveness. Barkley (1995, p62) quite sceptically admits that it can take a lot of time and also money to enrol a child in this type of programme. He concludes his exploration of this type of intervention by stating that, 'although we cannot rule out the possibility that EEG biofeedback training might be of some benefit, we cannot consider it a scientifically established effective treatment.'

More recently and alternatively, Robbins (2000, p157) appears to be convinced that neurofeedback, which seeks to teach children how to increase the electrical activity in their brains, is the way forward. He states, 'The effects of neurofeedback are not subtle. They are extremely robust. There is nothing to compare it to. Yet neurofeedback is neither miracle nor panacea. It is science.' Controversy surrounds this relatively new form of management strategy and indicates that further research and enquiry is necessary.

In this section some of the various methods of treating ADHD have been discussed. Difficulties arise in distinguishing how effective some of them are, especially in the long term. Holowenko (1999, p31) has suggested that a combination of different strategies will be most effective in managing a child with ADHD. This is endorsed further with the statement, 'It is really a matter of defining the problem, the behaviour and the situations in which the problems occur, and then looking at a repertoire of interventions.' Each child is individual and his or her difficulties will be specific. It is important to consider each case separately and make decisions on an informed basis. These will need to be reviewed regularly by all parties involved with the child.

Having established the focus of this study, and the relevant areas of concern, it will now be necessary to explore some of the specific intervention strategies in further detail. It will be essential to examine the behaviour management strategies available to schools, in order to manage children with ADHD in the most effective manner. This will now be addressed in chapter two.

Interventions

The literature review endeavoured to give an overview of the whole area of ADHD, to set the context for considering how ADHD children impact upon the educational and behavioural climate of the mainstream classroom and also the implications for education in managing these pupils. Various interventions for the condition and the effectiveness of a range of strategies were discussed briefly in the previous chapter. This chapter will explore some of these interventions in further detail, and in particular the behaviour management strategies available to schools in order to manage children with ADHD in the most effective manner.

It is the duty of each school to manage children with any type of special educational needs or learning difficulty in the most effective manner possible. This is to ensure that each child has direct access to the curriculum and is offered opportunities in an equal way to his or her peers. Research undertaken by Merrell and Tymns (2001, p53) has shown that children with ADHD frequently achieve lower grades than their peers. Behavioural problems, as well as specific learning disabilities, are to be managed with the best interests of the child being carefully considered so that the outcome of their education is favourable. DENI state in the Code of Practice (1996, p2) that, 'the needs of all pupils who may experience learning difficulties during their school careers must be addressed'. They also advise that the needs of most children should be met in the mainstream classroom. This was endorsed by the Department of Education (2001, p96) in a booklet entitled 'Pastoral Care in Schools: Promoting Positive Behaviour' which specifies that even when medication is prescribed to a

child with ADHD the procedures outlined in the Code of Practice still apply and that these children should be provided for in mainstream schools.

Acknowledging that children with special educational needs, such as the condition ADHD, need to be provided for in the mainstream classroom, it is therefore the task of the school to cater for these pupils and manage them in the most effective way possible. This is, of course, assuming that children with ADHD require a different type of management from a “normal” mainstream pupil in the class. Perhaps it is merely a perceived notion that the presence of children with ADHD impacts upon the educational and behavioural climate of the classroom. It is hoped that through the research element of this dissertation some indication of the level of impact, if any, will be revealed. However, for the remainder of this section it will be assumed that the impact of children with ADHD in the classroom is such that they need to be catered for in a special way.

So with this perceived notion, it is now proposed to look at some of the strategies available to teachers for managing the condition ADHD. There are various types of interventions, with perhaps the use of medication being most commonly recognised. It is probably also the most controversial, as many parents and teachers believe the intention is to sedate a child just to make the lives of everyone else easier. Those teachers, however, who have witnessed children with ADHD in their class both on and off medication, are invariably amazed at the differences in concentration and behaviour. The use of medication is, of course, a decision made by the child’s parents or guardians and while a teacher may be required to offer an opinion it is really a medical intervention and not an educational one. However, the effects of the

medication have serious implications for the management of a child in the classroom. Green and Chee (1997, p129) in discussing the benefits of using a stimulant medication for ADHD state that it can, ‘...reduce restlessness, keep the child focused on a task, improve classroom productivity, increase self-monitoring and accuracy.’ Holowenko (1999, p53) also reports that better attention and reduced distractibility can be the outward signs of a child taking medication for ADHD. If such an intervention is to be utilised and improvements in concentration are achieved then one would expect that the management of the child in this classroom would become much less of a problem and perhaps not even an issue at all. On the other hand Holowenko (1999, p53) additionally warns that while some children may not respond to medication at all, some may actually be worse or even become depressed. Green and Chee (1997, p133), who largely advocate the use of stimulant medication, also admit to a possible side effect where the child can become over focused and appear to be ‘spaced out’. A child experiencing some or indeed any of these possible side effects has the potential to alter the classroom environment and climate and perhaps make the management of this particular child even more difficult than without medication.

Aside from medication, many alternative interventions exist in the treatment of children with ADHD. Several different diets and therapies have been tried and tested with varying levels of success. Some of these interventions include social skills training, sensory integration, occupational therapy, talking cures, developmental optometry, multivitamins and zinc, natural medicines, neurone entrapment, the Feingold diet and exclusion diets. Many differing views exist as to the most effective means of managing a child with ADHD and research is perhaps, more than ever, now breaking new ground in the assimilation of interventions. However, from an

educational perspective the focus of this dissertation and the remainder of the chapter will concentrate on strategies that can be used in the classroom, that is, behaviour management strategies.

There are many differing techniques in behaviour modification. Gelfand et al. (1988, p133) suggest that the three most frequently used include a positive reinforcement for on-task behaviour, a response cost (loss of reinforcement) for inappropriate behaviours and a cognitive behaviour modification, which emphasises self-control, and self-reinforcement. Each of these techniques will now be examined in further detail with respect to their possible effectiveness in the classroom as a tool to manage children with ADHD.

2.1 Positive Reinforcement

This technique of behavioural management focuses primarily on the promotion of good behaviour, which is positively and consistently reinforced. Cheesman and Watts (1985, p6) suggest that a 'positive' approach is concerned with '...encouraging a child *to do* something rather than on instructing him to *stop doing* something.' Teachers are advised to look out for acceptable behaviour and praise the children when they are conducting themselves in this manner. The Inspectorate appear to commend a school that adopts this positive approach and in the booklet 'Evaluating Schools' the Education and Training Inspectorate (1998, p4) describe a positive school ethos as one in which the pupils' confidence and self-esteem are promoted and pupils are encouraged to value one another.

The adoption of a positive approach towards behaviour is clearly being encouraged and promoted actively by the Department of Education. Many schools are implementing these directives and creating or rewriting discipline and behaviour policies with regard to a positive outlook. This form of behaviour modification is viewed as being effective in managing a range of pupils who tend to be disruptive. Given the potential importance of a positive approach for a child with ADHD, this approach will now be examined more closely.

Westwood (1993, p52) appears to advocate positive reinforcement and states that, 'The hyperactive child's on-task behaviour, attention to work, completion of assignments, reduction of disruptive outbursts, all need to be reinforced and rewarded.' It should follow that the child becomes more productive and perhaps able to apply him or herself in a much more efficient way to his or her education. Rewards can be used very successfully to encourage children to continue behaving in an appropriate way. Green and Chee (1997, p87) propose that, 'the secret of behaviour modification is to reinforce with small, frequent rewards.' These rewards may take the form of praise, enthusiasm, stars, stamps, tokens, food or a special privilege.

Generally all children should prosper in a positive environment where encouragement is fostered, but those with ADHD, who may already have low self-esteem, will tend to need more encouragement than their peers. This is further endorsed by Holowenko (1999, p43) who states that, 'Children with AD/HD respond well to a caring attitude of their educators and will thrive as a result.' Green and Chee (1997, p186) also appear to support this nurturing of self-esteem and recommend that we must move the focus from what children cannot do to what they can. Circle Time in the classroom

may be a means of fostering positive attitudes and respect, not only for themselves but also for other class members.

This positive approach may be perfectly acceptable for most teachers to implement in a classroom but perhaps some struggle with how to cope with unacceptable behaviour when it occurs. Westwood (1993, p52) suggests that misbehaviours should be ignored where possible, or at least played down in importance. Failing this, Westwood recommends that time out or the removal of the child from positive reinforcement has been shown to be effective in reducing hyperactivity. This leads us to the next technique of behavioural management - response cost.

2.2 Response Cost

Response cost, as the name suggests, focuses on a direct action being taken as a result of unacceptable behaviour. This usually costs the pupil something in terms of a punishment, such as the loss of a privilege or withdrawal from certain activities. Cowin et al. (1991, p129) suggest that as opposed to being viewed as a punishment the consequence should be logical and related to the misbehaviour. It should imply no element of moral judgement, be concerned with future behaviour and permit choice. McNamara (1999, p20) advises that the consequence should have been decided at an earlier stage with the pupil and administered as a specific result of certain behaviour. He continues to suggest that warning cues, private reprimands, public reprimands or time out can be utilised effectively to deal with unacceptable behaviour. Care must be exercised when each method is employed, especially when a public reprimand is administered.

Time out is an effective technique which can be practiced when the behaviour of the ADHD child has become unacceptable. It can be used to remove a child from a situation where they have an audience and are receiving a lot of attention. The child may leave the room and go to another one, sit in the time-out chair, go to a quiet corner or withdraw to some other place where they are in isolation for a period of time. Green and Chee (1997, p85) suggest that the time out period should be approximately one minute for each year of life. This technique can be used very successfully in the classroom, especially if the child with ADHD is angry or enjoys playing to an audience. Green and Chee (1997, p85) continue to advise that once the time out period is over then they should start again with a completely clean slate.

Whatever consequence is applied to a situation it is useful to note that the technique of response cost is perhaps most optimally used in conjunction with a positive reinforcement strategy, where hopefully positive intervention will be employed in the majority of cases.

2.3 Cognitive Behaviour Modification

This approach centres on self-control and self-reinforcement, where a child is encouraged to be reflective about his or her responses to particular situations. The intention of this approach is to teach the child to train him or herself to step back from a situation and be responsible for his or her own actions. Westwood (1993, p53) describes cognitive behaviour management as the child being, 'taught to control his or her own responses and behaviour by strategies such as verbal rehearsal or verbal regulation.'

This method has been used very successfully with autistic children and behaviour management programmes, such as T.E.A.C.C.H. and P.E.C.S (**Appendix 2**), encourage and promote this type of analytical behaviour. Some of the specific instructions given to teachers using the T.E.A.C.C.H. programme include keeping the school day very structured and organised. Reinforcements are to be used liberally in the beginning of a programme and then more intermittently as time goes on so that the child does not know when he or she will actually get a reward for compliance. It is important for the teacher to always have the attention of the child before giving very clear and brief instructions. Only the required materials for a particular activity should be available so that the child cannot become distracted with other equipment. These instructions and indeed this whole approach have worked very efficiently with autistic children and potentially some of these techniques could helpfully be extended to children with ADHD.

On the other hand, Green and Chee (1997, p116) have found that with children who have ADHD, the results of a cognitive behaviour strategy have been disappointing. They elucidate this point by saying that it is very difficult, especially for young children with ADHD, to think through a situation before they act.

2.4 Additional Strategies

Some researchers have identified other strategies and interventions which can be used by classroom teachers to assist in the management of children with ADHD. Lovey (1998, p31) states that, 'The carefully planned intervention of the teacher, and co-operation between school and home in creating clear structure and boundaries can mean that the medication is just a temporary support, or, in some cases is not needed

at all.’ Holowenko (1999, p34) suggests that the organisation of the classroom can play a vital role in enabling children with ADHD to feel comfortable, valued and understood. Having a structured routine, setting up a quiet area for the children with ADHD, carefully selecting where they will sit, keeping their working area free from clutter, motivating and stimulating them in lessons, managing their behaviour by using targets, helping them acquire social skills and focusing on their positive attributes are but a few of the recommendations made by Holowenko. Green and Chee (1997, p82) also advise that children with ADHD have a much greater need for routine, structure and consistency in their lives. This may mean that a supply teacher, visitors to the classroom or a school trip could upset their equilibrium. They summarise by stating, ‘If you want peace, keep to routine.’

It is clear, at this point, that each of the techniques considered has its own merits and limitations. Westwood (1993, p53) explains that due to the likelihood of hyperactivity being caused by different factors in individuals, it is not unexpected to find that different forms of treatment are recommended. It is important to remember that no two situations will be the same and in this way it will be more difficult to arrive at a solution, or indeed a method to manage the ADHD child in the mainstream classroom. Similarly, Cheesman and Watts (1985, p61) state that, ‘There is no one ‘right solution’ to all problems of a certain type. Equally there is no one ‘right way’ to arrive at a solution to a problem. Problems and solutions are as many and varied as the people who are part of them.’

In exploring some of the behaviour modification techniques in this chapter it has emerged that there are a variety of methods for managing children with ADHD.

Against this background, chapter three turns to methodological considerations that will underpin the research in this dissertation into ADHD's impact and management in the classroom.

Methodology and Rationale

The research element of this project concerns how the presence of children with ADHD impacts upon the educational and behavioural climate of the mainstream classroom. It also focuses on the effectiveness of a range of strategies in managing children diagnosed with ADHD in the classroom. The methods undertaken in order to attend to these queries will now be explained in this chapter.

The research in this study was completed using two approaches for data collection – firstly a survey method using questionnaires and secondly the employment of semi-structured interviews. It was anticipated that with the use of closed and open questions in the questionnaire and also through the semi-structured interviews that both quantitative and qualitative research data would be obtained. Coolican (1999, p41) explains the difference by stating that quantification means, ‘...to measure on some numerical basis...whenever we count we quantify’. By contrast, a qualitative approach, ‘...emphasises meanings, experiences (often verbally described), descriptions and so on.’ In this way the research would initially be largely quantitative using a survey method of questionnaires. The research would then progress to a sequential triangulation method, directly linked to the results of the first method, with the employment of qualitative research using semi-structured interviews drawing on several information sources. It was expected that through the use of a triangular approach the inadequacies of simply employing one method would be minimised and the quality of the research would be enhanced. Craft (2000, p75) advocates this by stating that, ‘Using more than one source of information and more

than one data collection method and being systematic and careful in your evaluation will help to ensure that your findings are credible.’

These research methods were chosen as they were considered to be the most appropriate and effective way to gain an overview and also a more in-depth and descriptive account of the difficulty in managing children with ADHD. They seemed more appropriate in a study of this size than alternative methods such as case studies or ethnographic research.

3.1 A Survey Method - Questionnaires

Wilson and McLean (1994), as cited in Cohen et al., (2000, p245) state that, ‘The questionnaire is a widely used and useful instrument for collecting survey information, providing structured, often numerical data, being able to be administered without the presence of the researcher, and often being comparatively straightforward to analyze’. Blaxter et al. (1996, p159) also appear to view the questionnaire as one of the most widely used techniques for research.

The questionnaire (**Appendix 3**) utilised for the purposes of this research could be described as semi-structured as it relies on a number of closed questions as well as more open ones that do not restrict answers. It consists of thirty questions, divided into nine sections. The first section elicits *background information*, such as how many years ago the recipient qualified. Five closed questions are asked which require a tick in the appropriate box. The second section on *school provision* encompasses four closed questions and one open one at the end for people to elaborate if further detail is relevant. The third section consists of two closed questions on *how the*

diagnosis of ADHD has been made. The first question in the fourth section of the questionnaire, addressing *the impact of ADHD in the classroom*, uses a five point Likert Scale to establish the level of disruption caused by a child with ADHD. The remaining three questions in the section commence with a closed 'yes' or 'no' answer and then continue with an open section which invites the recipient to offer their comments and opinions. The fifth section on *medical interventions* contains four closed questions and one open one. Section six on *alternative interventions* consists of two closed and one open question. Section seven, which addresses *behaviour management strategies*, again contains two closed and one open question. *Support* is addressed in section eight and the first question uses a five point Likert Scale to establish what level of support the class teacher feels they have received from different parties. This section on support also contains an additional closed and open question. The *concluding section* of the questionnaire contains an open question and supplementary space for any further comments that a recipient might want to make.

Craft (2000, p98) declares that the success of questionnaires is dependent upon careful design and presentation and that the use of different types of questions should be employed. The assortment of closed, open and also more reflective questions was chosen so that some structured quantitative data would be provided but also through the more open and reflective questions it was anticipated that descriptions, experiences and opinions would result in a qualitative approach.

Before the questionnaires were distributed copies were piloted with fourteen teachers. The majority of these teachers worked in the researcher's school and represented a wide range of experience. The SENCO (Special Educational Needs Coordinator) as

well as the special needs teacher in this school each completed a questionnaire. Two additional teachers outside this particular school were also asked to pilot the questionnaire. This piloting was undertaken following the advice of Bell (1993, p84) who states that, 'All data-gathering instruments should be piloted to test how long it takes recipients to complete them, to check that all questions and instructions are clear and to enable you to remove any items which do not yield usable data.' Following the piloting, question sixteen, which previously consisted of a simple 'yes' or 'no' answer, was changed to allow some space for the recipients to explain their answer. Question twenty-four was on a separate page from the previous two questions in the same section and this was deemed to be a little confusing, so a change was made in the format of the questionnaire and this question was then situated on the same page as the other questions in the section. It emerged from the piloting that all other questions and instructions seemed to be clear. The questionnaire took an average of fifteen to twenty minutes for the pilot group to complete.

Eighty questionnaires were posted to a random sample of schools in the North Eastern Education and Library Board. From a practical perspective it would not have been feasible to have hand delivered each questionnaire. However the principal of each school was contacted by telephone beforehand in order to gain permission and also to establish if any teachers in his or her school had recent experience in managing a child with ADHD. It was also anticipated that this contact would perhaps raise the possibility of the questionnaire actually being completed and returned. One questionnaire was sent to each consenting school with a cover letter to the principal detailing the content of the questionnaire and the approximate time that it should take for a member of staff to complete it. A self-addressed and stamped envelope was also

sent with the questionnaire with the anticipation that a larger percentage might be returned.

3.2 Semi-structured Interviews

Due to the outcomes of some questionnaires it was decided that further clarification and investigation would be required with regard to some of the issues raised. Craft (2000, p103) states that, 'Interviewing can give us a deeper knowledge of attitudes, as it allows us to probe, to follow-up and to check our perceptions with the responder in a way that questionnaires cannot.' In addition to this, Sharp and Howard (1996, p147) also view the interview as, '...providing higher quality information that is freer from bias than many other methods available'.

On the last page of the questionnaire recipients were asked, on a voluntary basis, to give their name and the name of their school. They were advised that if they wanted the questionnaire to remain completely confidential and private then they should not fill in these details. However a small selection of those who did fill out these details were contacted and asked if they would participate in a semi-structured interview. For convenience the selection of recipients was taken from schools in the researcher's local area. The selection was also based on the answers which had been given on the questionnaires, so that a range of differing ideas and perspectives would be achieved through the interviews. The interviews sought to clarify and expand upon issues emerging from the questionnaire. These issues included the actual impact of children with ADHD in the classroom as well as the most effective strategies which can be employed in order to manage such pupils. In addition to the two main issues,

background information was also sought from the teachers as to their experience with ADHD children and also general background information about their school.

A selection of questions (**Appendix 4**) was addressed to the participants, comprising of three teachers (one of whom was a SENCO and also the SEN teacher). Furthermore, an interview was also held with the educational psychologist from the researcher's school, in order to gain a differing or maybe even a comparable perspective. In this way, triangular methods of research would be implemented with the use of questionnaires, semi-structured interviews with teachers and thirdly a semi-structured interview with an educational psychologist. The questions addressed to the educational psychologist were adapted slightly to allow for a perspective from outside the classroom. The interviews took approximately five to ten minutes and time was also permitted for additional comments that anyone wished to include. The researcher travelled to the school of each participant, except for the educational psychologist who was interviewed in the school of the researcher. The responses were recorded on tape, with permission, and the researcher also jotted down some brief notes at the time of interview.

3.3 Methods of Analysis

Fifty-eight questionnaires, out of the eighty sent to schools, were returned and the task of analysis commenced. Bell (1993, p127) states that raw data taken from questionnaires, '...need to be recorded, analysed and interpreted. A hundred separate pieces of interesting information will mean nothing to a researcher or to a reader unless they have been placed into categories. We are constantly looking for similarities, for groupings, patterns and items of particular significance.' Following

this advice the returned questionnaires were analysed in the categories, that is the nine sections into which the questions had been divided into.

The majority of the answers from the closed questions were tallied, counted and presented in a percentage form. The two questions containing a five point Likert Scale were also shown as percentages. In some cases (questions 12, 22 and 25) the results were presented as the number of responses received regarding a particular enquiry. The more open and reflective questions were analysed by looking for similarities in answers and also for surprising or more unusual answers. Once each section had been analysed it was decided to compare some of the answers with the amount of experience that a particular teacher had. Question 25, regarding the strategies that teachers utilise in order to manage a child with ADHD in the classroom, was analysed again but looking this time to see if the amount of experience a teacher has contributes to which strategy they will employ. This type of cross-analysis was also used to see if a correlation existed in question 27, between the experience of a teacher and their response as to whether they felt that medication was more effective than a Behaviour Management Strategy.

Once the analysis of the questionnaires had been completed the questions for the semi-structured interviews were prepared and these were then performed using the methods outlined in the previous section. Before commencing the analysis of the interviews it was necessary to firstly transcribe the recorded tapes. Riessman (1993, p56) advises on this lengthy process that researchers should, ‘...begin with a rough transcription, a first draft of the entire interview that gets the words and other striking features of the conversation on paper.’ Next she proceeds to recommend that once

this has been executed then selected portions should be transcribed again for a more detailed analysis. This was the method used by the researcher in order to transcribe the conversations and then begin a comparative analysis between the four different interviews. Similar and differing opinions were noted and taken into consideration in the analysis section of this research document.

The most appropriate methodology for the research was selected in order to produce as full and balanced a study as possible. The outcomes of both research tools, the questionnaire and the semi-structured interview, were analysed using the methods outlined in this chapter. The results of this analysis follow in chapter four.

Results and Initial Analysis of Research

As outlined in the preceding chapter the questionnaire and the semi-structured interview were chosen as the most appropriate methods of research for the small scale study on the how the presence of children with ADHD impacts upon the educational and behavioural climate of the mainstream classroom and the effectiveness of a range of strategies in managing such children.

The analysis of the results and the outcomes of both the questionnaires and the semi-structured interviews will be discussed in this chapter. The questionnaires will be addressed first and then the interviews will follow. It is important to appreciate that the results should be interpreted with some caution, as the sample is not representative of the teaching population as a whole, but rather a very small section of this body.

4.1 Questionnaires

The questionnaire was distributed to eighty schools and a total of fifty-eight were returned, a response rate of 72.5%. The recipients were asked a selection of thirty questions which had been split into nine different sections. The analysis of the questionnaires will now take place in these different sections:

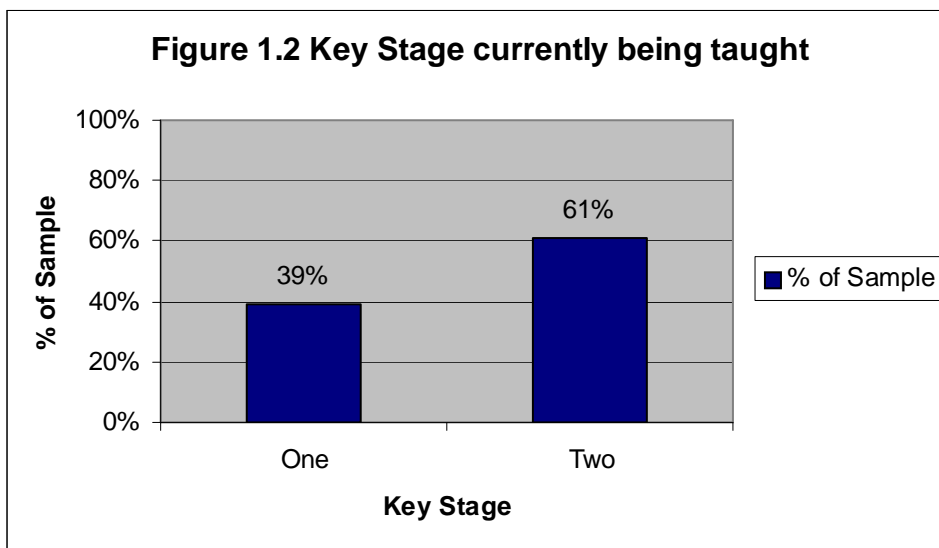
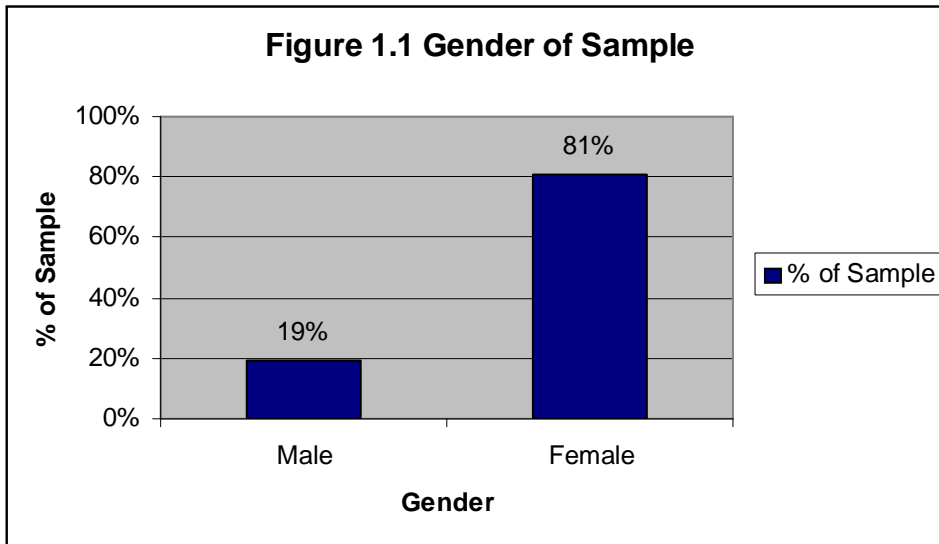
Section One – Background Information

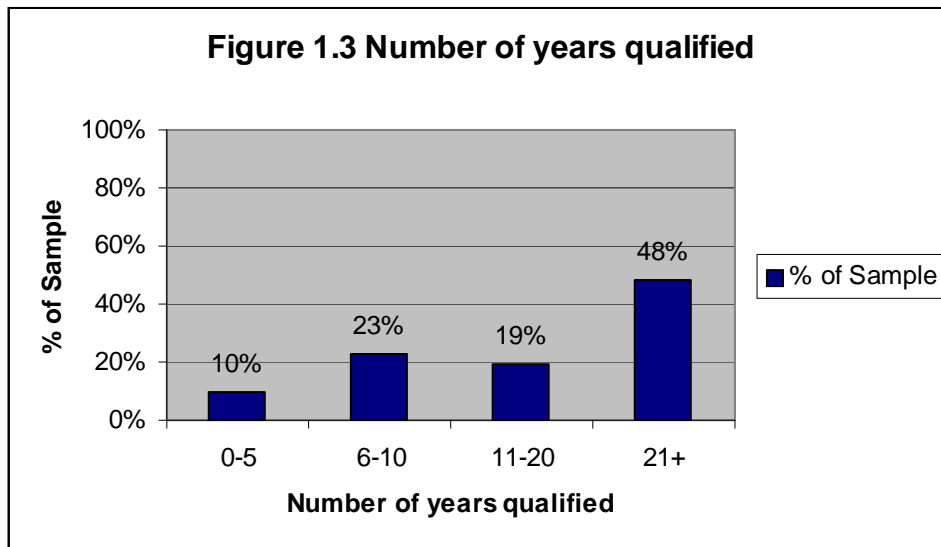
This section addressed the following points:

1. The gender of the recipient.
2. The Key Stage currently being taught.
3. The number of years ago that they qualified.

4. If they are presently teaching a child diagnosed with ADHD.
5. If they have taught a child with ADHD in the previous two academic years.

The results from the questionnaires on these points are presented below (including Figures 1.1, 1.2 and 1.3):





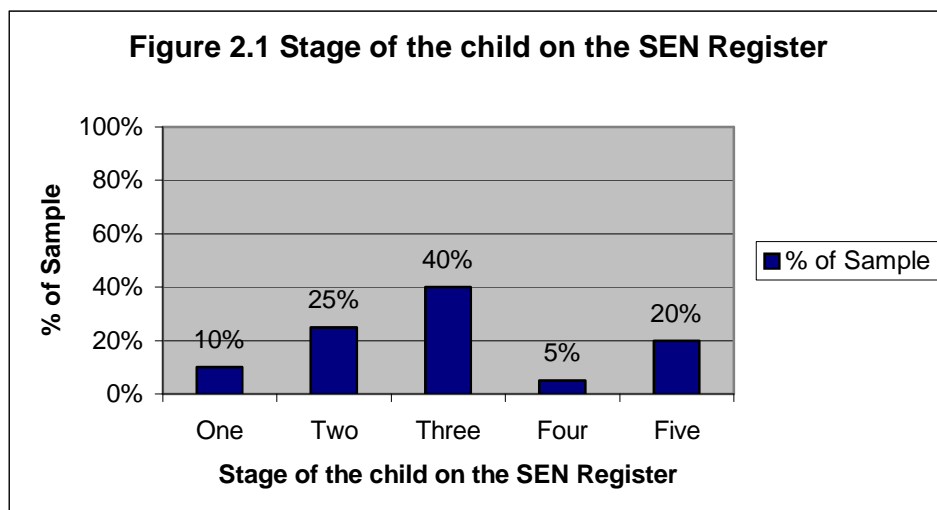
The recipients were also asked if they were currently or have previously taught a child with ADHD. Exactly half (50%) of the sample surveyed were currently teaching a child diagnosed with ADHD when they completed the questionnaire. Recipients were required to have taught a child with ADHD within the previous two years if they did not currently have such a child in their classroom and 67% stated that this was the case. In the event that a teacher currently had a child with ADHD in their class and also had previously taught such a child they were asked to complete the remainder of the questionnaire with just one child in mind.

Section Two – School Provision

This section addressed the following points:

1. Inclusion of ADHD children on the Special Educational Needs (SEN) register.
2. The stage of inclusion, if any.
3. The discipline or behaviour policy of the school.
4. The provision in the policy for ADHD children, if any.
5. The specific provision in the policy.

81% of the sample indicated that the child with ADHD was on the SEN register. 16% said that the child was not registered and 3% failed to give a response. The different stages (one to five) of the registered children are shown in Figure 2.1.



The whole of the sample (100%) indicated that their school currently had a discipline or behaviour policy in action. However only 17% indicated that this policy made any provision for children with ADHD. When asked to specify exactly what provision had been made most of the comments by teachers referred to the use of a behaviour plan or a Behaviour Management Strategy. This provision is really quite general to all cases of behaviour and discipline issues and is not specific to children with ADHD. However one teacher indicated that his or her policy stated that it recognised ADHD as a medical condition and that provision was made in the school for the administration of Ritalin. In addition to this the policy also promoted positive responses and positive approaches to such children.

Section Three – The Diagnosis of ADHD

This section addressed two main points:

1. Teachers' involvement in helping to diagnose the child.
2. Level of involvement.

Only 24% of the recipients indicated that they had been involved in the process of helping to diagnose a child with ADHD, while 71% said they had not been involved at all and 5% did not respond to the question. The level of this involvement is shown in Figure 3.1.

Figure 3.1 Level of teacher’s involvement

Level of teacher's involvement	Number of responses
Initiated the diagnosis by raising concern to parents	7
Parent expressed concern and asked for advice	6
Asked by parent to fill out a questionnaire for doctor	6
Other	2

The two responses under the section ‘Other’ both referred to concerns raised in nursery school.

Section Four – The Impact of children with ADHD in the classroom

This section addressed the following points:

1. The level of disruption caused by the ADHD child in a variety of activities.
2. If and how the behaviour of the child affects the classroom atmosphere.
3. If and how other children are affected as a result of being in the same class as the child with ADHD.
4. Responses from other children in the class with regard to the ADHD child.

The first question was addressed in the style of a five point Likert Scale in order to establish the level of disruption that is caused by the child with ADHD when participating in a variety of activities. Figure 4.1 highlights the overall results, while Figures 4.2 to 4.7 show each individual activity and the levels of disruptiveness as indicated by the recipients.

Figure 4.1 Level of disruption caused in a variety of activities

Level of disruption	Not disruptive	Mild disruption	Some disruption	Significant disruption	Very disruptive	No response
Individual work	19%	10%	37%	17%	15%	2%
Group work	6%	14%	28%	19%	31%	2%
Practical activities	7%	10%	34%	26%	21%	2%
Following class routines	10%	14%	28%	28%	18%	2%
Activities in another location	12%	22%	19%	26%	19%	2%
In the playground	15%	12%	22%	21%	28%	2%

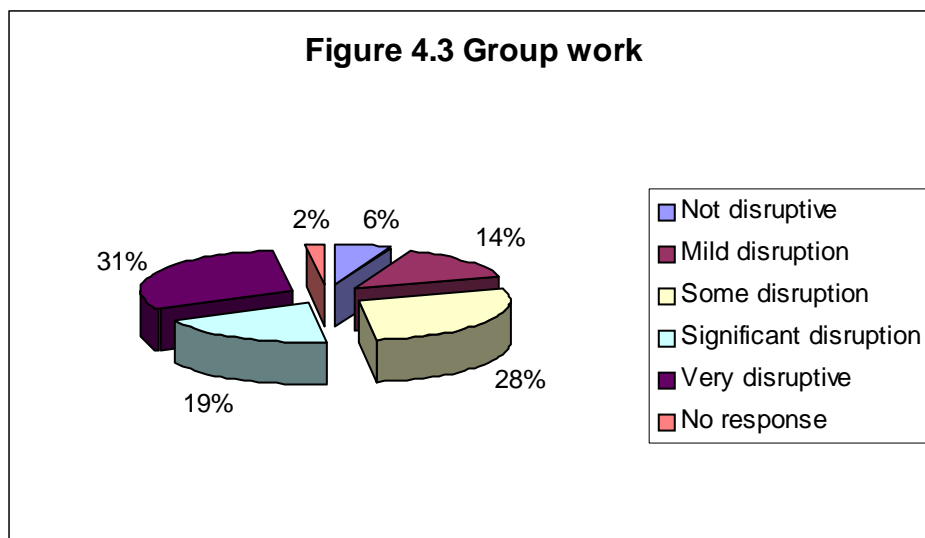
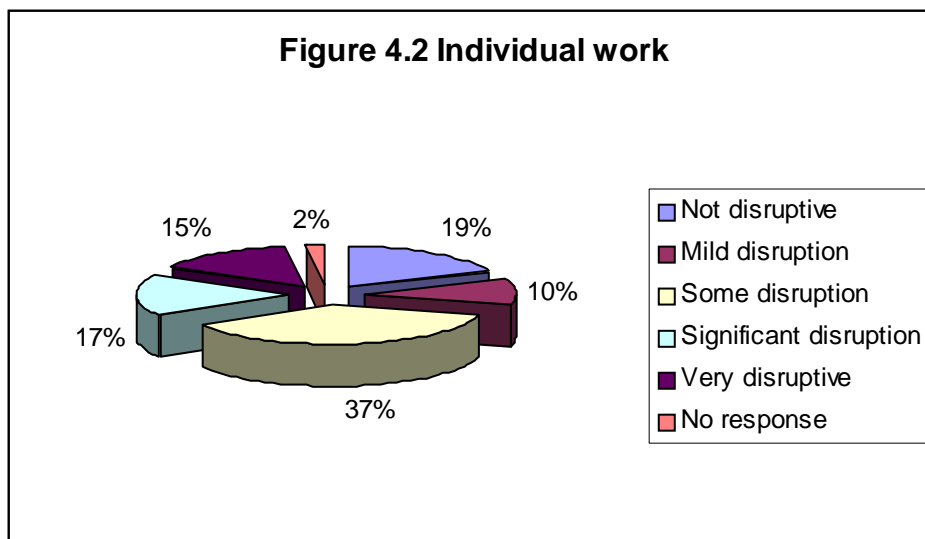


Figure 4.4 Practical activities

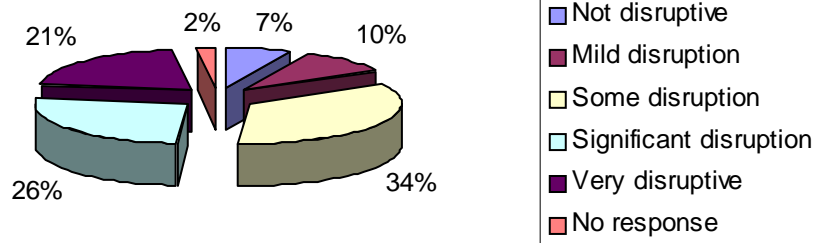


Figure 4.5 Following class routines

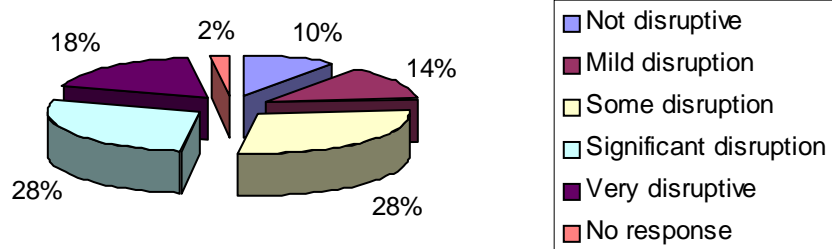
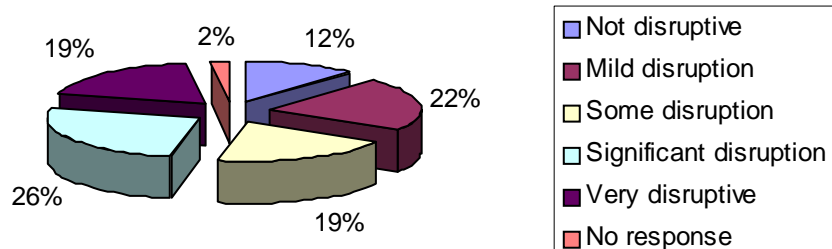
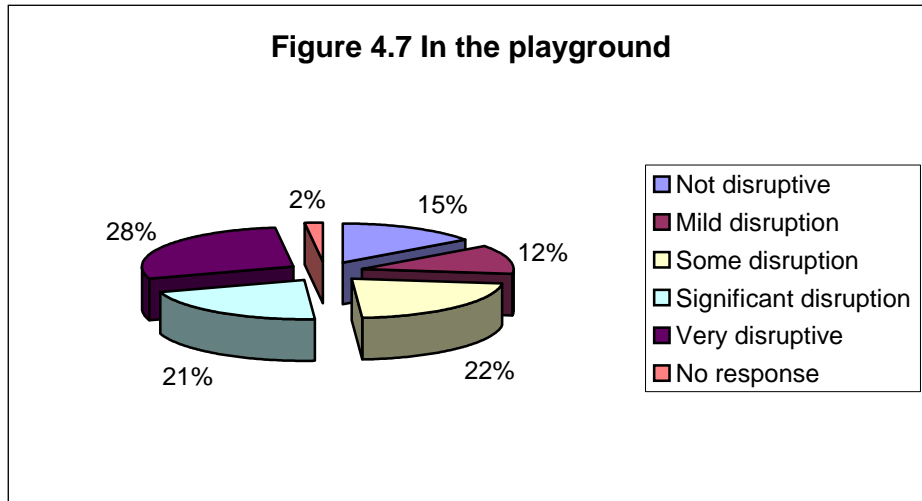


Figure 4.6 Activities in another location





85% of the responses acknowledged that the child's behaviour affected the classroom atmosphere. Recipients were asked to explain how this child's behaviour affects the classroom atmosphere. The most common response (9 responses) was in relation to the attention seeking nature of the child in taking up a large quantity of teacher time. Several other teachers (7 responses) commented that the classroom atmosphere could be tense and unsettled. Talking out of turn by children with ADHD (5 responses), and in one case singing and drumming (1 response), were also highlighted as having an effect on the classroom atmosphere. The percentage of teachers (14%) who reported that the child's behaviour did not affect the classroom atmosphere expressed the opinion that the use of medication (3 responses), a very structured routine (2 responses) and extra assistance (2 responses) helped contribute to this.

79% of the teachers questioned felt that other children suffered as a result of being in the same class as the child with ADHD. The most common answer in written response to this question (18 responses) was the extra time taken up by the teacher with the ADHD child. One teacher summarised this sentiment by saying that the rest of the class had less "teacher time" as a result of being in the same class as the child with ADHD. Another large problem expressed by recipients (11 responses) appeared

to be the ability of the child with ADHD to distract others from their work. In some cases (6 responses) others in the class had been influenced by the child with ADHD and tried to copy their unacceptable behaviour. Other children (9 responses) were reported to have physically or verbally suffered as a result of the child with ADHD, e.g. being punched, kicked, having objects thrown at them, being teased or having items stolen from them. On the other hand, 19% of the teachers questioned reported that other children were not affected as a result of being in the same class as the child with ADHD. The use of medication (1 response), the use of a classroom assistant (1 response) and even the acknowledgement that other children in the class were just as disruptive as the child with ADHD (1 response) were some of the comments received.

66% of the recipients said that other children in the class had expressed a negative response regarding the child with ADHD. Some of the teachers (5 responses) reported that other children did not want to sit beside the child or be involved in any activity with them. A similar number of teachers (5 responses) described how others in the class became impatient with the ADHD child. Some responses (4 responses) indicated that other children resented the fact that the child with ADHD got away with behaviour that they wouldn't. Some other children (3 responses) tried to get the child with ADHD into trouble and used him or her as a 'scapegoat' for anything that went wrong. In one of the responses the other pupils in the class even cheered when the child with ADHD was absent from school! However, on a more positive note, 34% of the sample indicated that no other children in their class had ever expressed a negative response regarding the child with ADHD. Some of the teachers (3 responses) expressed how the other children were very understanding and tolerant of the ADHD child. In the same way some reported (4 responses) that the other pupils

chose to ignore the bad behaviour and concentrate on the child's good points. In one response it was specified that the fostering of this positive attitude was being achieved through the use of circle time.

Section Five – Medical Interventions

This section addressed the following points:

1. The treatment of the child with a stimulant medication.
2. The responsibility of the teacher to administer medication, if any.
3. Controlling the amount of medication.
4. The success of the medication.
5. Changes of behaviour as a result of the medication.

73% of children included in this sample were being treated with a stimulant medication, like Ritalin, at the time of survey. 41% of the teachers questioned said that they were responsible for administering medication during the school day. Only 15% of those questioned said that they had been asked to help control the amount of medication. 52% of the teachers who completed the questionnaire felt that the medication appeared to be a successful intervention, 23% stated that it wasn't, 3% felt unsure and 22% did not respond to the question. Teachers who indicated that the medication appeared to be a successful intervention were then asked to specify some of the ways in which the child's behaviour and actions in school had changed. The majority of the responses (11 responses) indicated that the child was much calmer. Six responses identified the child as having longer periods of concentration, while nine responses similarly reported that the child was more capable of settling to work. One response indicated that there was little effect with the medication. More disturbingly perhaps, four teachers indicated that the child appeared to be 'blanked

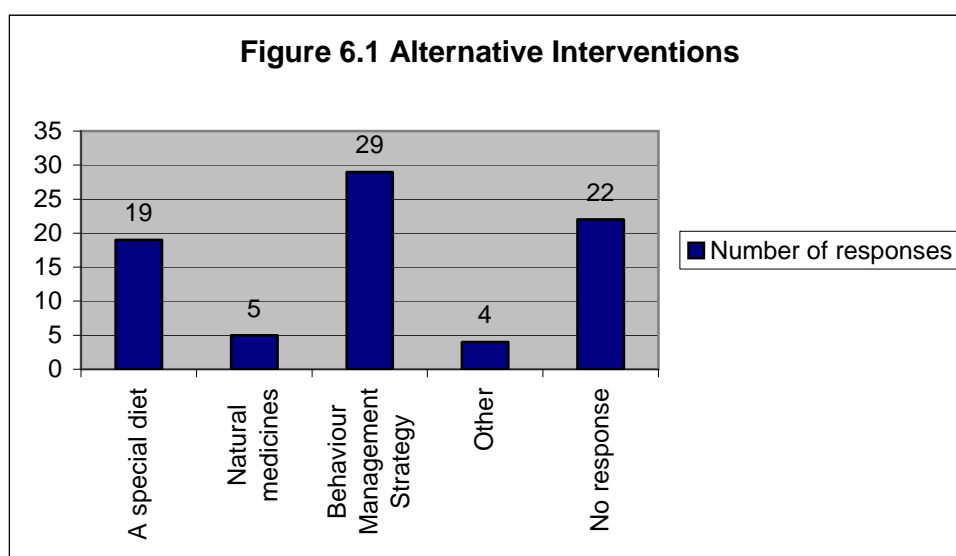
out’, doped or in a world of their own. One response indicated that the child in question had suffered weight loss as a result of taking medication.

Section Six – Alternative Interventions

This section addressed the following points:

1. Any alternative interventions being used to treat the child.
2. The involvement of teachers in any of these interventions.
3. Specific involvement of the teacher.

Figure 6.1 below shows the different interventions being used to treat the child, if any.



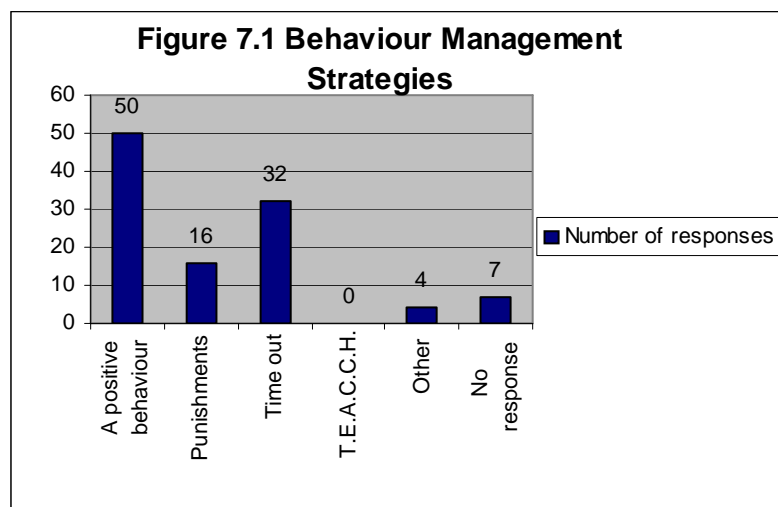
The ‘Other’ section received comments such as the use of circle time, keeping him/her occupied and two recipients mentioned one-to-one help from a classroom assistant. 43% of the teachers said that they were involved in any one of these strategies. The majority of the comments referred to being involved in a Behaviour Management Strategy. One teacher, however, mentioned that they made sure that no other pupil in the class gave the child with ADHD any food.

Section Seven – Behaviour Management Strategies

This section addressed the following points:

1. Behaviour Management Strategies being used.
2. The most effective strategy.
3. Medication or a Behaviour Management Strategy?

Figure 7.1 below shows the different Behaviour Management Strategies, if any, being used by the teachers in this sample to treat the child.



The section 'Other' contained two responses relating to the use of a classroom assistant, one response about the use of a behavioural unit in the school and the final response referred to a very structured routine with specific boundaries.

The next question required the respondents to consider which Behaviour Management Strategy they believe to have worked most effectively. The largest response (18 responses) favoured a positive behaviour strategy, while the use of time out was also considered by many (11 responses) to be an effective method. Two teachers commented that the time of day or the circumstances influenced their choice of method.

When asked to explain why the methods chosen were the most effective, many (12 responses) observed that praise, positive feedback, rewards and targets can work very effectively with the ADHD child. The advantages of using time out were viewed by some teachers (6 responses) as allowing the child time to cool off and also giving the teacher a break. One teacher said that any strategy only works on a short term basis with their ADHD child, while another disclosed that no strategies had worked and expressed the opinion that the child needed special provision outside a class of thirty.

46% of the sample questioned felt that medication was more effective than any one of the Behaviour Management Strategies. 28% said that the medication was no more effective than any of the Behaviour Management Strategies and 26% did not respond. While no further comments were requested at this stage of the questionnaire, one teacher noted in the margin that medication is used, “only in reducing disruption, not in helping the child”.

Section Eight – Support

This section addressed the following points:

1. Level of support from different parties.
2. Liaison between teacher and parents of the child with ADHD.

The first question was addressed in the style of a five point Likert Scale in order to establish the level of support that teachers have received from different parties. Figure 8.1 highlights the overall results, while Figures 8.2 to 8.6 show each individual party and the different levels of support received by the recipients.

Figure 8.1 Level of support received from different parties

Level of support	No support	Limited support	Some support	Good support	Excellent support	No response
Parents	12%	19%	31%	12%	17%	9%
School SENCO	10%	17%	16%	26%	26%	15%
School Principal	7%	10%	17%	29%	23%	14%
School psychologist	26%	16%	26%	13%	7%	12%
Clinical Medical Officer	41%	16%	7%	10%	0%	26%

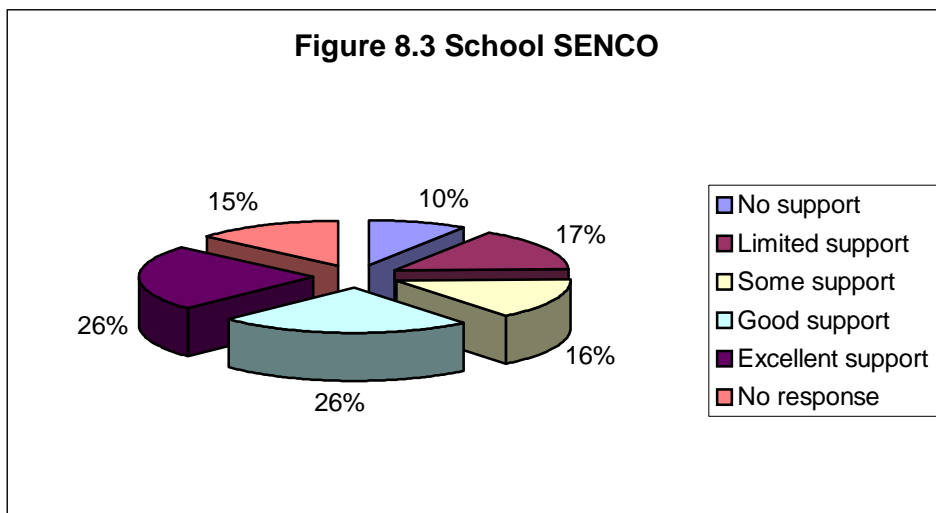
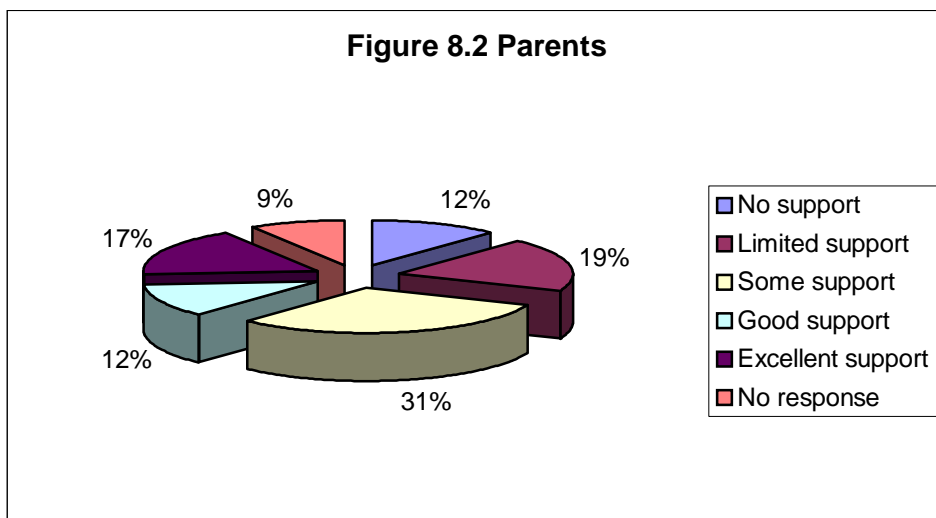


Figure 8.4 School principal

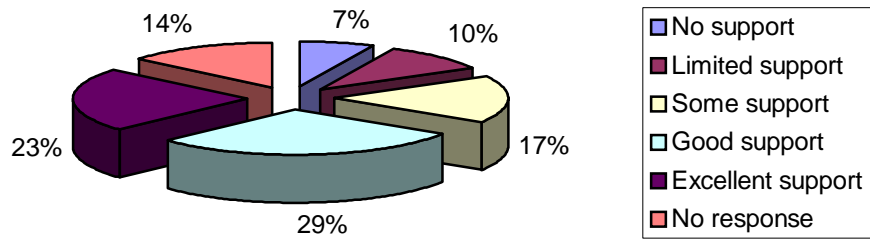


Figure 8.5 School psychologist

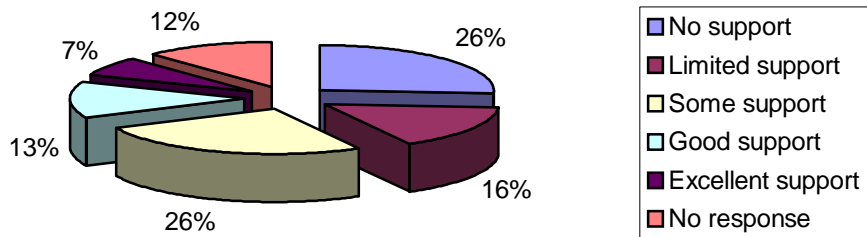
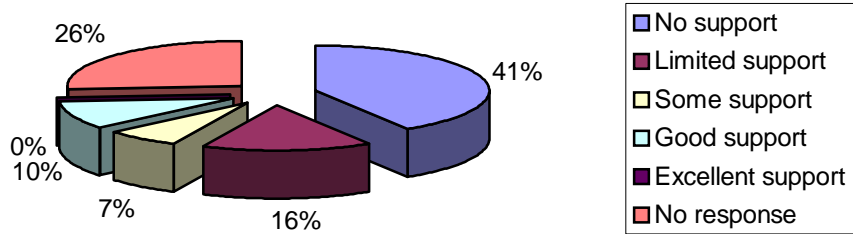


Figure 8.6 Clinical Medical Officer



71% of those surveyed said that there had been a good level of liaison between themselves and the parents/guardians of the child. 21% said that there had not been a good liaison and 8% did not respond to the question.

The majority of the teachers (29 responses), when asked to explain their response to the prior question about the level of liaison between themselves and parents, indicated that they met regularly with the parents and that the parents were supportive of the school's efforts. A minority of teachers (9 responses) indicated in some way that the parents were not supportive and in two cases even apportioned blame to the school.

Section Nine – Conclusion

This section addressed the following points:

1. The impact of the child in the classroom.
2. Additional comments.

The majority of the teachers (20 responses) indicated that the perceived impact of this child in the classroom was that some form of disruption was experienced. Six of these responses referred to significant disruption. Thirteen teachers indicated that the child required excessive time and attention. One teacher summarised this imbalance by stating, "The needs of one child outweighs the needs of the majority of the class". The impact in the classroom extended to other children, not only by leaving them with less teacher time, but also by distracting them from their work. Twelve teachers indicated that this was the case, while five expressed concerns that the ADHD child was actually a liability to others and that pupils in the class were extremely nervous and suspicious of the child. One teacher responded by saying that having this child in the class was not always a positive experience for the others and six other responses

indicated that the ADHD child actually had a negative impact on the classroom. Seven teachers felt that life was much more difficult and stressful for themselves, with one of these teachers confessing that the presence of this particular child with ADHD in his or her classroom, "...left me so stressed and demented I was on medication and needed three months off work to come to terms with teaching again".

Whilst the majority of responses (88% of the comments) indicated a negative impact in the classroom by the child with ADHD, eleven teachers presented a much more positive response, with three reporting that they experienced no major problems. Other responses referred to the use of certain strategies in place, a classroom assistant and also the tolerant reactions of the other pupils in the class as contributing to there being little to no impact of the ADHD child in the classroom.

Finally, the recipients of the questionnaire were invited to add any additional comments that they wished to make. Some of these responses (7 responses) referred to the need for further support and backup in managing children with ADHD. Some of the teachers felt that more Board support was required, while others felt that teachers should have training about the condition. Four teachers, in this comments section, voiced their concerns about the adverse effects of using medication, such as Ritalin. One teacher blamed the problem on poor parenting skills. Two teachers acknowledged the fact that the use of a classroom assistant had made life much easier.

Additional Analysis

Since it became apparent that there was some form of correlation between the degree of experience teachers had and their responses to ADHD management in the

classroom a focused consideration of some responses will now be made, in an effort to clarify the issue. Question 25, regarding the strategies that teachers make use of in order to manage a child with ADHD in the classroom, will be analysed again but looking this time to see if the amount of experience a teacher has might contribute to which strategy they will employ. The results are shown as percentages of the number of responses that were received in each of the differing fields, that is the years of experience. Some caution is required when interpreting these results and it is important to keep in mind that different numbers of teachers responded in each of the fields (please refer to Figure 1.3).

Figure 10.1 Percentage of responses, employed by teachers with differing years of experience, regarding the Behaviour Management Strategies they make use of.

No of years experience	Positive			
	Behaviour	Punishments	Time Out	Other
0 to 5	36%	28%	36%	0%
6 to 10	55%	15%	30%	0%
11 to 20	50%	10%	25%	15%
21+	50%	15%	33%	2%

As can be seen from this data the use of a positive behaviour strategy is more likely to be employed by those teachers with additional years of experience. However, it was surprising to note that teachers with up to five years of experience were using punishments as a means of managing children in the classroom.

Question 27 was also analysed again to see if a correlation existed between the experience of a teacher and their response as to whether they felt that medication was more effective than a Behaviour Management Strategy or not.

Figure 10.2 Percentage of responses, employed by teachers with differing years of experience, regarding whether they feel that medication is more effective than a Behaviour Management Strategy or not.

No of years experience	Medication more effective	Behaviour Management Strategy more effective	No response
0 to 5	50%	0%	50%
6 to 10	38%	24%	38%
11 to 20	36%	55%	9%
21+	50%	21%	29%

It is interesting to note that in the 0 to 5 and also the 21+ section the use of medication appears to be favoured over a Behaviour Management Strategy. In contrast both the 6 to 10 and the 11 to 20 indicate a much lower percentage and in fact the 11 to 20 section advocate the use of a Behaviour Management Strategy as a more effective means of managing ADHD children.

Again, some caution is required when interpreting these results and it is important to keep in mind that different numbers of teachers responded in each of the fields (please refer to Figure 1.3).

4.2 Semi-structured Interviews

As highlighted in the previous chapter the semi-structured interviews sought to clarify and expand upon issues emerging from the questionnaire. These issues included the actual impact of children with ADHD in the classroom as well as possible interventions which can be employed in order to manage such pupils. A selection of questions (**Appendix 4**) was addressed to the participants, comprising of three teachers (one of whom was a SENCO and also the SEN teacher) and one Educational Psychologist. In addition to the two main issues, background information was also sought as to their experience with ADHD children and general information about their school. Finally the recipients were offered an opportunity to conclude the interview with any additional comments that they wished to make. The analysis of the semi-structured interviews will now take place in each of these four different sections. In order to respect the recipients' confidentiality the SENCO who is also a SEN teacher will be referred to as teacher 1, the two teachers as teacher 2 and teacher 3 and finally the Educational Psychologist will be referred to as this.

Section One - Background Information

Teacher 1 is a female teacher who works in a controlled primary school with 360 pupils on the roll. The school is situated on the outskirts of a town drawing children from both private and Housing Executive dwellings. This recipient is the SEN teacher for the school and also the SENCO and has six years experience in this capacity. She has come into contact with many children in different year groups who have symptoms of ADHD or else have been diagnosed with it.

Teacher 2 is a male teacher working in a maintained primary school with 200 pupils on the roll. The school is situated on the outskirts of a town drawing children mainly from Housing Executive dwellings. This person is a primary six and seven teacher and is also the vice-principal of the school. He has thirteen years teaching experience in both Key Stages and the majority of his experience in managing a child with ADHD arose in his previous two years teaching.

Teacher 3, who is a female teacher, works in a controlled primary school with 450 pupils on the roll. The school is located in an area quite close to the centre of a town which draws children mainly from private dwellings. She presently teaches primary one, but has eleven years of experience teaching in both Key Stages. She has encountered two different pupils with ADHD and has also a very good knowledge and understanding of the condition as she completed a dissertation on ADHD as part of her MEd. last year.

The Educational Psychologist who was interviewed has been working for the North Eastern Education and Library Board for twenty-one years. She works part-time at the moment and prior to this work she also gained two years experience teaching in a special needs school. She has a wide experience of working with children who have ADHD and has noticed in the last four or five years that the number of cases she deals with has increased significantly.

Section Two - The Impact of children with ADHD in the classroom

This section addressed the following points:

1. The perceived impact of children with ADHD in the classroom.

2. Differing reactions of children with ADHD to different situations.
3. How other children are affected as the result of a child with ADHD being in the same class as them.

In relation to the first point, Teacher 1 felt that the impact could really vary according to which features of ADHD the children were displaying. She referred to one particular child who could be very disruptive within the classroom. Teacher 2 referred to his experience of one child and said that as a result of this particular child's behaviour being difficult to predict, he was constantly anxious and nervous about what was going to happen next. The simplest thing would upset this child, for example, the absence of a rubber, which could result in the child throwing all her books from the table to the floor. Teacher 3, like Teacher 1, felt that the impact varied depending on the child. She highlighted the amount of time that she had had to spend with an attention seeking ADHD child and how difficult it was constantly to be 'striking the balance' between this child and the other pupils. The Educational Psychologist found that each child presented different levels of difficulty. She felt that the high levels of hyperactivity associated with ADHD could have a huge impact in the classroom. All four interviewees would appear to believe that there is an impact, indeed a negative one, in the classroom to varying degrees of disruption. The actual amount of disruption seems to be dependent on the particular child in question.

Teacher 1, when asked if the child was worse or better in different situations, replied that it, "...depends on particular children and what their strengths are within the classroom." She expanded on this by saying that if a child liked maths and could apply him or herself to that subject better than perhaps to a literacy task then the child

would perform better. Teacher 1 said that it really depended on their likes, dislikes and possibly the time of the day as well. Teacher 2 continued to emphasise how the simple things could upset the ADHD pupil in his class and gave an example of trying to encourage this child to work in a group. Due to someone in the group saying something that this pupil did not like she ripped up the piece of work. In this instance involvement in group work had been a totally negative experience. Teacher 3 expressed the opinion that in unstructured situations the behaviour of the child with ADHD could be worse, with less self-control and less awareness of the consequences of his or her behaviour. The Educational Psychologist agreed that with less structured activities the problems would generally be greater. It would appear to depend on the particular child as to how they react and if they are better or worse in different situations.

In addressing how other children are affected as a result of a child with ADHD being in the same class as them, Teacher 1 felt that it depended on how the particular teacher deals with the child. She said that other children noticed what the ADHD child was doing and were possibly thinking that they could not get away with similar behaviour. Teacher 2 cited two examples of when other pupils actually missed out on school trips as a result of the teacher's reluctance to risk taking the ADHD child along with the others. The sheer amount of time that this child took up also had an effect on the other pupils. Teacher 2 emphasised his concern for other pupils by stating that, "The class, and at times the whole school, actually suffered because of her bad behaviour". Teacher 3 had experience of one child who had little effect on the others and another pupil who was inclined to have aggressive outbursts. She said that it was not very long until the other children had used this child as a 'scapegoat' and blamed

him for everything that went wrong. The Educational Psychologist also felt that there would be an impact on other children as a result of being in the same class as an ADHD child with extreme difficulties.

Section Three – Interventions

This section addressed the following points:

1. The use of medication as a form of treatment.
2. Strategies employed by teachers to manage children with ADHD.
3. Effective methods of managing ADHD children.

Medication was being used as a form of intervention with some of the children that Teacher 1 had contact with. It was being used most of the time with the child that Teacher 2 refers to, although various experiments were going on, so that at times no medication was prescribed and at other times extra tablets were being given. With Teacher 3 being a year one teacher, medication had only been prescribed towards the end of the year for one child and in the other case it was prescribed much later on. This teacher highlighted her concerns about primary one children really being too young for medication like Ritalin as it is only recommended for children over the age of six. The Educational Psychologist had seen medication being used very effectively with many different children with whom she has been involved. She also expressed the opinion that there was not enough consultation between doctors and teachers and she felt that this contact would be most beneficial.

Strategies that these particular teachers employ to manage children with ADHD was the next focus of the interview. Teacher 1 said that it was important to keep set tasks

short and manageable within a reasonable space of time so that pupils could get feedback. She summarised this approach by saying that in a set task children should, “complete it, show it to the teacher and get some praise or a sticker”. She felt that children normally related very well to this type of positive reinforcement. Similarly, Teacher 2 used a behavioural management style with reward systems. If the child with ADHD did some work she was then rewarded for it. The use of a classroom assistant had also been available for the last few months of term in order to manage this particular pupil. The assistant withdrew the child from the classroom every fifteen to twenty minutes to give her a break for a period of play, art, craft or music. They would then return to the classroom for a fifteen or twenty minute slot of maths, English or science before going out again. Teacher 3, being a year one teacher, also had the use of a classroom assistant but she felt that the other pupils were missing out if she used the assistant to manage the ADHD child too much as she was really there for all the pupils in the class. Teacher 3 felt that it was important to offer continuity for the child and to involve the parents. This teacher stated that she employed behaviour strategies but indicated that she, “...hasn’t always seen a great deal of continuity with behaviour strategies, but when medication is taken it is more consistent.” From a practical perspective she said that seating arrangements, the clarity of instructions, presentation of worksheets, the length of activities, non-verbal cues and rewards were all points to be considered in managing a child with ADHD in the classroom. The Educational Psychologist also favoured a behavioural approach and said that in extreme circumstances that the behaviour outreach service would be utilised in order to help teachers put in place a programme with targets to manage a particular child with ADHD. In addition to this the psychologist commented that the physical organisation of the classroom was important, as was the organisation of

routines. She felt that this type of child also needed extra time from the teacher and help to improve social skills and self-esteem. She suggested that circle time could be used very effectively to do this. All four people interviewed advocate the use of some form of Behaviour Management Strategy in order to cope with ADHD children in the classroom.

Teacher 1, when asked to comment on what she considered to be the most effective method of managing a child with ADHD, said that lots of positive comments about their work is important, as some of these children don't have a good image of themselves. Teacher 2 said that working with a classroom assistant one to one was definitely the most successful intervention. In this way the structured behavioural approach alongside a reward system worked best. Circle time had been successful to a certain extent but more so for the other pupils as it allowed the teacher an opportunity to try and help them understand the behaviour of the ADHD child. In contrast, teacher 3 felt that the key to success was the involvement of parents and coming up with a working plan together. The use of a notebook to aid communication was employed by this teacher. In the classroom she felt that timeout or changing to another activity could also be used successfully to manage an ADHD child. Teacher 3 concluded this section by stating that you must, "...recognise that there are limitations and be realistic about these limitations and the targets to be set". The Educational Psychologist expressed a concern that while the use of medication seemed to be very effective she felt that it was being prescribed for too many children without first of all trying to see if a behaviour management programme would work. She was also concerned about young children being given medication and felt that parenting skills needed closer inspection. Overall she felt that medication could be

used very effectively in conjunction with a Behaviour Management Strategy, but the age of the child needs to be carefully considered before starting them on a course of medication.

Section Four - Conclusion

The teachers were asked if they wished to make any additional comments at the end of the semi-structured interview. Teacher 1 felt that ADHD was an area that was becoming more prevalent and she hoped that Britain would not follow America and end up with ‘millions of children on Ritalin’. However she did add that she had seen vast differences in children that have been given the tablet, and that the before and after had been quite amazing. For younger children she felt that it was more to do with behavioural management and parental handling than anything else. Teacher 2 expressed his concerns about the lack of knowledge that teachers have about the whole area of ADHD. He felt his profession needed to be made more aware of it so that they would be better equipped to handle situations that arose. Teacher 3 felt that so much varies from child to child and that there is, “...no golden rule book for the best approach for any individual child”. The Educational Psychologist reiterated her comments about the most successful interventions and said that, “...a behavioural route can be very successful with these children”. She added that this approach should be tried first before the use of medication. The psychologist concluded by stating that parental support was crucial to the whole process.

This chapter has attempted to analyse the results and the outcomes of both the questionnaires and the semi-structured interviews. From the initial analysis it would appear that the semi-structured interviews do complement the findings from the

questionnaires. Many of the responses are similar but the interviews allowed for expansion and further thought on some of the arising issues.

It will be necessary in the final chapter to consider the conclusions from both the questionnaires and the semi-structured interviews and then discuss the main findings of this research project.

Conclusions and Recommendations

The research element of this project has examined the impact of children with ADHD on the educational and behavioural climate of the mainstream classroom. It also collected data on the effectiveness of a range of strategies in managing ADHD children in the classroom. This final chapter attempts to draw conclusions from both methods of research undertaken, that is the use of questionnaires and semi-structured interviews. Some recommendations will be made and the limitations of this study will also be discussed.

5.1 Discussion of the Main Findings

The main findings of both the questionnaires and the semi-structured interviews will now be discussed under the following headings:

Policy statements

The questionnaires revealed that 100% of the schools sampled currently had a discipline or behaviour policy in place. This would seem a very positive situation, but, when asked if the policy made any provision for children with ADHD, only 17% replied in the affirmative. When pressed to specify exactly what provision had been made, most of the teachers referred to the use of a behaviour plan or a Behaviour Management Strategy. This type of provision is really quite general to all cases of behaviour and discipline issues and is not specific to children with ADHD. It then emerged that only one school out of the fifty-eight represented specifically mentioned ADHD in their strategy document – an indication, surely, of the low priority given to the needs of this group of children.

Teachers' level of involvement in diagnosis

When asked if they had been involved in helping to diagnose children with ADHD 71% reported that they had not been involved in the process at all. Consultation at an early stage might give teachers a better understanding of the condition and greater insight into the needs of the children affected. The Educational Psychologist interviewed agreed that there was insufficient cooperation between doctors and teachers. She felt that such contact would be very worthwhile. Discussing diagnostic procedures, Holowenko (1999, p25) states that, '...there must be clear evidence that symptoms cause functional impairment across two or more settings – typically home and school.' If this advice is to be followed, then teachers should be more involved in the diagnostic stages and should be called upon to share their observations and reports on a child displaying symptoms of ADHD. We must also remember that while this stage of the process is important, it is only the beginning and what happens next should really make the difference.

Practical Impact in the Classroom

This research study has shown that children with ADHD, in the majority of cases, do impact upon the classroom, mostly in a negative manner. 85% of the questionnaire responses acknowledged that the ADHD child's behaviour affected the classroom atmosphere in this way. The negative impact of these children was in some cases caused by the child seeking attention or demanding a large quantity of teacher time. Many of the teachers questioned felt the presence of the child with ADHD made the atmosphere tense and unsettled. Similarly, in the semi-structured interviews all four respondents would appear to have believed that there is an impact, indeed a negative

one, in the classroom to varying degrees of disruption. The actual amount of disruption would appear to be dependent on the particular child in question.

Other children's perspectives

Perhaps rather alarmingly, 66% of the sample reported that other children in the class had expressed negative responses to the child with ADHD. These ranged from not wanting to sit beside the ADHD child to actually cheering when he or she was absent from school. The responses from the four semi-structured interviews confirmed this finding. It would have raised many ethical questions to enquire about an ADHD child from other class members, so some caution must be exercised in interpreting these teachers' second hand reflections. However, the responses expressed certainly do appear to present problems for educators in managing children with ADHD in the mainstream classroom if other class members are being affected.

Perceived Effectiveness of Medical Interventions

Just over half (52%) of responses from the questionnaires indicated these teachers felt that medication appeared to be a successful intervention. The four people who were interviewed expressed a view that they thought that medication could be used effectively to manage a child with ADHD. However, later in the conversation, when asked to give an opinion of what they consider to be the most effective way to manage such children, only one of the candidates who had been interviewed referred to the use of medication again and even in mentioning it, did so with caution.

Just over half of the responses from the questionnaires indicated that they feel medication is an effective intervention. This seems to represent quite a low

confidence in the value of medication. Green and Chee (1997, p124) who strongly advocate the use of a prescribed medication state that, ‘The body of evidence is now so great that no reputable research centre questions the benefit and safety of this treatment in ADHD.’ This seems to be a view that is much more popular in America than in the U.K. where teachers and parents still hold many reservations about the prescription of medication to treat a child with ADHD. The results of this study would appear to confirm that many reservations, concerns and even fears still exist among teachers about the use of medication as an effective means of intervention for children with ADHD.

The Use of Alternative Interventions

Only 43% of teachers who responded to the questionnaire said that they had been involved in an alternative intervention. The majority of the responses referred to the use of a Behaviour Management Strategy. However quite a significant number also reported that they were aware of a special diet being used as a means of treating a child with ADHD. Literature has shown that a change in diet is generally ineffective but can help in a minority of cases (refer to section 1.6.3 for further details). For a parent who is against giving their child medication, careful monitoring of their child’s diet may help alleviate some of the symptoms of ADHD.

Effectiveness of Behaviour Management Strategies

This research study has found that a positive behaviour strategy and the use of time out are the most frequently used methods of managing children with ADHD. When the recipients of the questionnaire were asked to consider which Behaviour Management Strategy they believe to work most effectively the majority favoured a

positive behaviour strategy. In justifying this response some of the teachers made comment that praise, positive feedback, rewards and targets can work very effectively with the ADHD child. In a similar approach, the four people who were interviewed also used a positive behavioural strategy as one of the ways to manage a child with ADHD. Two of these teachers made reference to the use of a full-time classroom assistant as being very useful too.

The Most Effective Strategy

This study has shown that there would appear to be merits both in the use of medical interventions and a Behaviour Management Strategy. As regards the most effective strategy for managing children with ADHD, the results and analysis of the questionnaires show that 46% feel that medication is more effective than any of the Behaviour Management Strategies. It is important to note that 28% said that the medication was not more effective than any of the Behaviour Management Strategies and that 26% did not respond to this question. This appears to show that while the majority of teachers seem to favour the use of medication as an intervention, they are quite divided about its use and the effect that it has on a child. It may be that teachers who do not support the use of medication have witnessed a Behaviour Management Strategy being implemented very successfully. Unfortunately, this is only speculation, as the questionnaire did not record the necessary data.

One of the teachers interviewed said that the use of a Behaviour Management Strategy was the most effective means of managing an ADHD child in the classroom. The second teacher interviewed said that working with a classroom assistant one to one was definitely the most successful intervention. In this way a structured

behavioural approach alongside a reward system worked best. The third teacher felt that the key to success was the involvement of parents and coming up with a working plan together that incorporated a Behaviour Management Strategy. The Educational Psychologist was the only one interviewed who mentioned the use of medication and felt that it could be used very effectively but in conjunction with a Behaviour Management Strategy.

This research project shows that there are various different but also effective strategies to the management of a child with ADHD in the mainstream classroom. Both the use of medication and a Behaviour Management Strategy would appear to be very effective. They would also seem to be particularly effective when used in conjunction with one another. This follows many of the views portrayed in the literature review and while some researchers strongly advocate the use of medication, others perceive that a Behaviour Management Strategy is the most effective means to manage children with ADHD. There are those researchers who also support the combined use of both strategies. Holowenko (1999, p31) summarises this very well by stating that, 'No single treatment is likely to deal effectively with the cluster of behaviours and problems that these children experience. It is really a matter of defining the problem, the behaviour and the situations in which the problems occur, and then looking at a repertoire of interventions.'

Support and Implications of Need

Generally the responses from the questionnaires show that there is some level of support from the school SENCO and the school Principal. In a minority of cases no support was offered. A much greater gap would appear to exist in the support offered

by the School Psychologist and the Clinical Medical Officer. Parental support, however, seemed to be quite high with 71% of teachers claiming that there had been a good level of liaison between themselves and parents. Nevertheless, for those 21% who alleged that there had not been a good liaison one can only surmise how much more difficult it was to manage this particular ADHD child. Interviewee 3 expressed her view that the key to success was the involvement of parents, and in this way it would be crucial to have this type of support.

Some teachers who completed questionnaires conveyed the need for much more support in managing children with ADHD. Some of the teachers felt that support from the Board was required and others thought that training about the condition ADHD would be required. Interviewee 2 also expressed his concern about the lack of knowledge that teachers have about the whole area of ADHD. He felt that teachers needed to be made more aware of it so that they would be better equipped to handle situations. There does appear to be a lack of knowledge and understanding of the condition ADHD among many teachers and this has serious implications for the management of such a child in the mainstream classroom.

General Comments and Impressions

This research has shown that the majority of teachers who completed questionnaires felt that the impact of an ADHD child in their classroom was a negative experience and that some form of disruption was experienced. Many teachers conveyed their opinions about an imbalance in the classroom due to the ADHD child taking up so much teacher time. Several teachers mentioned the stress that they had felt during the

year in managing this type of child. However, in some cases with certain strategies in place the impact of the child was limited in the classroom.

5.2 Recommendations

It has emerged from this study that there is a real lack of support for teachers who are managing children with ADHD in the mainstream classroom. Although this wasn't the main focus of research the classroom presence of ADHD children has been found to be largely a negative experience, and it is therefore vital that educators are equipped to manage such children in the most effective way. For this to happen, they have to be aware of the condition, its diagnosis and have knowledge of effective strategies that can be utilised in the classroom. Further study is recommended on the level of knowledge and understanding that teachers have of ADHD and the best means of improving this situation.

New interventions in the form of EEG Biofeedback or Neurofeedback were mentioned briefly in the literature review. There is much on-going research about this type of intervention and it is difficult to ascertain accurately the effectiveness of this form of treatment. It professes to cure the ADHD child and if this is ever proven then it has huge implications for the current interventions being used, especially medication. It is recommended that further research be implemented, especially in the U.K. as to the effectiveness of this strategy.

5.3 Limitations

Some of the limitations now outlined were encountered throughout the implementation of this research work:

This research study was small-scale and this is a limitation. It is important to appreciate that all the results should be interpreted with considerable caution, as the sample is not representative of the teaching population as a whole. However, while the results are not suitable for statistical analysis, they are indicative of the situation in the North Eastern Education and Library Board, and probably more widely in Northern Ireland.

The time scale was also relatively short and it would have been preferable to have sent out more than eighty questionnaires and interviewed more than four people.

It would have been worthwhile and interesting for the researcher to have found out from a doctor more about the medical history of some of the children with ADHD and also about how their diagnosis had been made but this would have raised questions about patient confidentiality and was therefore not feasible.

An issue mentioned previously in this chapter, is the use of children's second hand reflections about other class members with ADHD. It would have been ideal to be able to question these children directly, but in doing so some ethical concerns would have been raised. As a result only teachers' reflections were considered.

The study of children with ADHD is very much an on-going debate and thinking in America seems to be much more progressive than in the U.K. The researcher would have liked to explore the whole field of EEG Biofeedback or Neurofeedback. Since it is such a new form of intervention there is relatively little research apart from what

has been hosted on the Internet, where the absence of peer-review limits the credibility of the reports. It was felt that this research study was situated well in the current interest of the U.K. in Behaviour Management Strategies.

Finally, it is important to recognise the subjective nature of the data collected in this study, dealing as it does with teachers' perceptions of classroom difficulties. Perception, of course, may differ greatly from one teacher to another.

5.4 Summary

This research project found that the presence of children with ADHD negatively affects the educational and behavioural climate of the mainstream classroom. It also found that a range of different approaches could be effective in managing children with ADHD in the classroom context. These approaches included medical intervention in the form of a prescribed drug and the use of a Behaviour Management Strategy. In some cases the most effective method of managing such children was to use a combination of methods, incorporating a prescribed medication with a behavioural management strategy.

Green and Chee (1997, pIX) state that, 'Understanding ADHD presents a clear overview of a far from simple condition.' There is still much that we do not know about the condition ADHD and the most effective strategies for managing it in the classroom. It is important to remember that each child is individual, as are his or her specific difficulties. In the same way, each case of ADHD must be considered separately and the best form of intervention chosen to suit that particular child.

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Definitions of:

- T.E.A.C.C.H.

Treatment and **E**ducation of **A**utistic and related **C**ommunication handicapped **C**hildren

- P.E.C.S.

Pictures
Education
Communicating
Symbols

School Provision

6. Is this child with ADHD included in the Special Educational Needs (SEN) register?

Yes No

7. If the answer to question 6 is YES, please specify which stage:

8. Does your school currently have a discipline or behaviour policy in action?

Yes No

9. If the answer to question 8 is YES, is any provision made in this policy for children with ADHD?

Yes No

10. If the answer to question 9 is YES, please specify what provision has been made?

The Diagnosis of ADHD

11. Were you involved in helping to diagnose the child?

Yes No

12. If the answer to question 11 is YES, then please specify the level of your involvement by ticking the relevant box(es):

Initiated the diagnosis by raising concern to parents	<input type="checkbox"/>
Parent expressed concern and asked for advice	<input type="checkbox"/>
Asked by parent to fill out a questionnaire for doctor	<input type="checkbox"/>
Other	<input type="checkbox"/>

Please specify

The Impact of children with ADHD in the classroom

- Scale:
- | | |
|---|------------------------|
| 1 | Not disruptive |
| 2 | Mild disruption |
| 3 | Some disruption |
| 4 | Significant disruption |
| 5 | Very disruptive |

13. Using the above scale, please choose a number to indicate the level of disruptiveness that this child causes in the following activities:

Individual work (e.g. completing a worksheet)

Group work

Practical activities

Following class routines (e.g. lining up)

Activities in another location (e.g. P.E. in the hall)

In the playground

14. In your opinion do you feel that this child's behaviour affects the classroom atmosphere?

Yes

No

Please explain _____

15. Do you feel that other children in the class are affected as a result of being in the same class as this child with ADHD?

Yes

No

Please explain _____

16. Have any other children in your class ever expressed a negative response regarding the child with ADHD?

Yes

No

Please explain _____

Medical Interventions

17. Is the child currently being treated with a stimulant medication, e.g. Ritalin?

Yes No

18. Are you responsible for administering any medication during the school day?

Yes No

19. Have you been asked to help control the amount of medication?

Yes No

20. Does it appear to be a successful intervention?

Yes No

21. If the answer to question 20 is YES, then please specify some of the ways in which the child's behaviour and actions in school have changed as a result of the medication.

Alternative Interventions

22. Do you know of any other alternative interventions that are being used to treat this child with ADHD?

A special diet (e.g. reduction of additives)	<input type="checkbox"/>
Natural medicines	<input type="checkbox"/>
Behaviour Management Strategy	<input type="checkbox"/>
Other	<input type="checkbox"/>

Please specify _____

23. Are you involved in any of the above strategies?

Yes No

24. If the answer to question 23 is YES, then please specify which one and your involvement.

Behaviour Management Strategies

25. Are any of these strategies employed in order to manage this child? (Please tick the relevant boxes)

A positive behaviour strategy

Punishments

Time out

T.E.A.C.C.H.

Other

Please specify _____

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

26. In your opinion which strategy, apart from medication, do you believe to work most effectively? _____

Please elaborate as to why _____

27. Do you feel that medication is more effective than this strategy?

Yes

No

Support

Scale: 1 No support
 2 Limited support
 3 Some support
 4 Good support
 5 Excellent support

28. Using the above scale, please choose a number to indicate the level of support you have received from the following parties in managing this child with ADHD:

Parents

School SENCO

School principal

School psychologist

Clinical Medical Officer

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

29. Do you feel that there has been a good level of liaison between yourself and the parents of this child?

Yes

No

Please explain _____

Conclusion

30. Please describe what you perceive the impact of this child in the classroom to be.

If you wish to add any additional comments please use the space provided below.

Optional Information

If you want this questionnaire to remain completely confidential and private then please do not fill in the following details.

Name _____

School _____

I ask for these details only because I would like to speak to some teachers in the next phase of the study.

Your help in completing this questionnaire is very much appreciated. Thank you!

Semi-Structured Interview Questions

Background Information

1. What size is the school? Location of the school? (general background information about the school)
2. What class do you teach?
3. Do you have experience in other classes/key stages?
4. How long have you been teaching?
5. Are you currently teaching a child or children diagnosed with ADHD?
6. What is your previous experience of working with ADHD children?

The Impact of children with ADHD in the classroom

1. What do you perceive the impact of children with ADHD to be in the classroom?
2. Are they worse/better in different situations?
3. How are other children affected as a result of a child with ADHD being in the same class as them?

Interventions

1. Is medication used as a form of treatment?
2. What strategies do you employ as a teacher to manage children with ADHD?
3. What do you consider to be the most effective method of managing ADHD children?

Conclusion

1. Do you have any additional comments you wish to contribute?

Questionnaire Piloting

Thank you for agreeing to help me pilot this questionnaire, which will be used as research for my masters dissertation on children with Attention Deficit Hyperactivity Disorder (ADHD).

Please work through the questions and as you do jot down notes at the side if any difficulties arise or if you find any of the questions confusing, unclear, etc.

Could you also answer these questions once you have worked through the questionnaire:

1. How long did it take to answer all the questions?

2. Is the questionnaire too long?

3. Was the layout clear enough?

If not then please specify what could be improved.

4. Is there sufficient clarity in the questions?

Please state which numbers you feel could be expressed more clearly.

5. Are there any obvious questions that I've missed or anything else about ADHD that you feel you would like to comment on?

6. Please make any further comments about the questionnaire in the space below:

Thank you again for taking the time to help me with the piloting of my questionnaire. It is very much appreciated.

Letter to Principals

Linn Primary School
70/74 Killyglen Road
Larne
Co Antrim
BT40 2HT

21st January 2002

The Principal
«Company»
«Address1»
«Address2»
«City»
«PostalCode»

Dear School Principal

RE: QUESTIONNAIRE ON ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

I am currently involved in a small-scale research project for a masters dissertation. The aim of this study is to examine how the presence of children with ADHD impacts upon the educational and behavioural climate of the mainstream classroom. It also seeks to assess the effectiveness of the range of approaches in managing children with ADHD.

It would be very much appreciated if you could ask one member of your staff, who is currently or has previously taught a child with ADHD, to complete the enclosed questionnaire. It is anticipated that the questionnaire should not take any longer than twenty minutes to complete. It should be returned in the self-addressed and stamped envelope before the 8th February 2002.

Your assistance in this matter is very much appreciated.

Many thanks.

Yours faithfully,

Laura McClintock