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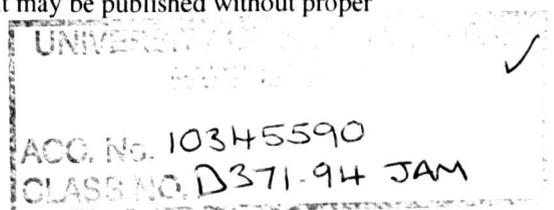
**Attention Deficit Hyperactivity Disorder
(ADHD) within a South Indian (Keralian)
Mainstream School Context**

**Submitted for the Degree of Doctor of Philosophy
At the University of Northampton**

2009

Johnson Jament

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ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is a widely discussed special educational issue in Western contexts and developed countries. By contrast, limited information is available about ADHD in Eastern contexts and developing countries. In India in particular, the only available information is about the medical perspective of ADHD; little or no attention is given to social or educational perspectives.

DSM IV criteria are the most commonly used standard assessment procedures. However, limited research is reported to discuss the potential cultural influences of this North American model. The present study examines the incidence and interpretation of ADHD within the context of five mainstream schools in Trivandrum, South India. It also explored cultural influences impact upon the cultural validity and reliability of DSM IV criteria when introduced into a South Indian context.

In order to identify children with ADHD characteristics, culturally valid assessment tools such as behaviour checklist and behaviour rating scales, were developed from DSM IV (TR) symptoms criteria. Qualitative data was gathered from the five sample schools during the academic year of 2006-07 using a variety of methods including in-depth interviews (with 21 teachers), classroom observations (of 26 children), rating scale and document scrutiny. The case study method was adopted to gain in-depth information about the identified children. Informal interviews with parents (24) were also utilised to triangulate the information gathered from the school contexts. Qualitative data analysis techniques such as open coding and case analysis were used to assess children's behavioural characteristics and difficulties.

The findings indicate that three percent of children (21) had ADHD characteristics within the sample schools. Some of the findings are consistent with the studies reported in Western contexts. There are also some contrasting results: a) most of the identified children had inattention rather than hyperactivity characteristics, b) a higher number of children with ADHD characteristics were from lower socio-economic backgrounds, c) teachers used coercive methods of physical punishments and sanctions as they interpreted the children's ADHD characteristics as a result of their lack of interest in learning. Most importantly, though DSM IV (TR) criteria are useful in identifying ADHD, two items of the 'symptoms' criteria were not identifiable within the present context of the sample schools. The findings suggest that socio-cultural factors do influence the validity and reliability of DSM IV criteria.

The study has implications not only for further research but also for planning and policy making in the field of education for all. The conclusions suggest that an educational provision should be considered with regards to the varied and complex needs of children with special educational needs such as ADHD. Teacher education programmes should be enhanced with positive intervention strategies.

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Dedication

I dedicate this thesis to all my 'guru's ('destroyer of darkness or ignorance') who supported me to have great knowledge, wisdom and authority in what I have achieved. I also dedicate this thesis to children who are marginalised, disappointed and disaffected by the educational provisions in India.

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CHAPTER ONE

STUDY RATIONALE AND RESEARCH CONTEXT

1.1 Introduction

The chapter contains three parts. The first part will explain the rationale for the study. This establishes why the area of enquiry reported in this thesis is important in the context of a wider discussion of ADHD in the literature (mainly Western based) and why it has received little recognition in an Indian cultural context. The second part will focus on the contextual information relating to the location of the study. This is divided into two sections: the Indian national context and the specifically Keralian educational situation. The third part of the chapter will consider some wider issues of special and inclusive education in India. This summarises inclusive educational developments so far in India with a reference to the policies and practices of special education and also highlights the current interpretation of educational inclusion in the country. The chapter concludes with a summary of the significance of this specific study on ADHD as reported in this thesis.

1.2 Rationale for the Research

The current study has emerged from my personal study and understanding of special educational needs in general and the issue of ADHD in particular which was limited prior to coming to England a few years ago to study for the MA in education. As a classroom practitioner with three years of primary and secondary level teaching experience within schools in Kerala, I had never asked questions about, trained for or attempted to recognise or adopt appropriate approaches for that diverse range of needs in terms of learning and behaviour which is commonly encountered in an Indian school classroom.

Whilst studying in England I became familiar with the literature relating to the education of pupils with ADHD. Through my familiarisation I also realised that ADHD is a contentious area which has divided opinion with regards to its

validity as a diagnosis. As an education researcher I have never been in a position to challenge the medical literature, though I am conscious that even here there are issues with regards to the use of the label. My own view and one which I have maintained throughout the process of this research is that ADHD is best described as an adult perception of children's problematic behavioural characteristics which influence their daily functioning in terms of their relationships with siblings, peers and adults and their learning. This is an important consideration in respect of the fact that different adults with differing experiences or expectations may interpret the behaviours of an individual child in different ways. The complexities of providing an accurate interpretation are obvious. My concerns regarding the use and possible misuse of ADHD as a label have informed my decision to refer to pupils who show the characteristics of ADHD within my research sample rather than simply affording them what could be a false diagnosis.

Within schools in India it is customarily considered that when children are failing, it is because they are not working hard enough to achieve higher standards in their education. Such children are viewed as 'born to fail' or to disturb other children and it is suggested that they cannot achieve a higher level of educational attainment due to their 'indifferent attitude' towards learning (Karanth, 2003). Applied pressure from parents or other interested adults to improve the academic results of children who are perceived to be struggling is often implemented through systems involving physical punishment and coercive methods of teaching (such as giving more home work, repetition of the tasks and so on). I was personally against such practices within our school system, had insufficient influence to change these practices and additionally had limited understanding of children's specific difficulties in learning to be able to submit a reasoned opposition to what I perceived to be a punitive approach. Though physical disabilities and 'mental retardation' (a term which rarely appears in the UK literature but is still in common use in India) are recognised, these two categories are perceived as aspects of special education which are to be exclusively dealt with by special teachers who are working outside of the regular school system.

Within India the term special needs is commonly applied to those children with learning difficulties or disabilities. It is used in both educational and other contexts, unlike in many Western countries where the term special needs refers to the necessity to provide socially or medically for children. The term special educational needs which has been in common parlance in the West since the late 1970s has been used as a term to describe those children for whom educational provision over and above that normally provided within schools is required. This term is seldom used in India with the term special needs being interpreted in both educational and social ways. Therefore the terms special needs and special educational needs may be seen as synonymous in India. This is an important consideration in relation to the research described in this thesis which was conducted within an Indian environment whilst being largely dependent upon Western literature.

1.2.1 Personal rationale

I came to study as an MA Education student at the University of Northampton in the UK during the academic year 2005-2006. During this period of study, I developed an interest in learning more about special educational needs and inclusive practices in a Western educational context. I also developed some understanding and gained exposure to approaches intended to address the diversity and individual differences of children both through the taught elements of the course and during school placement. My stay in England helped me to acquire a much broader view: to understand how policy is formulated and implemented and how a child's behavioural issues can be met with in the classroom. Whilst inclusive education has been considered by some academics working within India (Ahuja, 2002; Alur, 2001; Chatterjee, 2003; Jha, 2002; Kavoori, 2002; Singhal and Rouse, 2003), for most teachers (especially mainstream ones) this is a relatively new and in some instances unheard of educational movement in the country.

During the MA course at Northampton, I had decided to do an assignment on curriculum planning for children with ADHD which opened my mind to a range

of issues and started me on a path to critically evaluate my own teaching experiences working with children with a diverse range of needs. It further encouraged an examination of existing teacher practices currently deployed in India. It interested me that so many research articles, books, and web based resources on ADHD are available in the UK, Europe and the USA, yet few teachers have heard of ADHD in India. In Western countries psychologists, psychiatrists, health professionals, sociologists and educationists are taking part in a critical discussion of ADHD and its impact on children and young people and considering appropriate intervention approaches for children who have this diagnosis, yet this was outside of my experience in India. This aroused my curiosity about this aspect of special educational need and an interest in the available approaches for treating and teaching children and adults with such difficulties.

1.2.2 'National' rationale

With the motivation explained above, I conducted an informal enquiry into ADHD by contacting an opportunity sample of my colleagues, friends and some of the parents of children taught by myself in Kerala and asked their views and perceptions of the issue of ADHD. The responses were mixed. Some of them viewed this as a Western construct where excuses were being given to children who were seen to exhibit inappropriate behaviours and 'immoral' characteristics which have become commonly associated with the influences of Western society. Others acknowledged that such children could be recognised within Indian classrooms and that this might well be a relevant area of inquiry in an Indian context. Furthermore, in terms of general educational literature my reading led me to conclude that there was no evidence to suggest that ADHD had received formal recognition in India. In fact, no research at all has been reported within the educational literature from the country. However, some studies have been conducted by members of the medical profession that suggest that ADHD is a pervasive condition in India.

These dilemmas suggested that it would be justified to enquire about the issue of ADHD within an Indian educational context. Initial informal enquiries substantiated my earliest findings that limited information was available about this condition within India. The Central Government and the State Government of Kerala have not given any attention to ADHD. This is reflected in the official educational websites of both local and national governments. In fact, worried parents are enquiring about the availability of specific treatment and appropriate schooling for such children but generally speaking this is not made available to them (Indian Parenting Website, 2006). Moreover, whilst the focus of my interest was upon a single state, Kerala, it is reported that there is relatively little recognition of ADHD in India as a whole (Srivastava and Shinde, 2004).

Some medical professionals, NGOs, special education teachers and adults who work with children's affairs have started to raise awareness about ADHD and other related conditions among parents and this is resulting in new demands for intervention. Several special schools were started in Chennai by some NGOs (for example, AIKYA and 'Alpha to Omega') to provide support for children diagnosed with ADHD and related conditions. The founder of AIKYA schools published a book outlining her understanding of ADHD (Rangaraj, 2006). According to her interpretation, the number cases of ADHD are said to be mounting in India; however, there are no reliable statistics available to support this claim. She suggested that both parents and mainstream school teachers should be aware of the condition. From the Indian teachers' point of view, this lack of awareness of the children's learning difficulties and inadequate assessment procedures makes difficulties for them in recognising and addressing children's varied needs.

Several documents and reports suggest a large number of children drop out from mainstream schools in India before completing an appropriate level of education (Govinda and Bandyopadhyay, 2008). A national survey in 2004-05 estimated that 31.7% of children were seen to drop out of primary schools in India (Ministry of Human Resource Management-MHRD- (2005). Significantly, it was estimated as a lower rate of 25.4% for girls and a higher

rate of 31.8% for boys in 2004-05 (MHRD, 2005). Additionally, among the dropouts, one of the highest percentages is found to be those who had recently completed class II (20.5%) and the next was in class III (17.5%). These figures are important to my research which intended to identify children with ADHD characteristics among the primary school (Class I-IV) children in mainstream schools.

Most importantly, children's academic failures and school dropout rates are often viewed as solely the result of three factors: a) within child factors (i.e., unwillingness to learn), b) parental factors (i.e., parents do not have favourable attitude towards their children's education) and c) socio-economic factors (i.e., poverty). Though there is clear evidence that family circumstances such as the need for children to earn a wage is a factor in relation to school non-attendance (Govinda and Bandyopadhyay, 2008), it is also evident that an inability on the part of teachers to manage children who appear not to conform to acceptable patterns of learning and behaviour has a negative impact.

The interpretation of problem behaviour appears to be both complex and confused in an Indian education context (Bhargava, Garg, Singhi, Singhi & Lall, 1988). Pupils are often described by teachers as behaving badly as a consequence of laziness on the part of the child, or as a result of the inefficiency of teachers or inadequate parenting. It is customary within these communities that such children are labelled as 'naughty' or 'lazy' but without great consideration given to any causal factors which may influence their behaviours (Ahuja, 2002). Usually, teachers control them through disciplinary procedures and address the 'symptoms' of behaviour rather than the underlying cause. Placing blame upon parents and the use of exclusion from school is commonplace.

On the other hand, parents often blame schools, citing inefficient teaching, poor care and lack of facilities for supporting their children with special educational needs (SEN). Within Indian society this may be regarded as a problem residing within the child resulting in a negative view of them as

learners. This blaming culture is often visible in the classroom, at home or within the community (Kavoori, 2002). Hence, it is right to believe that these children are hiding their true behaviour due to the external pressure and fear of punishment and acting as 'good pupils'. Generally, it may be difficult for them to conceal their natural behaviour and this results in them being labelled as 'unwanted' or 'disruptive' children. It is possible that some of these children are affected with the condition of ADHD and therefore this was seen as being worthy of enquiry and influenced the study reported in this thesis.

There are some culturally specific factors which may act in a detrimental manner to deny access to education for some learners. For example, in some communities disability and certain specific aspects of emotional problems is viewed fatalistically or as a result of a past Karma. The Karmic theory of traditional Hindus, which perceives present situations as being a reflection of past deeds, is strongly entrenched within some communities (Alur, 2007). Furthermore, Alur (2001) reported that there is strong belief of 'disability as guilt, stigma and fear' among a vast majority of the people of India. Consequently, 'persons with disabilities are historically marginalised from social, political, educational, and economic participation' (Singal, 2006). It is necessary for greater research and study in this area to be undertaken to assist in overcoming such limiting views about the education of children with disabilities and special educational needs.

Indian teachers are relatively inexperienced and inadequately trained to address children's academic and behavioural issues in classrooms. Unlike in England, teacher educators have limited experiences of working in schools and "do not possess appropriate stage-specific professional training" (Singal, 2006). Furthermore, special education is not a compulsory paper in Bachelor's and Master's level programmes of education which are too theoretical with no provision for practical experience (Seshadri, 2000 p. 212). Additionally, special educators are trained by the Rehabilitation Council of India (RCI) and other non-formal institutions under the aegis of the Ministry of Social Justice and Empowerment (MSJE). Singal (2006) viewed this as the

existence of two exclusive systems of training for teachers: one for mainstream schools and another for special education teachers.

Though the relevant authorities in India have recently acknowledged such special educational needs as autistic spectrum disorders (ASD) and dyslexia, and proposed educational provision for pupils with these disabilities (Singal, 2006), the issue of ADHD has yet to receive the attention of policy makers. With regard to the level of research conducted in the area of ADHD in an Indian context there are many points worth mentioning here. Empirical evidence is lacking with regard to the systematic assessment of ADHD within Indian schools or childhood provision. Evidence has been gathered from medical research conducted outside of the school context largely by medical professionals who have limited experiences of working with children. Surprisingly, none of these medically based studies have proposed the need to conduct research in an educational context in India.

1.2.3 'Cross-cultural' and 'international' rationale

Most of the studies on ADHD have been conducted in Western contexts which have had a well established system of special education. These studies suggest that ADHD significantly affects children's academic, behavioural and social functioning in schools. The debate on aetiology, its causes, treatment and education, continues to receive much attention in these countries in both the academic press and the media. The educational issues surrounding children with ADHD, their rights, special educational categorisation and their inclusion in mainstream schools have had a profound impact on educational policies and pedagogical practices. Books, journal articles, newspapers, television programmes, government guidelines and professional guidelines have impacted considerably on this debate. Websites, local support groups, and 'enthusiastic' professionals committed to help children with ADHD abound. Therefore, for some authors this has become an issue of too much information or misinformation (Lloyd, Cohen and Stead, 2006).

By contrast, knowledge and understanding of ADHD in non-Western contexts is very limited (Rohde, 2002). Cross cultural variations of children with ADHD within multicultural societies like the USA and UK are not well understood though a handful of studies have been conducted in North American contexts (Livingston, 1999; Reid, 1995). These studies suggest that cultural factors influence the diagnostic procedures about ADHD, its knowledge and understanding by parents and professionals of non-white backgrounds.

Furthermore, some studies reported that there are a number of cross cultural issues in the identification and management of the difficulties associated with ADHD between cultures (Leung, Luk, Ho, Taylor, Mak and Bacon-Shone, 1996; Rodrigues, Patel, Jaswal and De Souza, 2003; Wilcox, Washburn and Patel, 2007). However, studies in Brazil and India suggest that the characteristics of ADHD can be identifiable in developing countries or culturally different populations and problematic behaviours such as behavioural, academic and social problems have been similarly reported whether in developed countries or in Western contexts (Wilcox *et al.*, 2007; Rohde, 2002). However, there is insufficient information to suggest the cross cultural validity of the concept of ADHD (Wilcox *et al.*, 2007) and therefore, there is a necessity to conduct research in non-Western contexts.

Moreover, for the identification of children with ADHD, the DSM-IV Criteria (Diagnostic Statistical Manual) of APA (American Psychiatric Association) is widely used internationally. Using this criteria, studies found significant differences in the prevalence rates of ADHD across various cultural contexts, though the worldwide prevalence of ADHD is reported as 5.3% (Polanczyk, Silva de Lima, Horta, Biederman and Rohde, 2007). However, there has been a scarcity of studies exploring cultural issues and problems when identifying children with ADHD using this US based standard assessment tool. Nevertheless, a study conducted by Rohde (2002) suggests that DSM-IV criteria for ADHD may be suitable for use in a developing country like Brazil.

At the same time, it is important to mention that Brazil has a history of a strong European cultural orientation as observed by Wilcox *et al.* (2007). Furthermore, these authors emphasise that there is a need to use locally

acceptable models of identification, and to have an awareness of, and interventions for children's mental health needs in developing countries like India which are fit for purpose. Similar observations were also made by Canino and Algeria (2008). These authors reported that the classification system of ADHD which is found as useful in one culture may not be significant to another culture. The study conducted for this thesis recognised these features and deployed a culturally adapted version of DSM IV-currently-Text Revision (TR) criteria applying social constructivist principles to identify children with ADHD in the South Indian context of Kerala. Such an approach was also deployed to investigate whether the DSM IV (TR) criteria was effective when transferred into a culturally different population like India. However, this study may not only be relevant to the Indian school population but also of some significance for the English school population where an increasing number of children from non-Western contexts are receiving their schooling.

1.3 The Research Site

This research was, in part, located in a developing country, India, where an increased interest in moves towards inclusive education is making demands upon the need for more culturally valid assessment tools (Ahuja, 2002; Wilcox *et al.*, 2007; Canino and Algeria, 2008). The research described was undertaken by a researcher familiar with the educational conditions in India with the intention of making a contribution to the development of special education assessment and provision within that country.

1.3.1 Indian national context

India is a nation of vast contrasts; socially, economically and culturally. India's ethnic groups mainly consist of Indo-Aryan 72% (mainly North and West India), Dravidian 25% (mainly South India), and Mongoloid and others 3% (mainly North East India). India is also a land containing almost all

major religions in the world though the majority consider themselves as Hindus (84%), but the federal state does not have an official religion and is governed on secular lines. The majority of Indians live in rural areas and in poor conditions (Anita, 2000). On the other hand, the purchasing power parity of 15% of the Indians is equal to that of other developed countries. Some states in India are economically and socially more advantaged than others. This is true of Kerala the state which provided a focus for this thesis. The religions, different cultural traditions, and people with extremes of wealth contribute significantly to the shaping of Indian society in which education is seen as a key element for future development.

In administrative terms, India is a union of 28 states, 1 'capital state' (Delhi) and 6 union territories which form the country as a federal state. There is a Central Government and a State Government in each state including one in the capital state. There are 18 languages officially accepted by the Indian governments including English (Timmons and Alur, 2004) though Hindi is the recognised national language which is spoken by about 20%-40% of the total population. Each state has its own local language which is the main medium of instruction of education. English is considered as a common language for mediation between Central and State Governments. Hence India is a multi ethnic, multi-cultured, multi-religious and multi-linguistic society with a long tradition of formal education.

Out of a population of 1.2 billion 31% are children aged 0-14 in India (UN, 2008). The 61st National Sample Survey of 2004-05 reported that there were 194 million children in the country with 128 million school-going children in the 6-10 age groups (MHRD, 2005). The number of male children is higher than female children and those are estimated as 110 and 84 million respectively. Most of the children live in rural areas of the country and a vast majority of them belong to lower social groups. In addition, 0.8% of the total number of children in the age group 6-13 are described as physically or mentally challenged.

Currently India is perceived as an emerging economic powerhouse or economically developing country whilst being the biggest democracy and the second largest scientific development region in the world.

In 1950, India made a Constitutional commitment to provide free and compulsory education for all children up to the age of 14. The goal, which was expected to be achieved by 1960, has remained a distant dream. Even now a large number of children are not able to receive any form of education. However, it is worthwhile to mention here a number of efforts that have been made throughout the years to make its citizens literate and to provide a quality education for all.

A number of legislative initiatives have been put forward by Indian Government agencies, notably the University Education Commission (1948), *Secondary Education Commission* (1952), *Indian Education Commission* (1964-66) and *the National Policy on Education* (1968). The Indian Education commission document, popularly known as the *Kothari Commission Report*, is considered as a pioneering and important attempt to restructure the Indian education system (formerly colonial education system) which formulated education within a nationally appropriate way in terms of the medium of instruction, curriculum, teacher education, and management of special educational needs. Based on the recommendations of this report, the Government of India introduced a national policy on Education which was the first time such an effort of unification had been made in the history of India. These initial efforts were mainly focussed on enrolment, but in the 1980s there was a shift towards quality-related issues. The initiatives developed included a *National Policy on Education in 1986* (MHRD, 1986), which was modified in 1992 (MHRD, 1992) and aimed to provide 'education for all', *Operation Blackboard* (MHRD, 1987) which aimed to improve the human and physical resources available in primary schools, and the *District Primary Education Programme-DPEP* (MHRD, 1993) which emphasised de-centralised planning and management, improved teaching and learning materials, and school effectiveness.

Currently, *Sarva Shiksha Abhiyan (SSA, literally Education for All Project)* (MHRD, 2000) aims to achieve universal education through micro-planning and school-mapping exercises. It envisages the bridging of gender and social gaps. This programme seeks to open new schools and to provide basic amenities for the existing schools with a focus on girls' education and children with special needs (CWSN). In 2002, the government of India declared free and compulsory education as a fundamental right for children in the age group of 6-14 years through the 86th amendment to the Constitution of India (Ministry of Law and Justice, 2007). However, this is yet to become law. Furthermore, it should be noted that embedded in all these policies are the efforts of Central Government, but interpretation and implementation varies from state to state. For instance, In Kerala, 12 years of education is 'free' but it is not compulsory. However, most children do attend school according to the government provided statistics (MHRD, 2005; Clayton, 2006).

1.3.2 The Keralian educational context

Kerala (Keralam) is one of the South Indian states with Malayalam as the local language. The Malayalam-speaking people of Kerala, who constitute 96% of the population, are called Malayalees. The people of Kerala are referred to as Keralites or Keralians. It is considered as the most socially developed state in India (Sen, 2005) having good indicators in Human Development and Physical Quality of Life Indices with high life expectancy, a low birth rate, low infant mortality, higher than usual (for India) rates of literacy and almost universal school attendance (UNDP Kerala, 2005). In addition, it is the only state in India having a higher female than male population (1000/1058). For these many reasons, the state is often compared to developed countries or Western countries by development researchers. This is important in the context of the research reported in this thesis where I have been dependent upon literature which emanates for the most part from Western societies.

Though Kerala belongs to the cultural and social tradition of India, it has some unique characteristics. Unlike other parts of India; Kerala is a social welfare state providing free schooling, health care, financial support for unemployed people, and the working poor. Here education is considered as an important factor in ensuring a higher social status and better economic life for its citizens. Sometimes, education is referred to as 'a social norm in Kerala' (National Council for Educational Research and Training-NCERT-, 2006). Furthermore, its education system is highly influenced by Left ideologies and Christian religious (especially, the Roman Catholic Church) principles together with Hindu and Muslim religious and cultural traditions (Sen, 2005; Tharoor, 2002). The population of Kerala is equally distributed as Hindus (higher castes), Muslims, Christians, and lower castes Hindus. These influences are collectively responsible for the fact that twelve years of school education (10+2) (following a state syllabus system) in Kerala are absolutely free; a minimum level of fee may be charged for Plus Two level education. However, economically and socially poor sections of the society are exempted from this fee payment. Yet, there are some fee paying (private, sometimes known as 'public' as in England) schools in the state though the number of such schools are relatively low. With the influence of the recent global economic developments, there is a higher expansion of such schools as there is a shift to 'neoliberal' economic policies within the state.

Despite this largely positive approach to development there are some paradoxical and negative elements that should be considered such as unemployment rates (especially graduate unemployment), alcoholism rates, the number of suicides, and road accidents which are the highest in India. Whilst Kerala is rightly perceived to be one of the most socially advanced states of India, it is also important to recognise that some of these more negative factors may be significant in influencing the ideas and attitudes of its citizens.

Like many states in India, Kerala follows 3 syllabus systems; the international syllabus (ICSE-Indian Council for Secondary Education), the central syllabus (CBSE-Central Board of Secondary Education) and the Kerala state syllabus

(and a few schools offer some special programmes under *Madrasas*). A vast majority of the schools in Kerala have adopted the state syllabus system with Malayalam as a medium of instruction; however, there are an increasing number of English medium classrooms within the state system. Hindi/ and English is the medium of instruction in the other two syllabus systems.

Similar to the national level pattern, the school system has a 'three language formula'; the local language (i.e., Malayalam), English and Hindi. It is evident that English is an important language in Kerala's education system with more parents seeking English media schools. A noteworthy feature is that the parents from a very rich socio-economic background or higher social and culturally advantageous families prefer to have their children educated either in ICSE schools or in CBSE schools. It is important to consider that the state has limited control over such schools. On the other hand, state schools feature a higher number of children from poor socio-economic backgrounds or disadvantaged families (especially in government managed schools). The majority of the children from poorer backgrounds attend state schools. The research reported in this thesis was conducted exclusively in schools which follow the state syllabus.

The structure of education in the state of Kerala is based on the national level pattern (10+2+3) with 12 years of schooling (Appendix One). The seven years of primary (age groups of 5-12) are divided into Lower Primary (LP-Class I to Class IV) and Upper Primary (UP-Class V to Class VII). This is followed by three years of secondary education (age groups 13-15, Class VIII to Class X). The formal school entry starts at the age of 5+ in class I and normally finishes at the age of around 17 or 18 (plus two or higher secondary). However, there is a slight variation in the structure of 12 years of schooling with some states in India. Early year's education in the state is not compulsory though there are many nurseries like Anganavadis and Balavadis (mainly in the local language) and then Lower Kindergartens (LKGs) and Upper Kindergartens (UKGs) (mainly English medium with various education models including the Montessori system). However, the focus of

the study reported in this thesis is on the children of the LP school system (5-10 years old).

Similar to other parts of India, the LP curriculum is intended to develop the basic skills of literacy and numeracy, with an emphasis of some understanding of the physical and social environment and healthy living habits. The transition from Class I to another depends on the results of year end examinations, which are administered and assessed within the schools by the relevant teachers. This is generally described as an 'all promotion' approach in LP level though there are a limited number of 'failed' children. The proportion of these children who are retained in a class having failed to meet required standards for progression through the school during the primary stage is comparatively lower than is the case in high school classes. This does however mean that there might be children who are older than the majority of their peers sitting in the same classroom.

Most teachers (98% in LP) in Kerala have a good personal level of education and a qualification for teaching whereas at national level this is 86 percent (NCERT, 2002). In comparison to other states in India, this state provides distinctive training for teachers in primary education and secondary education. At the same time, mainstream teachers have limited knowledge about children's special educational needs as reported elsewhere in India.

Education is highly valued by most Keralian parents who invest considerable resources and effort in providing their pupils with the best educational opportunities. Thus, much pressure on school achievement is exerted on children through a demanding academic framework. This means that teachers focus mainly on the transmission of knowledge, and their main purpose is to lead their students to higher academic performance, though some changes introduced in the state very recently attempted to address issues related to assessment and expectation which inhibit access for learners with special educational needs. In 2000, SSA was implemented in Kerala to improve the physical facilities of the school in order to raise the quality of education for all. Under this provision a regime of activity oriented education was

established and participatory methods of teaching and group activities are being promoted in the state. This legislation intends to promote more effective learning in those pupils who have previously failed to achieve in schools. This differs considerably from the more didactic techniques traditionally deployed in schools. However, teachers who have become embedded within more traditional approaches believe that this new regime is encouraging greater disruption on the part of some pupils.

In general, the Department of Higher Education and Department of School Education and Literacy under the Ministry of Human Resource Development and its subsequent bodies are responsible for all levels of education from primary to higher education in India. In Kerala, it is the Ministry of Education and its subsidiaries. The structure of Indian education and additional features of Kerala can be found in Appendices one and two.

1.4 Special and Inclusive Education in India

With an increasing awareness about special educational needs, inclusion and the developmental problems experienced by some children in India, teachers have become more concerned to address the full range of pupil needs in their classrooms. There is an emerging demand for more assistance in identifying children's difficulties in order to meet their needs effectively in schools. This has increased as the international movement towards inclusive schooling, encouraged by such documents as the Dakar (UNESCO, 2000), Jomtien (UNESCO, 1990) and Salamanca (UNESCO, 1994) statements have compelled teachers to acknowledge and consider how they manage the diverse needs of children. In India, specifically it has become important after the introduction of education as a fundamental right for all children from the ages of 6 to 14. At a national level, the Indian Government has recognised the need to part from its traditional approach of depending upon a rote memory, didactic and examination oriented education system and to engage more with an activity oriented, child centred education system which acknowledges the diverse needs of learners now present in Indian

classrooms. Along with this has come an increasing concern, expressed by teachers and parents for the perceived number of behavioural problems of children in the schools.

According to Sharma and Deppeler (2005), the culture of an extended family system and kinship in India always favoured the children with special needs or disabilities. However, the current system of Special Education in India is a transferred concept from the West introduced by Christian missionaries during the 19th century (Miles, 1997). Since then, there has been steady increase of special schools which rose to around 3000 by the year 2000 (MHRD, 2000). However, the vast majority of disabled children have no access to education in any form. The Government of India supports special schools, but it is not directly involved in establishing or running them. Moreover, the responsibility for such children rests firmly with the parents rather than the state and it is expected that the parents will make efforts to provide educational opportunities for their children (Vakil, Welton & Khanna, 2000).

1.4.1 Special education

Special education in India is often viewed as being exclusively for children with physical disability and who are mentally challenged (commonly termed as mental 'retardation'), whose needs are not met in mainstream education. In other words, it is the education for disabled pupils whose condition limits their engagement in ordinary classrooms as a consequence of their physical or mental 'unfitness'. These children have been educated within a special school setting with the support of a special educator providing a special curriculum and methods assuming that they cannot achieve much in their learning. The aim of this setting is to provide appropriate services, support, programmes, specialized placements or environments to ensure that their unique needs are addressed. This kind of setting is individually planned with adapted equipment and materials, and the teaching procedures are arranged in a way to provide care rather than education. This has resulted in children

having limited opportunities for participation in learning. Most often, the charitable and medical model approaches have prevailed in special education provision at the expense of the social model.

Under the *charity model*, the special schools are run by charitable institutions or non-government organisations (NGOs). The Ministry of Social Justice and Empowerment- MJSE- (2006) provides grants-in-aid for their operational costs and other expenditures to run these schools. Some of these organisations also receive funding from international organisations such as the Canadian International Development Agency (Singal, 2006). The NGOs are encouraged to participate in the planning and implementation of the government programmes in education for children with disabilities and special needs. The government is keen on the expansion of such involvement in many parts of India. These organizations have set up, developed and maintained segregated schools and they appeared as the major provider of education for children with disabilities and special needs (Alur, 2002). Moreover, Alur states:

“One of the main problems of the voluntary sector is the very limited and fast dwindling capacity to raise funds, and their increasing dependence on grants in aid from the Central and State Governments for survival.”

(p. 42).

Many authors argue that this has created exclusive systems in the education of children with abilities and disabilities in India (Singal, 2006; Alur, 2007). Furthermore, these special schools have a number of untrained staffs and the trained teachers have a limited understanding of children’s SEN. Most importantly, the training in India is connected to an NGO responsibility which provides special courses for teachers interested in the education of children with disabilities (Alur, 2002) with the support of RCI.

In the *medical model*, special schools are run by hospitals under their tertiary units to provide medical treatment for children with disabilities and other

mental health needs. They regard disability as a medical or genetic condition with the disabled often being regarded as “not educable” (NCERT, 2005). This is particularly the case with children diagnosed with the condition of ADHD (Malhi and Singhi, 2000).

Both the charity and medical models keep the children out of the mainstream school system and are controlled through the “vested interests” of professionals working in these two sectors (NCERT, 2005). Most importantly, it should also be acknowledged that there is a strong dominance of a medical perspective or medical pathology of disability which has led to a complete neglect of the social dimension of disability (Singal, 2006). Furthermore, several authors in India express concerns for the increasing number of privately funded special schools and lack of government involvement in special settings (Timmons and Alur, 2004; Singal, 2006).

1.4.2 Special education policies and practices

Integrated Education developed as an emerging concept in India during the mid 1960s with the support of establishments like the Royal Commonwealth Society for the Blind, and the Christopher Blind Mission. As a result, the Indian Planning Commission, in 1971, included in its plan a programme for integrated education. The Government launched a centrally sponsored scheme of Integrated Education for Disabled Children (IEDC) in December 1974 (MHRD, 1986).

The aim of IEDC is

- to provide educational opportunities to Children With Special Needs (CWSNs) in regular schools,
- to facilitate their retention in the school system
- to place children from special schools in common schools.

Under this programme, only a little more than one lakh (a hundred thousand) CWSNs have been provided. However, it has been a successful programme in

terms of creating awareness of the importance of integrating CWSNs into the mainstream of education. As a result of this awareness and related campaigns, the recognition of the needs of children with special educational needs was included in the National Policy on Education in 1986 which states that:-

“...Future emphasis shall be on distance and open learning systems to provide opportunities and access to all the major target groups, especially the disadvantaged, viz., women, scheduled castes and scheduled tribes, the adult working class, and people serving in the far - flung remote areas.”

(p. 29).

A programme under the Ministry of Welfare (presently the Ministry of Social Justice and Empowerment) to promote the integration of students with mild to moderate disabilities into regular schools and to ensure their retention in regular settings was shared by both Central and State Government equally (Sharma and Deppeler, 2005). The latter also reported that its impact was limited because of a lack of adequately trained and committed staff and inadequate coordination between the different departments of the Government of India, though it showed some successful outcomes. Within the provided resource model the provision developed could cover only a limited number of students with disabilities. For instance, by 1979-80, there were only 1,881 children from 81 schools all over the country who had benefited from this programme (Mani, 1988).

The Ministry of Human Resources Development, along with UNICEF launched another experiment; Project Integrated Education for the Disabled (PIED) in 1987 which showed a shift in strategy from a school based approach to a Composite Area Approach (NCERT, 1987). The areas were divided into a number of clusters and usually a specific block of population formed the focus of the project area. The project mainly focused on teacher training and implemented the process of sharing resources among schools grouped as different blocks. The programme achieved some successful outcomes (Jangira and Ahuja, 1993). However, it was not implemented at a national level but

rather it covered one administrative block each in some states in India. Notably, this project was not implemented in the state of Kerala.

Due to these many limiting factors, the programme was revised in 1992 and enacted its first piece of legislation related to special education: The Rehabilitation Council of India Act in which a 'hundred' percent assistance became available to schools in terms of assessment, training, resources and instructional materials with the support of voluntary organizations such as NGOs. The *Rehabilitation Council of India Act* was passed by the Indian Parliament in 1992 and amended in 2000 (RCI, 2001) with the focus of a broad based approach in the provision of special education. This Act makes it mandatory for every special teacher to be registered by the Council and lays down that every child with disability has the right to be taught by a qualified teacher. In fact it proved to be something of an obstacle for those teachers who engaged in teaching children with special needs without a licence.

Another policy level shift occurred in India which recognised any difficulty a child exhibited in learning was to be attributed not to a problem within the child, but to the whole school system and this was an initial movement towards an inclusive approach in education. The new whole school policy is also referred to as the social or environmental model. In effect, a world bank sponsored, centrally initiated, the 1993 *District Primary Education Project (DPEP)* was introduced in the country with a focus upon child centred pedagogy saying, "Welcome! I change to respond your needs" rather than "you change to our limited resources". The objectives of the project were to provide primary school access for all children, reduce overall dropout rates and gaps in enrolments and enhance learning achievements across all gender and social groups. DPEP set a stage where children with special needs could be provided with learning opportunities tailored to their needs within the title of *Integrated Education for Disabled (IED)*. By 1998 many DPEP states (where the project was implemented) had conducted surveys and assessment camps and evolved strategies to provide resource support for those children with special needs who were enrolled in DPEP schools. IED was initially introduced in the states in a small way by taking one block/cluster as a pilot

project in each DPEP district. From a few hundred blocks in 1998, IED is currently being implemented in 2,014 blocks of 18 DPEP states. Ten states including Kerala have upscaled the IED programme to all the blocks.

Towards this end DPEP supported:

- Community mobilisation and early detection
- In - service teacher training
- Provision of resource support
- Provision of educational aids and appliances
- Removal of architectural barriers (MHRD, 2005)

The 1995 *Persons with Disabilities (Equal Opportunities, Protection of Rights & Full Participation) Act* was introduced as a composite act covering all aspects of the care and education of persons with a disability, though it mainly deals with education and employment. Inspiration derived from this programme along with DPEP has provided some momentum to developments in this area. There was an increase in legal protection for people with disabilities after the introduction of this Act which was initiated in 1995 (Ministry of Law and Justice, 1996) and implemented in 1998. This was mainly concentrated on preventive and promotional aspects of rehabilitation (Sharma and Deppeler, 2005). This legislation guaranteed that children with disabilities are entitled to receive free education until the age of 18 and they are provided with access to education in the normal school settings or they are integrated into normal schools.

A landmark legislation was the *National Trust Act (National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disability)*, 1999 which was introduced and seeks to protect and promote the rights of persons who within the disability sector, have been even more marginalised than others (Ministry of Law and Justice, 2000). The main focus of the Act was to ensure the welfare of people with autism,

cerebral palsy, mental retardation and multiple disabilities on a national level (Cardoza, 2000). Still, this was not implemented widely in the country.

In 2000, the government implemented the SSA with an emphasis on a *zero rejection policy* for children with special needs. This project is collectively supported by the World Bank, the European Commission and the United Kingdom's DFID. The first phase of the programme focused on improving access to schools for all primary aged children, particularly for the hardest to reach communities, with a special focus on girls, children from disadvantaged communities, and those with special needs. Under this project, about three million children were identified as children with disabilities and led to the overall enrolment of 65% to schools. Kerala was one of the states which achieved a hundred percent enrolment ratio (MHRD, 2005).

Very recently, a *National Policy for Persons with Disabilities, 2006* was introduced under the MJSE with the focus of prevention of disabilities and ensuring rehabilitation measures (MJSE, 2006). A particular emphasis is given to women with disabilities and children with disabilities. One important aspect of this legislation is that early detection of the children's special needs is a given priority.

It should be acknowledged that there is a huge disparity between policy and practice. As in the case of Kerala, most centrally sponsored schemes or programmes not only in special education but also in the case of general education were introduced with a lack of political will and educational vision. In all these projects NGOs played the major role. There are issues of quality of service within these institutions (Alur, 2002; Singal, 2006). Until now, there is no specific legislation for identifying or educating children with ADHD either in mainstream or in special education settings. This gives the opportunity to identify children with such characteristics within mainstream settings and propose educational provision for their appropriate inclusion.

1.4.3 Trends in inclusive education

It can be seen that there has been a policy level shift from integration to inclusion in India. Singal (2006) noted that since English is an official language, this shift is a linguistic expression with limited attention on the underlying problems and difficulties associated with the inclusive education process. This has become a political agenda as it is commonly observed in developing countries in line with educational movements in international contexts (Ainscow, Jangira and Ahuja, 1995).

Furthermore, the term inclusive education in India generally appears to refer to the education of children belonging to marginalised groups (Singal, 2006). In other words, it is interpreted as providing education to 'out of school' children who have never been to school, and are unlikely to attend school. This is not surprising within the Indian context where education has been historically 'restricted to the elite and the affluent' (Alur, 2007). Evidently, it was reported as that many as 17.4 per cent were found not attending any educational institution in the age group of 5-14 years old in a recent estimate of the Government of India based on the 61st National Sample Survey (NSS) data of 2004-05 (Govinda and Bandyopadhyay, 2008). Many authors, for example, Alur (2007) and Singal (2006) suggested that three groups of children are marginalised or are excluded by the Indian education system. These three groups are:

- Group I: Girls
- Group II: Dalit children or children belonging to schedule caste (SC) groups/schedule tribes (ST), children from various religious, linguistic and ethnic minority groups or OBCs (other backward classes)
- Group III: children with disabilities

Several documents suggest that the largest proportion of 'out of school' children are girls. For example, it is reported that 67% of out of school children are girls (Nayar, 2002). According to Alur (2007) girls are 'less likely to go to primary school and much less likely to go to secondary school' and

'they are encouraged not to be educated' and 'forced to drop out of school at a young age'. There are several cultural and social norms for this disturbing condition of girls in India (Singal, 2006). The lower esteem afforded to girls are clearly observed in the continuing high levels of female infanticide, the dowry systems and selective abortion of girls (Alur, 2007).

However, a recent report by UNESCO (2007) showed an improvement in the enrolment and attendance of girls in primary schools in India. This is due to current economic growth and increasing government spending on education. The percentage of females attending schools has recently been reported as 79% (Govinda and Bandyopadhyay, 2008). Govinda and Biswal (2007) showed that the school enrolment of girls has gained some momentum and is greatly improved from that in previous years. *The National Programme of Education of Girls at Elementary Level (NPEGEL)* was implemented to increase the enrolment of girls (Annual Report MHRD, 2006-07: 21). Another Scheme launched in 2004, namely *Kasturba Gandhi Balika Vidyalaya (KGBV)*, involves providing residential schooling facilities for girls at upper primary level mainly in areas with predominantly under-privileged communities. 2,075 residential KGBV schools have been sanctioned in SC/ST and minority dominated areas. According to the *Annual Report* of MHRD (2006-07: 22) 428 KGBVs have been set up in Muslim dominated blocks and 441 in ST dominated blocks.

The excluded or out of school children belonging to Group II are estimated as 9.97% for Muslims, 9.54% for STs, 8.17 for SCs, 6.9% for OBC and 3.73% for others (NCERT, 2005). Alur (2007) argues that these children are suffering from socio-economic bias as their lack of schooling is associated with their poor socio-economic conditions. For example, the reason for the lowest level of school attendance among the Muslim minorities is considered to be poverty (The Government of India: minority affairs, 2006 p. 15). At the same time, Nambaissan and Sedwal (2002) noted that the attendance rates of SC and ST groups of children in urban are higher than in rural areas. This rural urban divide in terms of the provision of education in India is highly

significant (Alur, 2001) as an adequate number of schools are unavailable in rural communities (Govinda and Bandyopadhyay, 2008).

While figures relating to the numbers of disabled children (Group III) are hard to obtain, some estimates can be made. It is said that persons with disabilities (physical and mental) constitute 2.13% of the total population in India (office of the Registrar General, 2006) and the incidence of disability is more among the weaker or poorer sections of society, most likely in rural areas. Different estimates suggest that the numbers of children with disabilities are around 30-40 million. According to the Rehabilitation Council of India (2001), it is as high as 30 million disabled children as the best estimate. More recent estimates are not available.

Sadly, less than 10% of children with disabilities attend school (Chatterjee, 2003; Alur, 2007) including the charitable and non-charitable establishments. It is reported that 38 % of children with special needs (CWSN) identified under SSA regime are out of school (Govinda and Padhyopadhyay, 2008). It is important to recognise that there is no clear distinction made between disability and special needs. For example, the list of difficulties of children is provided as seeing, hearing, speech, moving, 'mentally retarded' and others (NCERT, 2005). It appears that there is lack of recognition of learning difficulties associated with the condition of ADHD as reported in this thesis.

In order to respond to the needs of these three groups, various ministries in India have been set up nationally and have initiated the schemes and programmes mentioned in the previous section. It is understood that the first two groups (I and II) have benefited from these policies and programmes of the Central and various State Governments through positive discrimination in education and employment. In addition, the organisations for these groups are able to pressurise the governments for their educational rights through political campaigns and related activities (Singal, 2006). At the same time, the third group of children, those with disabilities has been neglected (Ghai, 2002). This is in part because of their relative political weakness and perceived high financial costs for their education (Erb and Harris-White,

2001). However, it is noted that recently there has been a higher level of policy attention to the education of children with disabilities. In support of this, Singal (2006) reported that the disability movement in India is more active than before.

Inclusive education in India is understood as the inclusion of children with disabilities into education, but not necessarily to a mainstream education system as observed by Singal (2006). She identifies three levels of interpretation of this type of inclusive education in India. First, inclusive education is considered as an alternative education system, 'in addition to NFE (*Non-Formal Education*) and NIOS (*National Institute of Open Schooling*), which is available to children with disabilities' (Singal, 2006). Second, it means the provision of aids and appliances. Under this, distribution of books materials, uniforms, transport facilities and escort allowances are the prime focus of the education rather than the quality. Third, inclusive education is defined in terms of access and resources. This approach focuses on providing infrastructural facilities to children with disabilities; however, this has overlooked 'important issues such as teachers' pedagogical skills, the curriculum, and attitude towards those with disabilities' (Singal, 2006). She further noted that their inclusion in mainstream schools is provided with some prerequisite or pre-conditions for example, "academic readiness, emotional readiness, and communication skills". It is argued that that such procedures place the responsibility completely on the child rather than organisational arrangements (Singal, 2006). Yet, children at greater risk of exclusion are girls with a disability from a SC/ST family in a rural setting (Alur, 2007; Singal, 2006).

Thus the current focus on inclusive education in India is on the 'mainstreaming' or 'enrolment' of these three groups of children; girls, Dalit children and more recently children with disabilities who have never been able to access any form of education (Alur, 2007). This has ignored the necessary attention to the level of existing exclusionary practices within mainstream schools which may inhibit the learning of children who are already enrolled. In other words, there are many exclusionary factors that

remain unaddressed in India's mainstream education system. These factors should provide a priority for research as demanded by many studies (for example, Singal, 2006) on inclusive education in India. This was one of the intentions of conducting the research reported in this thesis.

1.5 Special and Inclusive Education in Kerala

The interpretations of special and inclusive education in Kerala are consistent with national level interpretations though there are some positive aspects of schooling in the state which would not be apparent in poorer parts of the country. The state of Kerala has fewer numbers of out of school children than other Indian states. It has been reported that a 'zero percentage' of children within the state have never attended schools (NCERT, 2005). This study also showed that this state had the least number (0.55%) of out of school children (6-10 age groups) in India after Himachal Pradesh (0.54%). Additionally, a census report by the Keralian Government (2007) showed that there was 1.69% of out of school children in the age group of 5-18 years old. Both national and state surveys similarly reported that a higher percent of boys than girls are in the out of-school children category in Kerala. This is in contrast to the national level figures. In terms of social groups, the percentage of children out of school are 1.73 for ST, 4.83 for SC, 0.20 for OBC, 0.48 for Muslims, 0.27 for others in the 6-13 age groups. This also contrasts with national level figures, most notably the educational achievement of the Muslim community in Kerala.

With regard to children with disabilities, a national survey in (2004-05) showed that there were 20,151 children with physical or mentally challenged difficulties within the 6-13 age groups in the state. 30.8% percent of them were out of school. Amongst this figure, 70% of them had multiple disabilities. According to the Government of Kerala child census report (2007), the percent of children with disabilities was estimated as 0.82 % of the total child population from the age 5-18 years old. However, both surveys showed that there was a significant number of dropout children especially

from class I-IV (in the national survey) and most of them were from rural areas. One of the main reasons according to the state census survey is considered to be children's disinterest in learning. None of the studies have been conducted to show why children are not interested in learning. As mentioned in the previous sections of this chapter, most of these studies being statistically guided and lacking qualitative information gives a limited understanding of children's difficulties in learning.

On a more positive note UNICEF (2003) reported that the IEDC scheme has been implemented throughout Kerala since 1992. About 8000 schools cater for 27,350 children with special needs (visual handicap: 1700; hearing handicap: 5650; orthopaedic handicap: 13,000; mental retardation: 4000). The Ministry of Human Resource Development supports the Integrated Education of the Disabled Cell under the Directorate of Public Instruction in Kerala. About 56 resource rooms and one vocational rehabilitation centre are functional. Over 200 special teachers are working under this scheme. The IEDC component of the DPEP programme was initiated in 1994, and has been implemented in six districts. Now special education programmes are working under the SSA regime. UNICEF further reports that in the Malappuram district (the largest; predominantly Muslim population) of Kerala, which has 22,000 teachers and 800,000 children in classes 1-12. There are 14,146 children with special needs who have been identified and enrolled in normal schools. This is cited as one of the five best models of inclusive education in India.

However, the same report hints that this development has not taken place in other districts of Kerala. According to the 2004-05 report, the total number of CWSNs was assessed as being as many as 153,016 in the state and all these children (100 percent) are either enrolled in ordinary schools (99 percent), Education Guarantee Scheme (EGS) centres or provided with home based education (*c.f.* in India, it is 90 percent) (MHRD, 2005; Govinda & Bandyopdhyay, 2008). Notwithstanding, both these reports observed that for many CWSNs education has been a distant dream, particularly in a national context. Another important issue within these reports is that none of them mentioned the different areas of special needs such as autism, dyslexia or

ADHD and were silent about the assessment criteria used for the identification of CWSN which necessitates identifying children with specific forms of special needs.

Though reports focused on Kerala suggest that the state has a very impressive educational status within India and the outside world in terms of its commitment to education and health (Sen, 2005; Clayton, 2006), education for disabled pupils or special needs has not yet become a priority for the State Government. One reason for this it could be argued is that special education is always a subject matter for Central rather than State Government. Most of the initiatives which were implemented in Kerala were as a response to a Central Government plan of action for meeting the needs of children with disabilities.

However, recently it seems there has been more priority given to children's learning difficulties such as dyslexia and autism, but that the concept of ADHD still has a limited understanding within Kerala. In addition, teachers are not trained to manage children with such conditions as ADHD. However, there are some medical professionals and adults who work with children's affairs who have started to raise awareness in parents and this is resulting in new demands for intervention. It is clear that none of the programmes recently introduced in the country have given sufficient attention to the impact of change upon pupil behaviour or the necessity to support teachers in adapting to new teaching methods within a framework which recognises and addresses issues of behaviour.

1.6 Research Questions

My initial investigations of ADHD within India and my exploration of policy and provision developments in this context provided an impetus for the research reported in this thesis. In particular these investigations enabled me to identify specific questions which I believed could be addressed through an empirical study.

The specific questions addressed in this study are:

- What levels of awareness of ADHD exist within the sample schools? How do teachers and parents in the context interpret ADHD characteristics of their children?
- What is recorded incidence of ADHD in schools within the Trivandrum schools district of Kerala, South India?
- How effective are the standard procedures used to identify ADHD when used in a South Indian context?
- How do cultural influences impact upon the validity and reliability of these standard procedures when introduced into a South Indian context?

1.7 Aims and Objectives

The study examined the cultural validity in a South Indian context of current standardised procedures, notably the DSM IV (TR) criteria, adopted for the assessment of ADHD in children, which were developed in the USA, and the ways in which these have been interpreted and applied in the UK and elsewhere. The study focussed upon the ways in which diagnostic information was interpreted and used to inform the planning of educational provision and teaching for this population of learners. An emphasis was placed upon teacher understanding of ADHD and the provision of training in both general and behaviour management and that specifically related to the condition.

1.8 Summary

It is important to conduct research on ADHD in a non-Western (India) context where there is limited awareness and understanding of this special education need. Whilst most of the research conducted into ADHD has been located within Western societies, the challenges faced within India are both complex and founded upon a high level of ignorance of the condition.

Moreover, identification of children's special educational needs is being emphasised by several government documents and reports (MHRD, 2005). The research discussed in this thesis was conducted in Kerala, which is often referred to as India's most literate state, as such it may not be regarded as representative of India as a whole. However, as will be demonstrated within this thesis, the issues surrounding identification, understanding of ADHD within Kerala are considerable. If this is true within a state which prides itself on the standards of its education service and the teachers within it, it is likely that in other, more economically disadvantaged states, the situation will not be any better.

Where efforts have been made to undertake assessments these have generally been conducted using the DSM IV criteria as an assessment tool. This is to be expected as this is a recognised diagnostic and assessment procedure which is widely used throughout Western society. However, it must be considered that there might be some cultural factors impacting upon the validity and reliability of these standard procedures when used in India. Additionally, such medical research has to date had little impact upon the policies and practices of schools in addressing the needs of pupils with ADHD. It was therefore felt necessary to conduct educational research in this context which would propose some policies to improve the practices which will be of benefit to learners with such difficulties and their teachers. Limited educational research in this area has been conducted within a non Western context. It would therefore appear timely to undertake a study of ADHD as an emerging area of research which may contribute to the identification and management of such learners. It is also to be hoped that such a study will inform discussion on appropriate educational provisions for those learners who may otherwise be marginalised within an Indian school context.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Literature relating to several aspects of Attention Deficit Hyperactivity Disorder (ADHD) is reviewed in this chapter from different perspectives, which have been considered by researchers from a number of disciplines. As a researcher who comes from an educational background, it is inevitable that my own interests and interpretations of the subject have been shaped by my personal and professional experiences. It is however important to recognise that there has been much written about ADHD by researchers who bring other perspectives from for example, the medical profession, psychology or the biological sciences. Their construction of ADHD is inevitably founded upon and influenced by their professional background, which invariably means that a number of differing perspectives exist which extend to a level where some researchers dispute both the conditions associated with ADHD and in some instances its very existence. Such is the level of interest and controversy surrounding this subject that special journal issues have been devoted to a discussion of ADHD from a wide range of perspectives, these have included for example *School Psychology Review* (1991: 20, 2), *Exceptional Children* (1993: 60, 2), *Educational Child Psychology* (1997: 14, 1) and *The International Journal of Disability, Development and Education* (2006: 53, 2).

This chapter is divided into three parts. The first part considers a historical overview of ADHD and the ways in which the condition has been variously interpreted by a range of professionals. In the second part the focus will be on educational perspectives of ADHD; its principal characteristics, its associated difficulties in school and home contexts with reference to social and behavioural aspects. In addition attention will be given to teachers' knowledge and attitude towards children with ADHD across different countries and those educational interventions developed to maintain children's attention and appropriate behaviours in the classroom.

Consideration is given to how professional interpretations correlate with parents' knowledge and attitude towards their children's needs and the educational interventions adopted when working with them. The final part of the chapter will provide a critique of those limited studies conducted into ADHD in India and cultural validity and reliability of the concept of ADHD and its diagnostic procedures.

The aim of this review is to briefly examine the literature on ADHD internationally, in order to present ADHD as a widely recognised special educational issue. In addition, I summarise the research on ADHD that has been carried out in different cultural settings either in an educational or a non-educational perspective. I also discuss some of the professional controversies and cultural variations in the interpretation of ADHD. By doing so, I intended to highlight some research gaps between Western and Eastern society, and between developed and developing countries within the area of ADHD in its assessment procedures and in subsequent special educational provision for the identified children. The review draws attention to some differences between education and other disciplines in the area of ADHD research. Each of these provides some basis for the current study in an Indian context.

2.2 A Historical Overview of ADHD and DSM Criteria

In this section, I discuss a historical overview of the concept of ADHD and its diagnostic procedures, notably DSM criteria. This will suggest that the concept of ADHD and its diagnostic criteria are not a recent 'discovery', but that they have been gradually shaped by researchers, professionals, and most recently, parent organisations (Lakoff, 2000). Many interested people have contributed to the growing awareness of the 'disorder' either to make it a false construct or a valid condition. This overview is significant in the context of India where professionals and academics have given limited attention to the historical development of the concept of ADHD. The usual procedure followed in the country is to identify whether the symptomatic

criteria of DSM exist among Indian children; most often they were adopted 'blindly' with little recognition of possible cultural influences. In fact, the current criteria - DSM IV (TR) - 'have not formally incorporated social or cultural factors as exclusionary criteria of disorders' (Canino & Algeria, 2008).

This overview also indicates the 'knowledge gap' between developed and developing countries in terms of assessing children's 'deviant' and 'normal' behavioural characteristics: nearly all such discussions have occurred in Western societies. Looking at ADHD from different cultural perspectives, as in the present study, understanding of ADHD will be strengthened and this will help to formulate future directions of the diagnostic criteria of ADHD. The present edition of DSM IV (TR) does not reflect a broader understanding of ADHD because one set of criteria are used for all cultural groups. Rousseau *et al.* (2008) suggest that by taking culture into account in the assessment procedures, multiple meanings can be created in terms of child's experience in different cultural worlds they belong to. This will provide an opportunity to develop a number of strategies to deal with the issue of ADHD with reference to specific cultural expectations (Rousseau *et al.* 2008). Unfortunately, limited discussion is devoted to the cultural influences of diagnostic criteria as can be seen from this brief historical overview.

It is reported that children exhibiting the symptoms of ADHD were observed and documented in the mid 1800s (Barkley, 2005). In 1845, Dr. Heinrich Hoffman's "The Story of Fidgety Philip" an illustrated poem, described ADHD behavioural characteristics as associated with a child as being demonstrated in one who 'wiggled', 'giggled', 'swung backward and forward', 'tilted his chair', was 'naughty, restless', and 'screamed with all his might'. The first well documented descriptions of the disorder appeared in England when George Still (1902) labelled the set of behaviours as "defects in moral control". Subsequently, different labels were given children associated with similar characteristics of ADHD.

Bradley (1937) reported that the use of stimulant drugs made spectacular positive changes in children with behavioural problems, notably their school

performance had improved dramatically. This may be the introduction of stimulant drugs for treating children with ADHD-like characteristics. In the 1950s, the disorder was called "hyperactivity" and was often associated with "minimal brain damage" and eventually minimal brain dysfunction (MBD) (Barkley, 2005). Some years later, the name "Hyperkinetic Disorder of Childhood" was used to describe the delinquent and deviant characteristics of children (Barcai & Rabkin, 1976). This was described in the second edition of Diagnostic and Statistical Manual (DSM) published by the American Psychiatric Association (1968) and was given as a "Hyperkinetic Reaction of Childhood", a disorder resembling ADHD. This hyperactivity disorder was characterised in this document by inattention, impulsivity and hyperactivity.

In the third edition of the American Psychological Association (APA) manual (DSM-III) published in 1980, the name of this childhood disorder was changed to Attention Deficit Disorder (ADD) with (ADD/H) or without hyperactivity (ADD/WH). This publication presented an expansion of the proposed diagnostic criteria. It was suggested that ADD and ADHD were two different conditions. For ADD a minimum of 8 criteria from a list of 14 were considered as essential characteristics if a diagnosis was to be given. In the assessment of ADHD, 18 possible symptoms divided into two sub-groups, 'Inattention' and 'Hyperactivity' was proposed. This edition was revised in 1987 as DSM III R in which ADHD was firmly established emphasising hyperactivity. This version had given the possibility that the individual could be termed as ADHD even without the presence of all of the characteristics of hyperactivity where those of inattention prevailed.

The current label for the 'disorder', Attention Deficit Hyperactivity Disorder (ADHD), can be found in the DSM-IV, which came into effect in 1994 as a result of a series of studies showing ADD without hyperactivity. Since the publication of this, there has been a widespread discussion about ADHD and its origin, courses, causes and treatment especially in Western contexts. The criteria, widely used to identify children with ADHD, have been established by the DSM-IV, and more recently DSM-IV-TR (Text Revision) (APA, 2000) and

have been largely accepted by clinicians. ADHD is one of over 300 conditions described as psychiatric disorders listed in the DSM-IV.

Lloyd and Norris (1999) noted that identification of children with ADHD has increased dramatically in the 1990s. The vast majority of the literature associated with this pervasive condition comes from post-industrial 'Western' nation states and developed countries; little is reported about ADHD from developing countries (Rohde, 2002) like India. This is particularly important in respect of the research reported in this thesis. According to Lloyd and Norris (1999), the rapid increase of identification and drug treatment has been due to the effect of drug companies, enthusiastic medical professionals, media coverage and lobbying parents anxious to include children with difficulties in mainstream school as part of the inclusive education agenda in these economically advanced nations. They suggest in particular that the pressures exerted by parents seeking a diagnosis have been significant. Frequently, parent groups around the world have referred to practice in North America or Australia to support their assertion that other countries, including the UK are backward in recognising and providing 'treatment' for children with ADHD. In India too, some articles on ADHD have been written during this time which have suggested that medical agencies are slow to respond to the needs of children given a diagnosis (Bhatia, Nigam, Bohra & Malik, 1991; Sidana, Bhatia & Chaudhary, 1998; Srivastava & Shinde, 2004). However, they paid limited attention to the possible cultural influences in the diagnostic procedures.

2.3 Interpretations of ADHD

Four main interpretations of ADHD appear in the literature in terms of definition, cause and 'treatment' and can be described as follows and are elaborated below.

- *The Biomedical model* which asserts that ADHD is essentially a bio-medical problem in which psycho-social factors are of less significance in determining the behavioural disorders of children. The focus of this model suggests that ADHD is inherent within individuals or derived from genetic factors.
- *The Psychological model or cognitive style orientation* which focuses on the possibility that ADHD, whilst describing genuine differences between people, is not a 'disorder' but a range of traits indicative of undervalued intellectual and social characteristics, such as high levels of creativity, and a preference for concreteness over abstraction in learning style (Cooper, 1997) or the problems associated with faulty information processing (Tannock, 1998).
- *The Socio-political model* which focuses on ADHD as a social or cultural construct, and argues that the problems associated with ADHD are not so much located within the individual but are to be found in problematic aspects of the social context or culture inhabited by the individual. This model suggests that the ADHD-type traits are influenced by the disappearance of play in natural surroundings and is exacerbated by the 'evils of modernity' in child bearing (Timimi, 2002; Armstrong, 2003).
- *The Multimodal position* sees ADHD as being best understood as a bio-psychosocial construct based upon an interplay of biological, psychological and social factors. In other words, the perspective argues that the phenomenon of ADHD should be understood as complex in which behaviour of the children is influenced by biological, psychological, social and cultural factors (Travell and Visser, 2006)

2.3.1 The biomedical position

According to the biomedical position, attention deficit hyperactivity disorder (ADHD) is a 'medical deficiency' or a 'disease'. ADHD is 'a syndrome with neurobiological aspects and complex genetic factors being primarily implicated in the aetiology' (Global ADHD Working Group under Remschmidt, 2005). This model with its emphasis upon deviance from the 'norm' identifies ADHD as a 'mental disorder' which has a clinically significant behavioural or psychological pattern that occurs in an individual and is usually associated with distress, disability or increased risk of suffering. For some researchers, ADHD has been identified as a 'developmental disorder' that is not usually expected as part of normal development or of the culture of an individual in which she/he is brought up. In support of this view, a recent study by Shaw, Eckstrand, Sharp, Blumenthal, Lerch, Greenstein, Clasen, Evans, Giedd, and Rapoport (2007) suggested that children with ADHD had developmental delay in respect of the cortical maturation of the brain, but not abnormal development or deviation in the brain's development.

The proponents of biomedical approach suggest that medication will help the individual to be more alert and able to focus and sustain attention. Milich (1994) showed that there was some evidence to support the view that medication improves the performance of children with ADHD especially when they face more challenging tasks. However, there is a significant difference of interpretation of research in this area between different nations. In the USA, a large majority of school-aged children diagnosed with ADHD receive medication annually, whereas in the UK, it is reported as being a less consistently adopted approach (Lloyd *et al.*, 2006) and often controversial (Behaviour 4 Learning website, 2008). Moreover, the overemphasis of medication use for children with ADHD has been severely criticised by many educators who express concerns about side effects and its detrimental impact upon essential learning factors such as concentration. The main side effects of medication have been reported as insomnia, appetite depression, weight loss, headache, irritability and stomach ache (Cooper and Ideaus, 1996). Therefore, medication is advised as a last resort to managing severely

affected children with ADHD (Kewely, in Cooper & Bilton, 1999) that is when the child is creating serious issues in the classrooms and at home after trying all possible measures to manage the difficulties through other approaches.

2.3.2 The psychological position

According to this model, children with ADHD are deficient in some psychological (e.g. inhibitory) processes which cause them a delay in behavioural responses. It is one of the reasons that they seem as though they have less motivation compared to other more compliant or controlled children. Further, Tannock (1998) reported that children with ADHD have problems in basic cognitive processes, such as sensation, perception, motor activation, attention and memory. Evidence from cognitive research supports the notion that children with ADHD have problems with two mechanisms; inhibition (stopping of motor activation) and working memory (holding of information to guide subsequent actions). It is particularly suggested that there is significant impairment in the cognitive and emotional processes and the child's internal world and therefore there is a failure to acquire cognitive and emotional control (NICE, 2009). The cornerstone of the cognitive orientation of ADHD is based on the evidence from research which suggests ADHD is characterised by executive dysfunction or deficits in inhibitory and executive functions (Barkley, 1997).

A number of psychological interventions including psychotherapy, cognitive-behaviour therapy (CBT), behavioural management training, social skills training and parental training were suggested for children with ADHD. Whilst a medication approach largely focuses on reducing the 'symptoms' of ADHD, psychological interventions aim to help a child change her/his behaviour or to improve social functioning (NICE, 2009). These approaches are proposed because some of the difficulties associated with ADHD are related to children being unable to respond to the instructions or suggestions given by adults, not doing work at a desirable behavioural level and a lack of self control or engaging in inappropriate activities as if they are distracted. The focus of

such interventions is perceived as a means of modifying thinking processes. There are a number of strategies involved in this intervention approach to the management of children with ADHD. One of them is considered to be self regulation interventions (Reid, Trout & Schartz, 2005) which include self-monitoring, self management, self reward, and self recording of self management. Binder, Dixon & Ghezzi (2000) implemented self-control training and reported positive outcomes in the cognitive development of children with ADHD. However, there are contrasting views about the effectiveness of these approaches (for a review, Hughes & Cooper, 2007; Froelich, Doepfner & Lehmkuhl, 2002).

However, it should be recognised that some researchers are sceptical about the biological or genetic basis of ADHD and argue that the 'often' behavioural characteristics of children identified by the DSM IV as ADHD does not have validity in a given classroom or in a given culture (Cohen in Lloyd *et al.*, 2006). According these authors, ADHD is 'a list of all the behaviours that annoy teachers and require extra attention in the classroom' (Breggin, 2002: p.12). By doing so, they questioned the biological psychiatric concept of ADHD.

2.3.3 *The socio-cultural position*

The medical model considers ADHD as a *medical problem* and suggests a *medical solution* for children with ADHD. The psychological position views ADHD as a *cognitive impairment* and therefore suggests *cognitive behavioural therapy* for these children. Both of these theories consider that the problem of ADHD is an impairment within the individual and therefore, the solution is to 'treat' and hopefully arrest 'symptoms'. The social or cultural model of ADHD does not consider individuals as a problem but instead it argues that there are different factors that influence the behaviour of the child. The social model argues that children are not the problem, but ADHD may result from societal issues such as social disadvantage or a pressured exam oriented education system which is founded upon the

imposition of competition with which some children cannot cope. They see the problem of ADHD within a social rather a medical perspective. The grounds for a sociological perspective of ADHD is that the present medical diagnostic approaches to ADHD do not sufficiently engage with childhood behavioural and learning problems associated with sociological factors (Lloyd *et al.*, 2006).

Additionally, the social model is sceptical about the power of knowledge held by the medical professionals and their influence on the general public. The social model asks critical questions of childhood problems such as whether the child with ADHD is simply "guilty" of failing to fit the behavioural expectations of a technocracy. It accepts the notion that being different is not just related to ADHD and recognises that every child is unique, with a distinct personality and temperament (Barbuto, 2005). Lloyd and Norris (1999) suggest that the medical model has ignored the individual's responsibility for their actions or society's impact in creating childhood behavioural problems. Another important aspect of the social construction of ADHD is that an individualised and medicalised impairment view has failed to extract children's views of their own needs and difficulties and also failed to assess the effect of labelling on children (Timimi, 2005; Travell & Visser, 2006).

Moreover, the medical literature on ADHD has often presented the view that the strengths, talents, and abilities of children labelled as having ADHD are almost nonexistent and could not be considered non-biological factors that could account for some of the differences among children, including stress, learning style, and temperament (Armstrong, 1996). Therefore, it could be argued that ADHD is best understood as a cultural or social construct (Timimi, 2002) rather than a medical or biological construct. It is suggested that children's behavioural problems are rooted in social causes (Lloyd *et al.*, 2006) and cultural factors associated with individualism and family breakdown and neglect of collective responsibility in child bearing (Timimi & Taylor, 2004). However, it is proposed that this model alone is not able to provide satisfactory information about the causal factors associated with children with ADHD characteristics (Lloyd *et al.*, 2006).

It appears that there is no professional agreement on what ADHD is or what should be done about it (Timimi & Taylor, 2004). However, in order to show that ADHD disorder assessment procedures are valid and are not simply derived from the vested interest of pharmaceutical companies, a *consensus statement* was published by eminent psychologists and psychiatrists from around the world under the leadership of Barkley (2002). For Timimi and a group of professionals in their response published as '*A Critique of the International Consensus Statement on ADHD*' (2004) this statement is best understood as a position statement of the supporters of ADHD as a medical condition and one which ignores other factors including those of a cultural nature which might influence the onset of ADHD. Another consensus statement was published as a '*Global consensus on ADHD*' under *Global ADHD Working Group* (Remschmidt, 2005). This aimed to re-affirm 'ADHD as a valid disorder that exists across different cultures and recognised that 'although these findings are from developed countries, the impact in developing countries is likely to be similar'. In fact, there is a poor representation from the non-Western world or developing countries in any of these consensus statements which leads many working in these countries to challenge their validity.

One of the developing countries which did appear in the lists of representatives of professionals is Brazil. However, Wilcox *et al.* (2007) claim that 'Brazil has a strong European cultural tradition' and may not be truly representative of other less socially and economically developed states. Only one Indian professional was included amongst more than 100 professionals across the world as a contributor to these consensus statements, casting doubt upon the representative nature of the documents. One of the issues upon which there does appear to be some agreement across the disciplines and professions is that comorbidity is extremely high, throwing doubt on the specificity of the diagnosis. However, it is argued that hyperactivity is neither a social construct nor a genetic disease (Timimi & Taylor, 2004). In some point, this 'unhealthy' debate has led to ADHD being contested in a range of different perspectives that is multimodal and confusing as observed by Cooper (1997).

2.3.4 The multimodal position

Cooper (1997) views ADHD in a multimodal perspective recognising the limitations of both medical and non-medical model. Since there are no specific cognitive, metabolic or neurological markers and even no medical tests for ADHD, understanding this complex condition in purely a biomedical perspective is very much limited (Timimi, 2004). However, any interpretation should not be based upon a blanket rejection of the medical model, a fact that has been highlighted by Cohen (in Lloyd *et al.*, 2006). Instead, the perspective of ADHD should be based on the combination of biological and psychosocial factors (Hughes and Cooper, 2007; Travell & Visser, 2006). It is, Timimi (2004) suggests a fact that the apparent immaturity of children is a biological fact, but the ways in which this immaturity is understood and made meaningful is a matter of cultural or social context. Furthermore, behaviour is the product of both biological and social influences (Cooper, 1997). The basis of this argument is that ADHD is a complex phenomenon that can be understood in different ways (Cooper & Bilton, 2002). Unfortunately, there is limited literature on the multimodal perspectives of ADHD. Therefore, a holistic approach on ADHD assessment is needed which may include multidisciplinary assessment procedures involving parents, teachers, children and psychologists. Each of these contributors can provide different perspectives which when combined may serve to assist in providing an understanding of the many facets of ADHD. This may be particularly true in the case of an Indian cultural context where the medical model of disability and medical model of ADHD are prominent.

The latest research indicates that the most successful remedy is often a multi-process approach or use of comprehensive 'treatment' strategies which includes the combination of behavioural therapy and modification. Whilst medication can be helpful only in the short-term in treating core clinical symptoms of ADHD, for the long term effective functioning of the child behavioural therapy may be beneficial. Since ADHD is a multi-specific problem therefore a multi-specific treatment or multi-professional approach is needed (Cooper, 1997). In this approach, medical, psychological, social and

educational interventions (will be discussed in the next section) are all incorporated in managing the children with ADHD-like behaviours (BPS, 2000).

Most of these varied interpretations of and intervention strategies for ADHD have appeared in Western literature, but rarely in non-Western, including Indian, contexts. Most importantly, Indian literature is dominated by a bio-medical understanding of ADHD. An overview of this is outlined in a later part of this chapter. As with many other special educational issues in India, ADHD is projected as a biomedical psychiatric illness, caused by neurological factors and to be 'treated' by medically related interventions. However, this is not only the case in India; the dominancy of medical perspective of ADHD is also reported in Western societies (Visser & Jehan, 2009).

2.4 Educational Contexts and ADHD

ADHD has been widely considered as 'multidimensional' (Hughes & Cooper, 2007), a 'subject of confusion and controversy' (Lloyd *et al.*, 2006), and a 'complex childhood disorder' (Wheeler, Pumfrey, Wakefield & Quill, 2008). That is to say that, although ADHD is considered as a medical condition, the manifestation of the behavioural characteristics of ADHD most often impacts upon social situations especially in school settings (Atkinson, Robinson & Shute, 1997). The increasing number of children diagnosed with ADHD and treated with psycho-stimulant medication in recent years has contributed to considerable debate in the literature. For some researchers, the domination of a medical model of disability looking at children's disability rather than their abilities has led to an emphasis upon deficit views of children and young people given a diagnosis of ADHD (Forness & Kavale, 2001; Lloyd *et al.*, 2006). Wheeler *et al.* (2008) report that the educational context is that most affected by this relatively common disorder, particularly in the current drive towards increased inclusive education. Therefore, the presence of children with ADHD in schools is a significant cause of concern for teachers, parents and other professionals.

In order to provide appropriate levels of support for children, Hughes and Cooper (2007) suggest that it is important to understand ADHD as an educational issue. An important element of such understanding of ADHD in the school context is to guide teachers to identify children with those characteristics associated with ADHD and to plan effectively to meet the needs of all identified children. Another important aspect of considering ADHD from an educational perspective is to recognise the possibility that inadequate classroom and home environments might exacerbate the difficulties associated with this issue. Since education is the process of building up young lives, self regulation of children's actions and a focus upon the social, emotional and educational well being of children should be the functions of the professionals within school settings (Hughes & Cooper, 2007). When children with ADHD are exhibiting maladaptive functional problems, educational processes should provide appropriate support and services to enable them to achieve their potential. Thus, those researching ADHD as an educational issue recognise that addressing the difficulties of children with ADHD is an important responsibility of adults who are involved in the child's educational development including teachers, parents and others. In every society, children's academic performance is an important criterion for evaluating the effectiveness of current educational practices. Therefore, when children's academic performance is limited by an inability to access learning and possibly as a result of inappropriate behaviour, it is not only an issue for parents and teachers but also for educational policy makers.

2.4.1 The prevalence and nature of ADHD

It has been suggested that about 1.7 per cent of the UK population is believed to have attention deficit hyperactivity disorder (Likiernan & Muter, 2005). Epidemiological studies from the USA indicate that ADHD may be an even greater cause for concern with as many as 3-5% or approximately 2 million children receiving an official diagnosis (NIMH, 2008). Figures for the population elsewhere in the world are poorly defined, but the literature in this area suggests that the prevalence of ADHD has been identified as a major

source of concern not only to educators and but also others involved. However, the reported world prevalence rate for ADHD ranges from as low as 1% to as high as nearly 20% among school-age children (Faraone, Sergeant, Gillberg & Biederman, 2003). This indicates the difficulties associated with gaining an accurate picture of the problems associated with ADHD. Moreover, this varied estimate has become a cause for scepticism about the concept of ADHD (Timimi, 2005; Lloyd *et al.*, 2006).

A Brazilian research team led by Polanczyk (2007) made a review of prevalence studies and concluded that there were relatively minor differences in different parts of the world. The review's summary of rates showed that around 5.3% of school-aged children with ADHD worldwide. This means that proportionally one or two children with ADHD could be expected in a mainstream average class of 30 children. Additionally, the overall rate was derived from 102 studies comprising 171,756 children sampled from schools, communities, or birth registers. The regions represented were Africa (4 studies), Asia (15), Europe (32), the Middle East (4), North America (32), Oceania (6), and South America (9). They found that the North American rate (6.2%) only slightly exceeded the European rate (4.6%) and the highest rates emerged from Africa (8.5%) and South America (11.8%). The prevalence rate in Asia is reported as 4.1% in this study. In India, it is reported that ADHD is a major concern in the country with some figures being cited as high as 8% of the children (Malhi & Singhi 2000).

Efron and his colleagues (2008) suggest that the incidence of ADHD is such that all teachers should have a sound understanding of this condition. This presents a particular challenge for other researchers who believe that the characteristics of ADHD vary significantly throughout the school years of children (McGoay, Eckert & DuPaul, 2002). For example, it has been estimated that 2 to 7.9% of pre school (infancy) children meet the diagnostic criteria for this disorder (Egger, Kondo & Adrian, 2006). However, the disorder is considered to be more prevalent in the primary or elementary school years (6–11 years) whilst hyperactivity in those diagnosed with ADHD is generally thought to decrease with age (Faraone *et al.*, 2006). In an

earlier study by Hart, Lahey, Loeber, Applegate & Frick (1995) they found that age groups of 5 to 10 displayed significantly higher hyperactivity-impulsivity than children and adolescents from 11 to 18 years of age. In support of this view, Faraone *et al.* (2006) showed evidence for ADHD lessening with age.

However, not all studies present similar findings. For example, in a German sample of 17,461 children and adolescents (7,569 boys and 7,267 girls) researchers showed an opposite estimate of children with ADHD. The German sample showed that children with a diagnosis of ADHD are represented as 1.5% preschool age, 5.3% primary school (6-11 years), 7.1% secondary school (12-17 years) (Huss, Holling, Kurth & Schlack, 2008). Other studies suggest that many of the symptoms (i.e., inattention and impulsivity) generally persist into adulthood and in most cases throughout life (Weyandt & DuPaul, 2008). Nevertheless, there is considerable evidence to suggest that the prevalence rate of ADHD might decline, but not disappear (Asherson, Chen, Craddock & Taylor, 2007). Though these figures are different for various age ranges and according to different studies, it is evident that there are characteristics grouped together under a label of ADHD which significantly affect the overall performance of a number of school aged children. Evidence on the specific characteristics of ADHD within different age groups is clearly confused. However, it is clear that the literature suggests that the characteristics associated with ADHD are often developmentally inappropriate and seriously affect the educational functioning of the child in structured situations like classrooms.

In terms of adolescents with ADHD, Harty, Miller, Newcorn and Halperin's (2009) very recent study of a sample of 85 (clinically referred) individuals diagnosed with ADHD reported that they demonstrated more components of emotional difficulties such as aggression and anger, but less overt hostility compared to those displayed in their early childhood years. Among college students with ADHD, DuPaul, Schaughency, Weyandt, Tripp, Kiesner, Ota, and Stanish (2001) reported that the incidence of ADHD is significant in their study in the United States, Australia and Italy. However, limited studies have

been conducted with regards to ADHD in a college context and it is therefore difficult to generalise from the limited data available.

While the exact number of adults with ADHD is unknown, it is estimated that as many as 4% may be affected (Weyandt & DuPaul, 2008). It is reported that the consequences of this may include malfunctioning as a family member or in employment, potential driving risks and other difficulties associated with poor attention or impulsivity (Barkley & Cox, 2007). Researchers conducting this study also indicated that adults tend to be less organized and impulsive as they get older, and that this limits their satisfaction with themselves and in their relationships. Moreover, Wilmott (2008) reports that adults with untreated ADHD are at an increased risk of abusing drugs or alcohol and may have an increased physical dependency on smoking. In addition, they argue that there is also an increased risk of developing other mental health problems such as anxiety, depression, alcohol and drug addiction and behavioural problems if they were not identified and appropriately treated. There is considerable evidence to suggest that ADHD is a lifelong disorder, usually influencing behaviour from the cradle to the grave (Polynszk *et al.*, 2007).

2.4.1.1 ADHD and subtypes

Under the latest version of the DSM-IV (TR), children are classified as having either: a) inattentive type (ADHD-I type) or b) hyperactive impulsive type (ADHD-H type) and in some instances c) a combined type (ADHD-C type) if both 'symptoms' are present (Brandeu & Pretis, 2004). In the view of Cooper and Bilton (2002), among ADHD-I type children sometimes called ADD, behaviour is likely to be more marked by a tendency towards daydreaming and pupils generally appear sluggish in their demeanour and do not show significant hyperactive-impulsive behaviours (NIMH, 2008). By contrast, those who exhibit ADHD-H type behaviours are likely to experience social difficulties including an inability to form ordinary relationships or interactions with peers and adults (Cooper & Bilton, 2002). This does not show significant

inattention characteristics (NIMH, 2008). A combination of these two types that is ADHD-C type is more common and pervasive in ADHD conditions resulting in pupils characterised by inattention, distractibility, hyperactivity and impulsivity.

According to Carlson, Booth, Shin & Canu (2002) children within the ADHD-C group had more ego factors than ADHD-I whereas ADHD-I had more attentional "bias" (Zentall, 1993). In addition, children with ADHD-C use both behavioural and attentional means to self-generate stimulation. On the other hand, children with ADHD-H were more competitive and motivated by wanting to be perceived as superior to others as they had problems with internal drive (Carlson *et al.*, 2002). Furthermore, Zentall (2006) reported that they attempt to get social stimulation (participation and/or emotional response) and social control and to be seen as competent by their peers. Also, it is reported that students with ADHD-H have fewer academic problems than students with ADHD-I and therefore, they had more socially competitive performance goals than students with ADHD-I (Zentall, 1993). In general, children with ADHD-I and ADHD-C demonstrate significant academic failure more often than ADHD-H (Zentall, 2006). However, there is a possibility that researchers may be overlooking the inattention characteristics of ADHD compared to the hyperactivity/impulsivity characteristics when considering the specific nature of the behaviour (NIMH, 2008).

2.4.1.2 ADHD and related SEN categories

An important factor generally observed by researchers in ADHD is that the fundamental differences between its subtypes and co-occurrence of other psychiatric or learning difficulties. For example, the ADHD-I type is often considered as concurrent with children with Learning Disabilities (Biederman, Faraone, Keenan, Benjamin, Krifcher, Moore, Sprich-Buckminster, Ugalia, Jellinek, Steingard, Spencer, Norman, Kolodny, Kraus, Perrin, Keller & Tsuang, 1992). This has created doubt with regards to whether ADHD is a learning disability. According to these researchers, ADHD is not a learning

disability even though some characteristics of ADHD-I type are commonly witnessed in children with learning disabilities. Some studies (Hinshaw, 1992; Jensen, Martin & Cantwell, 1997; Russo & Beidel, 1994) reported that the ADHD-I type might also co-exist with internalising disorders such as mood disorders and anxiety disorders. These studies suggested that 15% to 20% of children with ADHD have concurrent mood disorders, approximately 25% have comorbid anxiety disorders, and about 20% have specific learning disabilities. In addition, Wilcutt & Pennington (2000) reported that the association between Reading Disability (RD) and ADHD was stronger for ADHD-I than ADHD-H type. However, in an earlier study, Barkley (1990) reported that boys with ADHD often have reading difficulties. At the same time, the association of ADHD with other learning difficulties such as Dyslexia is not well understood.

In contrast with this, McKinney & Montague (1993) reported that there is a higher rate of the co-occurrence between the two subtypes of ADHD (both ADHD-H and ADHD-C) and other disruptive behaviour disorders marked by aggression, oppositional-defiant disorder or behaviour (ODD), and conduct disorder or problems (CD). This occurrence is seen in approximately 40% to 90% of cases according to a review by Newcorn & Halperin (1994) and Jensen *et al.* (1997). These characteristics are commonly observed as associated with their difficulties in social interactions and communication (Purvis & Tannock, 1997; Zentall, 2006). Therefore, it is generally understood that children with ADHD have some characteristics of Autism Spectrum Disorder (ASD) (Clark, Feehan, Tinline & Vostanis, 1995). Moreover, it is recognised that the oppositional behavioural characteristics of ADHD subtypes present differently between boys and girls. For example, boys are more likely to be identified with ADHD-H or ADHD-C whereas girls are more often identified as having the ADHD-I type. Nevertheless, Swanson, Sergeant, Taylor, Sonuga-Barke, Jensen & Cantwell (1998) suggested that this could be because of the referral bias related to the occurrence of different characteristics of ADHD. As this is not particular focus of my study, the association of ADHD with other special educational needs (SEN) are not fairly discussed in this thesis.

2.4.2 Gender and children with ADHD

The incidence of ADHD among boys and girls varied across studies with recent estimates of ratios ranging from 2:1 to 6:1 (Littman, 2009). Most of the studies show a higher number of boys with ADHD than girls. For example, in the UK, a survey of 10,438 children between the ages of 5 and 15 years found that 3.62% of boys and 0.85% of girls had ADHD (Ford, Goodman, and Howard, 2003). At one extreme, in Colombia, the prevalence rates were estimated to be 19.8% and 12.3% for boys and girls respectively (Pineda, Lopera, Palacio, Ramirez & Henao, 2003). In earlier studies, gender differences in students with ADHD were higher than the recent studies. One of the reasons for this could be that girls with ADHD characteristics were undiagnosed (Quinn & Nadeau, 2002; Hinshaw, 2002).

According to Quinn & Nadeau (2002), there is a gender bias in the assessment of children with ADHD. In their view, the lists of ADHD characteristics appearing in the DSM-IV (TR) remain more appropriate for the assessment of males than females with a focus on more obvious and more problematic male ADHD behaviours than the internalising characteristics associated with girls. They suggest that as a result of this females with ADHD have been largely neglected by researchers because characteristics of hyperactivity are less common in girls who typically have attention deficit disorder (ADD) or ADHD-I type (Crawford, 2003) which presents features of passivity and anxiety (Littman, 2009). Further, Rucklidge (2006) argued that male ADHD patterns have been over-represented in the literature and that this fails to recognise the gender difference between boys and girls in terms of the psychological functioning, socialisation and academic performance. In fact, few studies have been conducted to investigate this gender issues in ADHD and therefore more research in this area is needed.

There are also gender differences among the ADHD subtypes. For example, Bauermeister *et al.*, 2007 reported that among those with ADHD-C type (n = 50), boys were more likely to present with mood disorders than girls. For those with ADHD-I type (n = 47), girls were more likely to show anxiety

disorders than boys. Also, in a study in Nigeria, Egbochuku and Abikwi (2007) reported that inattentive characteristics of ADHD are more prevalent among girls than boys who were found as having 'impairment' of either the ADHD-H or ADHD-C types. Girls were reported as having lower self-esteem and issues concerning mental well-being and poorer relationships with parents and peers according to a study based on a population of 94 children within a group of 10–11-year-olds in a Swedish municipality (Ek, Westerlund, Holmberg & Fernell, 2008).

These factors associated with gender difference are important in respect of the research reported in this thesis because a significant difference of characteristics was evident within the sample studied in India. As very little research of this nature has been conducted in India this factor may well be of importance to others working in this field. This is discussed further in Chapter Six of this thesis.

2.4.3 Primary and secondary characteristics of ADHD

According to Bulut (2007), there are primary and secondary characteristics of ADHD. The primary characteristics are associated with three principal features of ADHD; inattention, impulsivity and hyperactivity. In addition to these there are often other characteristics such as short attention span, distractibility, excessive motor activity, inconsistency in behaviour and non compliance reported in the literature. These characteristics are the primary effects of ADHD that affect children's social and cognitive functioning in the classroom together with interference in the activities of others (Cooper & Ideus, 1996 p. 5). The secondary characteristics are associated with difficulties which are present directly as a result of these primary characteristics. These are associated largely with the difficulties which emanate from an inability to form appropriate relationships with other children (Cooper & Ideus, 1996 p. 5). It is suggested that this might lead to peer rejection by other children and to social rejection and depression (Hinshaw & Melnick, 1995).

Primary characteristics

Inattention, impulsivity and hyperactivity are the core or primary characteristics of ADHD and the impact of these upon learning has received considerable attention in the literature. The latest UK guideline proposes that 'impulsivity' signifies premature and thoughtless actions; 'hyperactivity' a restless and shifting excess of movement; and 'inattention' is a disorganised style preventing sustained effort (NICE 2009 p. 15). These principal categories are elaborated as follows.

Inattention: there are contrasting views held by researchers on the nature of inattentiveness or inattention in ADHD (Tucha, Walitza, Mecklinger, Sontag, Kubber, Linder & Lange, 2006; Hughes & Cooper, 2007). Hughes and Cooper (2007) report that children with ADHD exhibit apparent difficulties in sustaining attention when engaged in educational tasks and other activities. This is characterised by a lack of focussed attention. It is suggested that these difficulties arise because children with ADHD have an inability to focus attention on the task immediately in hand and have problems differentiating the main or more important stimulus associated with this activity from extraneous or irrelevant stimuli. A common view expressed about children with ADHD is that they cannot listen. It is important to recognise that this inability is not associated with a physiological hearing problem. Instead, it is due to a lack of focussed attention which means that they fail to finish the task on which they are working as they are easily distracted by many other events, including those which may be unimportant to the situation within the classroom. For example, in structured classroom situations children generally have limited choices to make or they have to persist in their concentration on a given task or activity for a given period of time. This has been seen to be a situation with which many young people with ADHD have difficulties.

It has often been observed that children with ADHD seem to avoid specific types of task or response requirements which are appropriate to the skills and abilities of the children in the class, in favour of external stimulating factors or internal thoughts (Zentall, 2005). This researcher further suggests

that this avoidance could be a possible mismatch between task requirements and children's learned skills or natural abilities. She also observes that children with ADHD feel easily bored with repetitive or dull activities and may even not respond to rewards and punishments which they perceive as of little interest to themselves. Such children would appear to require personalised stimulation for much of the time. Jensen (2001) described this as a novelty seeking behaviour often seen in these children. According to Zentall (2006), children with ADHD appear to be in need of additional personal stimulation to sustain their attention and focus on their activities. It is therefore suggested that the attentional problems of children with ADHD are related to the highly reinforcing nature of stimulation (change or novelty) (Zentall, 2005). In some occasions, it is observed that they tend to show preference for short term gains to satisfy a short attention span which may result in an aversion to long term rewards. The suggestion that they need immediate rewards for their efforts in tasks has been widely promulgated (Campbell and Ewing, 1990; Hughes and Cooper, 2007). A recent study supports this view (Antrop *et al.*, 2006). Moreover, they tend to have difficulty even beginning a new task (Hughes and Cooper, 2007).

Impulsivity or the impulsive behaviour of children with ADHD is characterised by impatience, a tendency to have accidents, bad temper and excessive anger or rudeness (Bulut, 2007). These characteristics are most usually found in two areas; a) behavioural impulsivity and b) cognitive impulsivity. *Behavioural impulsivity* is associated with what children do in a social or academic situation. For example, in a classroom or a teaching and learning situation, they cannot wait for their turn to speak, they often rush to answer and/or interrupt or intrude into the activities of others. Socially, they speak when quiet is expected and may explosively express their anger. They appear to be acting without thought for others or act without reflection or have less consideration for the consequences of their actions. Therefore, it seems that they have a lack of self control or an inability to inhibit unwanted behaviours. In addition they seem to be not learning from their mistakes or they appear to be showing similar mistakes on frequent occasions. They tend to show

teachers that they need to have clear instructions and a structured approach to learning (Hughes & Cooper, 2007).

On the other hand, *cognitive impulsivity* is associated with the way children think and make choices in educational tasks and activities. It means children with ADHD may make multiple numbers of guesses in a short period of time, but make few choices. This is one of the reasons why they have difficulties with problem solving tasks as they tend to be limited in their range of problem solving strategies. It is generally accepted that impulsivity like inattentiveness, is a failure of self-regulation (Hughes and Cooper, 2007).

Hyperactivity can be defined as "excessive, non goal directed and motor activity". This has been interpreted as behaviours in children with ADHD which are abnormally high in their intensity and have high frequency levels (Bruce, Thernlund, and Nettleblatt, 2006; McGoey *et al.*, 2002). Such children seem as if they are driven like a motor as they cannot stop acting or talking or are continuously in motion with a constant fidget (Bulut, 2007) resulting in them being "non goal directed". These characteristics are particularly visible in structured classroom situations probably more so than in other less structured environments. They may act as if they are uncomfortable and move quickly from one activity to another or become restless. For example, a child with ADHD walking around the class when sitting is expected or remaining unseated as if they are ignoring the instructions of the teacher or other adults in the classroom. This is important in relation to the general expectations of teachers in India, who generally expect high levels of student conformity within the classrooms which tend to be formally managed. These factors are more complicated when the child shows little evidence of improvement even after adult intervention to her/his behaviours. Such situations may lead to conflict and a breakdown of relationships. This tends to suggest that teachers' interventions should be of a particular manner as the children need clarity and repeated advice for the self management of their behaviours (Pellegrini and Horvat, 1995).

Secondary characteristics

There are many more social, emotional, and behavioural problems associated with individuals with ADHD than is commonly seen in the general population (Tannock, 1998). Some of those listed in the literature may be associated with low motivation, low self esteem, forgetfulness, confusion, social difficulties, disorganisation, aggressive behaviour, and difficulties with emotional regulation (Bulut, 2007; Hughes & Cooper, 2007). Bulut (2007) reports these characteristics as secondary problems associated with ADHD because they occur commonly as a result of the child's failure and poor academic achievement in schools (also in Cooper & Ideus, 1996 p. 4). These secondary characteristics are, of course, significant for teachers and will be given further attention in the following section.

2.4.4 The educational difficulties of children with ADHD

Several studies report that children with ADHD show significant academic underachievement, poor academic performance and general learning problems (Hinshaw, 1992; Rapport, Scanlan & Denney, 1999; LeFever, Villers, Morrow & Vaughn, 2002). Furthermore, Hayden (1997) suggests that children with hyperactivity characteristics are more likely to be excluded from schools in the UK or expelled, suspended or required to repeat a year with other children. It is thought that a higher percentage of children with ADHD are located in special schools (Hughes & Cooper, 2007). Additionally, such students are more likely to use special educational services including additional classes and ancillary services such as after-school programmes and special tutoring compared to other children (Loe & Feldman, 2007). The educational difficulties of children with ADHD could be discussed under cognitive, emotional and behavioural, language, academic performance and social performance difficulties as subtitles.

Cognitive difficulties in children with ADHD

Cognitive difficulties have been described as a frequent feature of children with ADHD who typically find it difficult to pay attention or have less focussed attention when participating in classroom tasks and activities. In this respect, Bruce *et al.* (2006) reported that children with ADHD generally have problems with comprehending instructions, including guidelines for engaging with classroom materials and homework. More specifically, children with ADHD are reported as being impaired in their ability to extract understanding from what they hear or have difficulty with their auditory processing which seriously inhibits learning (Cooper and Ideus, 1996 p. 4).

An additional challenge for children with ADHD is associated with their inability to sit still, plan ahead or finish a task within a prescribed time schedule. In this respect some studies show that they have problems in their perception, processing and response which significantly impedes learning (Tannock, 1998; Zentall, 2006) and may also appear slow in learning from mistakes. Due to these difficulties, they are perceived as having problems in memory, organisation and planning which causes their poor performance in problem solving tasks. However, very little has been written about whether these difficulties themselves differently manifest according to gender or in relation to ethnicity, a factor which is significant when undertaking a study in an under researched cultural context such as that described in this thesis.

Despite a common agreement that cognitive difficulties are a characteristic of children with ADHD, there are many different views held by researchers regarding the nature of these difficulties. Barkley (1997) showed that children with ADHD have problems in executive (Self-Regulatory) functions (EF). Additionally, Lee, Riccio & Hynd (2004) narrated that such children have problems in two major executive functions (i.e., inhibition and working memory) which create behavioural, emotional, and educational problems. Others have argued that this is best understood as a motivational deficit. For example, a study by Carlson *et al.* (2002) reported that children with ADHD had low intrinsic motivation for learning. Furthermore, deficits in motivation,

such as deficient “cognitive energetic” resources or delay aversion were reported by many researchers (Vander-Meere, 1995; Sonuga-Barke, 2002). Contrary to this, it has been suggested that children with ADHD showed ‘a high level of motivation for school work and a clear desire to succeed in terms that would please both their teachers and parents’ (Hughes & Cooper, 2007 p. 39). This contrast of views is typical of the confused interpretation which surrounds ADHD and indicates the need for further research and the development of detailed case study materials in order to gain a clearer picture of why such diverse interpretations exist.

The emotional and behavioural difficulties of children with ADHD

The emotional and behavioural difficulties of children with ADHD are described as those behaviours which are unacceptable or unwanted in given, usually structured situations. These are the kinds of act that disturb, threaten or frighten others (Cooper & Ideus, 1996). However, this is different from the usual terms of ‘Social, Emotional and Behavioural Difficulties’ (SEBD) which many researchers see as being primarily caused by environmental factors, though there are some commonalities (Cooper & Ideus, 1996). Children with SEBD are often described as creating challenges for the teachers in the classroom with an extreme range of difficulties: disruptive behaviour or defensive or offensive behaviours (externalising characteristics), low self image, anxiety, depression or withdrawal and self harm (internalising characteristics).

In extreme cases, children with SEBD are characterised by violent and intensely oppositional behaviours. Some of the externalising characteristics are more observed among boys than girls, but the internalising characteristics are as likely to be found with girls. SEBD may be caused by several interacting social factors such as unhappy families, difficult relationships with parents, parental discord or divorce, mental health problems in other family members, and socially deprived situations. It is reported that children with emotional and behavioural difficulties are the

most difficult group for schools to manage and teachers to include in learning (Ted, Harry & Visser, 2003; Clough, Garner, Pardeck & Yuen, 2005). Additionally, Visser, Daniels & Macnab (2005) showed that children and young people with SEBD are largely overlooked in English schools more than children with other special educational needs. Whilst not all children with a diagnosis of ADHD will have the characteristics of SEBD, it is widely acknowledged that many SEBD traits are found among children diagnosed with ADHD (Cooper & Ideus, 1996; Visser, 2003).

Evidence suggests that the emotional and behavioural characteristics of pupils with ADHD are associated with a lack of self regulation or self control (Barkley, 1997). In other words, such pupils often have difficulties in inhibiting unwanted reactions to given situations. These characteristics are considered as an impairment in inhibitory control in psychological terms (Tannock, 1998). Furthermore, it is reported that children with ADHD show a lack of awareness of their own feelings and intentions that lead them to have less appreciation of the needs, feelings and opinions of others or having less empathy towards others (Barkley, 1997). That is, they appear as failing to adapt to the consequences of their own behaviour in relation to others. Though this might appear as a common problem in many children, according to Braten & Rosen (2003) boys with ADHD exhibited more behavioural traits associated with sadness, anger, and guilt than did boys without ADHD. More often, these under-controlled behaviours are found to be more prominent among boys with ADHD than in girls with a similar diagnosis (NICE, 2009). Some researchers describe these as externalising characteristics of children with ADHD (Biederman, Mick & Faraone, 1998). However, there is confusion within the literature about whether these difficulties are affective terms or cognitive processes (Barkley, 1994).

Speech and language difficulties of children with ADHD

Some studies have reported that children with ADHD are less mature in their speech and communication skills and seem to be developmentally delayed in

this process. Whilst often being vocal, it is suggested that they have less internal speech than 'normal' children. That is, with the tasks that involve organizing and generating speech in response to specific demands, they tended to talk less, or to be less fluent (Alban-Metcalfe & Alban-Metcalfe, 2001). Thus these children are seen to have problems with the executive processes of learning or the internalization of language. Andreou, Agapitou & Karapetsas (2005) disclosed that children with ADHD had lower verbal skills in terms of Verbal IQ and Verbal Comprehension (VC) than the 'control' children in their sample of 69 children (50 boys and 19 girls). However, there is no reported gender difference with regards to this characteristic.

Several studies showed that a significant number of children with ADHD had some delay in the onset of language compared to children without ADHD, especially in early childhood (Szatmari, Offord & Boyle, 1989; Andreou *et al*, 2005). Camarata & Gibson (1999) argued that this delay in language acquisition or development among these children was associated with disruptions in pragmatic language skills as they have difficulties in interacting with parents, peers and teachers as a result of limited grammatical and semantic skills which would normally support children through such interactions. In an earlier study, Purvis & Tannock (1997) found that many of these problems are associated with pragmatic (social) language deficits in children with ADHD. Pragmatic deficits are defined as difficulties in the conversational aspects of language rather than the structural aspects of language. More specifically, Camarata and Gibson (1999) observed that these difficulties are associated with children's social interactions (i.e. eye contact).

Furthermore, Purvis & Tannock (1997) found that children with ADHD have problems with organizing and monitoring their verbal productions and that this may lead to significant frustration in many individuals. Additionally, in a study conducted through questionnaires distributed to the parents of 76 children (aged five to fifteen) diagnosed with ADHD, Bruce, Thernlund & Nettlebladt (2006) reported that children with ADHD had significant problems with language comprehension and communication. Nevertheless, in an earlier study, Cohen, Vallance, Barwick, Im, Menna, Horodezky & Isaacson (2000)

suggests that there was no evidence for suggesting that children with ADHD would be associated with specific aspects of language use deficit (i.e. narrative discourse and pragmatics). Instead, they argue that the poorest pragmatic language skills are not associated with ADHD alone, but those diagnosed with three comorbid conditions: ADHD, Language Impairments (LI), and reading disability or Reading Disorder (RD).

Generally, language difficulties in children with ADHD are associated with problems of higher order cognitive deficits which cause difficulties in executive functions. In support of this, in a recent study Bruce *et al.* (2006) report that language impairment in children with ADHD is an aspect of an inability to make effective use of the children's general cognitive skills. It should however be recognised that the language difficulties of children with ADHD are not generally associated with sensory difficulties (e.g. hearing and visual), but with difficulties of response processing information. This means that such children have trouble co-ordinating the information resulting in poor communication skills and the consequential difficulties with learning. Nevertheless, it is generally seen that they have serious problems in many aspects of language functions e.g., listening, speaking, reading, spelling, and written language and that this has a negative impact upon learning (Bruce *et al.*, 2006; Baird, Stevenson & Williams, 2000; Oram, Fine, Okamoto & Tannock, 1999).

Difficulties in the academic performance of children with ADHD

Studies which indicate that children with ADHD show low levels of performance in academic tests suggest that this may be because they have many challenges in academic settings (Barkley, 1990; Alban-Metcalfe & Alban-Metcalfe, 2001; Loe & Feldman, 2007). Similarly, McKinney & Montague (1993) showed that the low academic performance of children with ADHD is characterized by inattention and the inability to regulate behaviour during task performance. These difficulties are not only in particular subjects, but with verbal and non-verbal aspects of learning including mathematics and

social comprehension. For example, an early study reported that more than 80% of 11 -year-olds with ADHD were behind at least 2 years in performance in reading, spelling, maths, or written language (Anderson, Williams, McGee & Silva, 1987). More recently, LeFever, Villers, Morrow & Vaughn (2002) reported that children with ADHD had lower grades in academic subjects and lower scores in measures of reading and maths than those expected of their peers. They outlined that the children produced careless written work with multiple errors, and had difficulty in comprehending instructions and in understanding guidelines for class activities and homework.

The academic difficulties of children are noted as particularly associated with the ADHD-I type. For example, Massetti, Lahey, Pelham, Loney, Ehrhardt, Lee & Kipp (2008) found that children with ADHD (in a sample of 125) had lower reading, spelling, and mathematics scores over time compared to children without ADHD and children who met modified criteria for the other subtypes of ADHD. They further argued that academic failures of children may not be associated with ADHD alone, but coexist with internalising characteristics of anxiety and depression which were primary characteristics in the sample children in their study.

Difficulties in social performance of children with ADHD

It is widely reported in the literature that social failures are presented in children with ADHD in their interaction with others (Taylor & Houghton, 2008). For example, they have feelings of shame when they cannot perform well in their academic tasks and this is often exacerbated by low self image. They appear as socially incompetent with a lack of the adequate confidence required for doing activities and tasks in the classroom. In terms of social tasks, they have contrasting characteristics; sometimes this is shown by shyness and they are perceived to be socially withdrawn. In other studies, they show conduct problems and oppositional defiant disorders. They seem to blame others for frustration and social failure (Mrug, Hoza & Gerdes, 2001) and a) use excuses to cover up their personal difficulties b) feel disconnected

from the outcomes of their behaviour, and c) rely on external cues and feedback (Zentall, 2006). As will be seen later in this thesis I was able to identify many of these characteristics in the children at the core of my research. It was particularly noticeable in my own research that the girls were more likely to present such inattentive characteristics and were at times socially withdrawn, whilst the boys were more likely to demonstrate aggressive behaviours and conduct disorders.

Problems with social interactions or interpersonal conversations are often reported in respect to children with ADHD. According to McKinney, Mongague & Hocutt (1993) this is one of the more significant and persistent problems of such children. Conversations which these children attempt with others might typically end in serious and negative consequences (Cooper & Ideus, 1994). It is suggested that this may be because they show failure to respond appropriately to social roles in conversation or that they are seen as having more talking than listening abilities. Expressions of contempt and defiance have also been reported especially in group activities that require turn taking, communication and interaction where they are perceived as unable to take turns (i.e. playing) or they are insensitive to others' reactions to their behaviours (Bulut, 2007). Hinshaw & Melnick (1995) reported that when interacting with others, these children are disorganised, intrusive, irritable and insistent. Therefore, they are often seen as having a largely difficult relationship with classmates, teachers, siblings and parents. In turn, these characteristics cause others to have a negative social image about them and lead to social rejection. In some instances this may result in depression and low self esteem.

With regard to peer relationship of children with ADHD, very recent study showed that they have marginal (having two or less ongoing friendship pairings with peers) to non-existent friendships, and limited number of them being socially integrated (Taylor & Houghton, 2008). This study further suggests that there is significant difference in friendship socialisation pattern among children with different subtypes of ADHD. For example, a peer rejection was highly observed among children with hyperactivity subtype of

ADHD. However, as with many other discussions, there are contradictory views about peer rejection and ADHD. For example, McKinney *et al.* (1993) reported that children with ADD or inattentive subtype of ADHD are more withdrawn and unpopular, but not necessarily rejected. Some studies showed that children with ADHD were rejected by peer group members. However, adult child relationships which involve rules or expectations can be difficult for these children (Bulut, 2007).

2.4.5 Teachers, parents and children with ADHD

Many studies have established that teachers are the first and best source of information about ADHD and their role in identifying children with ADHD is very important (Hughes and Cooper, 2007; Lloyd *et al.*, 2006; Barkley, 1998). According to Barkley (1997; 1998) the general education teacher is the single most important factor in determining the success of children with ADHD at school. As there is an absence of independently valid tests for ADHD (National Institute of Health (NIH) Consensus Statement, 1998), teachers play a pivotal role in identifying and referring even for formal diagnosis (Snider, Busch & Arrowood, 2003; Saxe & Kautz, 2003). In structured classroom situations, teachers become aware of the children's difficulty in meeting the behavioural, attention, and academic norms for the class and may suspect the characteristics of ADHD and suggest them to parents or refer them to other professional agencies. Furthermore, it is in the school settings where the negative and more challenging effect of ADHD-like behaviours can often most readily be observed (Kos, Richdale & Hay, 2006). Therefore, the concerns (i.e., children's academic and social performance) of the teachers and their knowledge (i.e., knowing specific information about ADHD) and attitude (i.e. beliefs and feelings about ADHD) are important. Unfortunately, there are limited studies that have been conducted in respect of teachers' level of knowledge and understanding about ADHD, and to what extent their knowledge affects their 'treatment' of children and impacts upon their own behaviour towards children with ADHD (Reid, Maag & Vasa, 1994; Snider *et al.*, 2003; Kos *et al.*, 2006). Additionally, a very recent review by

Sherman, Rasmussen & Baydala (2008) indicated that few studies reflect the impact of these teacher factors on educational outcomes for children with ADHD. This particular study was influential in respect of my own research design and will be referred to in more detail when discussing the findings of the study.

Teachers' knowledge and attitudes regarding ADHD

According to West, Taylor, Houghton & Hudyma (2005), teachers' level of knowledge about ADHD influences their instructional strategies in schools and informs their practices within classrooms. In support of this assertion, an Iranian study observed that teachers, who had a level of knowledge, albeit relatively limited about ADHD, derived from their professional development, had a positive attitude towards children with ADHD and they treated them well in classrooms compared to teachers with less knowledge (Ghanizadeh, Bahredar & Moeini, 2006). This disparity of knowledge about ADHD is further explored through two North American studies which showed mixed results about general education teachers' understanding of ADHD. Jerome, Gordon & Hustler (1994) had the view that teachers had adequate knowledge about the basic concepts of ADHD as they could demonstrate an understanding of the condition based on questions asked about educational implications, whereas Snider *et al.* (2003) suggested that teachers had minimal knowledge about ADHD. Both studies showed that teachers had a positive attitude towards ADHD and asked for more formal training to meet the challenges of children with ADHD.

An Australian study by Bekle (2004) showed that attitudes and knowledge were significantly correlated and most participants regarded ADHD as a valid diagnosis and were positive about the recommended approaches including stimulant medication. Similar to Jerome *et al.* (1994), in Australia, Kos, Richdale & Jackson (2004) found that teacher knowledge was positively correlated with teachers' previous years of experience teaching children with ADHD. By contrast, a similar study by Vereb & DiPerna (2004) of a sample of

47 elementary teachers found little correlation between teacher attitudes and experience. Similarly, in an earlier study by Brook, Watemberg & Geva (2000) showed that years of experience had no relationship to the level of knowledge about ADHD.

In common with the findings of Kos *et al.* (2004), an earlier study by Sciotto, Terjesen, Bender & Allison (2000) indicated a positive correlation between teachers' basic knowledge about ADHD and their attitudes towards children with ADHD. However, this does not allow for a simplistic interpretation suggesting that in-service teachers (experienced) had greater knowledge or better attitudes than pre-service (those still undergoing training) teachers or undergraduate trainee teachers (Kos *et al.*, 2004). Many factors impact upon attitudes of which experience and knowledge are only two. This may well be substantiated to some extent by the work of Bekle (2004) who reported that in-service teachers had less knowledge about ADHD than undergraduate trainee teachers. One of the possibilities for this, according to Kos *et al.* (2006), is that the trainee teachers might have had increased input in their initial training in relation to ADHD which is now more widely recognised than it may have been in the past.

Both Australian and North American studies (Jerome *et al.*, 1994; Bekle, 2004) made similar observations about some 'misconceptions' of ADHD, such as those indicating that food additives can cause ADHD and therefore, dietary treatment might help the children. Findings of some other studies indicate that special education teachers appear to have more knowledge and are more tolerant towards children with ADHD than their general education teacher peers (Brook *et al.*, 2000; Hepperlen, Clay, Henly & Barke, 2002). We may surmise here that those teachers who choose to work with children with special educational needs are likely to be more positively orientated towards such pupils. However, there is little empirical evidence to be able to state this as a fact.

Teachers within European countries have in some instances been said to be sceptical about the very existence of ADHD, its neurological causes and

proposed interventions (Lloyd *et al.*, 2006; Couture, Royer, Dupuis & Potvin, 2003; Reid *et al.*, 1994). However, it appears that as yet limited studies have been conducted on teachers' knowledge about ADHD in the European context. In a comparative study of general education teachers in the US and Sweden by Carlson *et al.* (2006), both groups of teachers had similar views regarding causation suggesting that a genetic predisposition to ADHD and environment factors could influence and exacerbate the behaviours associated with ADHD. In the UK, such studies are very limited. However, in a comparative study of Quebecois and British teachers, Couture *et al.* (2003) noted that British teachers tended to view ADHD as having its origins in a combination of social factors, but their counterparts' view was that this was a purely biological dysfunction. It seems that there is a different level of knowledge, interpretation and perception about ADHD in North American and European contexts. Such confusion inevitably indicates the necessity for all researchers in this area to be cautious in making generalised statements about ADHD, its management or diagnosis.

In Glass & Weigar's (2000) study in the US, a large percentage of teachers believed that ADHD is caused by a biological abnormality (78.2%); only 11.1% of them believed that the condition was influenced by environmental factors. These researchers also showed that a higher number of teachers (213/225) had a view that a combination of behaviour modification and medication would generally be appropriate interventions for developing apposite behaviours in children with ADHD. However, Carlson *et al.* (2006) reported that educational interventions were considered more effective than other non educational measures by US and Swedish teachers. With regard to the attitude towards stimulant medication, Swedish teachers were sceptical and negative. In contrast, the US teachers were more positive about the possible effect of medication on students' disruptive, hyperactive and impulsive behaviours, academic achievement and attention (Carlson *et al.*, 2006). The teachers in this study had positive views about behavioural interventions and teacher interventions which they perceived as being within the teacher's normal remit and control.

Similarly, in a study by Vereb & DiPerna (2004) it was reported that teachers' level of acceptability of general treatment (both medication and behaviour treatment) positively correlated with their knowledge about ADHD and the potential impact of the treatments available. This view contrasts with that expressed by teachers from Couture *et al's* (2003) research cited above where the majority of teachers in both Quebec and UK believed that medication was overly used for primary and secondary students with ADHD. More recently, in a comparative study between the US and New Zealand, Curtis, Pisecco, Hamilton & Moore (2006) reported that 20% more teachers in the US sample had taught at least one child in the past two years with a diagnosis of ADHD than their New Zealand counterparts. The US teachers similarly had greater familiarity with the commonly used diagnostic procedures than New Zealand teachers. Many US teachers regarded medication to be more acceptable, effective, and timely than did the participants in the New Zealand sample. Here again we have a contradiction of opinions and perceptions about its causes and the appropriateness of interventions among teachers in Western countries.

It is of note that most of the comparative studies undertaken in this area focus upon the views of Western teachers or researchers. Such studies in non-Western contexts or economically developing countries are limited. The limitations and possible pitfalls of comparative study are discussed later in this thesis and indicate the challenges faced by researchers in making valid assertions with regards to ADHD. A clear issue with regards to the difficulties of undertaking a comparative study in this area is discussed in the study conducted by Norvilitis & Fang (2005) who found that Chinese participants (teachers and students) were rather more attuned to hyperactivity than inattention in students than their US counterparts. They suggest that the influences which impact upon developing a concept of ADHD may be similar between the cultures, but that the perceptions of teachers and others differ because of their experiences, the expectations within schools and the level of training afforded to professionals in the two countries.

Teachers' professional experience and training in relation to ADHD

Teachers are concerned about the problematic behaviours of children with ADHD 'involving control, discipline, achievement, and listening to and complying with instructions' (Kauffman, Lloyd & McGee, 1989). Acting out behaviours (externalising characteristics of ADHD) are described as being more problematic than withdrawn behaviours (internalising characteristics of ADHD) (Hunter-Carsch, Tiknaz, Cooper & Sage, 2006). This is generally reported as being because the internalising characteristics of ADHD are less disruptive to classroom environments than the externalising characteristics. Most often teachers feel pessimistic about children with ADHD (Kos *et al.*, 2006). The authors further argue that teachers' ability to provide appropriate interventions for children depends on their level of competence, knowledge and experience with children with ADHD in previous years. The same researchers state that children's lack of concentration in learning, repeated failures in academic tests and troubled relationship with their peers and adults in schools are the most worrying factors for teachers who come across children with ADHD-like behaviours.

Little is reported about the experience and training of teachers in relation to ADHD. It is generally believed that little training is given to general education teachers about ADHD, an assertion that has often been made in respect of training in relation to children with special educational needs in general (Jones & Chronis-Tuscano, 2008). As might be expected there are significant differences between countries in terms of training teachers. For example, English teachers are reported as having less training in ADHD than their Quebecois peers as part of their initial teacher training, although greater availability of professional development courses in the UK was described in the same research (Couture *et al.*, 2003). The reason for teachers' participation in training is positively correlated with their knowledge of ADHD and acceptability of behaviour management strategies, according to a study by Vereb & DiPerna (2004). In Couture *et al.*'s (2003) study, it showed that the percentage of teachers who had experience of teaching children with ADHD is 80 % for British and 87% for Quebecois teachers. This, of course

relates to teachers who are already in position in their schools and the figures are interesting when considering that in an earlier study, Jerome *et al.* (1994) showed that 89% of American and 99% of Canadian teachers had received no or little training about ADHD before they started their teaching career. Here again, most of these discussions take place in the Western contexts.

There is some evidence regarding the availability of in-service training for teachers in the USA (Jones & Chronis-Tuscano, 2008). The latter showed that teachers had improved their knowledge and efficacy in managing children with ADHD as a result of this in-service training. These authors further argued that special education teachers were more likely to have had more in-service training than mainstream teachers in this area. Here again, this might well be related to the commitment which these teachers have demonstrated by opting to work specifically with students with special educational needs. As is usual in reports of the availability of professional development, many of the studies fail to say anything about the quality of this professional development or to provide evidence of impact. Many studies have indicated the need for more training for general education teachers about ADHD (Kos *et al.*, 2006; Jerome *et al.*, 1994; Couture *et al.*, 2003). A search of the literature reveals that opportunities for such training in an Indian context remain at best unreported and quite possibly non-existent.

Parents and children with ADHD

Though studies on parents' knowledge of ADHD have been conducted (Kos *et al.* 2006), little is known regarding how parents perceive the concept of ADHD (Bussing *et al.*, 1998; 2003). According to the study by Bussing *et al.* (2003), parental concerns are different in terms of general emotional or behavioural disturbances, their child's academic performance and their child's social functioning. The study showed that the general emotional or behavioural disturbances (N= 69; 38 %) and their child's academic performance (N= 53; 29 %) topped their list of concerns, followed by anxiety

over their child's social role functioning (N= 41; 23%). They also reported that equal numbers of parents (N= 27; 15 %) were worried about specific ADHD behaviours and about signs of conduct disturbance.

In terms of parental knowledge of ADHD, West *et al.* (2005) reported that most parents in a national study in Australia knew about the causes and treatment of ADHD; sometimes this knowledge was higher than that reported for a sample of teachers. In a similar study of Canadian parents (N=73), Johnston, Seipp, Hommersen, Hoza & Fine (2005) found that parents were knowledgeable about ADHD and held generally 'accurate' beliefs about the condition. However, West *et al.* (2005) revealed that a range of 'misconceptions' exists about ADHD among parents, mainly about the influence of dietary factors. Similarly, Dosreis, Zito, Safer, Soeken, Mitchell & Ellwood (2003) found that two thirds of the parents in their study sample believed that diet and in particular high doses of sugar affect hyperactivity. Furthermore, Johnston *et al.* (2005) showed that parents had the lowest score in suggesting psychological causes of ADHD. Chen, Seipp & Johnston (2008) showed that fathers were more likely to attribute psychological causes whilst mothers appear to see ADHD as a biologically based disorder. This reinforces the beliefs of Singh (2003) who similarly reported that fathers were resistant to acknowledging biological causes of ADHD.

Regarding the 'treatment' of ADHD, parents the same as teachers presented with a range of different opinions. Most parents in Bussing *et al's* (2003) explanatory study in the US preferred psychosocial interventions (N= 82; 46%) for managing their children's behaviours rather than medical interventions. A quarter of parents (N= 47; 26%) indicated they did not know what type of treatment their child should receive and about one-fifth (N= 34; 19 %) requested school based interventions, and a similar number (N= 32; 18 %) suggested self-care strategies. In support, Johnston *et al.* (2005) showed that parents had a higher preference for behaviour management and parent training in the 'treatment' of ADHD than for medical interventions. This is consistent with earlier studies in which parents showed higher rates of acceptance and satisfaction with behavioural strategies (The MTA Cooperative

Group, 1999; Dosreis *et al.*, 2003). Chen *et al.* (2008) also identified this trait.

However, the latter reported that gender differences in the acceptance of behavioural treatment showing mothers scored higher in beliefs on behaviour management than fathers. Singh (2003) observed that fathers are resistant to medical treatment compared to mothers. This interpretation receives further endorsement from Mcneal, Roberts & Barone (2000) in whose study 87% of the mothers stated that they were in support of their children being administered medication as a means of controlling undesired behaviours. However, Dosreis *et al.* (2003) revealed that 38% of the parents in their study believed that too many children receive medication. Once again there is little evidence of studies conducted in non-Western contexts. A single study in India narrated that Indian parents were hesitant to use medication for the control of behaviour in their children. Instead, they would prefer to have psychological or religious interventions for their child with ADHD (Wilcox *et al.*, 2007).

2.4.6 School-based or educational interventions

ADHD is often 'treated' with clinical interventions such as the administration of psycho-stimulant medication and behavioural interventions. Concerns have been expressed by many researchers that such 'treatments' for young children with ADHD may negatively impact upon both social and academic performance (Jensen, Bhtara, Vitello, Hoagwood, Feil and Burke, 1999; Lloyd *et al.*, 2006). Ervin, Kern, DuPaul and Friman (1998) argued from their research that medication often only helps alleviate 'symptoms', but does not help the child to function effectively at school. There are similar concerns about the potential for serious side effects which these writers believe should be considered when using medication. Criticisms persist with particular emphasis on the fact that both medication and behavioural 'treatment' are focused on reducing the 'symptoms' of ADHD rather than promoting the effective functioning of the individual child. Therefore, educational

interventions are often considered as more desirable and effective for children with ADHD (Ervin, Kern, Clarke & DuPaul, 2000).

Hughes and Cooper (2007) listed four main reasons for educational interventions for children with ADHD:

- ADHD is largely observed in school aged children and especially during the primary school years. Schools are the first place where children's ADHD characteristics are noticeable and teachers are the first professionals to meet challenges created by children with ADHD.
- Teachers' understanding of ADHD is important as they interact with children for a higher level of time apart from their parents. It is not unusual for one or two children, who display features of lower attainment and behavioural challenges with ADHD to be present in classrooms. Teachers have to adopt effective strategies to meet those difficulties.
- As challenges associated with ADHD may be experienced from kindergarten classrooms through lifelong problems, educational understanding of and interventions for children with ADHD are important. Also, it has become a daily educational issue for all professionals within the education sector.
- Finally, the experienced teachers, who have adequate knowledge and understanding about ADHD, have been dealing children with ADHD differently from others and consider ADHD knowledge useful for pedagogical purposes.

The main purpose of educational or school interventions is often seen as a reduction in pupil inattentiveness and impulsiveness in the classroom to promote positive academic outcomes (Hughes & Cooper, 2007). In support of this view, Purdie, Hattie and Carroll (2002) showed that educational interventions were effective in promoting cognitive outcomes among children with ADHD. The focus of educational interventions, they suggest, should include the promotion of normalised behaviour and strategies to improve school performance and to help the psychological and social functioning of

the child. In other words, the educational interventions initiated should help the child to function more effectively in her/ his day-to-day activities in school through improvements in concentration, memory, academic performance and behaviour. Educational interventions, it is emphasised, are not just for controlling behaviour, but for developing habits and patterns of behaviour which impact positively upon learning (Cooper & Ideus, 1996). Moreover Lloyd *et al.* (2006) suggest that educational interventions should be based on the environmental and cognitive perspectives of learning.

There are a number of strategies and a variety of sources of help, which are available to engage pupils effectively in learning. The strategies advocated range from more traditional consequence based interventions including peer-based support to more recent antecedent-based interventions including environmental management and change. Those children with ADHD might require additional special education classes and training in some instances, and this is commonly seen especially amongst primary aged school children. The school professionals might need to coordinate the information about the child from different sources and to intervene appropriately with the support of parents and other professionals.

One of the issues facing children with ADHD and their teachers is a lack of focussed attention. Any distractions can impede the ability to concentrate on classroom activities and these often result from their sensitivity to external stimuli and environmental variables such as the level of sounds, daylight and artificial lights (Kuller, 2002). The possible distractions for these children are not only from the settings in which they are working but also from school personnel including teachers and other students (Sherman *et al.*, 2008). Even methods of teaching can act as a distracting factor for children with ADHD (Bulut, 2007). Changes of routine and a classroom where there is a lot of movement have been cited as examples of the factors which other children may take in their stride but can cause interruptions in concentration of learning as they are unable to ignore external factors. Therefore, manipulation of environmental variables may be very important for the effective management of children with ADHD (Ervin *et al.*, 1998; 2000). One of the justifications for

this antecedent based approach is that of avoiding factors which cause unwanted interruptions and organising classrooms with minimal distractions. In other words, it is considered important to understand the number of factors (external stimuli) influencing children's concentration.

In order to improve the level of concentration, some practical strategies have been suggested by researchers. It is recommended that teachers should provide opportunities for children with ADHD to enable them to see greenery through classroom windows (Kaplan, 2001) and that having plants inside the classroom and school buildings may also prove beneficial (Shibata & Suzuki, 2004). Another strategy suggested by researchers is that of providing facilities for playing sports outside in gardens, school playgrounds and parks. Seating arrangement for these children within the classrooms should be arranged in a way that makes it easy for teachers to easily identify pupil needs and detect their difficulties associated with ADHD characteristics. Whilst small scale investigations into these approaches have been reported there is a need for more extensive research before assertions can be made about their efficacy.

Cooper and O'Regan, (2001) suggest that teachers, in order to work effectively with children with ADHD, have to make necessary changes in their teaching style or way of delivering lessons in the classroom. It is proposed that teachers have to be consistent with their rules and instructions during lessons and that there should be clarity and precision in communication with these children. Giving clear instructions and following a structured approach has been observed as of benefit (Stoner & DuPual, 2003). It is also reported that guided notes and immediate feedback will be beneficial for children with ADHD when they engage in complex tasks (Zentall, 2006). Complex learning should be broken down into short tasks and it is suggested that rewards for their achievements in each small task may be facilitated with some benefit (Cooper & Ideus, 1994).

Zentall (2005) shows stimulation through change or novelty in teaching or visual environmental stimulation to maintain the attention level of children

with ADHD. She argues that such an approach is necessary since children, despite the label afforded them often do not have attention deficit, but instead they have a preference for novelty activities or tasks. She further comments that even for the novelty tasks, children with ADHD get distracted more than their peers, therefore she suggests that periodic changes might be needed in the choice of settings, tasks and rewards for children in order to maintain attention and encourage positive behaviours. As children with ADHD are very active, it is often proposed that they learn well in active or kinaesthetic situations (Hinshaw, 1994).

Positive reinforcement for appropriate behaviours or rewarding positive behaviours and negative reinforcement or denial or ignoring unwanted behaviours are also considered to be effective classroom interventions for children with ADHD (Bulut, 2007; Cooper & Ideus, 1994). For example, McGoey and DuPaul (2000) examined the effects of a positive reinforcement and response model on the disruptive behaviour of pre-school age children with ADHD. In this research teachers were taught to reward appropriate behaviours by awarding buttons on a chart and to discourage inappropriate behaviours by removing buttons (mild punishments). The outcome of this study was reported as positive when teachers were consistent in using these strategies. In his review, Bulut (2007) suggests that the purpose of such intervention is based on targeting problem behaviour and correcting that behaviour. Similar successes have been observed for peer mediated interventions which are considered by some researchers to be another effective strategy for meeting the needs of children with ADHD. In this approach, children with ADHD are grouped with preferred role models for facilitating interaction between them (Hughes & Cooper, 2007). However, Ervin *et al.* (1998) found some practical issues with these interventions. They found concerns on the part of teachers who felt unable to maintain control over the monitoring of the behaviours when they were managed by peers. In summary, several intervention strategies could be applied for meeting the needs of children with ADHD as reported studies worldwide.

2.5 ADHD as reported in the Indian literature

Whilst a large amount of literature discusses and debates ADHD in Western contexts, it is little known and rarely reported from India. The available literature within an Indian context is focussed upon the medical model of ADHD and the majority of research consists of medical based studies.

The incidence rate of ADHD among children in India is reported variously from 1% to 17.7% (Srivastava and Shinde, 2004; Bhatia *et al.*, 1999). The issue of ADHD is more prominent among primary school children (Bhatia *et al.*, 1999; Mukhopadhyay, Misra, Mitra and Niyogi, 2003), but continues into adulthood (Singeri, Raj-Kumar, Muralidharan, Chandrashekar and Benegal, 2008). According to Malhi and Singhi (2000)'s study, 50% were diagnosed to be primarily hyperactive-impulsive type (ADHD-H), 35% were primarily inattentive type (ADHD-I) and 15% were combined type (ADHD-C). However, ADHD-I subtype was prominent among the sample children of two other studies (Central Pollution Control Board (CPCB), 2008; Mukhopadhyay *et al.*, 2003). The CPCB's (2008) study was conducted using a relatively a high sample of 4,275 rural and urban children and is the most extensive study reported to date. In their study Malhi and Singhi (2000) reported that 60% of the children given a diagnosis of ADHD presented academic difficulties. However the same researchers found comparatively lower rates of behavioural problems in the same sample of children. This is consistent with an earlier study by Bhatia *et al.* (1991).

The highest percentage of academic difficulties is reportedly observed among pupils with the ADHD-I type and the behaviour problems are seen to be higher among children with ADHD-C type (Malhi & Singhi, 2000; Bhatia *et al.*, 1991). Evidence of co-morbidity has also been reported. For example, Malhi and Singhi (2000) indicated that 40% of the children with ADHD had the characteristics of specific learning disorder, ODD or Tourette disorder. Sarkhel, Sinha, Arora and DeSarkar (2006) showed that ADHD correlated closely with conduct disorders, and two further studies showed a positive correlation between ADHD and learning disability (Karante, Sawant, Kulkarni,

Kanchan & Purwala, 2005; Ramaa & Gowramma, 2002). As in the majority of studies from other parts of the world, most of the Indian studies reported that prevalence of ADHD is higher among boys than girls (Malhi and Singhi, 2000; Bhatia *et al.*, 1991; Mukhopdadyay *et al.*, 2003). But Bhatia *et al.*'s (1999) study showed the ratio between boys and girls as 3:1 whereas the other studies indicate a 4:1 ratio. It has been suggested in some studies that ADHD is significantly more common in children belonging to a lower social class, (Bhatia *et al.*, 1991; Chawla, Shashi, Sunderam and Mehta, 1981; Bhatia *et al.*, 1999; Sidana, Bhatia and Chaudhary, 1998) a factor which is rarely reported from Western contexts and has been insufficiently researched in order to be sure of the reliability of this notion. Bhatia *et al.* (1999) argued that this interpretation in relation to socio-economic disadvantage is because children in these areas are seen to be at risk from health difficulties and conditions at home are seen as less efficacious. Such populations are stereotyped as more likely to present with difficulties in respect of both educational and health issues.

Regarding the level of understanding about ADHD in India, limited awareness is reported (Srivastava & Shinde, 2004; Malhi & Singhi, 2000). According to Wilcox *et al.* (2007), ten out of 27 families of children with ADHD were either unaware of the nature of ADHD or unsure about whether their child suffered from this. One recent study by Malhi, Singhi & Sidhu (2008) found that there is little concordance between parents and teachers in respect of their acknowledgement of the 'symptoms' of ADHD. Therefore, they suggest that information from both parents and teachers is needed for making a reliable assessment of ADHD. The limited number of Indian studies conducted to date indicates a need of more research on ADHD in the country.

In summary, it could be argued that ADHD in India is seen as an illness or a disease, biologically caused and requiring 'treatment' often involving the administration of medication. Most of the studies reported are based upon samples which were relatively small. Given the diversity of population, cultures and socio-economic conditions in India such studies based upon small samples are often seen as non-generalisable beyond the immediate

area in which they were conducted. Studies which sought information from teachers are rarely reported. The sample children in most studies are drawn from hospitals or outpatient clinics or from specialist referral sites for children with behavioural or academic problems (Wilcox *et al.*, 2007). Most of these institutions are placed in metropolitan cities in India (e.g. Kolkata, Delhi, and Mumbai) (Mukhopadhyay & Mani, 2002 in Govinda). None of the research study samples reported were located in major South Indian states. The majority of research has been conducted for the collection of quantitative data, a notable exception being a single study of parental explanatory models in Goa by Wilcox *et al.* (2007).

2.6 Cultural validity and reliability of ADHD and DSM IV (TR) criteria

Several studies have been conducted to assess children with ADHD worldwide. These studies show inconsistent results and varied rates of incidence across different countries and cultures (Timimi & Taylor, 2004). However, it is not clear from the literature reviewed whether difference rates of ADHD are due to cultural differences. In fact, little seems to be reported about this issue (Rousseau *et al.*, 2008). Most importantly, nearly all reported studies have been conducted in economically developed regions, mainly North America (Rohde, 2002; Wilcox *et al.*, 2007). A handful of studies have been undertaken in developing countries and these suggest possible cultural differences either in the use of assessment procedures or in the manifestation of ADHD (Leung *et al.*, 1996; Wilcox *et al.*, 2007).

For example, a study conducted in China by Leung *et al.* (1996) suggests that cultural influences impacted upon a lower incidence rate of ADHD. Nevertheless, the study found that core characteristics of ADHD (inattention, hyperactivity and impulsivity) were identifiable among Chinese boys. An Indian study reported a huge resistance from parents to the psychiatric label and 'illness' model of ADHD (Wilcox *et al.*, 2007). Additionally, Rousseau *et al.* (2008) observed that the definition of and attitude towards hyperactivity are subject to cultural variations. Moreover, the perceptions of these

behaviours as 'normal' or 'deviant' are shaped by inherent cultural beliefs, values and norms (Mann, Yoshiko, Mueller, Takahashi, Tao, Humris, Li, & Chin, 1992; Rousseau *et al.*, 2008). More studies in cross-cultural contexts will need to be conducted to explain the impact of socio-cultural factors in the assessment of children who present ADHD characteristics.

In terms of standard assessment procedures, the US model of DSM IV criteria is the one most commonly used to identify ADHD worldwide. It is possible that certain behavioural items included in the DSM IV (TR) may not be identifiable in other cultural settings dependent upon potential differences in child bearing practices between cultures (Leung *et al.*, 1996). Limited research is, however, reported to explain the cultural influences which impact upon the validity and reliability of these criteria. They are often projected as universally applicable instruments. Cultural relativity and validity of the diagnostic procedures are given little attention (Canino & Alegria, 2008; Rousseau *et al.*, 2008). Additionally, they are perceived as effective procedures even when used in culturally different populations like India. However, a study conducted in Brazil suggests that DSM IV-type criteria are culturally valid and reliable as measurements of children's behaviour in the classrooms and other settings (Rohde, 2002). Although the current study found that these criteria are useful in identifying children with ADHD characteristics within a South Indian context, some items are not recognisable due to the socio-cultural factors. More of such issues will be discussed in Chapter Seven.

To date, apart from the current enquiry, there is only one study conducted in India exploring cultural influences in diagnostic procedures (Wilcox *et al.*, 2007). This suggests that cultural factors affect the identification of psychiatric illnesses and the management of problematic behaviours in children within India. For example, the majority of parents in their study did not accept the 'label' of ADHD and there was resistance to treating children with medicines for their behavioural problems. This may be because the 'deviant' behaviours are regarded differently across cultures, a factor discussed later in this thesis. Studies show that there is wide variation within

and across countries in defining childhood behaviours as problematic - by teachers, parents and other professionals. These variations have a potential impact upon the acceptability of the interventions utilised and may, for example, mean that approaches adopted in the UK may not find favour in India. Though there are some studies which indicate that there are different views amongst teachers and parents in North American and European countries with regards to attitudes and approaches to children with ADHD, there have only been a small number of studies in non-Western contexts. This remains a problem for researchers, policy makers and teachers alike and has contributed to the motivation for conducting the research reported in this thesis.

2.7 Summary

This chapter provided a literature review as it relates to the present study. The first part of the chapter has three sections. The first section focussed upon a brief historical overview of ADHD and its diagnostic procedures. This showed that ADHD is an 'evolutionary term' and its diagnostic procedures have been developed over the years. The second and the third sections dealt with researchers from different disciplines interpreted the construct of ADHD, its causes and possible intervention strategies differently according to their professional backgrounds. In this first part, I presented ADHD as a complex phenomenon. A key point is to mention here that many of the controversies and discussions with regard to ADHD have appeared in Western contexts, little is reported in non-Western contexts. This provided a rationale for considering a study which focused upon the cultural validation of ADHD.

The second part of the chapter exclusively discussed educational perspective of ADHD. In this review, I explained ADHD as a special educational issue and a wide variety of persistent difficulties of children with ADHD in learning, behaviour and social relationships. Teachers and other professionals in Western countries have started to recognise their varied and complex needs and a number of strategies have been developed in order to support them

effectively in schools. Provision of an appropriate level of support has become an area of great concern for policy makers in these developed countries. Additionally, teachers and parents in developed countries have comparatively higher levels of knowledge than those in developing countries. They also appear to have a positive attitude towards different intervention strategies. However, some studies have reported a minimum level of training for school teachers about ADHD in these contexts, but by comparison with India, professional development is well established.

In the third part, I provided an overview of studies conducted in the Indian context on ADHD. This showed the gap between Western contexts and the Indian context in assessing ADHD as a special educational issue. The studies in India provided one perspective –the medical model- of ADHD. In addition, I discussed cultural validity and reliability of the standard assessment procedures used to identify ADHD. In summary, the final section was to provide a rationale for conducting present study in an Indian educational context.

CHAPTER THREE

METHODOLOGY I: CONCEPTUAL, THEORETICAL AND SAMPLING APPROACHES

3.1 Introduction

The British Educational Research Association (BERA, 2000) guidelines suggest that educational research is conducted mainly for the twin purposes of a) informing an understanding of an educational issue and b) improving educational policy and practice. In addition, it is often observed that the purpose of any educational research is to inform policy, practice and further research. Using this as a research principle, the current study focussed on identifying the issue and management of Attention Deficit Hyperactivity Disorder (ADHD) within a South Indian (Keralian) context where this issue remains unrecognised by the teachers and parents. In other words, the study investigated an educational issue of ADHD within an Indian context in order to ascertain its prevalence and suggest some actions to improve the current practice of managing children where such an issue was identified. The identification and management of young people who present with the characteristics associated with ADHD is left to local management arrangements. Whilst planning such research, it is necessary to determine what kinds of approaches are adopted to study the ADHD phenomenon in the Keralian educational context in India.

The study employed a qualitative research approach within an interpretative paradigm using a theory founded upon social constructivism as its philosophical or theoretical underpinning. This adopted qualitative methodologies including the development of a collective case study formulated using many of the principles associated with ethnography. This chapter contains four parts. The first part addresses methodological aspects of the study including the application of qualitative approaches and an interpretative paradigm. In the second part the focus shifts to conceptual issues which provided a guide to formulate the research questions. The third

part will give an overview of some application of social constructivist principles in order to develop theoretical understanding of the concept development. In the final part, sampling parameters will be explained.

3.2 Application of the Qualitative Research Approach

The general approach undertaken in this study was qualitative in nature. Many authors define qualitative research in terms of its methodological approaches, qualitative nature, use of methods, and philosophical viewpoints. The description of some of these elements discussed here was considered as useful for the setup of this particular research study. For example, Cresswell (1994) defines qualitative research as:

Qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting.

(p.145)

Furthermore, Bryman (2004) defines qualitative research in terms of the use of methods. These include interviews, participant observation and narratives. For many others it is a political or philosophical perspective which determines a research agenda (McEvan and McEvan, 2003). Merriam (1988) gives high importance to qualitative elements of the research such as insights and perceptions, interactions and descriptions of the fieldworks and believes that the data must be grounded within the context.

The research reported in this thesis has incorporated all these elements in order to explain the social construction of ADHD within the Keralian Educational context of South India. The main focus of the research was to understand ADHD through the interpretation of people close to children within the schools in Kerala. In this respect it upholds the view that the

reality which is constructed through this process is dynamic, that is, susceptible to changes in people's perceptions due to their understanding of the issue of ADHD (Robson, 2002). Furthermore, the reality was constructed by the perceptions and experiences of the people involved in this study. Therefore, some elements of value judgements were possible within this study as it sought to construct a social reality based on the subjective experiences of the participants where language and context were important (Cohen, Manion & Morrison, 2007). The study has followed a holistic approach to derive a necessary picture of the social world (the 'ADHD' traits and their interpretation from an Indian context) within the context of the study related to the research questions (Patton, 2002). Moreover, the study was undertaken in the natural settings of the school and home contexts where the individuals were able to provide "real", "rich" and "deep" data (Lincoln & Guba, 1985) about the children's difficulties in learning and behaviour as associated with ADHD.

The method of reasoning or thinking adopted in this study was inductive in nature rather than deductive as is generally the case with qualitative educational research. That is, initially, it observed ADHD phenomenon in a Keralian educational context, then formulated certain patterns based on the assumptions and concepts derived from 'scientific' observation with reference to the understanding from the literature about ADHD. As a result, some tentative hypotheses were generated and which suggested that ADHD did exist in the Western context and therefore it would exist in the Indian context. Lastly, a theory of ADHD, which is constrained by the interpretations of normal and deviant behaviour in the context of the study, was generated. In other words, the study was able to generate a theory that suggests that ADHD does exist in India with reference to some cultural and contextual interpretations rather than confirming an existing theory as opposed to a deductive approach used in a normative scientific approach to interpreting the social world. There are three reasons for adopting qualitative approach in this study.

First and foremost, the study sought to identify children with ADHD characteristics within the South Indian context where the issue has yet to be recognised or is little reported. For this purpose, it was essential to collect direct and rich information from the children's natural life settings. In this aspect, teachers and parents were considered as the best source of information for this study. Their experiences and feelings about children's difficulties in learning and behaviour were considered as valuable data for this nature of the research. The rationale for such an approach is that there are certain elements of human interactions which cannot be measured or are difficult to quantify such as attitudes, beliefs, opinions and views which are the essential components for generating a theory on ADHD within the Keralian educational context of India. The study has sought for non numerical data gathered from the participants' experiences and perceptions together with the interpretation of the researcher in a variety of settings (Safman & Sobal, 2004) to explain how ADHD exists in the Trivandrum school context of South India.

Second, the purpose of the study was to propose some practical and appropriate intervention strategies for schools to adopt meeting the needs of children with ADHD characteristics in order to include them in learning. For this purpose, teachers' and parents' views were considered as worthwhile to inform an improved practice to cater for the needs of the identified children with ADHD characteristics within the sample schools in the Trivandrum (locally termed as Thiruvananthapuram) District of Kerala.

Third, the qualitative research methods of in-depth interviews and classroom observations which involved human interactions were well suited for this study as they were able to provide rich information as far as possible which was not possible through traditional research methodologies. The adaptability and flexibility of qualitative research methods were particularly useful whenever there was an issue of potential ambiguity of research contents, for example, terms like inclusion, attention problems, concentration or learning problems, misunderstanding of certain concepts and differing perceptions between the participants (Gilmore & Carson, 1996). Clearly, it has become

essential considering that the educational research process involves interaction, communication, emotions and dynamic exchanges between the researcher and the participants. An important challenge in this nature of the research is said to be the difficulty in keeping consistency with prior-dispositions or assumptions regarding the phenomena under the study which were made initially to set the parameters of the research. This was not particularly an issue for the current study as it was able to obtain consistent results as assumed.

However, some issues within the study because of the qualitative research approach are worthwhile to mention here. As the general nature of any qualitative research, it is very subjective and thus raises the question of reliability and validity of the approaches and information derived from the data collection. Additionally, it is not free from researcher induced bias. There are also concerns of generisability of the data obtained and the scope is very limited. Though this is the case, I have taken essential steps to minimise such issues within this area of the study. One important method used in this study is that of triangulation; data triangulation, triangulation of the methods.

3.3 Interpretative Research Paradigm

Interpretative paradigm or interpretive framework is one of the two major philosophical schools of thoughts, which is different from normative paradigm or positivist paradigm. Positivist researchers view the social world as capable of being measured and quantified. They follow quantitative methodologies of survey and experiments with a fixed research design. They hold the view that reality can be objectively measured and independent of the participants and this can be supported by empirical evidence (Cohen *et al.*, 2007). In contrast, the interpretative researchers' central focus is to understand the subjective world of human experiences (Robson, 2002) which derive from the complex and problematic nature of humans and their experiences. The former holds

the view the world as it is and set out to understand the individuals' interpretations of their world around them.

It is widely recognised that the social world is complex and is interpreted through its actors. Therefore, the social reality which is constructed by individuals through qualitative research methods such as observation and interviews is amenable to transformation as knowledge advances or as the interpretations of individuals changes (Cohen *et al.*, 2007). Each individual has her/his own unique experiences and therefore the interpretations of the world vary from subject to subject. Human beings are able to reproduce their strong characteristics which are acquired through daily life events. Moreover, the interpretative approach concentrates on the interpretation of the phenomena which depends on the individual's personal experiences, thoughts and perceptions.

The study has used an interpretative paradigm as its philosophical basis of knowledge. The interpretative nature of the current study is able to provide interpretations, in-depth and detailed descriptions of the ADHD phenomenon within the South Indian context. Taking account of participants' subjective experiences of the children's attention and behaviour difficulties, the study was able to generate the theory that explains how and why ADHD exists in an Indian context. The research questions formulated in this study are used to identify children with ADHD characteristics within the Trivandrum population of South India through the views, perceptions and experiences of primary school teachers and some parents working and living in this area. The researcher interpreted the responses gathered from the participants' perceptions and experiences through qualitative research methods, such as in-depth interviews and classroom observations, with a flexible research design. In other words, the researcher makes sense of the participants' experiences to address the research questions to construct the theory which explains the existence of ADHD within the Trivandrum primary school population of South India.

3.4 Use of Collective Case Study and Ethnographic Approaches

The study has followed twin approaches; both a case study approach and some elements of an ethnographic approach. In the case study approach I have chosen five schools as case samples. Each school's characteristics were carefully observed and selected with the view that they were able to provide rich and in-depth information for this part of the qualitative study. In each school, the participants were teachers, children and their parents. It gathered in-depth information from each school and was able to make "thick interpretations" (Stake, 1995) about children's behaviour, learning difficulties and management approaches adopted within the sample schools. Thus, this approach relates to the notion of the case study approach which involves studies of singularity (Basse, 1999). Within the five sample schools, there were some cases of children who were identified to provide a detailed and in-depth study of these cases.

The study also involved some ethnographic elements although it did not follow traditional ethnographic principles. However, it was able to follow some principles identified by Nunan (1992, p.56 Cited in Molyneux, 2005, p. 125).

Table (i): **Nunan's key principles of ethnographic research**

Characteristic	Explanation
Contextual	The research is carried out in the context in which the subjects normally live and work
Unobtrusive	The researcher avoids manipulating the phenomena under investigation
Longitudinal	The research is relatively long-term
Collaborative	The researcher involves the participation of stakeholders other than the researcher.
Interpretive	The researcher carries out interpretive analyses of the data
Organic	There is interaction between questions/hypothesis and data collection/interpretation

The study was contextual as the research was carried out in natural situations of home and school contexts where the participants interact each other in their daily life functioning. In addition this was initiated by the researcher who was familiar with cultural and contextual aspects of the current research site. In this process of data collection, a long term (an academic year) relationship between the researcher and participants was established and this provided rich data as possible. Interpretive approach was adopted to analyse the data gathered from teachers, children and their parents. This approach emphasises the fact that social interpretations and meaning of ADHD and its associated difficulties are the central focus of the current study. In many aspects, the study was a collaborative process which incorporated both participants' and researcher's views.

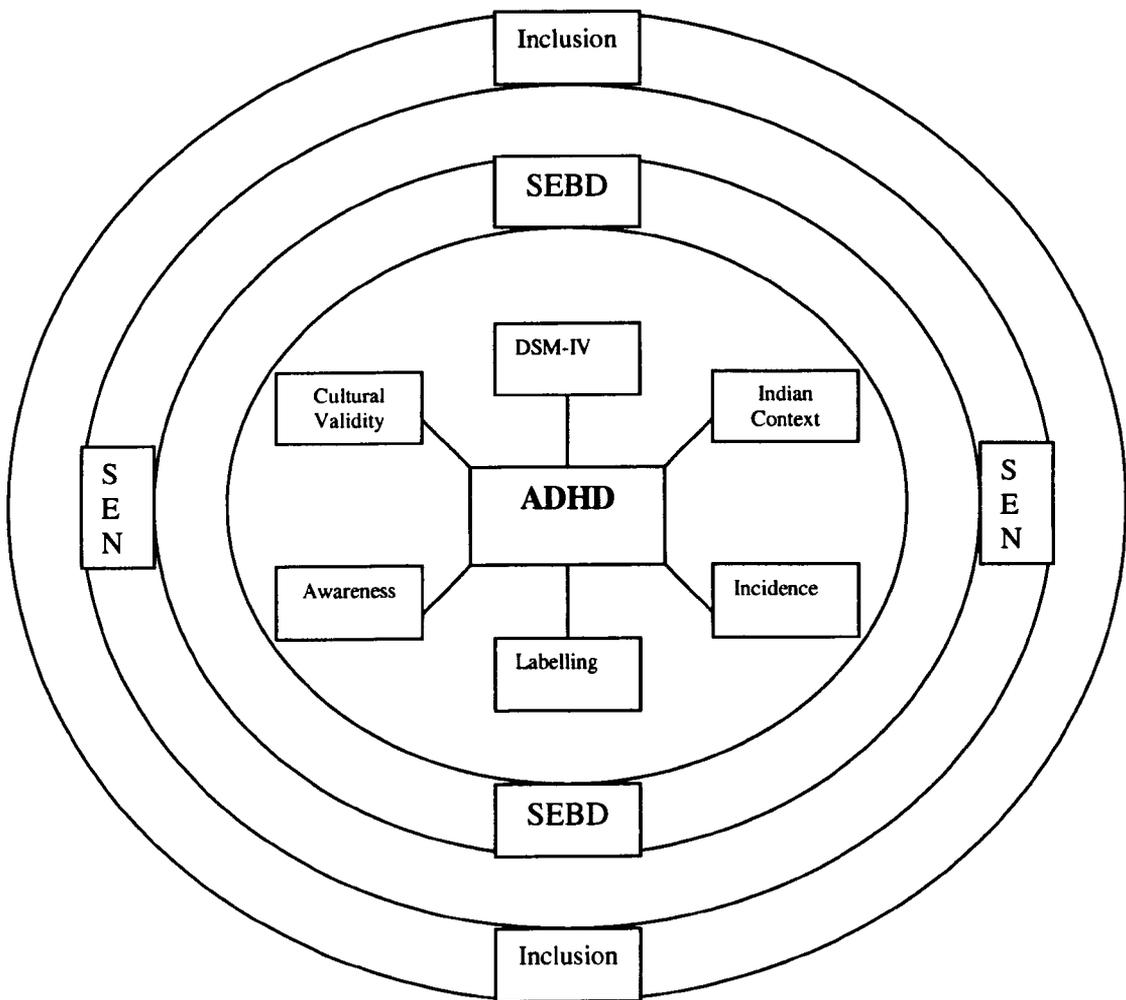
3.5 Conceptual Framework

The concept of ADHD applied in this thesis was developed through my engagement with an academic community in the field of special and inclusive education in general and Social, Emotional and Behavioural difficulties in particular. In addition, the concept development drew upon the concerns of practitioners (teachers, parents and other adults) who work in India with children of diverse needs. Through engagement in a creative dialogue with a research community in the field of special educational needs and inclusive education in the UK, the focus of my outlook towards the educational provisions for the children in India was significantly influenced.

In a Western context children with difficulties in learning are usually individually considered and their difficulties are 'scientifically' studied and appropriate measures for meeting the needs of children are developed. Children's difficulties in India are generally not clearly identified and addressed as is more common in the West and teachers have limited understanding of the various difficulties experienced by children. As a practitioner within the Indian context, I had to deal with children of various kinds of behavioural and learning difficulties in my classes. My visit to a

number of schools with Emotional and Behavioural Difficulty children (or EBD schools) in England has influenced my thoughts on meeting the needs of children and I saw the educational provision for them in a UK context. Many of the children with ADHD in these schools displayed characteristics similar to those with whom I have worked in India. Through the personal experiences, knowledge and understanding gained in the UK, ADHD has become an issue of concern. In particular I am aware that for many parents and teachers the provision of a means of adequate identification in order to meet the needs of children must be seen as a priority. The literature suggests that there are concerns around the world about ADHD and its appropriate management from which it may be possible that teachers and parents in India could benefit.

Figure (i): **Conceptual framework**



The conceptual framework (Figure: (i)) which I have developed can be elaborated in the following terms. This framework explains how I develop and link concepts from literature to establish evidence to support the need for the research questions within this study.

3.5.1 Principal concepts

There are some principal concepts which influenced my thinking and improved my understanding of addressing the diverse needs of all pupils in my service area. They are discussed as sub-titles.

Inclusion or inclusive education

Inclusion has become a major active movement in the educational world in the 21st century. Through an inclusive educational approach, it is assumed that quality and equitable education can be accessible for learners (Tilstone & Rose, 2003) irrespective of their ability or disability. In other words, inclusive education can reinforce the idea of social justice in education. In order to include all learners in the educational process, it is essential to recognise the diverse needs of learners and address those needs through appropriate educational provisions. In that sense, inclusion has emerged as an ideology for looking after the needs of all children according to their level of ability irrespective of age, sex, religion, ethnicity and socio-economic or disability background. Therefore, it has become increasingly a process of awareness of and meeting the diverse needs of children.

Inclusive approaches have created awareness among teachers to make the children physically as well as emotionally engaged in learning through creating 'a sense of belonging' in the classrooms. This concern has come into being as the educators are aware that the children's academic achievement or under-achievement is in response to a number of influencing factors. Much research conducted in different parts of the world validates this view. Clearly,

educators and research community in education have started to identify factors which are responsible for children's underachievement and inappropriate behaviour. At this moment, it is viewed that children's needs are unique and diverse and therefore diversification and recognition of needs are very important. As anywhere else, Indian educators have started to embrace the ideology of inclusion though there are limiting factors which are enormous, such as funding and accessible equipment. The fundamental fact about inclusion is that educators should be aware of and recognise the needs of all children especially children with less engagement in learning with little academic achievement. For that reason, children's special educational needs have been recognised and an adequate policy and practical implications have been initiated in different parts of the world especially in the Western context.

Special educational needs (SEN) and disability

The inclusive approach recognises that children's needs are different and some children's needs are particularly special and they therefore need special attention, support and care from educators (Rose & Howley, 2007). There are two categories of children who need special attention from teachers and other professionals in education. Disabled children are recognised as not being able to engage in learning as other children without any clear physical disabilities. The needs of such children are visible and easily recognisable. The other group of children's needs are invisible and need adequate identification and attention in recognising their needs and providing adequate support. This group of learners are perceived as having 'hidden disabilities'. After the development of neuro-scientific research, the needs of such children have started to be recognised and a convenient labelling was given in order to identify their needs and provide adequate support for them. In such a category, there are children with autism, dyslexia, SEBD, ADHD and other developmental disorders. For educators, this understanding has become a movement of creating appropriate educational provisions for children who are suffering from such difficulties.

Social, Emotional and Behavioural Difficulties (SEBD)

Some children's poor academic outcomes are associated with their social, emotional and behavioural difficulties. Such children tend to withdraw from group activities or are socially isolated, have emotionally outbursts and behave disruptively. They are largely disaffected and disengaged in learning and sometimes, for them, schools have become a place of 'a demoralising, de-motivating and dehumanising experience' (Hunter-Carsch, Tiknaz, Cooper & Sage, 2006) due to not recognising their barriers in achieving appropriate educational outcomes. In the West, particularly in England, these children's needs have been addressed through the inclusive education settings within the mainstream education centres and established EBD schools within special provision settings. I had opportunities to visit such schools in and around Northampton and I had seen that children's specific needs are individually addressed by an adequate number of adults or a support team. However, there are the issues of managing pupils with emotional and behavioural difficulties in mainstream classrooms of adults with little or no training (Garner, 2005; Groom, 2006).

The UK governments' documents acknowledge that children with those issues possess poor language skills due to their inability to maintain concentration and focus on tasks at an appropriate level. For them, it is suggested that a structured approach in delivering lessons will be helpful in engaging them in learning (DFES, 2004). Furthermore, *Behaviour for Learning* website deals with the enormous resources for promoting positive approaches to behaviour management. However, both in India and in Kerala, there is a limited amount of literature and resources available in this regard. Most often available sources of information are from medical professionals and are based on medically associated emotional and behavioural problems of children (Johnson, 2005) and treated within the outside school parameters. The position paper published by NCERT (2005) shows the concerns of medical pathology of understanding children's emotional and behavioural difficulties. This limited literature suggested that I should identify children with such difficulties within the school contexts.

Attention Deficit Hyperactivity Disorder (ADHD)

ADHD has come to my attention as an issue which is widely discussed and largely reported within Western society. Initially, it has appeared to me as an issue of Western society where children are allegedly given 'too much freedom' where there are social factors such as family breakdown and individualistic life principles where the children have limited opportunity to interact with their elders. Although these factors might act as contributing factors of ADHD (Cooper & Bilton, 2002), the cause of this condition has multiple dimensions, and treatments for this are from multiple sources, i.e. educational medical, behavioural and other multimodal intervention strategies (Derrington and Goddard, 2008). I was interested in the educational aspect of children with ADHD and asked how I could help a child with characteristics of this in my classroom or whether there were any such children in my context or whether the academic poor performance of the children was associated with ADHD. I wanted to know what ADHD is and how it affects actual classroom situations. Based on this understanding and further evidence from the literature, I have developed the following minor concepts related to ADHD.

3.5.2 Secondary concepts

These minor or secondary concepts are related to the notion of ADHD and its wide interpretation and discussion in the literature. They are discussed in subtitles as below.

Level of awareness

It has been found that there are many scientific papers about ADHD within the Western context, providing information on its nature, course, causes, impairments, classroom difficulties, and multimodal treatments. Professionals

(often through journals) and the public (through a range of media) have been encouraged to discuss the issue and even to debate the concept of ADHD as a false construct. Government documents supply adequate information on this and ask teachers to adopt flexible strategies for meeting the needs of children with ADHD. There is much information, support and training providers such as ADDISS, BBC, CHADD, NICE, NIMH, and other related agencies who can be found within these countries. Such support agencies are dramatically increasing over the years. In an Indian context, it is viewed that there is limited information available on this issue as is the case with other special educational needs of children. This comparative analysis suggested that I should formulate one of the research questions as 'what level of awareness exist within Trivandrum school context of South India' (*Research Question 1*).

Incidence of ADHD or Identification

ADHD is identified as affecting three to seven percent of children worldwide (Carlson *et al.*, 2006). However, it is widely viewed that the majority of children with ADHD are unrecognised in most countries particularly, in non-Western contexts (Rohde, 2002; Wilcox *et al.*, 2007). In the UK, it is said that there is at least one child with ADHD in every classroom of 30 children on average (O'Regan, 2001). Nevertheless, little research has been conducted in the UK considering the opinions of parents and teachers in terms of assessment and diagnosis of ADHD (Couture *et al.*, 2003). Furthermore, adequate educational provision and exclusive practices for the identified children with ADHD is still a major issue in the UK (O'Regan, 2001). In the case of India, official documents rarely deal with the issue and support facilities are limited with regard to identification and management of children with ADHD (Malhi & Singhi, 2000). In support of this view, a Central Government document suggests that one of the main issues in inclusive education in India is an inadequate identification of children's difficulties in learning (NCERT, 2005). Hence, it is worthwhile to ask 'what recorded

incidence of ADHD exists in schools within the Trivandrum district of Kerala, India' (*Research Question 2*).

DSM IV (TR) criteria for ADHD

The American Psychiatric Association's (2000) *Diagnostic and Statistical Manual of Mental Disorders* (DSM IV (TR)) criteria (See Appendix 3) have been used worldwide as a diagnostic tool to identify children with ADHD characteristics. According to the criteria, there are 18 different behavioural indicators which are used to assess children with ADHD characteristics. The important items in the DSM IV Criteria (TR) are "often fidgets with hands or feet or squirms in seat", "often leaves seat in classroom", "often blurts out answers", "often has difficulty in turn taking" (Lloyd *et al.*, 2006). Some other items are "talks too much", "often fidgets", and "messy work". In DSM IV, there are three types of ADHD are identified: inattentive type, hyperactivity-impulsivity type and combined type. For a child to be assessed as having ADHD or a combined type, it is required that they should exhibit a minimum combination of six of the listed inattention characteristics and six of the hyperactivity-impulsivity characteristics (a total of 12). In order for a diagnosis to be provided children should exhibit these characteristics more frequently than others in his/her similar age, sex and development and should display these in more than one social context. In other words, this combination of items should be developmentally inappropriate, persistent and frequent. These behaviours should additionally be seen to impede their social, academic or behavioural functioning or be a significant impairment in these functions. This study sought to investigate 'the effectiveness of standard procedures used to identify ADHD when used in South Indian context' (*Research question 3*), was used for identifying children with ADHD characteristics.

Cultural validity and reliability

The cultural validity and reliability of DSM IV criteria has become a major issue when they are transferred to a culturally different population like India. Limited studies have been conducted to identify 'cultural influences impact upon the validity and reliability of the standard procedures when introduced into a non-Western context' (*Research question 4*). The wealth of Malayalam words describing internalising and externalising behaviours suggests that the broader categories as described in the DSM IV criteria are recognised by adults working with the population which I studied. I followed a process as advocated in the study by Hackett *et al.* (1999) of achieving linguistic equivalence by translation and back-translation. As a trial, I used the translation of original version with some teachers (not the sample teachers) within the research context. It was found that some of the terms of the translation could be misleading and could not be correctly expressed in the current cultural context though it had similar meanings. These were corrected and provided with some context of the items included in the DSM IV. This was again tried with the same 'trial teachers' and this time, the original English version was given. The original version and a Malayalam version were prepared after the discussion with these teachers. I was thereby able to construct cultural specific instruments for conducting the research. I also developed cultural specific tools for identifying children with ADHD characteristics which recognised that the adequacy of a diagnostic instrument or interview in a given culture does not guarantee its reliability or validity in another, even when a faithful translation has been provided (Canino & Bravo, 1994). However, there were some cultural and language influences which I encountered in the current study which will be discussed in the Chapter Seven.

The Indian research context

Generally, the Indian educational research context is more or less embedded with quantitative research, mostly using positivist approaches in

understanding educational issues. In terms of ADHD research within India, this has been conducted by medical professionals who propose medical interventions to 'treat' children's difficulties. Such a research in a social or educational context seems to be unique and therefore the Western literature has been used for shaping the research questions and methodological issues are basing the discussion of it.

The issue of labelling

It is widely discussed issues of labelling people as disabled learners. Often such labelling cannot provide an explicit idea of the difficulties of the children with different kinds of difficulties like intellectual difficulties (Klots, 2004). The issue of labelling children as ADHD has been severely criticised by people like Armstrong (1996) and Hartmann (1996) saying it has denied the opportunity to see the best in every child. On the other hand, Barkley (2005) argues that labelling is helpful in understanding the individual and his difficulties and the possible way to deal with the disorder effectively in terms of evidence-based knowledge. However, there have been issues surrounded by the aetiology of ADHD among research scientists (Lloyd *et al.*, 2006; Travell & Visser, 2006).

All these major and minor concepts influenced my understanding of addressing the diverse needs of children and developing research questions which were able to identify children with ADHD characteristics within the Trivandrum school population of South India.

3.6 Theoretical Framework: Social Constructivism

The study was conducted within a social constructivist framework as its theoretical or philosophical underpinning (Burr, 1995; Gergen, 2001). The social constructivist theory was used as a "ready made map" to guide my research questions and provided a rational approach to the development of my hypothesis (Gredler, 2008). This framework will explain how the ADHD

phenomenon which is often featured in a Western context exists in an Indian cultural or social context. This construction of knowledge and interpretation of ADHD is based on the cultural and contextual factors which occur in India. Not only is the task of the researcher 'to understand the multiple social constructions of meaning and knowledge' (Robson, 2002. p. 27), but also the participants are engaged in the process of identifying ADHD-type traits based on their subjective experiences, views and perceptions through working with children in the Indian context. In order to acquire these multiple perspectives, I have used in-depth interviews as the main method of data collection which are the prime focus of the constructivist framework and in this process the research is viewed as both participants and the researcher are working closely together to construct the reality (Robson, 2002).

3.6.1 Theory of social constructivism

Social constructivism is a perspective in philosophy which views reality as being socially constructed, it is possible that reality is constructed through convention, human perception (which is different to different people according to their knowledge and intellectual background), and social experience. Reality is constructed through human activity or human interactions or it is interpreted social action (Robson, 2002). According to the constructivist approach, social reality is not external to individuals or given 'out there' in the world but it *is the product of their consciousness or the result of individual cognition or it is created by one's own mind (psychological constructivism) and also it is concerned with the reality is constructed through a social process or social activity (social constructivism)* (Hicks, 1996). Any knowledge which comes to being as a result of such construction of reality is transitional not absolute but it is *personal, subjective and unique* (von Glasersfeld, 1996). Put differently, the concept of social reality is a set of meanings which people use to make sense of their world and behaviour within it. This reality cannot be discovered, but rather generated. Hence knowledge is a human product which is socially and culturally constructed

(Hicks, 1996). However, it should be noted that social reality varies from situation to situation (in a world of multiple realities).

In the research point of view, reality is constructed through the co-work of the researcher and the researched that is, the individuals who were engaged in the construction of knowledge and understanding. In this process, both participants are engaged in a dialogue or communication which is reciprocal (Dudley-Marling, 2004) by reaching inter-subjective agreement through which the meaning is constructed whilst ignoring the conflicting factors between the participants' interpretations. In this process of involvement, an interpretation of truth or reality is socially constructed (Berger & Luckman, 1966). However, that does not mean that all conceptual categories are socially constructed (Pinker, 2002, p.202), rather it implies that categories of knowledge and reality are actively created by the collaborative work of individuals (Hall, 2005) engaged in the process of this investigation. Such theories of social constructivism tend to build upon Vygotskian collaborative methods which recognise the inevitable influence which all participants within an investigation have upon each other and their interpretation of the world (Gredler, 2008). In the approach adopted for this study, the emphasis was on creating and respecting dialogue between the researcher and the participants and enabling all parties to share in the construction of the reality. This democratic commitment to a research method is emphasised by Gergen (1994) and Potter (1996) who identify five basic assumptions within which a social constructivist should operate. Potter states that:

- 1. The terms by which we account for the world and ourselves are not dictated by the stipulated objects of such accounts.*
- 2. The terms and forms by which we achieve understanding of the world and ourselves are social artefacts, products of historically and culturally situated interchanges among people.*
- 3. The degree to which a given account of the world or self is sustained across time is not dependent on the objective validity of the account but on the vicissitudes of social process.*

4. *Language derives its significance in human affairs from the way in which it functions within patterns of relationship.*
5. *To appraise existing forms of discourse is to evaluate patterns of cultural life; such evaluations give voice to other cultural enclaves.*

(p. 2)

3.6.2 Application of social constructivist principles

While considering ADHD as a relatively common childhood psychiatric disorder that is reported mostly from the Western context (Anderson, 1996; Leung *et al*, 1996; Rohde, 2002) the social construction of reality in a culturally different population like India is largely significant. It is also very important as the cultural background influences the type of life experiences people have, and thus their assumptions about the world and ways of categorizing "reality" (Lee and Gilbert, 1999). Thus, from within the general social constructivist framework, this study worked on the hypothesis that the ADHD condition, which manifests itself in many cultures, already existed in the Indian context. A similar view is also held by Shotter (1997). He suggests that the process of construction, once established continues with partial construction and is open to further construction or further re- construction and that it is limited within the aspects of language, culture and the context.

The research reported in this study was conducted within a South Indian context. Invariably when considering the Western construction of ADHD it was necessary to recognise that a process of knowledge creation, language, culture and context were very important and they acted as mediation factors (Ellingham, 2000). As a researcher, I am an Indian national and have inevitably been influenced and informed by my research training and experiences within a UK system. This is advantageous in enabling me to maintain perspectives from both the research location context and Western research traditions. Though individual intentions or perspectives played a role in the construction of ADHD knowledge within the Indian context, its meaning

depends on the complex interactions of people, activities, place and the broader cultural context (Dudley-Marling, 2004). In other words, interpretation of ADHD within the Indian context involves the collective knowledge of the individuals of the children's difficulties in attention and behaviour working within the society (Hunt, 1997).

Here both researcher and participants were working together in identifying children with ADHD characteristics while engaging key parties in discussion of their interpretations of ADHD within in an Indian context. This knowledge is a function of how the individual creates meaning from his or her experiences working with the children in their classrooms. That is, construction of ADHD was not through objective means, but only by subjective experiences or interpretations of the participants involved in the processes of conversation, discussion and negotiation or as a 'contextually-driven intrapersonal creation' (Adams, 2008). This made the possibility of meaningful interaction and acknowledging shared understanding between the researcher and the other participants (Lee and Gilbert, 2002) between the researcher and the researched. Within this theory participants are equally important as the researcher. For this purpose, it has used the in-depth interview as one of the main methods of data collection in order to stimulate class discussion, effecting even more interesting, thought provoking, and novel conversations.

3.7 Sample Selection: Purposeful and Selective Sampling

In conducting research of this nature it is important to acknowledge the many constraints which influence the selection of samples and the field work process. The Trivandrum district, from which data was collected, is a large geographically and socially diverse area inhabited by a diverse population. Amongst this population are a number of prominent religious communities, Hindu, Christian and Muslim and also considerable variations in socio-economic status and educational history. Whilst Kerala is often described as India's most literate state, there are still considerable numbers of people who have benefited from only a rudimentary formal education whilst others have

had opportunities to gain qualifications at the highest level. The Trivandrum area contains areas of highly populated conurbations in urban settings, but also incorporates a number of more rural village communities. With this range of variables it was necessary to accept that the development of a truly representative sample for this research was unlikely to be achieved. However, it was deemed essential to take measures to ensure that a sample which took account as far as possible of the varying populations within Trivandrum educational district was attained.

The development of samples within social science research is far from being an exact science. It is essential to be aware of the potential influences of the personal bias and prejudices of the researcher (Cohen *et al.*, 2007). In this study I have tried my best to provide an objective sample through formalising the sample selection process. It is difficult to make an objective study without limitations due to the qualitative nature of the research and the subjective elements which might be perceived as a hindrance to a more objective study. Moreover, the researcher in a study of this nature has limited control over participants' bias, value systems and motives for participation in the study though a mixed methods approach to data collection can address this problem to some extent through verification and triangulation of data. Whilst it may be suggested that there is no universally agreed set of criteria for sampling in qualitative research (Curtis, Gesler, Smith and Washburn, 2000), it remains beholden on the researcher to ensure that all due consideration is given to safeguarding the security of the data obtained.

The research was initially planned with reference to the theoretical framework of the social constructivist approach as its philosophical underpinning with the intention of being able to make analytical generalisations based upon a range of participant interpretations. The research was mainly concerned with participants' recognition and interpretation of sensory stimuli based chiefly on memory or their daily school and home experiences of children with ADHD-type behavioural characteristics. This was further investigated through the researcher's observation of actual incidents in the classroom for the

identification and remediation of this condition and further shaped by those social and cultural influences which determine educational provision within the Trivandrum district of India. This means that the selection of a sample of teachers was a crucial process in this study. Literature suggests that the consideration of sampling is an important issue in any qualitative research and requires careful consideration (Coyne, 1997). When constructing research of this nature there are many challenges in defining an appropriate sample. In particular there is a lack of clear guidelines on the principles and practices which might govern the selection of samples; this has often resulted in much complexity and confusion in the decision on the sample selection (Coyne, 1997).

The development of a sample for this study was conducted within a sampling frame which considered the many variables and individual characteristics of schools within the research region of Trivandrum, India. (Trivandrum is the capital city of Kerala state in India and the entire region has been divided into four educational districts of which Trivandrum is one). All schools in the Trivandrum educational district were considered for the sampling process. When considering the development of a sample which could be described as representative of the Trivandrum district, 30 variables were identified using a *sampling grid system*. These were as follows:-

1. Government schools
2. Private schools (unaided schools)
3. Government aided schools
4. Christian management schools
5. Muslim management schools
6. Hindu management schools (SNDP or NSS)
7. Individual management schools
8. State Syllabus schools
9. CBSE syllabus schools (including KVs and NVs)
10. ICSE syllabus schools (international syllabus)
11. Malayalam medium schools
12. English medium schools

- 13.Hindi medium schools
- 14.Tamil medium schools
- 15.City or urban schools (corporation)
- 16.Village or rural schools (panchayats)
- 17.Schools in the coastal areas
- 18.Schools in remote areas
- 19.Special schools (physical disabilities)
- 20.Boarding schools
- 21.Day schools
- 22.Mixed sex schools
- 23.Single sex schools
- 24.Primary schools
- 25.Primary and secondary together
- 26.Highly Performing schools (SSLC with 80% and above pass)
- 27.Medium level performing schools (SSLC with 50% and above)
- 28.Low performing schools (SSLC with less than 50% pass)
- 29.Schools with positive socio-economic indicators
- 30.Schools with negative socio-economic indicators

These thirty variables provide an indication of the breadth of school type within the Trivandrum district and the challenges associated with selecting a sample which could be described in any way as being representative.

From this list it was possible to establish a sampling grid which identified a sample of schools which ensured that a range of these variables were present. This was then refined to identify a sample of five schools which formed the focus of the research (See Table 2). A further three compatible schools were also identified and were kept in reserve for use in the event of any of the five sample schools being unable or unwilling to collaborate in the research.

Table (ii): Sample schools indicating variables as listed above

1. School A	2. School B	3. School C	4. School D	5. School E
3, 4, 8, 11, 16,17, 21, 22, 25, 27, 30	3, 5, 8, 11, 16, 17, 21 22, 25, 28, 30	1, 8, 11, 16, 21, 22, 25, 28, 30	1, 8, 11, 15, 21, 22, 23, 25, 26, 29	3, 4, 8, 12, 15, 21, 22, 25, 26, 29

The sample schools have common characteristics in that each is a co-educational state day school (following the state syllabus). The schools contain a wide age range of pupils (5 - 17 years) though this research is concerned only with pupils in the primary (5 - 10 years) age group. Two of the sample schools presented academically good results and were from areas of good socio-economic status. The other three were from socially disadvantaged areas with comparatively poor examination results. The schools were geographically spread around the Trivandrum educational district and provide coverage of both urban and rural communities. The five schools are managed within differing arrangements; two government, two Christian and one Muslim managed schools. The majority of the Hindu school population attend government schools within this district. In such a complex community there are inevitably challenges in establishing an appropriate sample. However, this selection was based on the understanding that it would give rich information which would be able to inform issues of central importance to the purpose of the research (Stenhouse, 1980).

In many aspects, the sample for the research was selective because it was concerned with only a small number of schools. It was also purposeful because it guided the researcher in planning the field work to achieve the aims of the research. The sampling process could be defined as purposeful in having a clear and definite purpose for the selection of the schools. Hence, within the terms described, the sampling for the research was selective and purposeful. The terms "purposeful" and "selective" sampling are often used interchangeably or synonymously in literature though there is slight

difference between them (Coyne, 1997). In the case of this study, in order to ensure that the selection of the sample was as representative as possible of the target population, within the practical constraints which inhibit data collection, measures were taken as described to avoid as much sampling bias as possible. Most importantly, the researcher recognised that the research sample selection had a profound effect on the ultimate quality of the research (Patton, 1990).

The aim of the research sampling was to select schools for the identification of children who may be described as having the characteristics of ADHD within Trivandrum schools and which would provide some possibility of generalisation from data into the wider Kerala school population. The study focused upon the ways in which diagnostic information could be interpreted and used to inform the planning of educational provision and teaching for this population of learners. Thus the purposeful and selective sampling of this kind was relevant to the needs of this research. Moreover, the sample for this research was inevitably governed to some extent by practicalities such as availability of time, feasibility, research framework and the notion of representation of the population with which the researcher was confronted (Schatzman and Strauss, 1973). Another way of expressing this is to state that the establishment of a sample of these schools was achieved after considering the following sampling indicators. This required adherence to a set of criteria as adapted from the checklist suggested by Miles and Huberman (1994) and further explained by Curtis *et al.* (2000):

1. The sampling strategy should be relevant to the conceptual framework and the research questions addressed by the research.
2. The sample should be likely to generate rich information on the type of phenomena which need to be studied
3. The sample should enhance the 'generalisability' of the findings
4. The sample should produce believable descriptions/explanations
5. Is the sample strategy ethical?
6. Is the sampling plan feasible?

(p. 3)

The chief strength of the sampling approach used for the current study can be seen to be that it is a) purposeful, b) selective c) representative and d) able to give rich information. This is a stronger approach to sampling than simply establishing a sample which is either random or based wholly on convenience. The researcher had advantages in respect of the accessibility of the sample and in being able to speak the same language (Malayalam) as the sample population. The sample was not only representative but also able to give rich information through the possibility of establishing illustrative cases. The strength of this sampling procedure was important in enabling the researcher to make testable generalisations. The sample achieved an overall balance through ensuring that the nature of the schools and their local environment was given due consideration. The literature suggests that ADHD is not a difficulty limited to specific contexts (Rohde, 2002) and it was therefore necessary to ensure a wide range of schools in order to be able to comment on both the incidence of ADHD and the ways in which it was managed within a range of situations. Further, the sample population was able to provide an opportunity to develop a convincing account and explanation of ADHD within the wider Trivandrum population of India. Another concrete reason for this sampling was the need to be aware of the feasibility of the research in terms of the resources both financial and temporal, the practical issues of accessibility and whether the sampling strategy was compatible (agreeable) with the researcher's work style (Curtis *et al.*, 2000).

Other sampling methods were considered for this study. Initially some consideration was given to theoretical sampling which would have dictated a different approach to data collection and would have considerably changed the nature of the research. Theoretical sampling refers to the process of data collection whereby the researcher simultaneously collects, codes and analyses the data in order to decide what data to collect next. It is a purposeful selection of a sample according to the developing categories and emerging theory. This approach is commonly used within a grounded theory approach to research and is generally thought incompatible with social

constructivist principles. The samples were intentionally selected according to the needs of the study and the data collection process was pre-planned with guided principles. The sampling approach adopted is well tried within other research of this nature and has been adopted as well suited to the purpose and the field methods which were practicable within this study.

3.8 Summary

This chapter provided an overview about the methodological position of the study conducted in the Trivandrum school population of South India. According to this, qualitative approaches are essential to construct the knowledge of ADHD in an Indian educational context. In this approach, teachers' and parents' experiences working with the children are considered as important. Whatever the information they provide, it carries their personal views and interpretations about children's behaviour and learning problems in their schools. For that reason, the research study has been informed by social constructivist principles though it has adopted the North American construction of DSM IV criteria. Therefore, some cultural and contextual influences cannot be ignored in this discussion. This chapter concluded with the view that a qualitative study of this nature involves certain challenges in its selection of sample and in adopting methodological approaches to construct the 'scientific' knowledge.

CHAPTER FOUR

METHODOLOGY II: METHODS OF DATA COLLECTION, ETHICAL AND METHODOLOGICAL ISSUES

4. 1 Introduction

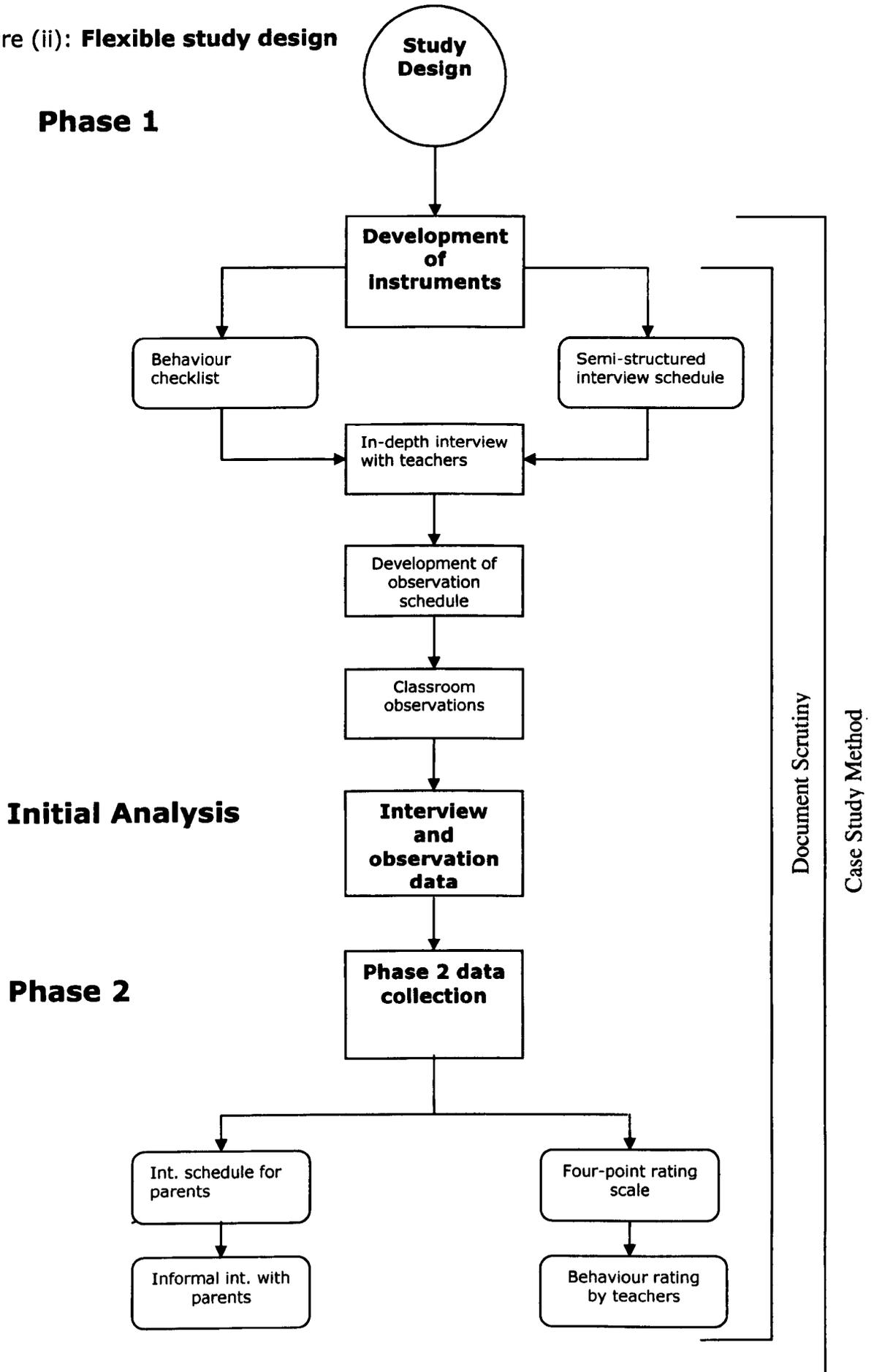
This chapter is divided into three parts. The first part outlines methods and instruments used for the study to collect data from school and home contexts. The data collection procedures are the focus of the second part of the chapter. The final part of the chapter discusses ethical issues and methodological challenges of the study.

The figure (ii) indicates that the methods included for the study are: interviews, observations, a rating scale, document scrutiny and case studies. These various research approaches utilised a range of instruments: a behaviour checklist, semi-structured interview schedules for teachers and parents, structured observation schedule, and a four-point behaviour rating scale. It should be noted that the semi-structured interview schedule for the parents was not used and this is marked by crossed line in the figure. This was because the participants (parents) were unable to provide usable information using this instrument: they preferred informal conversations in place of more structured procedures. The data collection procedures were adopted in two phases, each using several of these methods and instruments. Thus in many respects the study had adopted a flexible research design (Robson, 2002).

4. 2 Research Methods

An extensive search of literature was carried out to identify methods for assessing children with ADHD-type characteristics. DSM IV (TR) and ICD (International Classification of Diseases) - 10 classification systems are the two sets of diagnostic criteria commonly used in this process, on an

Figure (ii): Flexible study design



international scale. ICD is an official classification of the World Health Organisation (WHO) and ICD-10 as the latest version for assessing hyperkinetic disorder (HKD) (WHO, 1993). The ICD-10 consists of two separate volumes; one for clinical descriptions and diagnostic guidelines, and another for diagnostic criteria for research. The DSM-IV does not separate clinical from research criteria. However, both classification systems utilise lists of categories of behaviours which are essentially the same in both to diagnose children's disordered behavioural conditions. The DSM IV criteria were considered for this study. It is because ADHD does not appear in ICD classification system and DSM IV list of items are broader than ICD-10 (Karlovic, Zoricic, Buljan, Crnkovic & Martinac, 2002), allow for the existence of sub-types of ADHD. As this study is not based on a formal diagnosis, the criteria set down in DSM IV were considered to be more appropriate. Another reason for using DSM IV criteria is that ICD 10 is the most preferred diagnostic tool in the UK and in Europe whereas in India and other developing countries preferred to use DSM IV criteria for assessing children with ADHD.

Based on the DSM IV (TR), a checklist of locally created categories of behaviour-characteristics was generated and made available Figure (ii): in the local language, Malayalam. This has enabled the study to minimise the potential for category fallacy when transferring the concept of ADHD to a culturally different population, as in the case of this Indian context. The original version of DSM IV (TR) criteria has five criteria as A, B, C, D and E (See Appendix III). In the criteria A, there is a list of three main characteristics: inattention, hyperactivity and impulsivity, and 9, 5, and 4 sub categories each respectively. However, in the adapted version of checklist, inattention and hyperactivity characteristics were only used as the main lists of behavioural characteristics. This is because the impulsivity characteristics were encompassed within the lists of hyperactivity characteristics as there is no equivalent word to describe impulsivity in the local language Malayalam. Criteria B and E were not applied as part of the research tool. This is explained as important limitations of the study in Chapter Eight (8.3).

Two criteria were considered for selecting the methods and constructing the instruments: a) effectiveness in capturing rich information and b) effectiveness in triangulating information from once source to another. In-depth interview with teachers was the main source of information for this study; this acted as a stimulus for gathering additional information from other methods and instruments. For research of this nature where an interpretation of the perspectives of the respondents was important in forming an overview of opinions and beliefs, personal interviews and classroom observations were used as the main methods of data collection. These methods are generally seen as being able to produce the information that addresses research questions such as those formulated for this inquiry.

4.2.1 In-depth and informal interviews

Interviews are considered as an important method in an educational assessment of children with ADHD (Burcham & DeMers, 1995). Interviewing helps the researcher to elicit information regarding child competencies, behaviours, work habits and actual performance at school compared to the same age level peers (Burcham & DeMers, 1995). In support of this view, in a very recent review of 41 studies Brock and Clinton (2007) showed that 98% of the studies on ADHD used the interview as an important method for their data collection. These studies used structured, semi-structured, and unstructured interview procedures. In addition, some authors showed that such interviews can provide relevant information about a child's developmental, school, family, and psychiatric history (Barkley, 1998; Hinshaw, 1994).

Given the significant amount of time that children spend at school, it is widely acknowledged that the teacher interview is crucial in ADHD assessment (Molina, Smith & Pelham, 2001). Therefore, it was seen as appropriate to seek teachers' perceptions, views and feelings about their children in addition to those of their parents who view children in the home and social context (Wolfendale, 2006). Parents are also considered as the most important

source of information about the various levels of children's development (Burcham & DeMers, 1995; Barkley, 1998). Acknowledging this, the current study conducted interviews with both teachers and parents. In-depth interviews in a semi-structured format were used for teachers and informal interviews in unstructured format were adopted for parents.

In-depth interviews with teachers

In-depth interviews are a widely used method of generating data in qualitative social research (Beatty, Hicks, Schmeidler & Kirchner, 2004). These interviews are conducted in a conversation (narrative) mode with guided themes (Beale, Cole, Hillege, McMaster and Nagy, 2004) related to various aspects of the research issue, in which participants have an opportunity to ask questions and seek clarification throughout the interview process. This type of interview focuses on the participants' experiences from their own perspectives while ensuring mutual respect, non-coercion and non-manipulation (Beale *et al.*, 2004). They are administered as the principal method of seeking participants' experiences, views and opinions in research generally. It is commonly observed by qualitative researchers that an interview is a constructed rather than naturally occurring situation (Cohen *et al.*, 2007) which progresses through inter-subjective agreement.

Furthermore, it is essential to recognise that social science theories are constructed with interactional and socially situated meaning (Allan, 1998; Schratz & Walker, 1995). This method contributed well to an understanding of the problem of ADHD in a social science context. It is important to remember that research into ADHD of this type is unknown within a South Indian context. It was therefore impossible to draw upon earlier developed and used research methods or to make direct comparisons with previous studies. Beatty *et al.* (2004) observe that the in-depth interview may play a role as a preliminary component of an ongoing investigation through which data is gained which may inform the ways in which further methods are deployed. This was the case in this study, where the interviews were seen as

providing information which could be built upon through document scrutiny, observations and rating scale. For this specific research, rich descriptions of ADHD as a phenomenon were needed and in-depth knowledge made a crucial contribution to the existing conceptual and theoretical body of knowledge which was based on the real experiences of the participants about the world from their own perspectives (Kvale, 1996; Lowes and Gill, 2006).

In-depth interviews were therefore employed as the most appropriate and important method of data collection in the study. The main purpose of this type of interview was to achieve a holistic understanding of teachers' difficulties and issues in the classroom as a result of children's learning difficulties related to their 'disruptive' behaviour and inattention. It focussed on teachers' points of view about those children who appeared to be troublesome and challenging in the ordinary classroom and their strategies to manage them effectively. The overall aim of this study was to seek whether these children's attention difficulties and behavioural problems were in accord with those generally associated with ADHD as identified through research and literature from the USA, UK and other Western countries. The individual face to face in-depth interview allowed me to delve deeply into the social and personal matters of the informants which they daily came across (Bloom & Crabtree, 2006) and those matters were perceived to be particularly important in research of this nature. Every individual participant's personal perception was key to the development of an in-depth understanding of those issues with which the research was concerned.

In addition, the individual in-depth interview was seen as an approach consistent with a general social constructivist position and was deployed to co-create meaning with interviewees (teachers and parents) by constructing perceptions of events and experiences related to children's attention and behavioural problems within the classrooms. This form of interview with teachers was one of collaboration where meaning was created rather than discovered (Burr, 1995). Here the participants and the researcher were engaged in a creative conversation (Bloom & Crabtree, 2006) establishing levels of awareness and the provision of educational interventions for children

with ADHD characteristics within the Trivandrum population in Kerala, India. The participants were required to reflect on their experiences of working with children on specific aspects of behaviour and attention.

In this manner, the in-depth interview provided an egalitarian approach to interviewing as described by Beale *et al.* (2004). Throughout such a process it is important to appreciate teachers' cognitive interpretation, emotional responses, behaviour (Nunukoosing, 2005) and management of difficulties in relation to children who exhibit behaviour and attention issues in the classroom situation. This kind of reinforced qualitative interview was able to provide a holistic understanding of the issue (Berry, 1999). The particular nature of the research demanded the obtaining of people's views and perceptions and valued these seeing them as worthwhile. This approach to interviewing was regarded as being of greater efficiency than others which were considered for data collection within this study.

Informal interviews with parents

Informal interviews were conducted with parents of those children who were identified by the teachers as having ADHD characteristics. The main purpose of this interview was to confirm the teacher data or explore further information from the home context about the cases of interest. More importantly, standard assessment procedures recommend parent interview as an inseparable part of ADHD assessment (Barkley, 1998; Landau and Burcham, 1995). In other words, both teachers' and parents' information should be integrated into the identification process. Therefore, parents were considered typically able to provide the most detailed and ecologically relevant information to the assessment process (Barkley, 1998). In fact, they could provide an extended view about children's experiences in home situations which filled the gap in information from the teachers.

The interview procedures were in an unstructured format. The reason for adopting an unstructured format was that parents could not have provided so

much information if it had followed a formal interview procedure. Additionally, their perceived difficulties with the children had also been considered. Moreover, contextually specific ethical and practical considerations were also taken into account.

Strengths and weaknesses of the interviews

There were many advantages in deploying interviews as the main method of data collection for this particular research. This face to face and one-to-one interview approach was useful in raising participants' interest and willingness to take part in the interview process. In addition, it was an opportunity for the participants to think and talk about their cultural situation, beliefs and social context issues relating to their classrooms. This may have been more difficult to achieve if using other methods (Beale *et al.*, 2004). Furthermore, the interviews provided details about the respondents' frames of reference while answering questions and yielding narrative insights that would have been impossible to gain from statistics alone (Hara, 1995). That is why it is said that in-depth interview studies deserve consideration not just as rough exploratory projects, but as part of a larger research picture with unique angles to contribute to the kinds of study of measurement errors which regularly occur in surveys (Shotter, 1997). It recognises participants' individuality much more than is commonly seen in other methods such as the use of questionnaires. Moreover, the interviews maximised the possibility of depth, vividness and richness of the data.

Though there are some advantages in using interviews, it is often criticised as an approach for being based on the subjective understanding of the interview themes developed by the researcher. Because of its highly subjective nature (Beale *et al.*, 2004) there is the possibility of emotional engagement during the interview process which may force the participants to be reluctant to talk about sensitive issues. Unlike structured interviews, there is the chance of the interviewees being exploited by the interviewer through being unduly led in a specific direction. Many researchers argued that this kind of interview is an inter-play of power between the interviewer and the interviewee. For such

critics the approach is not considered as the reciprocal interaction of two equal partners; the interviewer has the control of over defining the situation, introducing the topics and guiding the interview and the participants may be unlikely benefits from the research (Flick, 2002).

Furthermore, Nunkoosing (2005) criticised in-depth interviews as a story creating process of research, in which the interviewer uses her or his skills to enable the interviewee to tell stories that would otherwise remain untold. The approach, it is suggested, may make respondents feel uncomfortable or may pressurise them into making revelations which they would otherwise be reluctant to expose. This was considered in the present study in which the researcher compensated by spending time to get to know the respondents and putting them at their ease. Similarly, some researchers are unhappy that misinterpretation of language may play a major role in the poor interpretation of the data. In this study this issue was considered and addressed by conducting the interviews in the preferred language of the interviewees (Malayalam) and avoiding technical or complex language. However, this approach was time consuming and involved making arrangements for pre-interview visits, in addition to securing necessary consent, confirming interview arrangements, and rescheduling appointments. It also required the careful maintenance of notes, tape recordings and transcriptions of the data as recommended by Robson (2002) in order to allow the researcher to check that procedures were being appropriately managed.

Nevertheless, narrative responses, in which the respondents were able to communicate their own perceptions, beliefs and ideas were very important in the study reported. The investigation was a small scale research project with a limited number of representative samples. One of the main reasons for using interview method was that it could be both empowering and illuminating with regards to the understanding of the phenomenon in the context of the study. While carefully looking at the views and feelings of the participants in in-depth interview, it benefited both the interviewer and the participants through clarification of ideas and increased understanding. The

interviewer could modify her/his research approach to suit the needs of the individual respondents, and in addition the interviewees had an opportunity to raise their voices in terms of their experiences of working with children. This flexible approach was particularly useful when I was interviewing parents (Robson, 2002).

In this type of interview process, the investigator wanted to understand the phenomenon, not only looking at this objectively, from the outside, but also subjectively through the views of individuals living a real life situation and as it was experienced by a number of subjects (Kvale, 1996). Phenomena of the type considered here, which represented subjective experience, state or consciousness and, at the same time, social or cultural elements, were intimately connected with the individual's self as it came across in direct communication and interaction in the interview (Jones in Seale, 2004).

4.2.2 Direct classroom observations

Classroom observations were deployed as a supportive or supplementary method of collecting data (Burcham & DeMers, 1995) to build upon that obtained from personal in-depth interviews with teachers. In order to explore the real life situations of the children who were identified by the teachers as potentially having the behaviour-characteristics of ADHD, classroom observation was seen as the most appropriate way of verifying whether the behaviours of children in class were consistent with those described by teachers and consistent with the established criteria. In the interviews, teachers at times referred to some children showing the characteristics of ADHD. This information collected from the interviews needed to be tested with firsthand experience of observing actual classroom situations. Another intention of using classroom observation was to record the intervention strategies or management procedures adopted by the teachers for meeting the needs of the children with attention and behavioural problems in their classrooms.

The study used a simple structured observation technique or a direct observation approach for recording first hand evidence (Brock & Clinton, 2007; Burcham & DeMers, 1995). This was based on an ADHD checklist of behaviour-characteristics as utilised for the interview with teachers. This kind of naturalistic observation method is the most widely used behavioural assessment method in education (George, 1998). For ADHD assessment, this is considered as one of the useful methods (Brock & Clinton, 2007). Whilst organising such a method, I was able to record actual life events in the classroom with reference to children's behaviours and teachers' reactions. My purpose in adopting this method was to record behaviours of the target child 'accurately' without having any direct interaction with the participants. However, this was limited to a number of reliability issues; observer bias, drift and reactivity or observation effect (George, 1998).

Strengths and weaknesses of observations

The classroom observations undertaken in this study revealed information about not only children's actual behaviours in the classrooms but also their teachers' own behaviours towards them. Such recordings of observations were particularly relevant for this study: classroom observations served the purpose of filling the gap between the 'words and deeds' of the informants (teachers) and the 'perceived and actual behaviours' of children in the classrooms. There were many advantages and disadvantages of adopting classroom observations as a supplementary method in this study. Two of them are worth mentioning here.

Firstly, the children and teachers might have altered their behaviours as a result of my presence in the classrooms. This is commonly known as 'observation effect' or 'reactivity' in research (George, 1998). However, I had taken several steps to reduce this likelihood on the part of the participants. For example, the target children were not informed beforehand that they were to be observed. Therefore they had limited chance of altering their

behaviours due to my presence in their classrooms. Considering an ethically oriented approach, the teacher's permission was sought prior to the observation of these children. Up to a point, observation effect cannot be denied (Holloway, 1997). Nonetheless, this approach has created a dilemma of seeking permission for those being observed and collecting valid data. In support of the approach adopted in this study, Cohen *et al.* (2007, p.53) argue that in such covert observation, it is impossible to obtain informed consent.

Secondly, the structured observation approach adopted in this study has a minimum level of 'observer bias' as there was minimum interaction with participants (Robson, 2002). This is because the observation was recorded based on the pre-determined categories of behaviours. In this sense, it could be argued that similar results would have been created if the tool was used by another researcher. Furthermore, each individual child and the respective teacher were observed in two different lessons on the same day and the information was recorded accurately. The results of the observations were compared and only the consistent information was utilised for data analysis purposes. That aside, some observer bias cannot be underestimated in this study: it is particularly the case in recording teacher-behaviours in classrooms. Additionally, the information from observations may be influenced by prior knowledge, or experience of the situation under investigation. Acknowledging this, interviews with parents and a behaviour rating scale with teachers were conducted for this study.

Quantitative researchers often express their concerns with regards to an ability to ensure reliability within data collection processes. As a qualitative researcher, the term 'trustworthiness' is one with which I feel more at ease. Measures of reliability generally require the possibility of ordering research in a way that can be accurately measured in order to achieve security. However, in common with most researchers working in a more interpretivist paradigm (Stake 1995), I see qualitative data, with its dependency upon opinions and perceptions as being more grounded in the real world of people's everyday lives. Measures of reliability are this difficult to apply.

However, through multi-methods approaches and verification of the data by triangulation across methods I am able to test the trustworthiness of my findings and to feel secure in my interpretation of these.

4.2.3 Behaviour rating scale

Brock & Clinton (2007) reported that rating scales are the most widely used method for identifying ADHD-type behaviours. In their review of 41 studies, they showed 100% use of rating scales (mostly standardized) across different countries in assessing children with ADHD. These rating scales are derived directly from DSM IV 'symptoms' criteria (Dopfner & ADOBE study group, 2006). However, the current study did not use any of the standardized rating scales due to a number of reasons. First, these are mostly used for formal clinical diagnosis of ADHD and the use of which is constrained to certain professional qualifications. Second, most of them are conducted in English speaking countries, most notably in the US and the cultural validity and reliability of these rating scales were rarely appeared in the literature (Dopfner *et al.*, 2006).

For the current study, a behaviour rating scale was designed based on the information from the informants (teachers and parents) within the study. The purpose of using this was to support the information collected from the interviews and direct classroom observations. Under the rating scale, a set of categories of behaviours related to children's academic, social and behavioural functioning has been developed. This is designed to record further information from teachers about children's difficulties associated with their ADHD characteristics in classrooms. Another intention was to confirm the information gathered from the other methods in order to verify whether there were any changes in the children's behaviour after a period of time (more than six months). This approach is consistent with one of the criteria of DSM IV (TR) which insists that children should show the characteristics of behaviours for at least six months period of time. In applying this method, teachers were asked to select a number which was considered to reflect the

perceived quality of a particular characteristic of behaviour of the children who were considered as having ADHD.

4.2.4 Document scrutiny

Another important source of information for this study was analysis of documents. The main documents included were official school records such as admission registers, attendance registers, school diaries and academic progress reports. It also included teachers' warning letters to the parents for their children's 'bad' behaviours in schools. Furthermore, Government published data (both Central and State Governments) was used mainly in the review of literature. Some other documents were also sought for the study such as school behavioural policy documents and exclusion history documents, where available, to supplement the data gained through interviews. Thus these documents were scrutinised in several stages of the current study including the close examination of ADHD cases that were identified using interviews.

4.2.5 The case study method

The case study is widely used by social scientists as a qualitative research method to examine real life situations of the research object (Yin, 2002). In the current study, the method emphasised a detailed contextual analysis of a number of events or conditions which involve multiple sources of evidence from school and home contexts for the purpose of identifying children with ADHD characteristics. With regard to this, a case selection was an essential step. Using interviews with teachers, I was able to select 26 children from the five sample schools of Trivandrum in Kerala for further verification. Direct classroom observations, the behaviour rating scale, interviews with parents and further document scrutiny used for the study were determined by this case selection. 2 of the cases were dropped or considered as 'invalid cases' after an initial evaluation of the observation data.

The decision to collect in-depth information about the remaining 24 cases was based on the initial analysis of the data collected from interviews and classroom observations. Other methods were used as extended methods or to add strength to what was already known through in-depth interviews with teachers and direct classroom observations. This systematic organisation of the data prevented me from becoming overwhelmed by a large amount of data from multiple sources and enabled me to focus on the original research purpose and questions.

Strengths and weaknesses of the case study method

The case study method adopted in this study provided much more detailed information about children's ADHD characteristics and associated difficulties than could be generated by statistical methods. Flexibility was the key strength of the case study used (Stake, 1995). This allowed the collection of general information in the initial stage of the study and for a narrowing down of the focus of the study as it progressed. It was essential to collect specific information about each child who was considered as having ADHD characteristics. Another merit of using this approach is that it provided "deep data," or a "thick description" about the ADHD behavioural characteristics of the sample group of children from each of the five sample schools in the Trivandrum mainstream educational context (Yin, 2002). In other words, the case study provided contextually deepened data which could be impossible to obtain through other methods of data collection.

However, the case study also needed to deal with creativity, innovation, and context (Merriam, 1988). For example, in the current study a large amount of time was spent on data collection and data analysis. Frequent visits to the research sites were inevitable in order to collect context-specific information. A further shortcoming of using the case study is that it is difficult to generalise because of inherent subjectivity. The information gathered for this study was based on qualitative data, and therefore it may be generalisable

only to the current educational context in India. As in-depth information about individual children was needed, data collection procedures were involved with many contextually specific ethical issues (Yin, 2002). These issues will be discussed in a later part of this chapter.

4.3 Research Instruments

This section explains the design and the development of research instruments. The study used four research instruments. They are: a) an adapted version of behaviour checklists, b) a semi-structured interview schedule, c) a structured observation schedule and d) a four-point behaviour rating scale. The first two research instruments were designed before the actual data collection and the others were developed during the data collection with regard to the information from the initial data and the information from literature about standard assessment procedures. Thus the study has adopted a flexible research design approach in data collection. This approach was particularly important in this study which followed rigorous data collection procedures with reference to the existence of multiple interpretations (Robson, 2002) of children's ADHD characteristics within the sample schools.

4.3.1 Adapted version of ADHD checklist

An adapted version of ADHD checklist (See Appendix VI) of the perceived inattention, hyperactivity and impulsivity characteristics of children was designed. This was adapted from the commonly used assessment criteria of DSM IV (TR). This checklist includes 24 behavioural characteristics and was designed with the help of an opportunity sample of teachers within the research context. These categories are culturally valid and recognisable in the local language, Malayalam. Such an approach is highlighted by Canino and Alegria (2008) in a review of cultural validity of psychiatric disorders. Within this culturally adapted version of a checklist of behaviours, there are

12 items of each for Inattention Check and Hyperactivity Check. This is somewhat different from the standard assessment criteria used for identifying children with ADHD in the Western context. The DSM IV (TR) criteria have 9 of each category of behaviours for inattention and hyperactivity type. However, the adapted version of the checklist has included all these DSM IV (TR) items in the assessment procedures applied for the current study. A particular feature within this checklist emphasised that children had to exhibit these behavioural characteristics in 'a considerably more than usual number of times' or 'often' in their classrooms as is common within the standard assessment procedures adopted to identify children with ADHD characteristics.

A score below 9 items (c.f. 6 items in DSM IV (TR)) is considered as normal which means a child with 75% of the characteristics within the adapted version was identified as having ADHD, but with reference to further verification. The tool was made available in both the Malayalam and English languages. Some of the items within the Malayalam version have English words; this usage is very common within the cultural context of the sample schools in India. Participants were given the choice of either of the two with which they were comfortable and able to record information about children. The research instrument was attached with the semi-structured interview schedule (See Appendix VII) with the purpose of using this as the third part of interview schedule. This was designed to work on the principle that subjectivity must be minimised to ensure reliability (Canino & Alegria, 2008).

4.3.2 Semi-structured interview schedule

The interview schedule was designed in a semi-structured format. This was mainly used for the purpose of interviewing teachers. The interview schedule has three parts:

Part 1: questions about rapport building and general issues in the classroom (Example: questions one to three)

Part 2: questions about informing children's special educational needs, particularly their learning, concentration, behavioural and social problems within the class (Example: questions four to seven)

Part 3: final questions covering the specific themes or in-depth description of the phenomena on the basis of the checklist of 24 ADHD behaviour-characteristics

The interview questions were constructed with an emphasis upon the development of open-ended questions which were anticipated as providing the possibility of encouraging intense discussion focused upon the research issue. This allowed for a clear focus, but with other questions emerging from the dialogue between interviewer and interviewees on the basis of probes and prompts within the interview (Berry, 1999). The anticipated advantages of open-ended questions were the provision of flexibility, depth, encouragement of cooperation and rapport, and an opportunity to pursue unexpected and unanticipated answers (Robson, 2002; Cohen *et al.*, 2007). Whilst having a series of set questions, prompts and probes were used to emphasise or to repeat a word or idea expressed by the interviewees that would encourage the participants to be more active in the interview process. Probe questions were meant to focus and clarify some of the ideas expressed by the interviewees in order to gain more information and to avoid misinterpretation of answers given.

Important steps were taken in designing the questions, avoiding long questions or multiple part questions, or the use of unfamiliar words, leading questions or biased questions. The initial questions were broad and used to gather general information about the school, the interviewees' academic and professional background, the classrooms in which they worked, the children for whom they had responsibility and the teaching and learning processes in which they were involved in order to establish rapport with the participants. This also ensured that essential valid information was obtained from them. The initial information gathering questions were followed by a series focussing on the central themes of the research issue such as reflecting on children with behavioural problems, learning difficulties and concentration

problems. These more sensitive questions were only asked after establishing a rapport with the informants (Bloom & Crabtree, 2006). Wording of the questions in the schedule was deliberately kept simple and based upon commonly used words which were readily understood by the interviewees.

Unplanned additional questions, formulated during the interview on the basis of responses were personal to the interviewee and enabled them to assume greater participation in the activity (Berry, 1999). Questions that were not effective in eliciting information, necessary information for the research, could thus be built upon or added to the predetermined questions in order to obtain a clear picture of the issues under scrutiny. This approach also enabled me to consider the informants' interests and knowledge in order to maximise the participation as far as possible and to accumulate maximum information from them, unselfconsciously, and in their own words.

4.3.3 Structured observation schedule

The structured observation schedule (See Appendix IX) was developed after the information collected from in-depth interviews. The same checklist of 24 behavioural categories was included in the schedule. The intention was to strengthen the information from teachers. This was designed to serve the purpose of entering the number of occurrences of particular categories of behaviours within the five minutes time limit in a natural classroom situation. Thus the schedule had three main columns for recording the information:

- Categories of behaviours with reference to inattention and hyperactivity check,
- Five minutes time limit within the 45 minutes lesson period of time for recording the frequency of the occurrence of behaviours
- Teachers' positive and negative interaction or no interaction with the target child when she/he exhibits these characteristics

4.3.4 Four-point behaviour rating scale

The behaviour rating scale (See Appendix X) was designed to be used informally and qualitatively to obtain further information from informants. This was administered with teachers to collect in-depth information about the 24 cases. As I mentioned in the previous section, the instrument was developed based on the empirical data collected from teachers and parents during the first round of data collection and information from the standardized assessment tools which generally appeared in literature. However, it is important to mention here that the purpose of this was not for statistical measurements; instead, it was used to triangulate the information collected from interviews and classroom observations. This was particularly useful in assessing children's difficulties which were not recorded with the use of interviews and classroom observations.

The behavioural rating scale has 52 items which comprised four sub scales. The subscales are: a) academic difficulties, b) attention difficulties, c) behavioural difficulties and d) social difficulties. These are perceived difficulties associated with ADHD. Each subscale has 11, 13, 14 and 14 behavioural items respectively. This instrument is provided in a four point scale: nn=not applicable to particular pupil 0=usual times, 1=more than usual times and 2=considerably more than usual times. The scoring decision depended upon: a) whether or not a particular behavioural item is disruptive or cause for concern and b) the number of times teachers would expect an average pupil to show a particular item. With this instrument, teachers were able to locate a particular behaviour item with a particular case. The chief strength of this tool is: a) most of the items are compatible with standard assessment tools b) they are culturally and contextually specified and c) the items are constructed in the local language, Malayalam.

4.4 Data Collection Procedures

The data collection was conducted in two phases. In the first phase of the data collection, interviews with teachers using semi-structured interview schedule with a checklist of an adapted version of DSM IV criteria was used. Classroom observations were adopted with cases of interest as identified from the interview process. Interviews with parents and a behaviour rating scale were the methods of data collection during the second phase.

4.4.1 Phase one: teacher interviews and classroom observations

A letter seeking assistance and consent (See Appendix IV) was sent to the school head teacher of each sample school stating the intention of visiting the schools for the study purpose. This letter made clear the purpose of the research and the care that would be taken to protect the interests of the school. All of the five schools approached welcomed and were prepared to cooperate in the research. During the visit, I had a personal discussion with head teachers and a series of informal discussions with some teachers of the schools.

After the first round of visits to the schools, it was decided to seek the permission of the state government to conduct research within the Trivandrum area and also to ascertain whether there were any ethical guidelines for conducting research within an Indian context over and above those established through the University of Northampton Ethics Committee. Permission was granted for the commencement of data collection from the signatory of the Education Secretary of the General Education Department, Kerala (See Appendix IV). This meeting also confirmed that there were no specific additional ethical guidelines to which the researcher would be expected to adhere. With this letter, together with a further letter provided from the University of Northampton, I approached the head teachers (four females and one male) of each school again and formally sought their

willingness to take part in the research (See Appendix IV). The ethical guidelines of BERA (2004) and a document outlining the general focus of the research were discussed with them and this ensured that the information collected from the schools would be entrusted with confidence, strictly used for only research purposes and that the school and the individual names would not be revealed for any other intentions (Beale *et al.*, 2004). Thus I was able to obtain permission to conduct the study in five sample schools.

Interview with teachers

In advance of the time when the data collection interviews were conducted, a pilot of the interview schedule was conducted with an opportunity sample of teachers in a primary school in Trivandrum using the interview schedule as a guide and supported with the adoption of the 10 question techniques proposed by Berry (1999).

- Ask single questions
- Ask clear questions (short, easy)
- Ask truly open-ended questions
- Ask experience/behaviour questions before opinion/feeling questions
- Sequence the questions (*Funnelling*-general to specific, broad to narrow)
- Probe & follow up questions
- Interpret questions (prompt)
- Avoid sensitive questions
- Encourage a free rein but maintain control
- Establish rapport

(p.126)

With the suggestions and comments given by the teachers in the pilot, a revised version of the original interview schedule was prepared and translated into the local language, Malayalam. Times and locations for the interview were scheduled in advance with a priority given to minimising disruption to the interviewees and their schools. The interviewees were

informed prior to the interview that the interview would take around 45 minutes and would be conducted on a one-to-one basis. The recording equipment (the digital voice recorder) was checked prior to the interviews.

A sample of four primary age group teachers (LP level- children of age 5 to 10 years old) from each of the five schools was established. As there was only one special education teacher within these sample schools, she was also interviewed, thus providing 21 for the interview. Teachers for interview were selected with the assistance of the head teachers (headmasters and headmistresses in the context) in order to ensure minimum disruption to the schools and to assist in the provision of valid school contextual information for the research. Initially, my role as a researcher was that of an observer or visitor to the school and it was only later, when the confidence of teachers was gained that I acted as an interviewer and the teachers became participants from whom data was collected. The participant's involvement in the study was confirmed only after a discussion of the details of the purpose and rationale for the study and ethical codes of practice produced for the research (See Appendix V). The nature of the study was explained and informed consent forms (Appendix IV) were signed prior to the interview. All respondents were advised of their right to withdrawal from any part of the interview process (Bloom & Crabtree, 2006). Issues of confidentiality and anonymity and of protection of the interviewee's information were discussed with the participants before seeking their involvement in the interview.

I had briefed the respondents about my background, training and interest in the area of enquiry. A collection of facts on the background knowledge of the interviewee was recorded on the front sheet of the interview schedule. In this way, through providing respondents with an opportunity to talk about issues with which they were comfortable, the opening part of the interview was able to make the respondents feel relaxed and welcomed. This ensured the establishment of a comfortable environment for fruitful dialogue and increased opportunities for gaining more information while focussing clearly on the topics to be covered through predetermined questions. The interview structure followed the four stages of rapport; apprehension, exploration, co-

operation and participation as highlighted by Beale *et al.* (2004). The interview was conducted either in the local language, Malayalam, or English and/ or used mixed language approaches. This approach is very common within the research context. The verbal information provided was recorded and non-verbal clues were registered in the field notes. On completion I thanked the respondents for their contribution to the study and provided contact details for further discussion should they wish for this and sought permission to observe some of the children with whom they worked who were identified as having attention and behavioural difficulties.

Immediately after each interview, I entered my views and feelings about the interview in the post interview comments sheet of the interview schedule. The recorded information was then transcribed and later translated into English. The verbatim was revisited several times and sent to the interviewees for checking the content and to ensure fair representation of their views.

The interview schedule proved to be effective as an instrument to obtain the qualitative data required for the study. With the use of an adapted version of the 24 behaviour checklist, most of the teachers were able to select some children within their classes for further verification. Only two teachers opined that they did not have children with 'often' characteristics outlined in the checklist. They opined that their children had these characteristics, but they were not exhibited more than a usual number of times in their classes. Based on the information from the interviewed teachers, 26 children were considered to be having ADHD traits. Classroom observations of these children were used as a verification method of data collection in this study.

Non-participant observations

Before the classroom observations, permission was sought from class teachers to observe each individual child. The child's permission was not sought in order to avoid 'observer effect' or 'reactivity' (Holloway, 1997) as I

mentioned above. This 'covert' observation was undertaken as the teacher followed with the usual instruction of learning. During the observation, I took the position of non-participant observer. The structured observation schedule was used for entering the behavioural characteristics of each individual child (of the total 26) who was observed separately. The categories exhibited were carefully recorded as the target child engaged in his normal learning in the classroom. The same child was observed in two different lessons with a number of different activities with the same teacher. This provided a total of 52 direct one-to-one observations. The lessons were varied from school to school as convenient to the participants.

However, after this technique, I was entitled to explain to the informants the purpose of the research, what was being done with the information, and how the observation was being recorded. It also explained the procedure of observation after the actual observation though the research context where the observation procedures were not well established or the informants were not familiar with these procedures. I did not explain the same procedures to the observed children as they were considered as young and I was unaware of their reactions if I had told them. Nonetheless, it could have been ethically more appropriate if I could have explained the procedures to the observed children as well after the observation. In future studies, such issues should be considered.

This technique provided very valuable information about children's classroom functioning. This also supplied information about how teachers delivered their lessons and treated these children in their classrooms. It is worthwhile mentioning here that not all 24 categories of behaviours were observed in each lesson. Two items within the Inattention Check were not particularly identifiable within the classroom contexts of the sample schools. This has some cultural and contextual implications which will be discussed in Chapter Seven. However, the observations produced useful data which was useful in identifying children with ADHD characteristics and in proposing educational provision, which would cater for their needs by critically commenting on the teacher practices within the sample schools, together with the data collected

from the other methods. Therefore, there are possibilities of 'observation biases' within the data.

4.4.2 Phase two: parent interviews, rating scale and document scrutiny

The second phase of data collection was determined by the first stage of data analysis (See the figure ii) which identified 24 (out of 26) children. Two children included in the direct classroom observations were not considered for further verification as the teacher data was not matched with the observation data. Careful discrimination at the point of selection for these cases was determined by a checklist of locally created 24 categories of behaviours as described in the previous sections. They were considered as typical cases having the characteristics of ADHD. This decision was taken after a further discussion with the concerned teachers. Each case was treated as a single case. Conclusions derived from each case were used as information contributing to the whole study whilst each case remains a single case. As multiple sources of information were needed for confirming that these cases had ADHD characteristics, information from the parents were considered as necessary. Furthermore, these characteristics should exhibit for at least six month period of time. To serve these purposes, parents' interviews, behavioural rating scale with teachers and further documentary scrutiny were employed. Thus the second phase of data collection was conducted particularly to gather in-depth information about the 24 cases. This was administered after a six month period of the first phase of data collection.

Parent interviews were conducted with reference to whether the children had similar experiences at home or whether the parents of these 24 children had similar experiences to share as teachers. Moreover, the information from the parents was particularly significant in collecting an in-depth understanding of the 24 cases about their ADHD characteristics in a social context other than school. The former were administered in an unstructured format or conversational style as parents preferred. The parents' details were collected from the sample schools. 22 of them were females and 2 of them were

males. 18 parents were able to come to the respective schools for this exercise. The remaining numbers of parents who could not come to the schools were interviewed in their homes though it was difficult to locate them as they were spread out in different places in the Trivandrum district.

As mandatory, parents' permission was sought for the conversation and recording. Although parents agreed to be interviewed, they did not want this to be recorded. Therefore, the plan of recording the conversation was dropped. Necessary notes were taken during the conversation. They were encouraged to talk about their children's behaviours, academic performance and difficulties at home. Most of the parents seemed unhappy about their children. Some of the parents could not talk about their children as they were looked after by their relatives (uncles and grandparents). Each interview took about 20 minutes. Parents were thanked for their participation. Comparatively, information gathered from the parents was incommensurate with the information collected from the teachers. However, this provided valuable data about children's difficulties in terms of their relationship with adults and siblings at home.

The rating scale was another method used during the second phase of data collection. Again, teachers' willingness to participate in the exercise was sought. Then, the 52 item behaviour rating scale was shown to the teachers and they were asked to score in the four point scale. All of the teachers agreed to mark children's checklist of behaviours which was subscaled into four: academic, behavioural, attention and social difficulties. This was intended to elicit information about these 24 children. The scale was able to provide rich information about the children's academic performance and related difficulties in the classroom and with relationships. Some teachers took a longer time than others to fill the scale. This research activity was done in my presence. Teachers seemed happy to do the exercise and they were asked clarification of the items when it was needed. This process took 25-40 minutes. I thanked all teachers who participated in this process and they assured that they would provide any further information about the 24 children if I needed it.

Some documentary evidence was also gathered about these children. These documents were about children's academic performance, their disciplinary provisions and teachers' communication with parents. The document about children's attendance was also gathered.

Though the methods and instruments were helpful in collecting usable information for the study, there were some ethical limitations and methodological issues, they are discussed below.

4.5 Ethical Dilemmas and Validity Issues

Informed consent, confidentiality and anonymity and protection of individual rights are fundamental to all research involving human participants. However, a study conducted in an Indian educational context, covering teachers, children and their parents, had some extra challenges. The present study used interviews with 21 teachers and 24 parents, and classroom observations of 26 children. Educational research in India has not yet formulated a set of ethical guidelines. Consequently, no local ethical committee is in place to monitor the researcher's behaviour during research procedures. Most often 'common sense' principles or conventional rules are applied. Therefore, the adoption of ethical procedures has been directed by the individual researcher who has sought to comply with the ethical principles underpinned by BERA with reference to the University of Northampton. Whilst following these, some dilemmas and challenges were encountered. These issues particularly associated with participants' lack of familiarisation with the qualitative research procedures, and complex cultural and contextual factors.

Informed consent and voluntary participation

Informed consent refers to that participants enter the research project voluntarily, understanding the nature of the study and risks and obligations

that are involved (Bogdan & Biklen, 1998). The participants were asked to sign consent forms which explained their rights, purposes, processes and outcomes of the study. It was explained that they were free to withdraw at any time of the study. However, this process resulted into certain issues, three of them are mentioning here.

Firstly, though they agreed to give their consent by signing these forms, the 'informed consent' was a new concept for most of them. Some teachers expressed their anxiety and scepticism in doing this exercise for various reasons. In some occasions, the participants were confused with the information provided because of their lack of familiarisation with qualitative research procedures (Cohen *et al.*, 2007). Most of the participants in the study preferred oral consent in place of the written consent. This was particularly the case with the parents. There was also the case that a written consent was impossible for some of the parents who were illiterate. Moreover, even signing a consent form may not be revealing both teachers' and parents' true participation in the study. Thus there are some indications of the participants' limited voluntary participation or partial involvement in the study.

Secondly, though I had sought individual teachers' permissions before involving them in any research activity or at each stage of the study, their initial decision to join the study subsequently progressed by stakeholders or 'gatekeepers' (for example, department of education officials, head teachers and school managers). For instance, permission to use two schools for my study was accessed through the school managers who were unaccustomed to day-to-day aspects of the school's functioning. Once permission granted, schools are obliged to follow the top-down decisions. Additionally, there used to a management system which expected conformity. For that reason, permissions were gained from head teachers involving teachers in this study. It is therefore there are possibilities that they may be felt obliged to provide data for the study unwillingly.

Thirdly, this informed consent of a third person or permission from proxy created challenges for me. In one occasion, though the respective teachers were willingly participating in the interviews, they were stopped by their head teacher. The head teacher wanted to know why I had decided to interview teachers instead of observing classrooms during the process of data collection. On another occasion, the head teacher sent another teacher to observe the ongoing interview. It is important to mention here that the teachers were selected on the basis of convenience, those who were free to be interviewed at the time of the data collection. However, their right to withdraw from any stage of the investigation were very much controlled as their gatekeepers' had already given permission to include them as participants.

Protection of participants' rights and generation of valid data

The participation of the informants was particularly important in creating 'rich' data for the study, but this quest often clashed with the protection of the informants' rights. For example, I had to frequently remind some of the participants that their information would be kept in confidence and their identities would not be revealed. However, one teacher expressed her opinions and feelings with gestures and in a low voice. This was because she was afraid of the fact that she would be in trouble if she had provided evidence of poor practices within her school. This raised a dilemma whether I should continue asking her about such practices or not. However, this information was particularly important for the nature of the research.

On the other hand, another teacher wanted to talk more of her children's issues in the classroom even beyond an agreed time limit. On some occasions, I felt that the teacher was exaggerating pathetic conditions in the school. This created a dilemma: should the information be taken as the face value or should add my personal views to that information provided by the teacher or remain critical and neutral. As previously acknowledged, I knew the situation within the school, at the same time; I had to respect her views

without any prejudices. In this way, there were situations of conflict between the insider (native of the research context) and outsider (as a student doing PhD study in the UK) views.

Reciprocal relationship and negotiation of power

One of the characteristics of the current study as any qualitative research is that there was a close and long-term relationship with the participants. As they were not accustomed to the qualitative research procedures as mentioned above, the power inequality between participants and the researcher was inevitable. This was also complicated by socio-cultural factors in the Keralian context of India. Though India is the largest democratic country in the world, the adoption of democratic principles and values are still an alien phenomenon. Respect for authority, power and hierarchy is systematically organised within the sample schools. As a result, the participants might have felt obliged to participate in the study.

Additionally, in many times, teachers expressed their 'fear factor' towards school managers, head teachers and the education authority. For example, teachers asked me frequently whether I had got the permission from the respective authorities. Since I had achieved permission through proxies or gatekeepers, there was a risk of power imbalance.

As a researcher working in a contended area and one in which my respondents were not familiar with the term ADHD I needed to be conscious of the possibility that their very involvement in the research could be influenced by my stance as a researcher. By introducing the characteristics of ADHD there was always a risk that I might be bringing to the attention of my respondents those features which they might then seek in the children with whom they engage. Such an influence could result in unwarranted labelling of individual children in a situation where teachers are unprepared to provide for such children. I was cautious to ensure that teachers were provided with accurate information regarding the nature of ADHD and followed my data

collection with the provision of professional development support by organising meetings and training for teachers within the sample schools.

In order to ease the research process, the study was conducted in an environment which the teachers and parents knew well, and in which they felt comfortable, and under circumstances that were convenient for them. However, some unequal power relationships between the researcher and the participants will always exist in the study context. The power difference caused by a hierarchical system in the cultural context was a constant challenge in all stages of the study. Therefore, it was particularly difficult to keep the mutual respect and confidence with the participants. The interaction or research relationship was unequal in terms of status and experience. As customary within the Indian culture that the researchers with higher qualifications than the participants considered as superior and source of knowledge and wisdom.

Revealing the identities of the participants

As it is determined by a good practice, I reminded the participants that their identities would not be revealed and their information would be kept confidential. However, some teachers felt that their names should be revealed. In this way, their popularity and participation in the study would be enhanced. In many occasions, participants felt uncomfortable of providing information about the protection of their identities. In fact, this has created suspicions among the participants as these formalities were not entertained by researchers in the context of the study. In some occasions, the participants especially parents did not care much about the ethical procedures.

4.6 Other Methodological Issues

Under this section, I discuss sampling and translation procedures used in this study. Further attention will be given to the sampling and translation issues whilst adopting these procedures.

Sampling issues

Sampling is a very complex issue in qualitative research (Higginbottom, 2004). It is often argued that there is a lack of transparency in sampling techniques in qualitative research studies (Coyne, 1997). Little is known about sampling procedures and the processes adopted in such studies (Higginbottom, 2004). The current study employed different types of non-probability sampling for the purpose of collecting information from a variety of sources; the school and the home contexts. The selection of the sample schools was determined by the provision of rich information and typicality of the schools which could then be used to generalise the information to schools with similar characteristics. The selection criteria of these schools and their distinctive characteristics were described in the previous Chapter (Section No. 3.7).

After obtaining permission to conduct research in these schools, I then proceeded to select sample participants. Since an in-depth interview was considered as the main method of data collection for this study, the selection of a certain number of teachers as informants was crucial. The teachers were selected on a convenience basis; that is, the sample teachers were those who were available and willing to participate in the study (Moseley & Mead, 2004). However, the inclusion of some teachers needed to be sought through gatekeepers (head teachers, local managers etc.). One of the criteria adopted for the selection of this sample of teachers was that they should have had a minimum of two years teaching experience in primary schools. Another criterion was that they would be working in a school with the same group of children, as class teachers, for the complete academic year. This second

criterion was adopted because specialists teach different curriculum subjects in some schools in Kerala, even in primary schools. Two sample schools followed such a system. Therefore, in many ways, some control within the sample of the study needed to be employed.

In summary, the sample comprised:

- 5 mainstream schools
- 21 (class) teachers including one special teacher
- 26 children (this has been contracted to 24 as research progressed)
- 24 parents

Three types of non-probability sampling have been employed in this study. They are:

- a) *Purposeful and selective sample* of five schools-they were selected purposefully rather than randomly (Ezzy, 2002).
- b) *Convenience (accidental) sample*-teachers were included in the study according to their willingness and availability at the time of the data collection.
- c) *'Data assisted' or 'information oriented' sample*- participants' selection was determined by the prior data or 'who and what comes before so that ongoing sampling supports the emerging theorising' (Tuckett, 2004, p. 49). The case selection of 26 children and inclusion of 24 parents for the study were guided by the information from the prior data collected for this study. In other words, 'participants were sought serially' (Tuckett, 2004, p. 49).

Three sampling issues are considered here: small sample size, lack of generalisability and representativeness, and gatekeeper bias (Tuckett, 2004).

Firstly, the samples used for this study are relatively small. Such a small overall sample in many respects clearly means that it is not possible to generalise the findings to the population of Trivandrum Corporation as a whole. Nevertheless, having taken care with sample selection as described earlier in this work, it may be possible to make suppositions, or fuzzy generalisations as described by Bassey (1999) which could be used to justify the study of a larger sample. Bassey (1999) suggests that studies of this nature may be used to identify traits or characteristics that are suggestive of a pattern which the researcher can use to argue that there is good reason to repeat the study with another similar sample, or with a single larger sample in order to ascertain whether it is justified to make more generalised statements.

Secondly, the current study samples are limited by a lack of representativeness which is a general criticism of any qualitative research of this nature (Mays & Pope, 2000). Higginbottom (2004) argues that the purpose of sampling in qualitative research is not to seek generalizability, but to identify typical characteristics of a phenomenon. She further clarifies that qualitative research samples are 'non-random of typicality' which means 'the extension or application of findings to other populations which are similar to the original study sample, as opposed to the whole population' (Higginbottom, 2004, p. 15). In other words, generalisation is limited to the population under investigation rather than to a wider population. This is particularly relevant to the current study conducted in the Trivandrum mainstream educational context of Kerala, India. However, some empirical generalisations are possible because the findings reported in this thesis are based on deep, broad and widely shared evidence or on data arising from the fullest range of participants (teachers, parents and children) and a variety of settings (school and home contexts).

Thirdly, as I mentioned above, at least two of the sample teachers in a school were assigned by the gatekeepers (head teachers). Their willingness to participate in the study might have been influenced by gatekeeper bias (Tuckett, 2004). On one occasion, the same head teacher did not allow me to

continue the interview with the two initially selected teachers who were willing and had agreed to participate in the study. Such issues are very common within the context of the study. One of the techniques adopted in this study to minimise such bias and limitations of the sample was the multi-method approach. With this approach, I could gather valid and reliable information from a variety of sources. Nonetheless, there were also issues of translation within the study.

Translation issues

Muller (2007) argues that translation is a highly complex, political and subjective act. Since the structure, concepts and experiences of languages are different, the translation from one language to another is a complex process (Desbiens & Ruddick, 2006). Translation is also a highly political enterprise because it represents the meanings of people in different contexts and cultures published by researchers. The involvement of a subjective element in the translation of items from one language to another cannot be underestimated (Willgerodt, Kataoka-Yahiro, Kim & Ceria, 2005). It should also be recognised that lack of proficiency in languages leads to 'incorrect' or mis-translation of information from one source to another (Muller, 2007). Unfortunately, there is limited published literature describing translation processes in research studies (Willgerodt *et al.*, 2005). In this sub-section, I explain the translation procedures adopted in the study which is conducted with participants who had English as their second language as well as issues and challenges posed by this process. These are in terms of:

- a) Translation of DSM IV (TR) 'symptoms' criteria into the local language for the construction of behaviour checklist. Here the source language is English and the target language is Malayalam.
- b) Translation of interview transcripts from the local language Malayalam to English. Here the original language is Malayalam and the translated language is English.
- c) Data is collected in Malayalam and the research is reported in English.

In order to construct instruments for assessing children with ADHD characteristics within the Trivandrum context of South India, it was essential to translate the North American model of DSM IV (TR) 'symptoms' criteria into the local language, Malayalam. The criteria contain 18 categories of behaviours. These behavioural items were translated from English into Malayalam using the back translation technique. As I am bilingual having the command of both original and target languages, this process was straightforward. Surprisingly, the item meanings are similar in both cultures (*semantic equivalence*) and there were equivalent words used by people in the local context to identify children with behavioural problems and attention difficulties. Though this is the case, in order to maintain the same meaning and relevance in both cultures (culture of source and culture of target) (*content equivalence*) (Willgerodt *et al.*, 2005), the translated items were checked with an opportunity sample of teachers and parents in the context of the current study. Based on the suggestions received from them, a simplified and localised version of the behaviour checklist, containing 24 categories of behaviours, was developed as described in an earlier section of this chapter. This checklist was accurate, easy to understand, accessible, culturally appropriate to the target audience and produced reliable and valid data. Nonetheless, cross-cultural adaptation of study instruments is a difficult and a time-consuming process (Weeks *et al.*, 2007).

In terms of translating interview transcripts into English, a number of issues were identified. First, at some point, it was difficult to locate *equivalence of words* between Malayalam items and English. For example, it was difficult to establish the English equivalent for the Malayalam word *shikshanam*. This word is interpreted differently in different contexts. It could be interpreted as 'good' behaviour, learning outcomes or role models in school contexts. Sometimes it is interpreted as 'good' parenting. This is one of the key words to reveal children's academic outcomes and good behaviours in the research context. Considering this, Muller (2007) reports that translations sometimes cannot convey the richness of connotations in other languages associated with key words because different languages structure the word differently.

Moreover, it is impossible to achieve accurate information through an equivalence of words because language involves cultural and contextual meaning (Desbiens & Ruddick, 2006).

Equivalence in meaning is therefore also important in the translation process as highlighted by Desbiens and Ruddick (2006). For example, in the current study, one teacher described a child with hyperactivity as 'he thinks he is a big lad'. The term 'big lad' in this context means the child is highly hyperactive and wanted to control others rather than big in size. From this, it could be argued that a certain level of contextual understanding may be important when translating data from one context to another or from one culture to another. In support of this view, Muller (2007) argues that translation in the classic sense is the replacement of text in a source language by text in a target language equivalent in meaning. However, he further emphasised that it is impossible to achieve full equivalence of meaning in translation due to the limitations associated with language structure as mentioned above. In the current study, research participants were able to convey their inner world through certain key words in English. This was especially the case with the teachers. More of such language issues will be discussed in Chapter Seven.

However, in order to enhance equivalence, I employed three strategies; a) reading and re-reading of the original text and the translated text b) member checking and c) back translation. I translated the original text into the target language and it was independently translated back into the source language by another person who was bilingual (Willgerodt *et al.*, 2005). This process was continued until the original meaning had been captured well enough in the target language to allow a translation back into the source language which yielded the original text (Edwards, 1998). This was because Muller (2007) suggests that such efforts from researchers for meaning accuracy should be emphasised in order to meet with the 'principle of equivalence'. At the same time, it could have been better to check with the participants about their views on the translated text. In the current research context, checking with the participants was not always handy and some participants were not

even able to comment on the translated transcript due to their lack of proficiency in written English. Though I have proficiency in the field language and the research language or the target language, some subjectivity and bias cannot be denied in the translation procedures of the current study which collected data in Malayalam and reported in English.

4.7 Summary

In this chapter, I described the procedures adopted in this study to collect valid and reliable information about children from the five sample schools in Trivandrum. The first part (section first and second) dealt with the five methods of data collection and the four instruments developed for the study. The methods included interviews, observations, a rating scale, document scrutiny and the case study method. I also provided a rationale for each method and their respective strengths and weaknesses. The four instruments comprised of a behaviour checklist, a semi-structured interview schedule, a structured observation schedule and a four point rating scale. The behaviour checklist and semi-structured interview schedule were developed before the data collection, and other instruments were evolved during the data collection (Robson, 2002). In the second part (section three), I described the data collection procedures. Using a flexible approach, I was able to collect in-depth information about the 24 children from a variety of sources; home and school contexts. In this process, I triangulated the data obtained from one source to another through the use of variety of data-collection methods to increase the trustworthiness of the study. In addition, I justified my role as a non-participant observer where some dilution of ethical principles was inevitable due to the specific nature of the research (Cohen et al., 2007).

In the third part (section four and five), I discussed ethical issues in detail. This drew the attention of how cultural and contextual factors complicated the ethical principles adopted in the UK when applied in the Trivandrum district of India. In addition, I discussed briefly the dilemma of collecting valid

data and adopting ethical principles in the context of the study. I also explained the sampling techniques and translation procedures adopted in this study. I intended to show that results of the study are limited as a result of sampling issues; small sample size, lack of generalisability and gatekeeper bias. In the final section of the chapter, translation issues in terms of equivalence of words and equivalence of meaning were also discussed.

CHAPTER FIVE

DATA ANALYSIS AND RESEARCH FINDINGS

5.1 Introduction

This chapter contains two parts. The first part explains three stages of data analysis carried out on the qualitative data collected for the study. The second part presents the main findings of the study. This outlines the nature of the presence of such children within the sample schools with reference to the incidence rate, their ADHD characteristics, and their associated difficulties in engaging in learning as a result of these characteristics. It also depicts the level of awareness about ADHD of teachers and parents within the sample schools. Further discussion is focused upon the intervention strategies of teachers and parents where these were evident and the support facilities available for children with ADHD characteristics.

5.2 Part A: Data Analysis Procedures

The majority of the data collected for this study were qualitative comprising interview transcripts, texts from documentary analysis, rating scale and observations. This multi-methods approach was seen as important in terms of ensuring the 'trustworthiness' of the data. The data collected was wholly qualitative in nature and unlike that collected by quantitative researchers did not lend itself to formal procedures to establish reliability. However, as described earlier in this thesis, triangulation allowed for verification of data and ensured a high level of trust in the data. The qualitative nature of this data is typical of that collected through a process in which people are encouraged to express their subjective experiences and attitudes (Denzin and Lincoln, 2005). My focus within the study was to understand the experiences of the teachers and the parents within my sample and to ascertain whether they had experience of working with children whose characteristics might be those associated with ADHD. Data were collected mainly from interviews,

observation records, child behaviour checklists, field notes and documentary evidence. Each of these provided an indication of the participants' views, concerns, experiences and practices. In many aspects, the study had collected qualitative data. In order to analyse these, qualitative data analysis procedures were adopted in this study.

I carried out the data analysis both during and after data collection. Many researchers suggest that this approach is appropriate in qualitative research where design, data collection and analysis are a simultaneous and continuous process (Bryman & Burgess, 1994; Miles & Huberman, 1998; Merriam, 1998; Ezzy, 2002). As a researcher I accept that I am not wholly objective and that I inevitably bring my own views, knowledge and experiences to the research (Gillham, 2005). The use of a multi-methods approach enabled me to place my own interpretations upon the data whilst at the same time verifying this through a process of triangulation. This approach is well established within qualitative research and recognises that the researcher is also an 'instrument' within this process (Wolcott, 1994). This way of addressing the research necessitated an interrogation of data through approaches which respected the opinions expressed by individuals whilst extracting key themes and issues that were considered worthy of discussion. Data analysis of this nature should not be based on preconceived ideas, but rather on a recognition of commonalities and contrasts across cases. This required an approach which recognised a sequence based upon procedures which involve classifying, categorising, and coding or collating data. This increased the chances of constructing reliable knowledge through the interplay between research data and the researcher's interpretation.

The terms collating, categorising and coding have been used in a number of ways within educational research (Miles & Huberman 1998; Denzin & Lincoln, 2005). Collation is a process of organising data prior to more detailed analysis in a way which ensures that it is accessible and easy to follow. In some studies the terms categorising and coding are used interchangeably whilst in others they have discrete meanings. In the context of the research in this thesis I have adopted an approach which gives a clear definition to

these terms. Categorisation is the process of classifying terms and key concepts in an organised and meaningful way. For example, teacher attitude is a category which encompasses the whole range of attitudes of teachers towards children with ADHD characteristics. Coding provides a means by which sub sections within each category can be identified. For example within the category of teacher attitudes, teacher expectations might be coded as TAE (Teacher Attitudes Expectations) whereas teacher beliefs might be coded TAB (Teacher Attitudes Beliefs).

Although there is a plethora of literature on data analysis procedures, strategies and approaches, there are no rigid rules for data analysis in qualitative research as it is often dealt with through the principle of *fitness for purpose* as described by Cohen *et al.* (2007). The principle of *fitness for purpose* means that the selection of data analysis strategies is influenced by its purpose in a particular research project. For example, if the focus of the research is concerned with an in-depth understanding of individuals or institutions or particular cases, a case study analysis may be appropriate. On the other hand, if the research intends to explain the key features of a group or culture without necessarily being concerned with a chronology of events, a narrative analysis may be relevant (an approach which is often found in ethnographic research). Several approaches and strategies are available which might have been fit for the purpose of the research. Having considered these, the study reported in this thesis followed a mixed strategies approach to data analysis, borrowing ideas from a number of different traditions commonly associated with qualitative methods.

Three stages of data analysis were used in the research. In the first stage following categorisation an open coding strategy with a content analysis approach was adopted, this was followed by a case study analysis using Patton's (1990) ideas and finally a cross case analysis using mixed strategies of both deductive and inductive approaches (Patton,1990; Miles & Huberman, 1994). These approaches and techniques were reinforced by the management of general interpretation strategies of prioritising what to analyse and how and why this was worthy of analysis (Yin, 2002).

5.2.1 Stage I: Establishing categories and selecting cases

The first stage of data analysis was concerned with a scrutiny of interview and observation data from teachers. This initial analysis had twin purposes:

- a) Establishing categories and within these developing codes
- b) Identifying cases of interest with predetermined categories of ADHD characteristics.

The first purpose of analysis, that of establishing categories and within these developing codes was carried out in a systematic series of stages. It began with several readings and re-readings of interview and observation data (together with field notes). Every line in each interview transcript was numbered to guide in the analysis of the content of the text. This line by line analysis or micro-analysis as suggested by Strauss & Corbin (1998) was conducted through the adoption of an open coding strategy. This open coding was developed during the first unstructured reading of the written data from field notes and transcripts. After several readings of the data, I was able to locate themes, terms and concepts which were highlighted with coloured pencils in the margin of the written text. This was helpful in enabling me to familiarise myself with the emerging key concepts within the data and their interrelationships. This familiarisation with the data allowed me to categorise and code those sets of concepts. Subsequently, I looked for patterns or themes within the data. All these merged into different categories to develop a more comprehensive coding system. The number of allocated codes was recorded in each category.

These codes were not pre-determined and priority based, but developed upon my interpretation of the meanings or patterns in the data (Robson, 2002). They were considered as provisional and likely to be subject to change for further analysis. In other words, they were open in terms of providing the flexibility to create new or changing themes (Neuman, 2003). This approach is well suited to studies which are required to address a changing understanding as the data is scrutinised at different stages through a process

often referred to as flexible design (Rose & Grosvenor, 2001). Such a scrutiny of the data can lead to the generation of concepts which may then be tested against earlier research as reported in the literature. This is often of a general nature during the initial stage of analysis but may later lead to more abstract conceptualisation (Bryman & Burgess, 1994) in the later stages.

These particular categories were not predetermined on the basis of the DSM-IV (TR) criteria. This is because the general purpose of the research was not only assessing individuals with ADHD to determine if they met the diagnostic criteria as outlined in DSM-IV (TR) but rather one of determining appropriate educational provision for such children. It was therefore essential to consider the issues arising within the sample schools with regards to the perspectives of those directly involved with young people through their management or education. My concern was not only to find out how these characteristics made a significant impact upon the social and academic functioning of these children but also to determine to what extent ADHD was impacting upon the ability of teachers to make appropriate plans for enhancing children's school experiences (Barbara & Stephen, 1995). I was also keen to explore whether it was considered that the children should be given extra support and whether modifications and adaptations might be needed to accommodate them in a general education system.

In order to address the second purpose, that of identifying cases of interest with predetermined categories of ADHD characteristics, a process of content analysis was carried out. Through this approach it was possible to count the occurrence of recorded characteristics of ADHD in selected texts from the interview data, more specifically, the second part of the interview data as explained in the discussion of methods of data collection above. The purpose of this approach was to identify cases of children who presented with characteristics of ADHD within the sample schools. The selected interview text was highlighted to signify appropriate information about each individual with behavioural and learning difficulties. This was compared with observation data in order to identify the number of behavioural occurrences which could be interpreted as typifying that of a child with ADHD. For this, I

constructed a categorisation and coding scheme (See Appendix XI) which was based upon the checklist of 24 behavioural categories or pre-designated characteristics. The upper columns of the coding frame were prepared to record the information about each individual child and to identify their school. Beneath this section there were columns for recording gender information for each individual child. In the rows, predetermined categories of number codes were placed. An additional coding sheet was prepared which explained the allocation of the number codes. In this sheet, the number codes were defined and explained.

Analysis using this format enabled me to identify 24 cases of interest (18 boys and 6 girls) for consideration as demonstrating characteristics associated with ADHD. However this could not be determined until subjected to further verification. This approach was generally found to be advantageous as it could be tested by examining whether when other coders used the same approach, they would come up with the same results (Silverman, 2006). This means of verification was tested by my supervisors who conducted a similar process of analysis and cross checking of my interpretation. This process is widely accepted as a means of securing data and strengthening the interpretation stage (Mason, 1996). A data base was established for these cases of interest with the purpose of entering further data for case analyses. An example of this is given as:

Table (iii): Database for case analysis

CASES (Total 24)	ADHD Characteristics (Inattention Hyperactivity Impulsivity)			Difficulties (Academic Behavioural Social)			Girl / Boy	Age	Social category & school type
	IC	HC	IMC	ACA	BEH	SOC			
CASE 1									
CASE 2									
CASE 3...									
CASE 24									

This process aided me in condensing the mass of data into manageable codes and simplifying and reducing large amounts of data into organised segments (Silverman, 2006). This has influenced decisions which I made about the necessity to move to a further level of data collection (Miles & Huberman, in Denzin and Lincoln, 1998). It became clear that in order to gain a further interpretation of the behaviours seen in children I would need to conduct interviews with their parents and gain further documentary evidence. I also determined that the use of a child behaviour rating scale was appropriate as it would provide additional data.

With this analysis process, I was able to locate the main contents and messages, which guided me to develop systematic procedures for more rigorous analysis in the later stages and with reference to more empirical data (Cohen *et al.*, 2007). Not only did this help me to extract replicable and valid inferences from the main data (teacher interviews and observational data) for verification through re-analysis, it also supported me in the identification of 'missing information' from the main data. The missing information here refers to that information which was overlooked during the first phase of data collection relating to an individual case or some of the information within the data which was not clear enough to provide appropriate data analysis (Bryman, 2004), for example, a respondent's information about a particular child which I was not able to record clearly or completely during the interview data collection due to indistinct speech. Moreover, the research questions were modified and new research questions were developed (Robson, 2002) as the data collection and data analysis was undertaken.

5.2.2 Stage II: Case analysis

The second stage of data analysis was based on the aggregation of information collected during the different stages of data collection including data collected from parents and the completion of rating scales by teachers. In the previous analysis, a conceptual grid was developed for the 24 cases,

but there was insufficient information to identify them as having all of those characteristics of ADHD as defined by the DSM IV (TR) criteria.

Once again this began with reading and re-reading the interview texts (both teachers and parents) to identify emerging themes and relevant information for the selected cases in the previous analysis. A system of case analysis was developed and used for organising the data by specific cases for in-depth analysis. The purpose of this approach was to gather comprehensive, systematic, and in-depth information about each individual child and every school in the study (Patton, 1990). This type of study necessitates the collation of information about each child from a range of sources in order to verify the description of a child as having ADHD. In this investigation case analysis was formulated from interview data (both from teachers and parents), observation data, documentary data and rating scale data for each individual child. This was achieved following the three steps recommended by Patton (1990).

Firstly, all raw data from the different sources of information at various periods of time (in order to chase changes over time with these cases) was assembled together in relation to a particular child in each school into the previously prepared database. Secondly, a case record was constructed about each child (providing detailed information for each case). Finally, a case study narrative was written including all relevant information from a range of sources including school, home and other social situations. All relevant cases ('probable' cases of ADHD) were examined through repeated observations of the data and the irrelevant cases were put aside (Miles & Huberman, 1998). Such procedures were important for recording all relevant evidence for each case (Yin, 2002).

After recording all the relevant information of the 24 cases of children exhibiting ADHD characteristics, it was decided to compare and contrast these with standardised assessment guidelines. The idea was to find out whether they fitted the DSM IV (TR) criteria. As this analysis process was developed, 3 cases (2 girls and a boy) were dropped because they did not fit

the DSM IV (TR) criteria. Whilst initially exhibiting those characteristics of ADHD these were not sustained for at least six months as recognised by the standardised assessment guidelines. These three children were new students to their respective schools and their difficulties in the classrooms may have been associated with adjusting to a new and different learning environment. This was further verified through conversations with respective research participants (teachers and parents). This stage of analysis therefore identified 21 children who fulfilled all of the assessment criteria for ADHD cases.

5.2.3 Stage III: Cross case analysis

The first two stages of analysis procedures have given much attention to developing a general understanding of the rich data and identifying children with ADHD characteristics. During this process, it might have deflected attention away from uncategorised activities within the data (Silverman, 2006) which were considered for the next stage of data analysis. The final phase of analysis tried to overcome some of the difficulties and issues which had occurred in the previous analysis procedures. Most of these difficulties had to do with the general difference between educational identification and a medical diagnosis of ADHD. In a medical diagnosis, which is undertaken mostly by medical and health care professionals, their focus is on whether the individuals meet the diagnostic criteria outlined in DSM IV (TR). This research was particularly focussed on the educational assessment of the individual needs of children who displayed those characteristics associated with ADHD. This necessitated a collection of data and its management through qualitative analysis. However, in carrying out this process I had to use some pre-determined codes of categories, as mentioned above, which are generally found in quantitative research (Bryman, 2004).

The final stage comprised a cross case analysis. Through this approach I used mixed strategies of deductive and inductive analysis in order to identify issues and problems of children with ADHD characteristics from the larger data set. This was also used for comparing those issues of children with

ADHD characteristics in each individual school with the intention of finding the perceived prevalence of ADHD between the different schools within the area of the study. Through this process I looked for patterns, themes and categories which emerged out of the data. I used this process to assist with developing concepts because conceptual development is considered as a critical element in the conduct of data analysis of this type (Bryman and Burgess, 1994). Some of the concepts were indigenous which means the concepts emerged out of the specific research context or were deep rooted within the data (e.g. coercive methods of teaching, cultural and contextual influence on these) and others were sensitizing concepts (e.g. attention difficulties, behavioural difficulties) which were defined from the relevant literature and standard assessment procedures (e.g. DSM IV criteria) used for the study. These concepts were preconceived or predetermined (Strauss & Corbin, 1998; Bryman & Burgess, 1994).

The purpose of this analysis was to examine how the concepts (e.g. behaviour and learning) manifested themselves in the Indian classroom contexts explored in this research or among a particular group of children in this part of India. This enabled me to look for patterns of ADHD characteristics and its associated problems with the identified cases which I later sorted into categories. The categories were judged by two criteria a) whether they fitted together in a meaningful way and b) whether they were significant to the study. The categories were developed through the process of categorical aggregation that intended to look at multiple instances or a collection of instances from the data in the expectation that relevant meaning would emerge. In this stage of analysis, the large data set was reduced through creating 20 categories and they were coded accordingly (See Appendix XII). Among these, 3 of them specifically looked at each case with instances of ADHD characteristics (IC-inattention characteristics, HC-hyperactivity characteristics and IMC-impulsivity characteristics) from the identified cases record which had already been prepared in the second phase of the data analysis. Each of these categories carried 9, 5 and 4 sub categories respectively. Although these sub-categories were developed from the DSM IV (TR) 'symptoms' criteria, here it is a matter of assessing the

characteristics of ADHD and their associated problems for the children in respect of their social and academic functioning.

17 categories of codes were displayed in a tabular form to record all relevant information from the data. These categories included, for example *a) knowledge and understanding about ADHD, b) teacher attitude towards children with ADHD characteristics, c) teacher beliefs on children's ADHD characteristics, d) teacher intervention strategies, e) communication between school and home, f) parents' concerns g) gender differences of ADHD, and h) external support for these children* (See Appendix XII). The reason for the construction of these categories of codes was to develop a plan of action for the effective management of children with ADHD characteristics in the school environment. This is because the assessment procedures entertained in this study were not only restricted to the identification of children with ADHD characteristics, but also linked to an evaluation of children's needs, teachers' perspectives and interventions to address such needs, and the measurement of the success of those interventions (Barbara & Stephen, 1995).

All 20 categories were then subsumed into five *patterns* or patterned regularities in the data after establishing a relationship between three or more categories and they were coded accordingly. This was undertaken after counting the frequency of the categories as they appeared in the data display schedule. Furthermore, a family of five general themes was developed from specific to more general. This was developed to provide an account of the ADHD evidence in the five sample schools including aspects of teacher management, teacher awareness, support facilities available and the impact of existing support upon individual children. Finally, naturalistic *generalisations* were made from my interpretation, which were not only based on an individual case but also from a group of cases from different institutions (Stake, 1995 cited in Creswell, 1998) in the Trivandrum district of India. This process was used to move towards the fulfilment of a theory building phase of the research. The conclusions were verified with the data from interviews with parents and the rating scale by teachers as discussed earlier. Moreover, the conclusions drawn from these multiple cases or cross

case analyses informed the general conclusion of the overall study (Yin, 2002).

5.3 Part B: Research Findings

The individual narrative interviews data revealed informants' general understanding about children's difficulties associated with ADHD characteristics. Three stages of data analysis including case and cross case analysis were able to identify children with ADHD characteristics in the sample schools and would enable the presence of the provision of an interpretation of ADHD within this context. The discussion of the findings will begin with a description of the demographic and personal characteristics of the five sample schools building upon information provided earlier in this thesis in order to place the findings within the context of the study.

Where quotations are used in this chapter they are presented verbatim, as translated from Malayalam. This translation is my own and I have endeavoured to be as faithful as possible to the original words of the respondents.

Demographic and personal characteristics of the sample schools

The findings are reported from the data collected during the academic year of 2006-07 in the five sample schools in the Trivandrum District of South India (Kerala). All these five schools are situated in the heart of the Trivandrum Corporation within an area of about 10 kilometres. All schools follow the state school syllabus system with English and Malayalam medium classrooms.

Four sample classrooms in each school formed the total population of the study within the school sample, providing 20 classes in total. An overall total of 736 children are in the 20 classes. A total of 736 children between the ages of age of five to ten were scrutinised providing coverage of 23% of the total child population (age five to ten) within the five sample schools. This is

an approximate representation of 0.04% of the overall population of Trivandrum school enrolment in the Lower Primary (LP) section (class one to class four) of the Kerala School System (Department of Public Instruction Kerala, 2007). Girls (381) outnumbered boys (355) within the samples and this is similar to that seen in the general population in Kerala. Similarly, it is reported that there is a higher rate of females (98.5%) than males (96.8%) aged 5-14 years currently attending schools in the state (Government of India, 2006). However, a more recent *state-wide child (until 18) census report* shows that the female child population (3.99 million) is lower than the male population (4.13 million) (Government of Kerala, 2007).

The number of children in each class of the sample schools varies between 18 and 65. The average number of children in each sample class ranges from 20.5 to 55.6. The general class size in these respective classrooms is 36.8. This is against the figure (28) provided by the national sample survey (2004-05) of average class size in the same age groups of children in the state of Kerala (NCERT, 2005). Nationally, the pupil-teacher ratio is 42 (NCERT, 2005). A surprising feature within the sample schools is that a higher number of children (more than 50) are presented in the academically well performing schools or in the culturally advantageous communities and a lower number of children (the lowest number is 18) are in poor performing schools or in disadvantaged communities.

All of the 20 general teachers (one for each class) who participated in the study were qualified (with two years of Teacher Training Certificate-TTC) and their experience varied between two and twenty-five years. This is similar to the figure provided by the national sample survey of 2004-05 which suggests that 98% of the LP school teachers in Kerala had an expected level of qualification (NCERT, 2005). Nationally, there are 86% of qualified teachers in lower primary schools. The interviewed special education teacher has been exclusively trained by the Rehabilitation Council of India (RCI) as it is the case all over India. The overall gender composition of the sample teachers was overwhelmingly female with a bias of 20 to 1. In fact, there were only two male teachers within the entire LP section of the five sample schools. It is

generally the case that the primary school teacher population is predominantly female in the state.

5.3.1 The Incidence of ADHD within the Sample Schools

21 children out of 736 showed a persistent pattern of the characteristics of inattention and/or hyperactivity-impulsivity that was regularly apparent in both their classroom and home contexts. These characteristics were seen to contrast markedly from those of their school peers. It was evident from the interviews conducted that these characteristics and associated problems seriously interfere with their academic, social and behavioural functioning both in school and at home. The research suggests that 3% of the total child population within these sample schools fall within the DSM-IV (TR) criteria of ADHD characteristics (See Table (iv)). This indicates that there is at least one child in every classroom as has often been reported in the literature relating to research from other countries (Rohde, 2002). This is very much consistent with prevalence rates for ADHD reported in the UK (Ford, Goodman & Meltzer, 2003; Cooper & Bilton, 2002; NICE, 2000). However, the figures obtained from the sample in this study contrast considerably with those indicated in some of the medical based research reported within an Indian context which suggests that children with ADHD vary between 8 to 17 percent of the population as a whole (Malhi & Singhi, 2000; Mukhopadhyay, Misra, Mitra & Niyogi, 2003).

Table (iv): the incidence of ADHD characteristics in the five sample schools

Schools	Number of children (%) who present characteristics of ADHD	Total Children in sample classrooms (20)
School A	5 (2.9%)	167
School B	4 (4.8%)	82
School C	3 (4.65%)	86
School D	5 (2.8%)	175
School E	4 (2.21%)	226
Total (5)	21 (2.9%)	736

Within the sample studied for this research the incidence in boys is four times higher than that seen in girls (or 4:1) in respect of the presence of ADHD characteristics (See Table (v)). There were four girls and 17 boys found to present ADHD characteristics within the sample schools. Out of 381 girls under the scrutiny of this study, only four of them were identified with those characteristics. This is one percent of total female sample children and 20 percent of the identified children with ADHD characteristics. On the other hand, 17 boys were found among 351 in five schools. This represents five percent of the total sample male child population presenting 80 percent of the total children with ADHD characteristics within the sample schools.

Table (v): Incidence of ADHD and Gender

Schools	Number of children who present characteristics of ADHD	Gender (N=21)	
		Boys	Girls
School A	5	4	1
School B	4	3	1
School C	3	3	0
School D	5	4	1
School E	4	3	1
Total	21	17	4

A noteworthy feature is that all these girls have the characteristics of inattention rather than hyperactivity and impulsivity characteristics. The girls with attention difficulties are generally seen to be quiet and socially withdrawn from classroom activities and tasks, a situation which reinforces the observations made by other researchers (Zambo, 2008; Berry, Shaywitz & Shaywitz, 1985). Studies elsewhere report inconsistent results on ADHD and gender differences among boys and girls (Bauermeister, Shrout, Chavez, Rubio-Stipec, Ramírez, Padilla, Anderson & Canino, 2007; Gershon, 2002). However, others support the results of the present study (Buckley, Hillery, Guerin, McEvoy & Dodd, 2008; Graetz, Sawyer & Baghurst, 2005) and some others show that the ADHD characteristics are 2.3 times more common in

boys than girls (Arcia & Conners, 1998; Arnold, 1996). Inconsistent patterns appear to emerge from much of the literature. However, many studies support the theory that most of the girls with a formal diagnosis display greater levels of attention difficulties whereas boys are more likely to exhibit hyperactivity and impulsivity symptoms (Zambo, 2008; DuPaul & Stoner, 2003).

The results show that there are significantly more children with inattention characteristics (IC) than children with hyperactivity/impulsivity characteristics (H/IC). The predominantly Inattentive subtypes (ADHD-I type) is that in which children have six or more characteristics of IC but fewer than six characteristics of H/IC. The predominantly Hyperactive/Impulsive subtype (ADHD-H type) is that in which children have six or more characteristics of H/I but fewer than six characteristics of IC. Out of 21 children with ADHD characteristics within the present study, 8 children are ADHD-I type which makes 38 percent of the total with ADHD characteristics within the sample schools (See Table (vi)). It should be recognised here, however, that half of those exhibiting ADHD-I type characteristics are girls (consistent with Bauermeister, Matos, Reina, Salas, Martínez, Cumba & Barkley, 2005). Only three boys display the ADHD-H type of behaviours which cover 14 percent of the total population of children with ADHD characteristics. The combined type of ADHD (ADHD-C) which show elevations of six or more characteristics on both dimensions of ADHD-I and ADHD-H type is constituted as 48 percent.

Table (vi): Number of children and % with different subtypes of ADHD

ADHD Type	Subtotal (ADHD)	% of children with different subtypes of ADHD
ADHD-I	8	38%
ADHD-H	3	14%
ADHD-C	10	48%
Total	21	100%

This indicates that children with inattentive characteristics are more prevalent than those with hyperactivity characteristics within the sample schools. This finding may not correlate with the existing Western literature on ADHD which in part suggests that it is often more difficult to locate children with attention deficits than hyperactivity and impulsivity characteristics as has been suggested by Barkley (1998). However, this finding correlates with some Indian studies (Bhatia *et al.*, 1991; Mukhudhyopadhyay *et al.*, 2003). Therefore the finding implies certain context specific factors about the presence of ADHD characteristics which will be discussed in the next chapter.

Within the present sample it is apparent that children who present ADHD characteristics were from socially disadvantaged backgrounds. This includes two children who were from parents with records of criminality. Only five of those children (24%) with ADHD characteristics had homes which provided favourable socio economic conditions. 16 of the 21 children with ADHD characteristics within the sample schools were from lower social backgrounds. This constitutes 76% percentage of the overall children with ADHD characteristics.

This is similar to the findings of Wilcox *et al.* (2007) who suggest that the characteristics of ADHD in an Indian context are said to be increasing among the lower social classes. It is suggested by these authors that the children's home conditions are not favourable for the promotion of successful learning outcomes, though I would propose that the evidence of a single study is inadequate in enabling so firm a statement to be made. Similarly, Khamis (2006) reports that social factors such as family environment and poor socio-economic status were predictors of ADHD in a study conducted of Palestinian children. Whilst findings from this latter study may not be directly transferrable to an Indian context, there are undoubted similarities between the populations studied by Khamis and that which constituted my sample.

Surprisingly, when I analysed the sample schools individually, I found that the percentage of children who presented characteristics of ADHD in schools of a lower class size was higher than seen in those with a higher number of

students in class. The results were against my pre-dispositions that I thought more children with those characteristics would be present in a classroom with a large number of children. As there was a possibility of management difficulties with a large class size, the problems of ADHD characteristics might occur more significantly compared to a lower size class group. My assumption had been that where there were large numbers of children in class this would have created management difficulties for the teacher and that the presence of children with ADHD characteristics in the class might have exacerbated this situation. Contrary to the expectations, the data shows an inverse relationship between class size and the percentage of children with ADHD characteristics. As an instance, in the class seen with the greatest number of students 56.5, the prevalence rate is much lower (2.21 percent) whereas in the class with the lowest numbers of 20.5 children, the prevalence rate is much higher (4.8%). The results are presented in Table (vii). This finding may be unique within the sample schools and is rarely mentioned in the literature. The main reason for this finding could be because of the ways in which schools within the research area have an admission policy based upon school reputation. Those schools with larger classes tend to be the more popular schools where children with ADHD characteristics are not likely to be welcomed. This contrasts with the less popular schools where classes are smaller but likely to attract more children with a range of difficulties. The factors influencing these figures will appear in Chapter Six.

Table (vii): the relationship between class size and percentage of children with ADHD characteristics

Sample Children (in four classrooms)		Class Size (in each sample school)	Number of children who presented characteristics of ADHD	% of children who presented characteristics of ADHD
<i>Sample schools</i>	<i>No of children</i>			
B.	082	20.5	4	(4.8%)
C.	086	21.5	3	(4.65%)
A.	167	41.75	5	(2.9%)
D.	175	43.75	5	(2.8%)
E.	226	56.5	4	(2.21%)
Total: 736		(36.7)	21	(2.9%)

5.3.2 ADHD characteristics of the identified children

Those children with a diagnosis of ADHD can be seen to display the characteristics of inattention, short attention span, distractibility, daydreaming, irresponsiveness, laziness and hyperactivity (Bulut, 2007). The sample gathered for this study describes the ADHD characteristics of the identified children but without a formal diagnosis.

Students within the sample schools often interrupted classes, and at times would verbally abuse or physically beat other children. They seemed to be lacking in self control or act without reflection or consideration for the consequences of their behaviour. In many cases, they had limited understanding of their own behaviour and could be extremely energetic at inappropriate times and in inappropriate settings, according to many teachers. It was often found that such individuals had a remarkably limited capacity for adapting to classroom rules and lacked the flexibility in adjusting to different learning situations. However, according to both teachers and parents interviewed for the study there were not many issues with regards to excessive violence displayed by the children. An exception to this was a boy who tried to grab the neck of other children particularly in absence of the teacher. This child showed uncontrolled and emotionally explosive characteristics during my observation.

Most of the pupils who were identified as having ADHD characteristics seemed to be listening and writing quickly as if they had to do some other things immediately after. At the beginning of the lessons, they appeared to be engaged, but after a while they appeared to display characteristics associated with a loss of energy, focus and attention whilst other children were still adequately involved in learning. In support, Zentall (2005) reports that children with ADHD are often quite energetic, but tended to have challenges with their sitting time for prolonged periods. During my observation, I found that many times students were seen to drift off task and that they could not come back to the teacher's expected level of engagement when compared with their peers. This is despite the fact that the teachers

used a number of strategies such as scolding and placing them closer to the teacher's desk. The interview data provides evidence to support this observation.

He may be quiet for just some minutes, and after that he will show his real nature. Even if I ask him to do things again, he will be in the same situation. Even if I scold him and beat him, he won't come back to the previous level. (SCH-C: TEA- INT-10)

Children who presented ADHD characteristics within the sample schools were inconsistent and unpredictable with regards to their behaviour. These children often appear to be different people at different times. Observations suggest that they prefer to have their own style of functioning in the classroom especially during lessons as they engage in some other activities which are inappropriate to the situation whilst other children concentrate on classroom activities. Many descriptions of such behaviours of children with ADHD characteristics can be found in the literature (Bulut, 2007; Zentall, 2005; Hughes & Cooper, 2007). In some instances, if there is a teacher with them, 'they act as good pupils' during her absence 'he will jump ten times over the benches and desks'. They often switch from one activity to another within lessons. As one teacher reported:-

In the class, if I turn to one side, the child stands up and runs to the other side. If I ask him to sit here, he sometimes does it, but when I am absent a few seconds for some personal reasons like toileting, he will be a different person. He will be in an issue with the teacher from the other class. He will not sit quietly. [He has] a kind of restlessness, even though I try to tell him and make sit in the class in a calm state, he will break the normality and disturb the other children. Only sometimes he will be quiet. He cannot sit calm and quiet for as long as other children. This child cannot sit quietly and he is very restless. (SCH-B: TEA-INT- 6)

Teachers similarly report their frustration with their inability to manage children who do not respond to standard rewards and sanctions.

I asked all the children to keep the books open, but this child after all other children have finished the job; he will start to look for it. He doesn't care about it; he doesn't have the mind of keeping it neatly. He won't do anything. We need to force him to write something, and then only will he do it. Even when we teach the numbers 1, 2...they [he] may not learn it well. He will say that he doesn't know when he comes to do the same work the next day. (SCH-B: TEA- INT- 7)

Observations of those children in the sample, who present with inattentive characteristics showed that they are often very silent in the class and do not engage in group activities. They seldom form friendships with other children and they prefer to be quiet. Tiredness and boredom appear as common features of their behaviour during the lessons. These inattentive children were often observed to seem to be obedient but not listening. Some of the personal difficulties of these children can be described as under-activity, shyness, silence, fearfulness and being socially withdrawn. They rarely take initiatives or leadership roles. Most often they prefer to be 'insiders' or immature and not outgoing. They often seem to be tired, disappointed and are looked down upon by their peers. In classroom activities, they prefer to copy the work of other children and seem very immature in their classroom behaviour. At home, they were reported as preferring to stay inside and rarely made firm friendships with neighbouring children.

My child is always at home. He does not go outside unless I ask him to buy something from the shops, even that sometimes, he refused to go. I asked him to attend free tuition classes organised by the church, he went some days and now he is not going any more. But my second child is different from him. (Parents' Interview Field Notes 1)

However, some children with characteristics of hyperactivity appeared overly sensitive and wanted to control others. At times, they had the tendency to control other children through not giving opportunities and maintaining their position in the class. Teachers noted that this had created hostility between children in the classroom. Parents and teachers also noticed that some of the children with characteristics of hyperactivity had shown addictions to some

specific activities or interests. One of the boys was observed as watching television for excessive periods of time which was unusual to many of his peers. Another child was interested only in painting within the classroom during most lessons, including those where such activity was seen as inappropriate. Similar observations regarding obsession were also reported from home. For example, tearing book pages was an obtrusive behaviour of a boy with ADHD characteristics described by his parents. Although these characteristics could be termed as common features of all ordinary children, teachers and parents in the sample schools observed that these actions are persistent for a long period of time in inappropriate situations.

This child used to control other children and disturbing other children. He wants to show other children that he is a big lad. He is very disturbing and controlling others. He is always disturbing other children. He thinks that he knows more things and he is bigger (greater) than others. (SCH- E: TEA- INT- 20)

He has a special interest in painting. Whenever my eyes are not on him, he used to tear paper from the book and start to draw pictures. When I ask him, he would say it was torn. After completion of the picture, he would give it to his drawing teacher. He will try to finish the book completely in that day. As I said before, if I won't allow him to run away from me, he started to draw pictures. If I give a paper in a day, he would ask me paper everyday..... I stopped giving paper..... Then parents bought a new book for him. He gave pages to everyone and finished the book that day itself. (SCH- B: TEA- INT- 7)

Another interesting finding was that children exhibiting more problems in waiting situations in the classroom than non-waiting situations. In non-waiting situations, children sometimes followed teachers' instructions as they were afraid of their teachers' presence though this nature of behaviour had slightly improved in recent months. Teachers observed that the children's behaviour during waiting situations was sometimes alarming, frightening and uncontrollable. Some of their characteristics were restlessness, noisiness, fighting, and disturbance. Some of the findings were similar to those reported by other researchers (Antrop *et al.* 2005).

They will follow our instructions because they are afraid of us [teachers]. Now I came here [after a break], they won't show any restlessness, fidgety or unquiet behaviours. They won't do any such things there [in the class] now. If I am there [in the class], they don't have any problems. Fighting with other children (laughs), when we [teachers] are there [in the class], they won't do it. Otherwise, they will do it. (SCH-B: INT- TEA- 6)

5.3.3 The identified children and their educational difficulties

The associated problems are described as educationally related problems of the identified children within the sample schools due to their ADHD characteristics. This can be grouped as academic, behavioural and social difficulties. These include low motivation, low self-esteem, forgetfulness, confusion, social difficulties, aggressive behaviour, difficulties with emotional regulation and careless written work. This is in common with those children reported from studies elsewhere (Bulut, 2007; Silver, 1990; Zentall, 2006). Although these may be the expected features of children in every culture, the children with ADHD characteristics exceeded their peers by far in terms of constantly playing, running, and climbing around (Bulut, 2007) in the context of the study.

Academic difficulties

Academic difficulties of children who presented with ADHD characteristics within sample schools relate to:

- Attention difficulties
- Comprehension difficulties (problems with memory and thinking)
- Specific learning difficulties

The attention difficulties of the identified children were a lack of responsiveness, failure to follow instructions, making frequent mistakes in

tasks and activities and having short attention span. They often disengaged from learning and frequently left their tasks and activities unfinished or uncompleted. They did not attend to things which were relevant to the tasks or activities and sometimes, they attended to too many things at a time which were irrelevant to the focus of the learning of that particular time. Teachers' support and close observation were essential prerequisites to engage them in learning and the interviewed teachers therefore labelled them as 'forced learners'. This term refers to the children as needing a "big force or push" from the teachers in order to be engaged in learning.

The identified children were often presented as being slow in response and thinking or as having *comprehension difficulties*. Teachers and parents noticed that they had problems with memory. In schools, they often failed to bring necessary stationery such as text books, notebooks, pencils and pens, and to complete homework. It was noticed that they were reading text books without a focus, as if their mind was wandering somewhere. They often produced careless written work with seemingly reckless errors. Parents complained that they often forgot to bring home stationery and possessions with which they had left in the morning. In group activities, such children rarely made a point. I had seen that the children could not say anything to the teacher though the teacher encouraged them:

Whenever we ask them to do some tasks, they don't do. They are lazy in writing and reading. I think they don't know the letters in their deeper or inner mind. They are interested in the activities which are irrelevant to their learning. They have nothing to tell and ask and they come up with blank mind and that nothing in their mind to tell something. Can you see that? This is her problem. (SCH-A: TEA-INT-3)

I don't know why he won't bring things from the school every day. Teachers also are complaining about this. (Parent Interview Field Notes 17)

Specific learning difficulties are associated with failure in understanding or in using language, spoken or written, which was manifested as an imperfect ability to read, write, spell, or to do some mathematical calculations.

According to parents and teachers in the study, children with ADHD characteristics had specific language difficulties and were seen as poor in acquiring language skills. Other language difficulties associated with the children with ADHD characteristics as reported by the sample teachers were poor, illegible and often sloppy handwriting. Some children were found to be having difficulties with a few letters in the local language (Malayalam). There were also issues with reading and writing. The majority of the children (86%) were described as having poor spelling and limited literacy skills. On some occasions, even with the supervision of the teachers in the classroom and adults at home, the children found it difficult to write something which they were expected to do considering their age group. On the other hand, mathematics was often not perceived as presenting difficulties for them though they had challenges with the tasks which needed mental effort. Overall, they were regarded as "backward" in many aspects of learning:

There is a female child. She is good, but in writing she is very backward. She can even recollect what she has learned even in the lower classes. We cannot say that she has poor memory, but she is finding very difficulty in writing. I don't know what difficult she has. She is tired often and she won't complete it. In writing letters, she doesn't do properly. For example, she cannot write some Malayalam letters and she will make it as a different letter. Whatever we do for her, it won't come to her writing. For doing writing tasks, she is so tired and lazy (SCH- D: TEA- INT- 15)

In the sample pupils *academic performance* was not consistent over the academic year (from June to March, 2007-08). Sometimes they were active or produced high-energy and performed averagely in some subjects but in the longer term they were unable to sustain a similar performance. They showed very specific difficulties with some subjects such as Malayalam and Environmental Science (EVS), but they showed more interest in learning English. Their performance in languages (both English and Malayalam) and mathematics were below average and their achievement was more than a year behind their classmates. This kind of progress is similar to that reported elsewhere (Arcelus, Munden, McLauchlin, Vickery & Vostanis, 2000; Barry,

Lyman, & Klinger, 2002). Most of the children showed poor academic performance over the year in the tests (monthly) and exams (quarterly) according to the teachers interviewed. Very few children showed some improvement in their learning compared to their previous years. This was particularly the case with those children who displayed hyperactivity characteristics.

Social difficulties

Most of the children with ADHD characteristics within the sample schools were found as having difficulties in engaging in group activities. The occurrences of such difficulties were significantly different among boys and girls. Girls with inattention characteristics were hardly engaged in group tasks or activities at all, but boys were featured with extremes of either dominance or reluctance to be participants. However, it is important to keep in mind that group activities were rarely entertained within these schools. In some instances, such an enterprise would end up in classroom with a great deal of disruption:

If he stands up, everyone in his group started to make noise because he will be disturbing other children, most often physically. (SCH- C: TEA- INT- 10)

In terms of peer relationships within the classrooms, teachers had different opinions. Generally, teachers observed that there were not issues of peer rejection due to these behaviours though some children with hyperactivity characteristics were rarely welcomed by other children in their groups. For example, on some occasions, children without ADHD characteristics were seen as disturbed by their peers with ADHD characteristics. But most of them had a positive relationship with their peers although there was an issue of frequent fighting within the classes visited. Children with ADHD-like behaviours frequently switched from hero to zero status among their peers. This was more notable among children with hyperactivity characteristics. It

was not clear from the data why there was not an issue of peer rejection when considering the children's destructive and disruptive characteristics within the classes. It could possibly be an issue of other children being afraid of children with ADHD characteristics and therefore feeling unable to reject them for fear of recrimination. However, this is speculative as I have no evidence to substantiate this view. This finding is opposite to that reported in the literature on ADHD (Landau, Milich & Diener, 1998; Nijmeijer, Minderaa, Buitelaar, Mulligan, Hartman & Hoekstraet 2008). However, Heiman (2005) reports that the number of friends with children diagnosed ADHD was not significantly lower compared to children without ADHD.

He has the interest to go with everyone in the class. But he is not up to other children's level so that they don't include him in their group. (SCH- C: TEA- INT- 11)

Everyone wants to include him to their groups though he is very hyperactive and disturbing. (SCH- E: TEA- INT- 20)

Behavioural problems

Restlessness and noise distraction were reported by teachers as being significant among the sample children with characteristics of ADHD. Such behaviours as tearing papers from books and throwing objects at each other during lessons were observed. Compared with their peer groups, the children with ADHD characteristics were more prone to disobeying classroom rules and regulations including not wearing uniform and copying the work of others. I have seen that some children with ADHD characteristics truanted from school and were frequently absent from classes. This was evident during the collection of observation data. On a number of days the children had not turned up for the lessons. Because of a relatively high level of dissatisfaction from the teachers, parents were often called to the school to enquire about the reasons for their absence.

According to many teachers, some of the boys exhibited destructive and impulsive behaviour during group activities:

He is very naughty. He teases other children disturbingly. There is only one child with this nature of behaviour. He leaves the tasks unfinished and won't listen to my instructions. He has a fighting nature and he has a fight with other children two or three times. He has all mischievous characteristics of a boy (SCH- D: TEA- INT: 14)

Fighting was the most commonly noticed behaviour among most of the boys with hyperactivity characteristics in the sample schools:

Even when they want to speak something, they start with a fight with other children. They start to beat other children. During the break time and the afternoon they fight each other. It is very common with these children. (SCH- E: TEA- INT- 17)

Furthermore, it was found that there were issues of emotional disturbances within the classrooms due to the characteristics of ADHD as reported by Vostonis and his colleagues (1996). These difficulties resulted in considerable disputation in the classroom culminating in troubles for themselves as well as others. Often these pupils seemed to be absent minded and bad tempered. Their social difficulties can be summarised through the following comments from the respondents:

... He is running to the classroom and fighting with the other children and these are his characteristics... he listens to the things very well. He is also an average child studying well. (SCH- C: TEA- INT- 11)

Sometime, he attacks other children very fiercely. It's not every day, but it happens often. He attacks other children. He has not had any attention problem; he listens to the class well and studies well. He also does the work satisfactorily. I know this child from the class one onwards, he attacks other children often. He has this difficulty. (SCH- D: TEA- INT- 15)

Delays in personal gratification or lack of immediate response to their specific needs exerted considerable influence over their behaviour in the classroom,

to an extent that teachers felt that it was very hard to control their behaviour:

If we are not giving proper attention to them, they might engage in some activities and they talk about some other things. We have to walk around them ask them, "What have you done? Can you read some part of it?" if we keep asking these questions repeatedly, they will come up with something and will become attentive and alert. Otherwise, they might engage in some other activities. (SCH- D: TEA- INT- 14)

5.3.4 Parents' and teachers' knowledge and understanding of ADHD

Teachers and parents interviewed for this study had limited knowledge and understanding of ADHD characteristics and their associated problems. None of the teachers had been provided with any information about ADHD either during their two or more years of teacher training or through in-service training programmes. Although the new system of education which has been recently introduced gives priority to inclusive education and recognising the needs of children with special educational needs, teachers had never been informed about ADHD. Most of the teachers who were interviewed for this study said that they had never come across the concept of ADHD. This was reinforced by similar responses from the parents interviewed for this study. Various studies reported from the Indian context recognise this lack of awareness as a major source of concern for the movement towards a better quality education for all (NCERT, 2006; Wilcox *et al.*, 2007).

However, some of the (sample) teachers had some information about emotional disorders or mental health problems such as anxiety and depression among children and they believe that these influence children's unexpected behaviours and problems in the classrooms. Both parents and teachers at times interpreted the behaviour of children displaying characteristics of ADHD as simply behaving badly and engaging in pranks.

He has some mental problems. Parents said to me that he will behave the same way at his home as well. His is having the same problems at his house as well. His sister is studying here. He always attacks his sister (SCH- B: TEA- INT- 6)

The majority of the teachers and parents within the sample schools believed that children would 'grow out of' ADHD characteristics after some years of maturity. This kind of belief is not unusual, and indeed there may be some justification for this. Cooper and Bilton (1999) report varying estimates of 30% to 70% in the literature of children diagnosed with ADHD who will grow out of the condition. However, these authors question the reliability of many of the reported incidents of ADHD which are then seen to dissipate as the subjects get older. In a context where little is known of the potential causal factors of behaviour, it is understandable that children with the characteristics of ADHD are often labelled as 'naughty' or 'lazy' or 'problem children' within the sample schools.

They are just naughty and engaged in some other activities, sometimes very noisy. They are very lazy in learning and won't do what we ask them to do. I have only one child who could be termed as problem child. (SCH- E: TEA- INT- 18)

Although the teachers and parents had limited knowledge about the concept of ADHD, they were worried about the children who presented ADHD characteristics. Many of those who had said they could not comment because of lack of knowledge, in fact, went on to outline some aspects of ADHD, for example, inattentiveness and hyperactivity. It is interesting that teachers, despite their experience, may not credit themselves with the knowledge of such learning difficulties.

5.3.5 Parents' and Teachers' Perceptions and Concerns

The children with ADHD characteristics were often labelled according to perceived deficits. Some of the characteristics of inattention were at times interpreted as the characteristics of 'good' and 'obedient children'. They were

encouraged by the teachers as the noble qualities of 'good' pupils. Girls especially were considered as inactive but good children as they were fearful of the teachers and rarely caused significant behavioural problems in the classroom. These characteristics were considered as girls' specific features. Some teachers as well as parents considered children with inattention difficulties as 'mentally retarded', or as symptomatic of problems associated with mental development. To a greater extent, the failure of these children in academic terms is often interpreted as laziness and disinterest in learning:

Even if I call out to her, she won't listen to me. She may be looking at me, but she cannot listen and concentrate as the other children can. She has some attention problems. She won't do anything. We need to force her to write, and then only she can do something. It is because they are slow learners. She is very lazy in learning with low mental development. (SCH- D: TEA- INT- 14)

Nevertheless, some of the teachers interviewed viewed inattention as a characteristic of 'bad children' who are 'disobedient' and reluctant to complete tasks or homework regularly and properly. Teachers tended to compare these children with others who were seen to be obedient, keeping things tidy and careful according to their instructions. On some occasions, the children with inattention difficulties were perceived by the teachers as having low motivation for learning. Parents could not say much about their children's inattentive characteristics. It is understandable that they have less opportunity to observe such characteristics compared to the classroom teachers. Even so some of the parents had frequent complaints from their teachers and tuition masters about their children's academic difficulties associated with their lack of attention in learning. As this is not a cause for concern at this young age, some parents gave little attention to these complaints especially parents of less advantaged backgrounds.

Characteristics of impulsivity, such as difficulty in awaiting turns and interrupting or intruding on others, are also believed by some respondents (both teachers and parents) to characterise a 'disruptive' and 'destructive'

child. Similar findings were reported from a study conducted in Greece (Kakouros, Maniadaki & Papaeliou, 2004). According to this study, Greek society views the 'symptoms' of impulsivity as being characteristic of a 'spoiled' child. In the present study, it is observed that they were subjected to 'forced discipline' instead of 'self discipline'. This notion can be interpreted differently. In some cases, it means that the teachers had to make frequent remarks on their appropriate or inappropriate behaviour in the classroom. From this, it may be the responsibility of the teachers to engage them in learning. On the other hand, it is understood that children were expected to behave in a particular manner in order to be engaged appropriately in learning. This sounds as if the efforts should come from child within factors and teachers have a limited role to play. All agreed that these behaviours were attributed as the natural qualities of boys. However, the children with such characteristics were in a minority within the sample classrooms.

Boys are with such difficulties. You know, they are children. When we sit on the chair, they might think if the teacher is not watching us, we can do anything, they develop this kind of attitude because they are young children (laughs). (SCH- A: TEA- INT- 3)

With reference to hyperactivity characteristics (for example, running about or engaging in risky activities) contrasting views were expressed by the teachers and parents. One of the views, which again is similar to attitudes reported in the findings of Kakouros *et al.* (2004), suggests that these characteristics of hyperactivity are often regarded as indices of cleverness and braveness, especially in boys, by Greek teachers. This is applicable to or reproduced in the current study which found similar perceptions held by the teachers within the sample schools in India. Such children were considered as the heroes of the school in the present study. However, some others view this as the characteristics of a disobedient child as they are badly behaved, sometimes self harming, or have an indifferent attitude towards others and a disinterest in learning. This can at times be regarded as natural to the boys with such difficulties in the classroom. By contrast, the teachers interviewed perceived that the girls normally do not have such difficulties as they are

obedient and do whatever the teachers asks of them. Nonetheless, the children with hyperactivity characteristics are a matter of concern for the teachers and parents within the context of the study though they were not able to locate these specific difficulties in terms of how they influence their learning performance:

Children are generally vigorous and restless during their childhood ages, but they don't have any behavioural problems and only some learning problems. It is a common nature of children to disturb others or fight with others. This is boyhood mischievous characters. However, it is difficult to keep them in learning, what you [researcher] suggest? (SCH- C: TEA- INT- 10)

5.3.5.1 Teachers' and parents' attitudes towards children with ADHD characteristics

Teachers and parents at times held unfavourable and cynical views of children with inattention, hyperactivity and impulsivity characteristics. Most of the teachers emphasised that they perceived the characteristics of ADHD as being a general part of the nature of children and therefore nothing to worry about in respect of their academic difficulties because all children cannot learn the same way as they are all different. The characteristics of ADHD were interpreted as the habits of certain underachieving children as the teachers have limited expertise to engage them in learning. A majority of teachers expressed a very negative and cautious attitude towards them. On some occasions, these children elicited a higher emotional response from the teachers because the children could not show any improvement in their learning though teachers worked hard to support them as far as they could. In addition to this they had a very low expectation about the children with ADHD characteristics and about their own practices believing that they would not make any impact on their learning. Teachers were concerned and wished not to have many such children in their classes perceiving the challenges portrayed by the presence of this very small number as enormous and difficult.

The interviewed teachers believed learning would be considerably hindered by difficulties arising from the problems associated with ADHD characteristics. It was more difficult for them as they had to finish the expected curriculum or syllabus and they had to involve many other activities within the schools which would be helpful for other children. Due to this pressure and lack of support within the school, they condemned the children's hyperactive characteristics and disinterest in learning, expressing a view that the children and parents should have the responsibility to take the ownership of their learning and wishing that they would understand the value and importance of schooling. Sometimes, they had a cynical view of them as learners as there were many other children who had shown improvements in their learning provoking them to question why the children with these inattentive characteristics could not concentrate adequately as other children on learning. Some teachers wanted to know if the children could be engaged in other activities other than those related to their formal learning. The teachers also felt that the children themselves needed to accept greater responsibility for their own learning and behaviour in class.

One of the interviewed teachers believed that such children must be educated in special school, where individualised and more appropriate education could be provided by specialist teachers. This is similar to the results of a study conducted in Iran by Khamis (2006). This study suggests that most of the Iranian teachers wanted to place children with ADHD into special schools rather than mainstream schools. The authors argue that this is because participants had limited knowledge and understanding about ADHD. Furthermore, the teachers viewed those children as being bad mannered and different from well behaved children. They were fearful of the presence of children with ADHD characteristics:

In the beginning, I was afraid to teach him, but after I came to know the child, I have changed my mind. He has not any other problems and he is interested in some other activities all the time. He has problem only in learning, and sometimes with behaviour. It is impossible to change some of the behaviour problems. His mind is always the same. (SCH- A: TEA- INT- 3)

A number of respondents (18 teachers and 8 parents) condemned the characteristics of ADHD on factors associated with children's age and development. They perceived it as a child's developmental issue which would end with appropriate growth and development in the later stages of life. The majority of the teachers interviewed opined that the children would grow out of hyperactivity characteristics after some years of maturity and as they increased their understanding of the importance of learning. This might be an indication within the sample that children's hyperactivity characteristics appear to diminish as they get older as reported by Woods & Ploof (1997).

It may be a problem with this age and it would go after sometimes. I said to the parents not to worry about him. I used to comfort them in this way and they would back with my assurance. (SCH- E: TEA- INT- 17)

See, it is their nature of childishness. It is because the nature of their age and the background which they are coming from. (SCH- C: TEA- INT- 11)

However, some teachers expressed their positive attitude towards children with ADHD characteristics within the sample schools but were frustrated by their inability to manage them. This frustration over the presence of children with such characteristics and dissatisfaction with their own efforts can be identified from the data.

We have the interest to teach such children, all teachers with the same interest, but it is difficult for us to teach them. (SCH- D: TEA- INT- 16)

We can change some of the things, but we do not know how we can do. (SCH- B: TEA- INT- 7)

5.3.5.2 Teachers' and parents' beliefs on possible causes of ADHD

The research found some mixed reactions from the teachers and parents in respect of their interpretation of the causes of the difficulties associated with the characteristics of ADHD. The main reasons for the children's difficulties

according to the teachers were parents' poor caring skills, large class sizes, economic disadvantage, lack of support at home, and social risk factors. A large number of teachers within the sample had similar opinions about the possible causes of ADHD characteristics. By contrast, some parents expressed their opinion that classroom factors might have aggravated the inappropriate behaviours of their children. Research conducted among Palestinian children also reported a positive correlation between the incidence of 'symptoms' of ADHD and socio-demographic factors (Khamis, 2006).

I think it may be due to their intellectual difficulties. They don't have the ability to grasp things. Also, there is a problem with their mental health. (SCH- A: TEA- INT- 4)

I don't know what the problem with my child is. I think he is like his father. He always has this problem. You know, he is like his father, isn't he? His father comes home with too much drinking and that day will be horrible. My son sees things every day. I cannot blame him. (SCH- C: PAR- INT- 11)

Hence it may be interpreted that they believe that inattention and hyperactivity characteristics are environmentally caused. This interpretation is contrary to the popular view of ADHD generally held in Western societies (Nigg, 2006; Barkley, 2005; Cooper & Bilton, 2002). However, a recent study conducted in the UK reports that parents were more likely to view ADHD in association with socio-environmental causes (Dennis, Davis, Johnson, Brooks & Humbi, 2008).

In the present study, it was found that a certain number of children could not concentrate well on learning though they were from supportive families and socially advantaged areas. For instance, 5 of the 21 children with ADHD characteristics were from affluent families and teachers observed that they received adequate support at home. Two of them were only children (without siblings). A general observation was made in the data that it seems that the participants are not aware of a neuro-biological influence which may be the

cause of children's difficulties. For that reason, the children are labelled as 'naughty' or 'lazy' or not 'working hard enough'.

They get support at home, but they don't want to study. They get support from their parents and they are very lazy. The parents came to me and said, 'teacher, my child is not learning well'. I think it was not corrected in earlier days. (SCH- D: TEA-INT- 15)

In his house, his mother gives good support to the child. His mother comes to the school often and she enquires about his academic progress. In those occasions, I would say to the mother, what a good interest you have for your child! But he has no any interest in learning. Now I have asked him to write in front of her and he did it. But when I asked him to write he won't write. I know this is very well. (SCH- B: TEA- INT- 6)

Though respondents in the study may not be familiar with the causes of ADHD as generally discussed in the literature, they attributed the characteristics of ADHD to *genetic or family factors*. They believed that children's difficulties are probably caused by a genetic predisposition which is derived from their parents and relatives.

Parents frequently fight at home. The child will grow with this kind of behaviour and it will be in his mind all the time. (SCH- A: TEA- INT- 4)

Some of the teachers believed that children with ADHD characteristics might have a problem caused by low cognitive functioning. They were more likely to be lacking basic skills in an academic area. For example, teachers observed that some of these children had not had any reading or writing skills before they come to the schools.

They don't lose things intentionally; it may be without their knowledge. He has some problems with the mental development or has some mental deficiency. It may not have appropriate mental development. They have some intellectual disabilities. (SCH- D: TEA- INT- 16)

There are some children in my class with some specific learning difficulties. They did not attend LKG and UKG classes or they were not cleared adequate learning there. They have to be taught separately and only then they give active attention in lessons. (SCH- E: TEA- INT- 17)

The majority of the teachers presumed that ADHD characteristics were present as a result of social factors. The children's poor performance in learning and their behavioural problems within the classrooms were considered to be due to these factors. When considering their socio-environmental situation, they believed that children could only have a limited capacity to learn. The most important social factors which teachers believed would cause the characteristics of ADHD are described below.

a) Home environment: Most teachers opined that children's difficult home situations can cause hyperactive characteristics. Teachers provided examples of children's home environment which could impact negatively, including fathers' abuse of alcohol, domestic violence, and parents' separation. Within the sample, two of the children's parents had been recently divorced with the fathers and mothers living separately. These two children were mostly looked after by their grandparents. Some teachers observed that the children were obsessed with the unfriendly and chaotic situations at home. Their behaviours at school reinforced these difficulties. It is also reported that two of the children's fathers had a history of criminality. From these observations, teachers stressed that home conditions were featured with limited opportunities for learning and therefore this has caused their behavioural difficulties at school. It is impossible to verify these influences from this research, but it is worthy of note that teachers often had these negative perceptions.

I asked his brother about his behaviour at home. 'Oh! Teacher, we don't beat him, because we don't have father'. So understood, child behaviour is something to do with what is happening at home. He shows all the characteristics as behaves at home. (SCH- C: TEA- INT- 11)

Parents [males] were mostly drunkards, the child will grow with this kind of behaviour and it will be in his mind. When they come to the school, they talk about father had beaten the mother, another one will say that his father is in jail. (SCH- B: TEA- INT- 6)

b) Poor socio-economic background or social disadvantage: It was also observed by the teachers that some of the children were from the slum areas of certain communities. Their poor learning, they believed, was due to their economic and social disadvantage. The occupational backgrounds of the parents were seen as a factor responsible for the lack of motivation among the children with inattentive and hyperactive characteristics. It was the view of some that children from lower social backgrounds were typified by characteristics of ADHD. Again, this may well be a false premise in terms of influence but was seen as important by the respondent teachers.

They may be behaving because of their difficult physical environment. Occupation is also a factor as the children develop different kinds of behavioural problems from their locality. (SCH- C: TEA- INT- 10)

c) Poor parenting and lack of parental involvement in learning: The most common response from the teachers about the causes of children's ADHD characteristics was lack of parental support at home. They supposed parents had less engagement in learning, and exhibited poor parenting methods, such as little positive reinforcement for good behaviour and a focus upon attention for bad behaviour which negatively impacted upon the children's behaviour in the classrooms. Teachers were concerned about the lack of support or push from the parents in their children's learning. This was one of the reasons why children were not interested or appeared lazy in learning.

He has these characteristics, because his parents do not give adequate support to the child. (SCH-D: TEA-INT-17)

Children's behaviours are related to the child rearing practices of their parents. They show the 'standards' of their parents in their behaviours. (SCH-E: TEA-INT-20)

d) Classroom factors: Some of the sample teachers and many parents attributed the characteristics of ADHD to classroom factors. The main classroom factors which they perceived may be responsible for the children's poor learning and unsatisfactory behaviours were i) presence of a large number of children, ii) small and crowded classrooms, iii) higher levels of noise, iv) frequent absence of the teachers and v), poor facilities and lack of resources within the schools.

As I have more number of children, I cannot look at the work of all children individually. Also the classroom is very small. Good news is that a new building is constructing. All teachers have more number of children, 45-55 each class. As you have seen, we don't have separate classroom for these children, so we need to take a big strain to teach all children as it is very noisy. (SCH- D: TEA- INT-15)

5.3.6 Intervention strategies

Teachers' general attitudes about interventions for children with ADHD characteristics are listed as giving more homework, repetition of the same material, physical punishments and sanctions, and lower expectations. Teachers, however, were on some occasions seen as incapable of meeting the needs of the children. In addition, a majority of the teachers were found as having difficulties in engaging these children in learning and worried about their presence in the class. Children with ADHD characteristics appeared challenging to teachers' abilities to manage them as they demanded a considerable amount of teachers' time. Most of the respondents admitted that they had limited resources and expertise to support the children though they were willing to adopt some strategies. It was also apparent that severity and difficulties of managing children with ADHD characteristics had an impact on the efficiency of the teachers.

We have to look after other children as well so that we find difficult to take care of this child. He has not any other problems and he is interested in some other activities. He has problem only in learning. (SCH- C: TEA- INT- 11)

We have the interest to teach such children, all teachers with the same interest, but it is difficult for us to teach them. (SCH-D: TEA- INT- 15)

5.3.6.1 Teacher interventions

Generally, it appears that teachers had used negative intervention strategies for meeting the needs of children with ADHD characteristics. The general classroom communication was negative and teachers used unprofessional language to 'control' these children. Sometimes teachers were seen less motivated to work with them and didactic teaching approaches were seen to be favoured over group activities. This approach was continued even after the introduction of a new system of education which is referred to as an activity oriented system under the SSA regime. During group activities, the presence of these children was said to de-motivate teachers as they feared that it would create more difficulties. Though the interviewed teachers had observed some positive outcomes under the new system, they preferred to use more didactic approaches as they recognised that it would avoid more disruption and difficulties in the classrooms. The intervention strategies of the sample teachers can be put under three headings; a) academic b) social and c) behaviour.

a) Interventions for academic improvements: Teachers perceived the need to be forceful and at times use physical interventions to improve the children's learning. One teacher said, 'I used to ask them to write with forcing'. Repetition of the same material was another strategy used by the sample teachers. However, I had observed that many times teachers were ignoring the children with ADHD characteristics, more specifically children with attention difficulties. Sometimes, teachers were observed to be losing patience and had given up their efforts to improve the learning of these children. However, they suggested that this was because of their time constraints, disappointments with the efforts of individual students, and lack of support from the parents. It was also because of the complaints from other parents who feared that the presence of these children in the classroom

would make difficulties for their own children or that their children would imitate the characteristics of ADHD. Teachers appeared to be using very negative language and expressed lower levels of expectations with regards to these children. The children with attention difficulties were asked to bring more homework than their peers though teachers complained that this was seldom forthcoming. Some teachers opined that there would not be any improvement for these children even if they would give physical punishment. Moreover, there was a lack of faith in the children's academic progress in the sample schools.

Whenever they are not able to get expected level of outcome from the children, they became disappointed and worried and use lots of negative languages and tried to avoid children with such difficulties. (From Observation and Field Notes)

You know, they are different from others. We cannot expect the same as other children from them. They can only do this much, because everyone cannot grasp everything in the same way. There is a difference between these children and others as land and the sea (SCH-C: TEA- INT- 9)

b) Intervention strategies for developing social skills: Children with attention difficulties in the sample classrooms, were often found to be socially withdrawn from activities and tasks, and were often ignored. On the other hand, children with hyperactivity and impulsivity characteristics were asked to be quiet though sometimes they were asked to lead the group. Some teachers observed that such interventions were effective in their classrooms, specifically with boys who exhibited characteristics of fighting and hyperactivity in group activities or during teachers' presentations.

He has been notorious in this school for the last three years. Recently, I asked him to lead the class whenever necessary, if teacher is absent for sometime or some days. After this, he showed some improvement in his behaviour, but I am not sure how long it will sustain for. Considering his history, I am not sure. Let's see. (SCH -B: TEA- INT- 7)

Though the girl is not learning well, she is very quiet and good child. I have some children with such characteristics. They are

not disturbing any one, that's a good thing. (SCH -E: TEA- INT-19)

c) Interventions for maintaining appropriate behaviour

The most frequently mentioned teacher intervention strategy was the use of physical punishment. This was highlighted as a regular feature of management by all the 21 sample teachers and referred to a number of times in the data. According to them, this was an essential condition to improve the behaviour of the children with ADHD characteristics. However, few teachers were clear about the evidence to support the effectiveness of physical punishment for poor behaviour and performance in the class. I saw that teachers used harsh words to control those children with ADHD characteristics and the children were sometimes seen crying and fearful of these approaches by the teachers. Some teachers were seen as authoritarian in their style of teaching; this was observed especially in a classroom with a large number of children. Scolding and warning were seen in all classrooms. Another intervention practised by some teachers was that children with behaviour difficulties were changed from one division to another (i.e., Class I A to another). However, it was not clear whether this was used to improve their learning or entertained as a punishment for their bad behaviour.

There were also some other intervention strategies that were used by some teachers within the sample schools. One of the intervention strategies which was observed involved a few teachers giving individualised attention to the children and seating them very close to the teachers' table. In another strategy teachers made some modifications in their teaching for these children as they were seen giving additional tasks and repeating lessons in a number of small tasks. Most teachers gave lower level tasks for children with inattentive characteristics recognising their differences of academic achievement when compared to that of other children. Sometime, they were grouped with academically well performing children. In other words, peer mediation was sought. In such interventions, peers acted as role models for these children in order to motivate them in learning. On some occasions,

teachers gave leadership responsibilities to the children with hyperactivity characteristics. Children were seen as liking these activities, but teachers were worried that the children could not concentrate on activities that involved reading and writing. Nonetheless, such strategies were rarely seen in the classroom situations observed.

I called them near my table and gave them special support with my personal attention. However, we need to wait for a long until they finish their work. When the other children make noise after they finish their work, these children would not have started to write anything. We need to make them write properly. We need to give them special support keeping them with me. In this way, I am helping them to write better. (SCH- B: TEA- INT- 6)

Many teachers were passionate about asking about the children's background and seemingly approached children with affection and love which they believed would minimise the classroom disruption by the children with hyperactivity characteristics. They also opined that play methods and more group activities would encourage the children to engage in learning although there would be the possibility of more disruption in the class. The teachers were also seen as frequently communicating with parents about the children's difficulties in classrooms. In addition, the teachers opined that they wanted to introduce new ways of teaching children with these characteristics, but they were constrained due to time limitations, financial constraints and lack of support from the parents. It surprised me that none of the parents or teachers mentioned at government level intervention or support in this matter.

I will divide the children in to five groups and select one as a leader and ask them to work together and share their ideas together. If the children cannot themselves help each other, I will help them. Through this way, I am bringing them up. There I don't find many issues when I do these activities. When we give some tasks to be done in the group, they are able to speak in the group and they are more active. They have role models, if one does it and others follow it. (SCH- E: TEA- INT- 17)

5.3.6.2 Parent interventions

From the parents' interview data it was found that some parents were proactive in their approach to the children's special needs arising from ADHD characteristics. It was also observed during my data collection that two of the children in different schools were taken by their parents for consultation with general medical practitioners within the Trivandrum area, thus indicating a proactive action conducted by parents on the basis of their concerns. None of the medics consulted had recommended medication for the children as might possibly have happened in Western countries. Similar findings were reported by Wilcox *et al.* (2007) in their parents' explanatory models study reported from Goa, India. Three of the parents arranged special support through remedial education from tuition centres. By contrast, most of the parents seemed to be focused upon the administration of punishment and sanctions at home in order to improve their children's behaviour and learning. These parents were observed to be reluctant to spend time in order to understand their children's difficulties and they had a very limited concern towards modifying their own approaches in support of the children.

I get frequent complaint about my child [boy] from teachers and others. I also feel sometimes very unhappy about his characteristics. I don't know what to do. Recently, I consulted with the doctor and the doctor said not to be worried and he is trying to identify the behaviours. (Parents' Interview Field Notes 7)

I don't know why my child [boy] behaves in this way, I met the tuition master last week and he said I should not beat my child. I have told my husband also. We have stopped beating him since the last week, though sometimes it is difficult (Parents' Interview Field Notes 13)

5.3.7 Support facilities

Limited support facilities were available for children with ADHD characteristics within the sample schools either externally or school-wise. Out of the 20 classrooms within the five schools that were observed, there is only one

school which has the support of a special teacher. This teacher worked with all primary classrooms where learners with difficulties had been identified in that particular school. According to the school, there were 60 children with mental disabilities. Sometimes, these children were given exclusive education with the special educator. Actually, this teacher had a specialisation in physical disabilities. As expected, no other support facilities such as psychological or counselling services were available within the sample schools. However, the teachers were of the opinion that some support services might be available elsewhere under the supervision of medical professionals, but none of them within the sample schools. None of the sample teachers had any kind of training either in-service level or pre-service level in children's specific difficulties in learning.

Only one support teacher is in our school. She's trained by Rehabilitation Council of India and her appointed is supported school PTA [parents teachers association]. We have no any other support from outside. Our school is better than other schools in this city. (SCH- D: TEA- INT- 16)

I have to manage all these 63 children in the class, it is very difficult for me. I cannot assess each individual child's needs. Also, I have to finish the curriculum which is very heavy. Our school is very strict to increase the academic improvement of the children and the parents are quite demanding. What Can I do? (SCH-E: TEA- INT-17)

5.4 Summary

In this chapter, I have outlined the findings observed through three stages of data analysis. The main themes developed from these analyses have been reported with supporting materials from the data. These five themes were a) prevalence of ADHD characteristics within the sample b) academic, behavioural and social problems associated with children with ADHD characteristics c) Teachers' and parents' perceptions and understanding of children with ADHD characteristics; d) interventions strategies adopted both in schools and at homes; and e) support facilities available in the school either externally or internally.

Some of the results of this study are broadly consistent with findings from previous studies of ADHD (Zambo, 2008; Carlson *et al* 2006; Kakorous *et al.* 2004). In particular this was the case in terms of the prevalence, nature, gender differences and problems associated with ADHD characteristics within the sample schools. Some other findings from the current study might be described as culturally specific factors. The participants of the study had limited knowledge and understanding of ADHD characteristics although these were variedly spread across the schools. One of the striking finding was that teachers' intervention strategies and their attitude towards the children with ADHD-type characteristics were more often negative than positive. Both teachers and parents believed that children's ADHD characteristics are associated with childhood factors which would end with after some years of maturity. However, many of them expressed their concerns and difficulties due to the presence of children with ADHD characteristics in schools. There was limited support available either within or outside the schools for those children with ADHD characteristics. The overall research findings reveal that a limited awareness about ADHD had prompted teachers and parents to view learners with ADHD characteristics negatively and their needs were met by coercive methods of physical punishments and sanctions.

CHAPTER SIX

DISCUSSION I: GENERIC ISSUES OF ADHD

6.1 Introduction

This chapter discusses the findings of the qualitative study conducted based upon five sample schools in the Trivandrum District of Kerala, India. This is the only educational study of this kind as yet conducted within Indian social context. The study found some underlying themes which describe the nature and characteristics of ADHD in this part of India and how cultural and contextual factors complicated an interpretation of its prevalent features. The main themes developed within this study are based upon the findings previously recorded:

1. Children with ADHD characteristics does exist within the Indian school contexts considered for this research
2. There is a gender difference in respect of the occurrence of the ADHD characteristics
3. More children within the study with ADHD-like behaviours are from lower socio-economic background
4. More of those within the study exhibit inattentive characteristics as opposed to hyperactivity type characteristics as defined within the DSM IV(TR) criteria
5. Teachers and others demonstrate limited knowledge and understanding of ADHD within the context of the study
6. Educational interventions are crucial as more children are integrated into mainstream school education
7. Exclusionary practices such as suggesting that parents take the children to other schools exist in the sample schools

Consideration of these themes is presented with reference to the relevant literature to gain further insights into the area of ADHD. The first part of the discussion concentrates on the prevalence of ADHD characteristics within a

specific region of India. The second part focuses upon the causes and interventions of ADHD as perceived by the teachers and parents in the study. The implications for inclusion of children with ADHD characteristics into mainstream school education in a Keralian context are also discussed. Though some aspects of the findings may be generalisable, care should be taken when considering the small size of the sample as with any qualitative study of this nature.

6.2 The Prevalence and Nature of ADHD

The aim of the current study was to identify children with attention deficit hyperactivity disorder (ADHD) characteristics and consider what might constitute appropriate educational provision for those children within the context in which they are educated. The study has taken into consideration the findings in relation to 736 children in each of the four classrooms (pupils aged five to ten) in each of the five sample schools (giving a total of 20 classrooms in all). Within this sample I identified three percent (N=21) of these children presenting the characteristics of ADHD as identified using a standard assessment procedure, DSM IV (TR). From the data gathered it appears that the incidence of children with ADHD characteristics is at least one child in each sample classroom (of 35 children). I compared this result to studies both from different parts of the world and within an Indian context.

In one UK survey, the prevalence estimates suggest that there are 3 to 5% of school aged children diagnosed with ADHD (Ford *et al.*, 2003). However, one of the issues reported in the UK is that a majority of the children with ADHD may remain undiagnosed (Sayal, 2007) and therefore this figure may be an underestimate. A study in China, Lam *et al.* (2006) showed that the prevalence of attention deficit disorder (ADD) tendency is about 8% among adolescents and the literature reviewed for this study suggests that there may be as many as 5% of school-going children diagnosed with ADD in the most developed part of China (Yan, 1988) (figures for less developed regions are not available). According to a further study (Rohde, 2002) undertaken in

Brazil, the author reports that the prevalence of DSM-IV assessed ADHD was close to 6% in a sample reviewed through an ADHD outpatient programme and at schools. A study conducted by Wolraich, Hannah, Baumgaertel & Feurer (1998) in a Tennessee county in the USA indicated that teachers reported that a prevalence rate of ADHD for all types as 16.1%. However, for many researchers in the USA the figure reported is considered to be high estimate resulting from an over-diagnosis of the condition (Armstrong, 1997; LeFever *et al.*, 2003; Froehlich *et al.*, 2007).

In India, research based literature on ADHD with a social interpretation as opposed to a medical focus is very limited. The current estimate based upon a limited sample in one district of India would indicate that the possible population is close in number to that reported for the UK. However, caution is needed when using these figures because of the small sample size. It is not possible to make a definitive statement about the prevalence of ADHD in India on the basis of one small study, but the present research does suggest that there is evidence to justify a further study with a larger population in order to verify whether the figures obtained from the sample schools are typical of what might be found in a wider Indian situation.

Nonetheless, figures presented from medical research conducted in India suggest that ADHD has a relatively high prevalence compared to countries elsewhere with an equivalence of 8 to 17 percent (Bhatia *et al.*, 1999; Malhi & Singhi, 2000; Mukhopadhyay *et al.*, 2003). Such figures appear somewhat unreliable when compared to other major international surveys. One of the issues within Indian studies on ADHD is that there are no reliable statistics presented to justify these estimates (Vishwanath, 2006). Most of the Indian studies (Wilcox *et al.*, 2007; Mukhopadhyay *et al.*, 2003; Sidana *et al.*, 1998; Bhatia *et al.*, 1991) had selected their sample from outpatients' departments of hospitals or from child clinic centres. It could be argued that there is a higher occurrence of incidents of ADHD among those samples compared to that within the general population. One of the issues within the current research is that children from outside mainstream school contexts (if there are any) were not considered. This is because the study particularly

concentrated on what is happening in classroom situations within mainstream schools and whether there was a presence of children with ADHD characteristics within these contexts. However, it is considered that some children with ADHD characteristics might exist outside of mainstream school contexts, and may include those who might be excluded or truant from schools for some reasons. For instance, during my research, I had consulted with some of the child development experts within the district who implied that children with ADHD categories or behaviours might be seen within these child development centres, but were nonetheless unclear and unable to provide recorded figures.

I would argue that the incidence of ADHD within India might lie in between the figures obtained from the present sample and those reported from other studies. This view is supported by an *India Today* report by Vetticad (2000) which suggests that ADHD affects anything from 1.5-4 per cent of youngsters in India when referring to the studies of the National Institute of Mental Health and Neuro Sciences (NIMHANS) and the Indian Psychiatry Society. Considering this suggestion, the estimate of ADHD prevalence may indicate that the actual figures for India may be close to the UK figure, but that this may provide only the basis for a hypothesis which is in need of greater consideration. Moreover, if this figure is correct, it is consistent with the Asian prevalence of this disorder in which it is suggested the figure could be as high as 4.7% as proposed by a Brazilian research team led by Polanczyk (2007). Nevertheless, inconsistent figures in different countries and across cultures are a matter of concern for many researchers especially for its critics who doubt ADHD as a valid disorder.

An interesting pattern of the incidence of ADHD characteristics within the current study samples is that most of the identified children come from a lower social class background. Low social status, economic disadvantage, poorly educated parents and often problematic home conditions were some of the specific features which surround these children. In fact, 16 of the 21 identified children were from such backgrounds. Similar to this, Bhatia *et al.* (1999) reported that ADHD was significantly more common in children

belonging to a lower social class in the Indian context. This they suggest is because the incidence of social risk factors such as complicated pregnancy, malnutrition and exposure to environmental toxins are more likely to be observed in poor socio- economic backgrounds.

Consistent with results of the current study is a study conducted by Hamed, Taha, Sabra & Bella (2008) in Saudi Arabian sample. They reported that there is a significant association between ADHD and the parents' level of education and socio-economic status. The reason could be that lack of parental attention at home, hostile and chaotic home conditions, misuse of alcohol or hostilities in a neighbourhood which could increase the risk of hyperactivity in children as observed by Efron (2006). Studies conducted in Brazil (Fontana *et al.*, 2007; Rohde *et al.*, 1998) show a similar pattern of prevalence among the number of children with ADHD characteristics from communities with lower social economic status. According to these researchers, the percentage of children with ADHD is dramatically higher in lower classes than the accepted figure (3-5%) within Brazil as a whole for ADHD. For example, Fontana *et al.* (2007) found that 13% of children with ADHD characteristics were found in four elementary (grade one to four, age range 6-12) public schools which were located in poor socio-economic areas, whereas the prevailing figures suggest the children with ADHD characteristics in Brazil constitute 5 percent. In the present study, the overall sample included children from a wide range of social backgrounds, which included almost all sections of society, the children with ADHD characteristics are generally found in areas where a poor social background dominates.

It is noticeable that the relationship between ADHD and social disadvantage rarely appears in literature. However, very recently, there is a growing literature on ADHD which mentions possible relationships between ADHD and social class. Monuteaux, Wilens & Biederman (2007) suggest that individuals with ADHD are more likely to be from lower social backgrounds. Similarly, Issacs (2006) reported that the prevalence of ADHD increased in families with social disadvantage. However, this research does not suggest that ADHD is caused by social risk factors such as disadvantage and an unhappy family

atmosphere as observed by Efron (2006). Instead, the vulnerability and incidence of ADHD would be higher among individuals from socially disadvantaged backgrounds. It would seem appropriate that more research studies should be conducted to explain why ADHD is more common in lower social class backgrounds. This may be particularly important in the context of India where studies on ADHD in a social science perspective are rarely reported (Wilcox *et al.*, 2007).

Another feature of the prevalence of ADHD within the current study is that the majority of children are inattentive rather than hyperactive (as defined under the criteria of DSM IV (TR)). The children with inattentive characteristics were relatively higher in number than children with behavioural problems. Most of the respondents surmised that the difficulties associated with impulsivity characteristics were rarely encountered by them. The highest number of children with inattentive characteristics than behavioural problems within the sample schools is consistent with the findings of an earlier Indian study on a sample of children referred from psychiatric outpatient services (Malhi & Singhi, 2000). However, this is in contrast with a study in Saudi Arabia by Hamed *et al.* (2008), which stated that children with hyperactivity impulsivity type (ADHD-H type) characteristics were more prevalent than those with inattentive type ADHD characteristics.

The lower rating of behavioural problems in India might be because the children had limited freedom to express their natural behaviour in these contexts. For instance, some of the sample teachers presumed that the children were afraid of the adults with whom they came into contact and therefore were unlikely to reveal their true feelings due to a fear of punishment. This situation may have improved recently after the introduction of a more active approach to teaching in Keralian state schools. However, it is understood that there is a conflict between a child centred educational policy and teacher centred educational practices within the Indian schools as noted by several authors (Chatterjee, 2003; Singal, 2006; Alur, 2007). There was an unequal power relationship between the teachers and children within the

sample classrooms where children had limited opportunities to express their views and feelings on classroom activities. This imbalance power relationship and hierarchical structure of the school system might have also contributed to the occurrence of more children with inattentive than hyperactive and impulsivity characteristics.

It is noteworthy to see that children with inattention difficulties had more learning difficulties than children with hyperactivity and impulsivity characteristics in the sample schools. Similar results were also reported by Rodriguez *et al.* (2007) in their study in three European cohorts and also in an Indian study (Malhi & Singhi, 2000). Both these studies showed that the association between ADHD and scholastic impairment (specifically reading, writing and mathematics) was more pronounced in those students with inattention characteristics than was associated with hyperactivity.

A finding of particular interest in terms of the prevalence of ADHD characteristics within the sample schools was an inverse relationship between the actual class size and the persistence of ADHD characteristics. In the current sample, it was observed that the higher the numbers of children within the class, the lower the number of children with ADHD characteristics and vice versa (See the table (vii) in the previous Chapter, Section 5.4). From this it can be argued that for many teachers, classroom size appeared to influence the proportion of students identified with ADHD characteristics. This may be because of the need to adopt formal classroom management approaches in large classes which preclude opportunities to make accurate assessment which might identify children with difficulties. By contrast, in smaller classes teachers provide greater attention to individuals and may have an increased awareness of the difficulties which they face. Consistent with these results were the observations reported by Glass & Weigar (2000). They found that many teachers of the smallest classroom size (five to fifteen students) identified a large proportion of their students as demonstrating tendencies of ADHD. This of course, does not mean that ADHD characteristics did not exist where there were higher numbers of children in a classroom. It may, however explain some cultural and contextual factors within the sample

schools which can be generalisable to the general Keralian state education system.

These factors are certainly worthy of consideration in respect of the study reported in this thesis. The school within the sample with the highest percentage of children in a classroom follows a selective admission policy. As one of the interviewed teachers stated, 'In general, the school does not admit children with *'broken mind's* or behaviour problems and if we find some in our classrooms, we suggest to the parents that they find some other schools for them'. In this type of school, children are generally from culturally or socially advantaged communities with adequate support at home. They are most likely to have higher opportunities for improvement and comparatively better resources.

By contrast to the first school, the school with the lowest number of children had limited choices to adopt a selective admissions policy. One of the reasons is that the number of children on roll is essential for the job security of the teachers. Under the school regulatory system of the Keralian Government, the number of children in a class should be above 30, otherwise the class would be considered as 'uneconomical' and there would be a possible threat of closure. As one of the teachers stated, 'we take any cases (*of children*) here, with behaviour or learning problems because we can then avoid having less number of children, and thus avoiding a 'division fall' (the number of children in a class fewer than expected). Another reason is that the schools with a lower number of children had the reputation of lower performance and a higher number of children with behavioural problems. In addition, they were located in socially disadvantaged areas. There is a possibility that the parents, especially the more economically advantaged parents, may not want to send their children to such schools. Another possibility might be that the quality of teaching would be at risk due to the nature of the school context and location. Therefore, it could be argued that the school with a lower number of children may be having more problems in part because of the specific nature of the children enrolled in those schools. Such schools also have a lower reputation with respect to the parents'

involvement in learning. Furthermore, teachers appeared to have less motivation to teach in such schools. Overall, this suggests that there are some segregated practices within the school system in Kerala which might exacerbate the difficulties of children with ADHD characteristics.

In some instances teachers indicated that they were able to recognise the difficulties of children as there were a lower number of children in a class, whereas those working in larger classes had difficulties in providing sufficient attention to be able to distinguish individual problems. To support this finding, it has been argued that class size is an obvious indicator of identifying children with ADHD (Havey, Olson, McCormick & Cates, 2005). This may be one possible explanation of why a school with lower class size is perceived to have higher numbers of children with ADHD characteristics. Another possibility is that children with ADHD characteristics being more vulnerable in these schools than in the others. However, I could not find any research studies which discuss such issues either within an Indian context or elsewhere.

Finally, a question arises about whether class size matters when identifying children with ADHD characteristics. However, in this research it is impossible to determine if these suppositions are correct. Nevertheless, it would appear that these are distinct possibilities.

6.3 Children with ADHD Characteristics and Gender Differences

The study found that there is a significant difference between boys and girls in terms of the presence of ADHD characteristics within the sample schools. The results show that boys were four times more likely than girls to have ADHD characteristics, though overall enrolment (from class one to class four) of girls was higher than boys within the sample schools. Most of the girls identified had the difficulties associated with inattention characteristics rather than hyperactivity and impulsivity characteristics. This gender difference between boys and girls with ADHD characteristics may relate to a number of

factors: the occurrence of ADHD characteristics or ADHD subtypes, difficulties at school and home situations, and teachers' and parents' perceptions of these difficulties. Many studies reported similar gender specific patterns and prevalence of ADHD elsewhere. For example, Baurmeister *et al.* (2007) and Quinn & Wigal (2004) showed that boys are more likely to receive a formal diagnosis of ADHD than girls.

All the four female children identified within the study appeared to be quiet, non-responsive and socially withdrawn from classroom activities, especially group activities and collaborative tasks. Similar results were also reported by Ek *et al.* (2008) and Berry *et al.* (1985). These researchers indicated that the girls have the increased risk of lowering of self esteem in terms of relationship to others. It is found that lack of friendship was a common feature of their existence and they often appeared detached from classroom activities (Barry *et al.*, 2002). According to the sample teachers, the girls were often presenting themselves as being slow in response and thinking or as having comprehension difficulties. This suggests that they might have difficulties commonly associated with low motivation and low self esteem (Ek *et al.* 2008). Additionally, the girls seldom displayed disruptive behaviours (Zambo, 2008) in the classrooms. Therefore, it could be the case that they may "suffer silently" as argued by Quinn & Wigal (2004). In the context of India, there is a cultural advantage for boys who have much more freedom compared to girls. This makes for greater difficulties for those girls with inattentive characteristics of ADHD.

By contrast, the identified boys within the study sample presented both inattentive and hyperactivity characteristics. Some boys appeared to be overactive, restless, and dominant in group activities. Others had problems of inattention and under-activity. To support this finding, Bauermeister *et al.* (2007) were of the view that gender might play a role in determining the characteristics of ADHD subtypes. Similar observations were made by Berry *et al.* (1985) in their study of a sample of boys and girls with ADHD in the US. They suggested that cognitive deficits had a more prominent role in the identification of girls, whereas behavioural disturbances increased the

likelihood of identification for boys. In contrast to this, Arcia and Conners (1998) reported that they could not find any evidence of cognitive or neuropsychological differences by gender in their samples. However, in a more recent study, Gershon (2002) indicated that boys with ADHD had higher ratings of hyperactivity, impulsivity, and externalizing problems in comparison to girls with ADHD.

On the characteristics observed in the identified girls, teachers believed that they were intentionally less hard working, sometimes being indifferent to learning. They considered them 'lazy' children. Such gender biased teacher expectations were reported by some earlier studies (Abikoff *et al.*, 2002; Jackson & King, 2004). However, teachers in the current study had very narrow views about them as learners believing that these girls were not creating many challenges for the teachers as they appeared quiet and inactive in classroom activities. This approach may act as another disadvantage for the girls as learners. A similar observation was also made by Quinn and Wigal (2004) in their US sample.

In summary, the study found that there is a significant gender difference in respect of the characteristics of ADHD within the sample schools. However, there have been few studies which have attempted to explain why ADHD characteristics are more common in boys than girls. Further research might be needed to find out whether there are any cultural and contextual factors associated with these differences. Also, more studies on gender differences and ADHD are needed to assist us to recognise the needs of girls with ADHD characteristics and to suggest gender-specific criteria for assessing their needs. In other words, since the difficulties of boys and girls are varied they need specific strategies to meet those needs.

6.4 Teachers and Parents' Level of Knowledge about ADHD

One of the research questions was designed to gauge the level of awareness of ADHD within the sample schools. Teachers as well as parents have never

been informed about the issue of ADHD and its associated difficulties for the children in respect of their learning and behaviour. This is not surprising given the general lack of studies conducted into the condition within an Indian context. Similar findings were reported by many studies in developing countries (Ghanizadeh, Bahredar & Moeini, 2006; Wilcox *et al.*, 2007; Khamis, 2006).

The teachers in the sample schools had acquired no training to face the challenges and meet the needs of children with ADHD characteristics. Though there were some in-service training opportunities, the issue of ADHD had never come to the teachers' attention. This is consistent with the findings of earlier medical research in India (Sidane *et al.*, 1998). These researchers reported that a lack of appropriate information had led to the teachers being confused by unexpected or unexplained behaviours in the classroom. Additionally, teachers and parents never had any information about ADHD from any sources. Many studies, mainly those which are medically based, have expressed the lack of awareness among the Indian public about this issue (Vetticad, 2000).

To some participants in the study, mainly teachers, the characteristics of ADHD were understood as a problem of lower IQ. This was especially the case with regards to girls with inattention difficulties. Many studies refute this claim suggesting that children with ADHD have average to higher IQ. More specifically, a study conducted by Mahone, (2002) reported that there were no significant group differences between children with ADHD and controls at high average or superior IQ levels in a comparison of 92 children (51 ADHD and 41 control) between the ages of 6-16. Another study similarly found that IQs of children with ADHD are normally distributed (Keplan, Crawford, Dewey & Fisher, 2000).

6.5 Teachers' and Parents' Attitude towards Children with ADHD Characteristics

Some participants in the research had negative and at times cynical views about children with ADHD characteristics. In some instances it was observed that teachers had a negative attitude towards them and treated children with ADHD-type behaviours with negative interventions including sanctions and at times physical punishment. Some of the respondents attributed the behavioural characteristics of ADHD to fatalistic and external factors. This is consistent with a study conducted in Iran (Khamis, 2006). This study indicated that teachers and parents had a very negative and unprofessional attitude towards children with ADHD characteristics. This study further suggested that there is a strong relationship between an understanding of ADHD and the development of more positive sympathetic attitudes towards children demonstrating associated characteristics.

Whilst I found some negative views of children in the study, by contrast, some of the participants expressed a tolerant attitude towards the children. Since Keralian society considers that educational achievement is highly important and the academic performance of school students is given a high priority, it is therefore to be expected that children who are seen to be challenging may attract negative attitudes. The results of the study suggest that teachers and parents were not always consistent with regards to their attitude towards children with ADHD characteristics. For many adults inattention in girls and hyperactivity in boys are considered as normal behaviours which would end after some years of maturity. Confused and contrasting views and beliefs about ADHD are not uncommon and have been reported in studies from Greece, Ireland and other countries (Couture *et al.*, 2003; Ghanizadeh *et al.*, 2006; Kakouros *et al.*, 2004).

6.6 "Shame" and "Blame" Culture

A shame and blame culture appears to have been established with regards to children with ADHD characteristics within the sample schools. Teachers at times adopted a stance of blaming either the children or their parents for the difficulties associated with ADHD characteristics in schools. They believed that children's lack of attention in lessons and unexpected behaviour in the classroom were due to poor parenting and laziness within the children. In discussing this phenomenon, Smith's (2004) study in the Marshall Islands observed that where hyperactive, impulsive, or inattentive behaviours are not identified as symptomatic of ADHD, teachers seem to attribute such behaviours to poor parenting. A culture of blame was reported in much of the literature within the societies where limited understanding of ADHD is common (Gupta & Singhal, 2004; Smith, 2004). Possibly surprising was the high level of parents' self blame where mothers especially were seen at times to blame themselves for their children's problematic behaviour at home and in school.

In addition, some respondents placed blame upon the children's socio-economic backgrounds and their disadvantaged circumstances for their inattentive and hyperactivity and impulsivity characteristics. This projection of blame and other similar cultural factors like guilt, grief, withdrawal, rejection, and acceptance are the usual parental reactions to children's difficulties in India as reported by Gupta & Singhal (2004). Similar observations are also provided by Wilcox *et al.*, (2007) in their study in Goa, India. Shame is something that was mentioned by parents and a few teachers in relation to having a child with any sort of behavioural problem within the sample schools. Some teachers felt ashamed when they had a child in their class who might have been exhibiting ADHD-like behaviours. Parents were also plagued with the feelings of shame. Similar findings were reported by Smith (2004). However, none of the teachers was of the opinion that teacher interventions could affect the children's behavioural functioning and academic performance in the classroom as outlined by Sherman *et al.* (2008). Generally speaking teachers had few issues with their own

intervention strategies placing blame upon the children and parents. In contrast, parents accepted the teachers' observation about their children. Thus the shame and blame culture is very much persistent within the sample schools which can be generalised to other parts of India (Gupta & Singhal, 2004; Wilcox *et al.*, 2007).

6.7 The Issue of Labelling

Many people are concerned about labelling children as having ADHD especially, in Western societies. For example, Armstrong (1997), a prominent critic of ADHD as an objective disorder, has argued that the ADHD label is a "tragic decoy" of moving away from the potential to see the best in every child. Similarly, Reid *et al.* (1993) challenges the consideration of ADHD as a valid psychiatric disorder and indicates an urgent need to analyze ADHD in schools from educational, organizational, and sociological perspectives. The main criticism against the ADHD label is that the diagnostic criteria used for assessment is sufficiently general or vague to classify persistent unwanted behaviour as ADHD of one type or another, and that the 'symptoms' are not supported by sufficient empirical data (Hallahn & Kauffman, 2005). According to Cohen (in Lloyd *et al.*, 2006), the ADHD label has become a fuel for pharmaceutical companies to attract huge profits for their products and an outsourcing enterprise of parenting responsibilities to professionals. In contrast, Barkley (2005) believes that the ADHD label will lead to a greater understanding for the individual in order to deal with his/her difficulties effectively with evidence based knowledge. Similar views are also held by Cooper and Bilton (1999). However, the current study found that there are certain labels which exist within the sample schools which are associated with perceived negative behaviours though there is little knowledge and understanding of ADHD and its characteristics.

The children with ADHD characteristics were labelled in different ways and some of them are recorded here. Some informants described the children with inattention characteristics as 'good' and 'obedient' children. It is because

they demonstrated the characteristics of silence, daydreaming, quietness and withdrawal from classroom activities and tasks whilst impeding learning were not disruptive of classroom procedures. Others had a view about them as 'mentally retarded' due to their irresponsiveness in learning, and failure to follow adults' instructions. A large majority of the adults interviewed regarded the children as 'lazy' and 'not working hard enough' because the children with ADHD characteristics were often found to not be achieving much academically. Similar observations were also made by the Madras Dyslexia Association (2006). In their study many teachers discerned the classroom management of those children who presented such characteristics as not being of a great concern to them since they presented little challenge in the classroom. This result is consistent with the findings of Kakouros *et al.* (2004) in a study of Greek teachers' perceptions. However, this is in contrast to the Chinese teachers' perceptions of misbehaviour of children as reported by Ding, Li, Kulm (2008).

In some cases the identified children were described as 'disobedient', 'bad', 'mad' and 'problem children' due to their hyperactivity characteristics and other traits such as a reluctance to complete tasks, excessive physicality and a failure to conform. 'Destructive' and 'disruptive' were other terms which were regularly applied to these children. This was particularly the case for the boys with impulsivity characteristics (relatively few in number) which included attacking other children and fidgeting a lot in the classroom. Finally, the children with ADHD characteristics were often referred to as 'forced learners' without any self-discipline or control. They required the teachers, who frequently felt the need to repeat learning instructions quite a few times. As a result, the teachers were in a position of needing to resort to punishments in order to engage them in learning.

Most of the labels used by the teachers emerged from a failure to recognise the underlying causal factors for the children's inappropriate behaviour and poor learning performance. Considering these, it is right to believe that these children might be marginalised, discriminated and exposed as problem creators in the classrooms. At the same time, the diagnostic label of

'attention deficit hyperactivity disorder' or 'ADHD' was not readily accepted by Indian parents in a study in Goa by Wilcox *et al.*, (2007). Nevertheless, a lack of awareness about ADHD and its associated difficulties was seen in their study to be one of the reasons for not identifying great talents and potential in the children.

6.8 Influences on ADHD Characteristics

Researchers have no unanimous opinion about the causes of ADHD, but they suggest that there are various influences on ADHD characteristics such as genetic, biological, environmental and multifaceted. Within the current study it is intended to discuss what the respondents think or believe about the possible causes of the identified children's ADHD characteristics.

Heredity or genetic factors

Genetic research has suggested that ADHD is caused by genetic or hereditary factors. Elia, Ambrosini & Rapoport (1999) recorded that approximately half of the parents, who have been diagnosed with ADHD themselves, will have a child with the disorder. In the current study, both parents and teachers believed that ADHD characteristics in children were as a result of its presence in their family members or relatives. As an example, one teacher suggested that 'his father had some criminal background'. One mother claimed that 'the child behaves as someone in his family'. This heredity argument is widely discussed in literature, such as, for example, in a study undertaken in the USA, Thapar and Ross (2000) reported that ADHD symptoms were highly heritable. Some similar observations were also found in Indian studies (Mukhopadhyay *et al.*, 2003; Sidana *et al.*, 1998), but they could not establish any firm relationship between ADHD and genetic factors. However, they suggest that more studies are needed in Indian populations to investigate in more detail this issue.

Cognitive factors

Cognitive dysfunction, or inhibition, or delay in a behavioural response influences the speed and accuracy of the expected responses from children with ADHD characteristics (Cohen *et al.*, 2000). This is a notion supported by research on the cognitive development of children with ADHD. In the current study, the participants, particularly the teachers, believed that children's ADHD characteristics were associated with their cognitive development. The children's poor performance and inappropriate behaviours, they credited, were the result of a lack of adequately developed cognitive skills resulting in delay in classroom tasks and activities. In support of this idea, a study conducted by Smalley, Marjo & Riitta (2007) with Finnish children showed that half of the children with ADHD had measureable cognitive deficits according to standardised assessment procedures. Similarly, Tehrani-Doost, Goodarzi, Zargarinejad, Sepasi & Rad (2006) in an Iranian study of 61 children reported that children with ADHD had poor planning skills and difficulty with social inhibition. However, there is little literature from Indian contexts in this area.

Environmental or cultural factors

According to the respondents in the current study, environmental factors were the main influence on children's ADHD characteristics. They accredited that social disadvantage, problematic home conditions, poor parenting, unhealthy classroom environments and pressure on schools from the parents to have better academic performance could possibly be causal factors in relation to ADHD characteristics. This is contrary to the view popularly held in the UK and elsewhere. Most of the studies reported that there is little compelling evidence at this time that ADHD can arise purely from social factors such as family conflict or poor child-rearing practices, but that these may complicate the course of ADHD and its 'treatment' (Barkley & Murphy, 2005; NIMH, 2008; Timimi & Taylor, 2004). In agreement with the results of the current study Timimi (2002) argues that ADHD in Western society is

associated with a perception of viewing children's behaviour and increasing social problems as being influenced by current societal trends. Similarly, in a study in Sweden, Banerjee, Middleton & Faraone (2007) pointed out that social risk factors would possibly escalate ADHD characteristics. Moreover, Khamis (2006) indicated that the problem of ADHD is more likely to be diagnosed in poor socio-economic contexts.

Biological factors

In the literature, it is widely recognised that biological factors are closely associated with ADHD. Although the sample teachers and parents in the current study mentioned social and environmental factors which they believed might influence the characteristics of ADHD, none of the respondents referred to the biological influences on ADHD. This could simply be a result of their lack of awareness of ADHD and its causes, which is understandable in the context in which the study was conducted. Nevertheless, it should be recognised that biological factors alone do not necessarily cause ADHD characteristics (Hughes and Cooper, 2007).

Finally, a majority of the respondents were not sure what is caused by children's ADHD-type characteristics. However, they did make suggestions about some possible causes. According to them, multiple causes might influence the behaviours of children with ADHD characteristics. Some of them argued that hereditary factors might influence the children's behaviours, whilst many teachers and some parents believed that there is a relationship between social or environmental factors and ADHD. It is apparent from these findings that both teachers and parents acknowledged a combination of many factors would cause ADHD characteristics in children. Some of these aspects are consistent with findings reported in the literature. For example, Cooper and Bilton (2002) suggested that ADHD is best understood as a multifaceted problem caused by many factors. The findings from the current research suggest that even when there is limited awareness about the condition of

ADHD, parents and teachers within the sample schools had some intuitive or natural views about the possible causes of these.

6.9 Intervention Strategies for Children with ADHD Characteristics

Within the current study it became clear that the ways in which teachers and parents addressed the needs of pupils with ADHD characteristics are different from those which are generally reported in the literature or observed elsewhere. In this section, it is intended to discuss intervention approaches in three areas; medical, behavioural and educational.

Medical intervention

Use of stimulant medication has become a widely recognised intervention for children with ADHD. The present study found that none of the teachers and parents indicated the presence of the possible medical 'treatment' of children with ADHD characteristics. This result is not surprising given that there is little awareness about ADHD in general and of its 'treatment' through medication within the Indian context. Since the identification of ADHD in this study is without a formal diagnosis it is unlikely that the prescription of medication would be made. A study conducted in Goa (India) by Wilcox *et al.* (2007) revealed that Indian parents are apprehensive of biomedical intervention for children with ADHD. These authors suggested that the provision of a biomedical psychiatric label may not be an acceptable strategy for meeting mental health needs in an Indian culture. They argued that this resistance to the biomedical model contrasts with evidence from studies conducted in developed countries, where, when children are diagnosed with ADHD, parents are more likely to accept medicines and other aspects of the biomedical model. In these countries, it is often found that the parents ask the professionals to diagnose their children's difficulties in order to gain better service from them or to gain the inclusion of those children within schools (Lloyd & Norris, 1999; Adams, 2008).

However, the result of this study does not totally deny the idea that medication for children with attention and behavioural difficulties might be seen as appropriate in a Keralian educational context. In the current study sample, two of the parents of the identified children had sought medical advice or consultation with doctors to diagnose their children's difficulties and guide possible ways to manage them. It is also apparent that child development centres in Trivandrum are 'treating' children with hyperactivity by prescribing some medication. Having said that this was perceived as 'last' step or a cry for help as parents realised that teachers appeared unable to support their children with ADHD characteristics. It is observed that studies on ADHD in developing countries often recommend medical 'treatment' procedures for children with ADHD (Ghanizadeh *et al.*, 2006; Rohde, 2002). However, more studies are needed to provide appropriate information about medication for children with ADHD.

Behavioural interventions

Behavioural approaches are other commonly discussed interventions for children with ADHD characteristics. In the current research, I found that physical punishments were the most commonly used behaviour intervention strategies for the children with ADHD characteristics. Beating was part of this intervention strategy by teachers and was often approved by parents within the sample schools. Parents in the current samples also used corporal punishment to manage the children at home. Similar results were reported in a study from Iran by Alizadeh, Applequist & Coolidge (2007). Studies in Poland by Blachno, Szamanska, Kolakowski & Pisula (2006) and in the USA by Human Rights Watch and the American Civil Liberty Union (2008) also indicated similar findings. The US report shows that corporal punishment was used as an intervention strategy for children with special needs especially those with behavioural problems in US schools. The former reported that 95 percent of parents who had children with ADHD either abused them verbally or punished them physically. Although teachers in the sample schools were

concerned about this kind of parenting style for these children, they were unable to influence change.

Similarly, Alizadeh *et al.* (2007) in their study in Iran reported that children with ADHD are at considerable risk of abuse by their parents using corporal punishment, which is significantly more common among the parents of children with ADHD than the others. In support of this, Shin & Stein (2008) indicated that corporal punishment for children with ADHD was common in all cultures. Furthermore, they found that maternal depression was the predictor of the use of corporal punishment with the children with ADHD. Consistent with this, both teachers and parents in the current study expressed their dissatisfaction and disappointment with the children who exhibited ADHD characteristics as they found difficulty in meeting their diverse and complex needs both in school and at home. They believed that physical punishment would be an effective intervention for these children when others had become ineffective for them. This is often without the use of any positive reinforcement which would encourage children to behave appropriately as commonly observed in India with regard to the management procedures for children with difficulties in learning and behaviour (MDA, 2006).

In addition, many studies (Grogan-Kaylor, 2004; Gershoff, 2002; Strauss & Donnelly, 2001) showed that interventions using physical punishment would not make any improvements in the behaviour of the children, but rather it would aggravate the bad behaviour. For example, Grogan-Kaylor (2004) reported that corporal punishment had an adverse effect on children's anti-social behaviour. The educational and academic outcomes of such interventions have not yet materialised (Loe & Feldman, 2007). In a significant development to address the needs of the children and their appropriate management in the classroom, MDA (in India) (2006) warned that physically punished children would use their skills in different way and may turn out to be criminals and anti social beings. However, both teachers and parents believed that it was necessary to control the children's

behavioural and emotional problems within the classroom using physical chastisement.

Finally, parents in the sample schools usually sought help and support from religious people for their children's un-predictive characteristics. These findings are consistent with previous research conducted in India by Wilcox *et al.* (2007) who suggested that Indian parents traditionally preferred religious and psychological interventions within their neighbourhood rather than seeking help from medical professionals. This may be a culturally significant issue within Indian contexts. As there is a collectivist view about the society, parents seek help from neighbours about their children's difficulties, or neighbours would complain about their children's unacceptable behaviours to them. Wilcox *et al.* (2007) found that parents always received unhelpful support from lay people, religious persons, teachers and professionals within the community in India.

Classroom interventions

School or interventions are considered as an essential component of a comprehensive 'treatment' for ADHD (Abramowitz & O'Leary, 1991). Pelham & Fabiano (2008) showed that positive behavioural classroom interventions had improved on-task behaviour and supported reductions in the disruptive behaviour of children with ADHD. A wide variety of educational interventions have been found in the current study. These include positive and negative intervention strategies including physical punishments and sanctions for example, the imposition of more homework and repetitive activities. Didactic teaching approaches were seen to be favoured over group activities. There are also incidences of remedial education for children with ADHD characteristics. Negative intervention strategies are more common than those which may be seen as positive interventions within the sample schools.

Most of the classroom interventions within the sample schools are focussed on reducing the problematic behaviour after its occurrence rather than

manipulating antecedents from the occurrence of such behaviour. Dunlap & Kern (1993) reported that it is very important to manipulate antecedents in order to improve children's behavioural problems in the classrooms. This can be achieved within three major areas: (a) physical environment, (b) tasks-materials, and (c) curricular-instructional approaches as reported by Reid & Magg (1998). Additionally, Visser (2001) suggests that physical provision in terms of appropriate classroom layout, ease of movement opportunities and quality lighting in classrooms and appropriately decorated rooms should be considered for children with emotional and behavioural difficulties to meet their emotional needs.

Teachers in the sample schools were seen mainly to follow two approaches to the management of children's ADHD characteristics, i.e. to ignore or to punish. Usually, children with inattention characteristics especially girls were ignored, and teachers punished the children with behavioural problems, most often boys. With little surprise, I observed that children with inattention problems were also handled with the same procedures and conditions. Notwithstanding, the sample teachers could not say much about the effectiveness of such interventions. According to them, in a short term period, it could act in an effective way, but in the long term, children appeared fearful and silent in class especially girls with inattention characteristics. Yet, teachers suggested that they were pressurised to use these strategies of physical intervention as they had no alternatives.

However, I did observe some positive intervention strategies for children with ADHD characteristics within the sample schools. Nonetheless, it must be understood that most of these interventions were not practised widely, but by only a few teachers. Peer tutoring or peer mediated intervention was used by some teachers as an academic intervention strategy for children with ADHD characteristics within the sample schools. In literature, there is a wide support for this intervention strategy (DuPaul and Weyandt; 2006; Hoffman & DuPaul, 2000; Harlacher, Roberts & Merrell, 2006). Additionally, Ryan, Reid & Epstein (2004) observed that this strategy had improved academic outcomes of children with a wide range of needs particularly those with

Emotional and Behavioural Difficulties (EBD). In support of this, DuPaul *et al.* (1998) showed that students with ADHD had increased their active engaged time and reduced their disruptive off-task behaviour due to peer mediated interventions in a sample of 19 students (16 boys and 3 girls) in two school districts of eastern Pennsylvania.

Another academic intervention strategy for children with ADHD-type traits was observed as the provision of instructional modifications by giving small tasks and repetition of the lessons facilitated by some teachers within the sample schools. The teachers noticed that individualized interventions such as personal attention and counselling were a favourable and valuable option for them to meet the needs of children with ADHD characteristics. Some of these interventions are similar to those acknowledged by researchers elsewhere (Harlacher, Roberts & Merrell, 2006). However, Zentall (2006) reported that children with ADHD are "learn by doing, trial and error learners", therefore the children would prefer to have a stimulating, active and novel learning environment rather than which is repetitious and boring.

In the current study, it was also observed that some teachers at times encouraged children with hyperactivity characteristics to undertake class leadership roles. They had the view that this was effective for the children. In addition they suggested that there should be given leadership roles to pupils with ADHD characteristics as they suffer from relationship and social problems on account of their lack of social skills. However, limited literature is available to support this view.

Furthermore, some teachers had the view that the provision of a small class size would improve the behaviour of the children and their efficiency in teaching. They argued that this would help to reduce distractions in the classrooms due to noise and a cluttered environment. In support of this, Loe & Feldman (2007) reported that children generally performed well in less distractive situations. They further suggested that lower class size would benefit children with ADHD where innovative educational approaches are possible. It is evident from the present study where some sample teachers

felt that they were able to locate the individual differences of the children because of lower numbers in class whilst it is not possible within a large classroom environment. These teachers also expressed the view that it was beneficial to have smaller class sizes as there was the possibility of better interaction and communication within the classroom. Additionally, it would allow the children with ADHD characteristics to build relationships with their peers and the teachers as reported elsewhere (Loe & Feldman, 2007). Similarly, Muenning and Woolf (2007) argue that there is a potential link between smaller elementary school class sizes and better health in children. They noted in their study of a USA sample population that such an approach is cost effective. Moreover, Barkley (2005) recommends small classes of 12-15 for children with ADHD.

A perception that intervention in learning by parents would bring positive behaviour and academic outcomes from the children with ADHD characteristics was common amongst teachers interviewed. They expressed the opinion that children who received appropriate support from parents had positive outcomes from the school teaching and therefore they suspected that children with ADHD characteristics had little support at home. However, there was no evidence to suggest that this was the case. Relating to this, NICE's new guideline (2009) suggests that parents need more awareness and understanding about managing their children with ADHD characteristics. In this aspect, it recommends that parents' support is crucial for children with ADHD.

Not surprisingly, there was a lack of support services for the children with ADHD characteristics within the sample schools. There was only one support teacher or special education teacher within the five schools. The special education teacher had limited knowledge about children's general emotional and behavioural difficulties. There was rarely any support services from outside agencies. In the Keralian Education system, it has not yet been recognised that there may be a need for special education services within mainstream schools, as has been established elsewhere. Many research studies suggest that psychologists and social workers can help the children

with ADHD-like behaviours to develop their self esteem and social skills. Such services may help to make the children free from anxiety and provide help to the teachers and parents in understanding and coping with ADHD characteristics (Adams, 2006).

In summary, children had little improvement in their learning (in all the reported academic subjects; Malayalam, English, Maths and Environmental Science) during the academic year as a result of any of the interventions put in place by the teachers and parents within the current study. Moreover, all the negative interventions which are practised widely within the sample schools may act detrimentally to children's growth and development. This suggests that the teachers and parents might benefit from more training and understanding of positive intervention strategies which have been seen to have positive outcomes when deployed with young children.

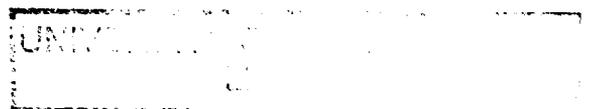
6.10 Inclusive/Exclusionary Practices

This study indicates that some inclusive and/or exclusionary practices exist within the sample schools in Kerala. Inclusion within the context of this study is interpreted as the means through which participation in those educational and social activities which normally constitute the educational processes are provided in schools. The converse of this is exclusion which refers to the inhibition of participation in those social and academic activities. The general inclusive education movement in India is often described as placing children in the mainstream education system or mainstreaming out of school children as I have described in Chapter One. In a national context, a certain percentage of children are out of the formal school system because of gender bias towards girls, socio-economic bias towards Dalit children or as a result of being children from poor socio-economic backgrounds and a systemic bias towards children with special needs as reported by Alur (2007) and Singal (2006). The state of Kerala has achieved this kind of inclusion through total enrolment in primary system providing access to education for all (Clayton, 2006). However, based on the current study I would argue that in some

instances children's physical presence in class does not necessarily mean they are included in learning. Indeed the attitudes of both teachers and parents towards inclusion tend to be based upon a 'locational view' rather than one which expects that children shall be active participants in learning. In respect of inclusion my own interest was focused upon whether the identified children with ADHD characteristics were able to receive a quality education as compared to other children in their classrooms.

Although the sample schools had not followed an exclusionary policy, there are indications of exclusionary practices. In terms of exclusionary policies such as school suspension of children with ADHD characteristics, most of the teachers had the view that the children were very young to consider such procedures either for bad behaviour or poor academic performance. In some aspects, teachers were seen positive about the participation of all children in learning. They believed that this might encourage the children to behave positively as they would learn good qualities from children who are well behaved and academically well focused. In fact, only one teacher out of 21 (including the special education teacher) suggested placing the identified children with ADHD characteristics in special schools. This opinion was expressed out of concern for those children who might benefit from the service of specialist teachers in those schools. Parents had no different views and they were seen as receptive of any suggestion from the teachers or schools about their children's classroom behaviour and their academic performance. This might be because of the shame culture within India as reported by Chatterjee (2003). The current study also indicated that parents in some schools were asked to produce satisfactory details about their children's learning and behaviour at enrolment stage.

Furthermore, in the course of time, if the school identified some children with behavioural problems, they would ask parents to find a more appropriate school for them. The school authority argued that they wanted to avoid the disruption and behavioural problems as result of the presence of children with ADHD-like difficulties. However, it was not clear from the data whether these children were permanently excluded or if they were placed in another school.



Nevertheless, three schools within a sample of five had a history of admitting children who were not willingly taken by other schools. This suggests that there are some issues within the admission and regulatory policy within the education system in Kerala. Further research might be suggested to explore such issues.

Another exclusionary practice related to children with hyperactive behavioural difficulties is where there were changed from one class to another as a result of teachers seeing this as problem of the association with a certain group of children. This was done under pressure from the 'able' children's parents who feared that the presence of those children with hyperactivity and impulsivity characteristics would affect the learning and behaviour of their own children. Chatterjee (2003) observed that this is one of the issues within India's inclusive education movement for quality education for all. Such attitudes it is suggested may well be a prime inhibitor of inclusion.

Truancy was another issue within the sample schools. Therefore, there is a possibility of children with ADHD characteristics in outside school contexts. It is ironic that in the UK, more and more parents have pushed to have their children assessed with ADHD in order to include them in learning as reported by Lloyd & Norris (1999). Therefore this has become an issue of inclusion of children with ADHD, whereas in India, parents of children with ADHD-like behaviours were seen as less favourable in terms of efforts to include their children in learning because of the shame culture. Similarly, parents of able children would not be happy to include these pupils. Furthermore, these pupils' needs are not addressed properly due to their respective difficulties in learning. Hence this has become an issue of exclusion within the Indian context (Chatterjee, 2003).

The basic question which remains unanswered here is whether the children are included in learning or enjoy learning or whether they are merely physically present in the classroom. Teachers were observed as trying to include children with ADHD characteristics in learning such as group activities and other non-academic activities, but often with traditional or conventional

intervention practices. It was strange to see that children with attention difficulties especially, were often neglected or ignored during classroom activities because of their specific difficulties in learning. Such children may be described as quietly disaffected in learning (Feng & Jament, 2008). The girls with attention difficulties often disengaged from learning and were frequently left with little support.

On the other hand, boys with hyperactivity characteristics often got recognition from the teachers and were given opportunities to be involved in school activities. Engagement in group activities, leadership roles and being asked to come closer to the teachers were often tactics found within the sample classrooms for them. Physical punishment was another common intervention strategy for these pupils. However, the teacher recognised that they were lacking certain behaviours which were seen as necessary to the advancement of learning and teaching.

Nevertheless, teachers were seen as incapable of including both boys and girls in learning as they had limited resources and expertise to support the children though they were willing to adopt some differentiated strategies. Teachers' negative attitudes towards children with inattention and behavioural difficulties are also acting as having them limited participation in learning as they perceive that some children cannot learn as other children. In fact, most of the children in the sample schools were found to engage with little learning due to their ADHD characteristics. Furthermore, teachers generally were not seen as making efforts to understand this phenomenon and they simply disregarded the needs of these children.

Under the new regime of *education for all (SSA)* the promotion of inclusive education and improved opportunities for learners with special educational needs has become an important agenda item for the Indian Government. The Government is seeking support from the members of Parliament to ensure that education is seen as a fundamental right for all children, regardless of need or ability. Within the latest legislation it is seen as being right that children with ADHD characteristics and their parents should know what

educational provisions are made for them with due consideration for their difficulties and in recognition of their current disengagement from learning. It is essential in this climate of educational change within India that researchers enquire into the reasons why schools often fail to provide appropriate education for them. It may be generally observed that whilst there is no formal exclusion of children with ADHD characteristics from school suspension there remains some cultural and contextual specific factors which are acting as a hindrance to engaging them in learning. From an educational perspective, managing pupils labelled with any kind of special educational need requires specialist help in the form of diagnosis and support from experts such as educational psychologists and medical practitioners in England (Adams, 2006). This is clearly true of those who may be identified with the characteristics of ADHD.

Unfortunately, both contemporary Indian central and state (Keralian) education, located within an era of educational reform has to date failed to recognise the needs of children with ADHD characteristics, focussing more on its celebration of success through measurable, target driven outcomes. Those who attain higher marks are lauded and applauded in a situation similar to that reported in the UK (Adams, 2006). Generally, Kerala society approves the merits, higher grades and media coverage of their children's success. It is therefore the academic achievement or performance in written examinations that is considered as a main purpose for education. Emotional and social aspects of learning are missing in Keralian educational contexts as it is the case all over India. As remarked by Adams (2006), such an approach within education loses the ability to think through for itself the very purpose of the system. In effect, what will happen to those for whom the system does not work is never asked; they are expected to fit into that already on offer. Adams (2006) further observes that such a situation creates problems for the present movement towards inclusive education which wrestles with the tensions between performance and inclusion.

Finally, it is therefore important to ask whether children with ADHD characteristics are to be integrated or included, or merely physically present

or if they can be qualitatively engaged in learning in Keralian schools. It seems that children 'in need' are not given proper recognition and attention by policy makers and classroom practitioners. Teachers have thus far failed to recognise the needs of children with ADHD-type traits and therefore these pupils gain less education within the sample schools of the current study. Various exclusionary pressures are clearly present within the sample classrooms. This study endorses the view that many of the challenges such as negative attitude of teachers, power imbalance between teachers and parents, academic tests and examinations and lack of parental recognition and support persist (Muthukrishna, in Lloyd *et al.*, 2006) within an Indian school context.

6.11 Summary

This chapter provided a discussion of ADHD characteristics within a sample of schools in Kerala, India and has related this issue to the study of ADHD in a wider world context. Regarding the prevalence of children with ADHD characteristics, it was apparent that girls were more vulnerable than boys and were afforded little recognition for their specific learning needs and their poor engagement in learning. Boys were generally given greater attention from both teachers and parents, but were most often treated with negative intervention strategies including corporal punishment and sanctions. Teachers and parents often used negative language in the supervision of their needs. There is a connection between levels of knowledge, attitude and understanding and the management of children with ADHD characteristics within the sample schools. However, this chapter also discussed that teachers and parents were very much concerned about their children's different and varied challenges with regards to learning. Most often they were seeking for help to guide them to identify their children's specific learning needs. This suggests that some policy interventions might be needed in the general schooling system in Kerala in particular and India in general. A lack of recognition of the children's needs, their experience of social disadvantage and inappropriate and inhuman treatment may be seen to have exacerbated

the behaviour difficulties of children with ADHD characteristics and thereby their exclusion from learning.

The study also suggests that there was an inverse relationship between class size and the recognition of incidence of ADHD characteristics among children in schools. There was also a significant issue related to the fact that a large number of children with ADHD characteristics appeared to be found from lower socio-economic backgrounds within the study area. Many research studies have highlighted that the incidence of ADHD characteristics increases with the social risk factors as discussed in this chapter. This is important when considered alongside the influence of contextual and cultural factors responsible for the construction of this knowledge in respect of ADHD from this part of India. The inclusion of children with special educational needs has become a human rights issue now and unfortunately a large number of children as identified by this study in India are quietly disaffected, marginalised or excluded from learning due to their unrecognised needs. Some of the results of this study are consistent with the findings of the studies reported elsewhere and some appear unique and challenge the views expressed by other writers in what is a contested and challenging area for research.

CHAPTER SEVEN

DISCUSSION II: CULTURAL VALIDITY AND RELIABILITY OF DSM IV CRITERIA FOR ADHD

7.1 Introduction

Few studies have discussed the applicability of the assessment procedures used in the US model of ADHD assessment or its transferability to India. The study reported in this thesis found that most of the characteristics of ADHD as outlined in the original version of DSM IV (TR) 'symptoms' criteria (See Appendix III) were identifiable within the South Indian school context although it used adapted version of 24 characteristics of behaviours for identifying children with ADHD-like behaviours without a formal diagnosis. The current findings suggest the need to pay careful attention to the psychometrics of a diagnostic instrument and its cultural equivalence prior to implementation in a different culture from that in which the instrument was developed. The issues of equivalency of categories of behaviours in DSM IV will be discussed with regards to its content, semantics, technical interpretation, criterion and conceptual level.

In the first part of the discussion, I will give attention to how language and culture affect the usefulness of DSM IV criteria when transferred into India. The main focus of this will be the sociolinguistic aspect of transferability of the concept of ADHD. Although there are some cross-cultural conceptual equivalents, there are also potential differences in the ways in which these may be interpreted between different cultures. In the second part of the chapter, the focus will be on how cultural and contextual factors influence the validity and reliability of the standard assessment procedures when introduced into a South Indian context. Here I will discuss the transferability of the concept of ADHD to the sample school context. Specifically, I will explore the present findings alongside those of other studies which have been

conducted in Western contexts in order to highlight some of the existing challenges. One of the questions which must be considered will be whether the concept of ADHD is "culturally valid". This will be achieved through a discussion of a range of studies, which used formal and standardised assessment procedures as part of their data collection process.

The study reported in this thesis has adopted DSM IV (TR) for assessing children with ADHD characteristics in five sample schools in Trivandrum district of Kerala, South India. This assessment procedure was adjusted to provide 24 locally generated categories (See Appendix VI) in order to avoid category fallacy as described by Kleinman (1987). According to him, the DSM IV criteria are cultural categories constructed by Western psychiatrists to identify homogeneous group of people with psychiatric disorders. He further stated that although the criteria may be applicable universally or to non-Western cultures, some cultural influences will be inevitable and therefore it is important to consider such influences when transferring the procedure from one culture to another. As a researcher I recognised such influences of culture and language before commencing the data collection, and as suggested by Kleinman (1987) took appropriate steps to make modifications which would be necessary for use in Kerala.

The main issue which I would like to explore in this discussion is whether the 18 categories of behaviours in the original version of DSM IV (TR) are culturally specific to a limited range of special contexts. In other words, to what extent these characteristics are identifiable in the context of South India, where the research was conducted and how do sociolinguistic issues affect the effectiveness of these standard assessment procedures. The wealth of Malayalam words describing internalising and externalising behaviours suggests that the broader categories as described in the DSM IV criteria are recognised by adults working with the population which I studied. A high level of internal consistency and item homogeneity for the DSM IV was obtained from a sample of 736 children in five sample schools. The internal consistency or correlation between the current study and other studies in the Western literature suggests that three core categories of behaviours;

inattention, hyperactivity and impulsivity were prevalent in the context of the sample schools in Trivandrum, South India. In other words, the translated and adapted version of DSM IV appears appropriate for measuring or identifying children with ADHD characteristics in these sample schools populations. Responses by teachers and parents in the current study showed that these items were useful, (not only teachers, but also some parents were able to respond to the assessment procedures using this approach). Language issues with the DSM IV criteria were minimal as it was translated into local Malayalam language. Most of the teachers and some of the parents were able to respond to the original English version of DSM IV. Both versions were used for the convenience of the participants in the study. More specifically, I used a mixed language approach (the mixture of Malayalam and English is common in this area and often referred to as 'Manglish'). For some participants, direct or equivalent translation of the items was used and enabled access.

7.2 Correlations of DSM IV (TR) 'Symptoms' Criteria in Local Cultural Context

Some of the phrases or categories which appeared in the DSM IV criteria are inherently recognisable in the Malayalam language and widely used to describe children with attention and behavioural difficulties in this cultural context. These categories as has been reported in Western cultures (Öngel, 2006) were found to be more commonly used by teachers than parents. The following illustrations demonstrate how translation was possible:

a) "*onninum oru velivilla*"- in Malayalam would indicate children who do not give close attention, which is similar to "often fails to give close attention to details or makes careless mistakes in school work, or other activities" as stated in the DSM IV (TR) 'symptoms' criteria .This would mean that the children fail to listen appropriately and can be seen as equivalent to one item within the criteria.

b) "*dhivaswapnam kanunnavar*"-children who often appear to be daydreaming is equivalent to "often does not seem to listen when spoken to directly". It is important to mention that both these phrases are used as a plural form to describe both sexes with such categories of behaviours.

More similar phrases were found in the local language and cultural context to describe children with behavioural characteristics that are used in the DSM IV (TR) criteria. Gender issues as described within the assessment instrument were also identifiable within the phrases in common Malayalam parlance. Both teachers and parents in the sample schools often used terms to describe boys with the characteristics of ADHD which correspond to those used in English speaking samples. As in other studies it was apparent that more children with behavioural problems were boys. Some of these language translations are described here as examples.

a) "*eppozhum enthenkilum cheythu kondeyirukkum*"- (he) will always do something without stopping which is equivalent to "is often on the go or often acts as if driven by a motor". Although the gender is not visible from this Malayalam phrase but teachers more often used it to describe the behaviour of boys.

b) "*bhayankara vikrithiyanu*" -one who disturbs others which is equivalent to "often interrupts others". Again, this was most commonly used to describe boys. When some girls were seen with such behaviours, they were often described as girls with boys' characteristics.

c) "*bhayankara vayadi*" -literally affrightedly talking too much which is equivalent to "often talks excessively". This phrase was used commonly to describe both boys and girls.

d) "*uttharam vilichu parayunnavar*"- blurts out answers, which is equivalent to "often blurts out answers before questions have been completed". Although this is applicable to both boys and girls,

generally boys were seen as more likely to present with such difficulties.

The study identified that there is an apparent homogeneity of some characteristics across cultures as suggested by Kleinman & Kleinman (1991) which could be said to minimise chances of a category fallacy within the current study. I would contend that cultural settings shape definitions of normality and the disordered characteristics of behaviours. The number and duration of the characteristics required for defining the impairment, and the phenomenology of the disorder as well as the course and response to 'treatment' of are all indicated as important indicators of ADHD (Lewis-Fernandez & Kleinman, 1994). However, it must be recognised that the cut-off scores for identifying children with ADHD characteristics were determined by the teachers' interview scores and the scores of observation by the researcher together with the scores from the behavioural rating scales of the sample schools (as described in Chapter Four). This was essential in ensuring that the research was not dependent upon only one method and that the approach was strengthened through triangulation. Another consideration of the present study is that the results indicate high internal consistencies for both parent and teacher ratings of the inattention, hyperactivity and impulsivity characteristics of the children sampled in the research. This was achieved through only including children who exhibited characteristics of ADHD in both school and home contexts as highlighted as necessary practice in other studies (Cooper & Bilton, 1999; Dopfner *et al.*, 2006; Rutter, 2000).

No significant differences were revealed between parent and teacher scoring for categories of behaviours. However, some parents could not reflect so easily on some of the established characteristics of the identified children at home as they were not able to relate to difficulties at home in the same way as teachers. For example, some of the characteristics of inattention such as "easily distracted by external stimuli", or "often fails to give close attention" appeared to be more readily recognisable at school than at home. This suggests that the challenges associated with ADHD are more likely to be identified in classroom situations than home contexts. Although the data

confirmed teachers as a major source of information for the identification of children with ADHD characteristics in school contexts, the parents' ratings were considered as a worthwhile supplementary source of evidence. Some studies recognise this teacher and parent anomaly as important but none the less suggest that the same ADHD inattentive, hyperactive and impulsivity behaviours should be consistent across home and school situations, with children showing the same behaviour toward both parents and teachers when assessing the children (Barkley, 2005; Cooper & Bilton, 2002).

7.3 Issues with DSM IV (TR) Criteria for ADHD

The current study also found that some of the items within the original version of DSM IV criteria do not have a direct link to the cultural and school context of the five sample schools. Specifically, two items of the inattentive type behaviours were not revealed in the data. This was particularly the case with the school contexts rather than the home situation. A majority of the participants within the five sample schools could not identify this issue within their contexts. The sample schools identified few children with such inattentive behaviours within their population. In presenting evidence, which could be seen as equivalent to the inattention items, teachers sometimes suggested that children might a) "often have difficulty organising tasks and activities" and b) "are often forgetful in daily activities". However, it is important to mention that this is not related to the translation issues, but with conventional practices within the context of the study.

Furthermore, there was an issue regarding the classroom organisation and styles of teaching within these schools. My observations revealed that children were generally given little opportunity to organise any activity or task by themselves. Most often, children were observed to be quite passive in class listening to the teacher or copy materials according to the teachers' instructions. These are typical practices which can be observed in most Indian classrooms. Those who could not follow instructions were asked to sit at the front of the class or encouraged to seek help from other children.

Similarly, in interviews, the majority of the teachers were not able to respond to the question of whether the children had any difficulties with organising activities or tasks. Most teachers expressed an opinion that they were too young to be considered for this. It appeared to be the case that independent learning, where children have more possibility of having some activities to organise themselves, was not encouraged within this culture of these sample schools. Similarly at home, the parents were seldom seen to encourage such activities. Both teachers and parents thought that they were very young children to be considered for taking responsibility for organised activities. Therefore, children had limited opportunities to engage in their own tasks or activities. Although teachers sometimes asked children to engage in group activities, such opportunities were infrequent and did not constitute the norm in terms of teaching approach. Moreover, all sample teachers had difficulty in saying something about this item during the interviews.

With regard to the second item (related to "forgetfulness"), it was again apparent that independence of the learner might be significant here in a system which is different from that of many Western contexts. Children were always under the control of the teachers, parents and the other adults. It is therefore difficult to say whether children forgot to bring some learning materials to the classroom as they were usually managed in relation to this area. Teachers regard it as the parents' responsibility to give the children all the necessary equipment to come to the class. If the children were not able to bring some learning materials to the classroom, the parents were considered as not doing their duty (to the children). Teachers suggested that responding to the demands of the time-table and ensuring that books and other study materials were brought to school was always managed by the parents, not the children themselves. In general practice, children were not encouraged to organise things for themselves. That may be why many teachers had the opinion that this particular characteristic is not a problem associated with the children but rather with their parents. Teachers perceived that on some occasions parents forgot to give adequate materials to their children. Teachers often experienced issues of missing resources specifically with the children from the lower poorer socio-economic areas. Thus these two

categories of DSM IV are difficult to validate because they are extremely unusual in children of the age considered in the study and within this cultural context. However, the identified children had most of other inattentive characteristics of DSM IV (TR).

The study also found some overlap between some of the behavioural characteristics which appeared in the DSM IV (TR) with locally used categories of behaviours.

- a) A Malayalam phrase can be used to describe the two items of the DSM IV which states that children may "often fidget with hands or feet or squirm in their seat" and "often has difficulty playing or engaging in leisure activities" as "*oru tharam pirupiruppe*"- 'children who are fidgety or not being quiet.' However, this Malayalam noun does not say specifically whether the child fidgets with hands or feet or in their seat. In addition, this term is generally used to describe boys with such characteristics, but rarely used to describe girls.
- b) Another phrase is used to describe behavioural problems is "*orikkalum adangiyirikkill*" -often does not like being quiet or often runs excessively, which is equivalent of two items in the DSM IV (TR), these being "often leaves seat in classroom or in other situations in which remaining seated is expected" and "often runs about or climbs excessively situations in which it is inappropriate". The gender is not visible from this Malayalam phrase, but teachers again tended to use this in relation to boys.
- c) One of the striking examples of cultural differences of locally generated categories of behaviours with DSM IV could be "*muthirnavarude idakku kayari samsarikkunnavar*"- children who interfere or meddle in elder people's affairs, which is equivalent to "intrudes on others". This characteristic is seen as particularly unacceptable when the children meddle in elder people's conversations or matters. Respect for elders is considered a desirable quality in young children in an Indian cultural context. On other occasions this characteristic may not be considered as a

problematic behaviour. However, here again we see that boys are often associated with such characteristics, girls are never expected to talk in this way. It appears that gender specific expectations exist within the context of the study, but the DSM IV (TR) criteria used to describe both boys and girls. In this aspect, Quinn and Nadeau (2002) criticised the criteria as boys' categories of behaviours. Moreover, these cultural specific issues have rarely been given attention by the criteria.

Although some behavioural characteristics might appear as more problematic or identifiable in the specific cultural (language) context, as reported elsewhere this study does not suggest that there are a greater number of children with the hyperactivity type characteristics. These components of ADHD are perceived to represent instances of ordinary, normal childhood behaviours in boys in current study context. According to the DSM IV (TR) criteria, the frequency and combination of indicators should cause problems for the children in their social, behavioural and academic functioning in order for them to be considered as children with ADHD characteristics (Cohen in Lloyd *et al.*, 2006). Almost all of the girls were identified as having characteristics of inattentive type ADHD whereas boys often presented problems of all three types of ADHD as defined by the DSM IV (TR). Generally, children with inattention characteristics appeared in greater numbers than children with hyperactivity characteristics (as discussed in Chapter Six).

One of the major criticisms of the DSM IV criteria is that it does not say how much of behaviour is too much or how much talking is excessive, as pointed out by Reid *et al.* (1994). It is often the case of the individual researcher or clinician (in the case of formal diagnosis) is left to make a judgement with regards to this issue. This can be seen as a limiting factor within the guidelines for assessors or researchers who may be attempting to decide 'how much motion' and 'how often and under what circumstances can a behaviour constitute fidgetiness, and so on' (Carey, 2002 p. 8). It is therefore important to consider how frequently a behavioural item should occur before it should be rated as 'often'. It is general practice among the researchers on

ADHD to use 'common sense knowledge' in order to identify children with ADHD in their respective studies. This was certainly something which I found myself needing to do in the current research. Two points need to be emphasised here.

Firstly, as I was the only person within this research making a final decision about whether a behaviour could be associated with the descriptors of the instrument, it was relatively easy to ensure consistency. Indeed, I would suggest that my own interpretation was at least as consistent as that in many other reported studies in which data was collected by several individuals with associated risks of multiple level interpretations (Maxwell, 1992).

Secondly, my own knowledge of a culture in which I was brought up and have lived for all my life has helped to identify children with ADHD characteristics. This I believe enabled me to make judgements in an informed manner, which may have been more difficult for someone who did not possess this experience (Crossley and Vulliamy 1997).

7.4 Influence of Social and Cultural factors in Assessment of ADHD

Few studies on ADHD have discussed the influences of cultural and contextual factors on standard assessment procedures when used in a range of cultural contexts. This is particularly true with regards to the case of studies on ADHD conducted in India. Most of these studies have used DSM IV as the diagnostic criteria for identifying children with ADHD. It is evident that such studies have tended to accept this US developed diagnostic instrument as a valid and reliable assessment procedure even when introduced into Indian cultural contexts. The identification of ADHD in India is based on these criteria, but researchers rarely discuss the possible cultural influences on its knowledge construction. One of the most common features within these studies is that they tend to be medically based quantitative studies. The exception is a sociologically based study carried out by Wilcox *et al.* (2007) on Indian parents' perspectives of ADHD treatment.

A major consideration of the studies conducted in India must be their focus upon ADHD as a medical disorder which is biologically caused, and the general disregard towards influences of culture, context and social factors associated with the disorder as outlined by Canino and Alegria (2008). It seems that these studies have a universalistic view of ADHD. According to this view, the construction of ADHD on the basis of DSM IV criteria is universal and core 'symptoms' exist worldwide, and only the manifestation of the disorder could vary across cultures or sub-groups within a culture. On the other hand, they seem to ignore the relativist view which suggests that the distinction of normal and disordered behaviour is ultimately a social judgement that depends on the social and developmental context in which the behaviour occurs as highlighted by Canino & Alegria (2008).

In the context of the present study it is important to discuss the influences of cultural and contextual factors which might determine the interpretation and knowledge construction in relation to ADHD. In this part of the discussion, I will express my ideas in relation to the notion of transferability of ADHD to an Indian social or educational context. In addition, I will explore the effectiveness of the DSM IV (TR) criteria as used to identify children with ADHD characteristics in the Trivandrum school populations of India. This will be particularly focussed on the sociolinguistic evidence whereby meaning has been given to the construction of ADHD, its label and the interpretation of the DSM IV (TR) criteria in India. The first part of the discussion will be on the basis of:

- a) Whether ADHD is a valid 'disorder' in the Trivandrum school populations of South India or how the cultural and social factors inherent in South India may impact upon the concept of ADHD.
- b) Whether ADHD is a product of Western (USA) culture or to what extent the universalistic and relativistic aspects of ADHD are pertinent to a South Indian cultural context.

The discussion on whether ADHD is a valid 'disorder' in the Trivandrum school (Keralian) population will be based firstly on whether the identified children with ADHD characteristics within my study are different from 'normal' children according to the culture, context and social judgement (Canino & Alegria, 2008) of the sample population. Secondly, the focus will be on whether the behavioural characteristics of these children can be assessed against behavioural expectations, levels of tolerance, child rearing practices and social norms within Keralian society. Thirdly, it will be discussed whether the characteristics of the identified children within the study are influenced by the culturally preferred learning styles of the children in South India. Whilst addressing these issues a consideration will be given that for many critics, ADHD is an extreme of normal variation of behavioural characteristics, rather than a disorder (Breggin, 2002; Carey, 2002; Timimi, 2002).

One of the key findings of this study is that the identified children with ADHD characteristics within the sample schools are different from their 'normal' peers and they create visible problems within the classrooms and within families. They showed the characteristics of inattention, hyperactivity and impulsivity which are the core 'symptoms' of ADHD defined by DSM IV (TR) criteria. They did not show interest in learning, and sometimes appeared to have little interest in anything. They often had difficulties with learning; behaviourally they tended to be hyperactive, and often made problems for other children. They were not interested in the activities that other children were interested in. Teachers often felt sad and disappointment for these children. These findings were similar to those of a number of other researchers (Rodriguez *et al.*, 2007, Wilkinson and Langendijk, 2007).

A criterion suggested by Canino & Algeria, 2008 for determining ADHD as a valid disorder is to show whether the children experience harm as a result of the difficulties associated with the characteristics of the condition within a given context and culture. The current results showed that the identified children's categories of behaviours significantly affect them in three respects, these being academic, social and behavioural. The observation of everyday practices and activities of these children by teachers and parents suggested

that they found difficulties in associating with other children, in making friendship, working in partnerships and forming constructive relationships with their teachers. The behaviours associated with ADHD created issues for the classroom teachers, parents and other children within these schools which they perceived have to be dealt with and therefore demanded an inordinate amount of attention. This is a cause of confusions and difficulties for those adults who were with them and also for their peers in terms of understanding these children as both learners and classmates. These difficulties were reported by respondents in the research as being continuous and persistent for a long period of time, and as causing problems during the entire academic year.

Furthermore, the adults had difficulty in explaining the cause of the difficulties experienced by the children with ADHD characteristics. Their behavioural characteristics seriously affected them to an extent where the adults found difficulties to manage situations created by them. They were perceived as children who caused conflict and suffering or distress to all who were involved with them. They were described by teachers as having difficulties cause impairment or dysfunction in role performance as learners either within the classrooms or outside the classrooms. The roles and responsibilities they adopted in schools are seen as being significantly different from those of their peers. In this respect they may be seen as justifying the concerns expressed by Canino & Algeria (2008) that the characteristics of ADHD impacts significantly upon their lives and those of others.

For a majority of the adults interviewed for the study, the children were considered as being different from 'normal' children who are obedient, follow adults' instructions and are well adjusted to life situations either in the classroom or at home. The emotional needs of the children with ADHD characteristics were seen as different as and more demanding than those of their peers. These behavioural characteristics were seen as a form of disordered behaviour in the sample school context. All these problems caused serious matter of concern for the participants within the study. Dopfner *et al.*,

(2006) suggests that the validity of the disorder can be equated to the magnitude and intensity of factors associated with socio-cultural interactions. The responses of the participants would certainly suggest that there is evidence of impeded social interaction associated with many of the children observed. The child looking uninterested, or hesitating, asking questions or signalling unwillingness to obey are considered as characteristics of disordered child in India. Where these characteristics were seen, children were treated differently from their peers and were often placed at a disadvantage.

According to the participants in the study, the children identified as having characteristics of ADHD did not behave in ways traditionally expected by parents and teachers. Their behavioural characteristics were deemed unacceptable for children of their age, sex and development. It was observed within the sample schools that laziness, unquiet, restlessness and mischievous characteristics are a part of the general nature of many young children within the specific culture. Sometimes, children appeared inattentive in class. It is often stated that there is a difference behaviourally between boys and girls in the Indian (Keralian) context. Boys are generally observed to be interested in games and noisy whereas girls generally appear to be more quiet, obedient, disciplined and polite. Boys often need a push from a teacher in order to achieve, whilst girls appear loyal and hard working compared with boys in Indian schools. Teachers and parents in the sample schools felt that it was unacceptable if anything had gone beyond these normal characteristics of the children though, as with adults everywhere they often had different tolerance levels towards boys and girls.

Whilst accepting that all children appear to misbehave at times, the perceived problem with the children with ADHD characteristics is that they do not show interest in learning at all. They do not want to listen to the teachers or any other adults including their parents. Within Indian culture, there tends to be an acceptance that young children will have some mischievous characteristics, but the identified children were thought of as being different. Indian adults consider that distractibility is the general nature of young

children. All children are expected to have periods of unquiet and restlessness to some degree. The teachers and parents who participated in this study also considered fighting is, to some extent, a natural tendency of the children. This could be one of the reasons why the children with ADHD-like behaviours were labelled by the participants as 'mad' or 'bad' children who create problems for themselves as well as for others. According to them, these characteristics were beyond their parental and professional control which challenged their culturally preferred tolerant attitude towards the children. Although teachers and parents tried to engage them in learning through small tasks and arranging special help at home, they reported limited gain from these arrangements.

Clearly, the characteristics of the identified children are not simply culturally preferred learning styles as reported by Dopfner *et al.*, (2006). According to these researchers, the Indian children who were identified as having ADHD in USA study had clear culturally influenced learning styles. The behaviours observed and reported in the current study are not functional and adaptive and not necessarily needed in order to survive in everyday life in Indian society. The children with these characteristics according to the teachers and parents were out of step with others and demand a lot of energy and support in order to manage them. They were different from other children who are performing well in learning at the expected level. In contrary, the children with ADHD characteristics were shown to engage very little with learning and exhibited little or only slow change in their disruptive behaviours in schools. The academic and behavioural associations of internalising or externalising characteristics of ADHD witnessed in the study concurred with Western findings (Dopfner *et al.*, 2006; Buitelaar *et al.*, 2006)

From this analysis, the results of the study indicate that for individuals identified in the study, the DSM-IV (TR) approach to the diagnosis of ADHD is valid. ADHD can be seen as a 'disorder' which exists in South India in the sense that it is associated with significant issues in social, academic, and behavioural functioning in schools and increased risk of difficulties associated with ADHD characteristics. For a disorder, the relation between the

characteristics of the disorder and consequent functional impairment is the most essential criterion for verification that the disorder is present and warrants special attention. The results also indicate that the identified children have serious difficulties which need specific interventions from teachers and parents in order to engage them in learning and avoid disruption in the classrooms and at home. This interpretation is based on the observations of the classroom teachers, parents and myself as a researcher.

- Whether ADHD is a product of Western (USA) culture or to what extent the universalistic and relativistic aspects of ADHD are pertinent to a South Indian cultural context.

The prevalence of ADHD is reported as ranging from 0.5% to 26% in different countries (Timimi, 2002). One reason for the variation in figures according to Dwivedi & Banhatti (2005) is that the cultural environment in different countries varies. It could therefore be the case that culture might be a significant factor, particularly in respect of the attitudes of the adults within the society regarding the acceptability of behaviours and their interpretation. Weiz *et al.* (1987) reported that cultural influences play a significant role in understanding the nature and prevalence of ADHD characteristics among Thai and American children in their epidemiological study. Furthermore, Bird (1996) recognised that beliefs, interpretation of customs, attitudes and culture played a crucial role in a child's biological and psychological development. The current study considered such influences and endeavoured to ensure the construction of culturally adaptable instruments for assessing children with ADHD characteristics. The findings of the study when discussed alongside studies reported from elsewhere provide some important indicators which are worthy of discussion.

Several US studies seemed to show a higher percentage of children diagnosed as having ADHD whereas the current study found that only three percent of children with ADHD characteristics without formal diagnosis were present in the study schools of Trivandrum, Kerala. A similar lower prevalence of psychiatric disorder and low impairment rates in general were

reported by Hackett *et al.* (1999) in their study in the Calicut District of Kerala. This comparison of prevalence of characteristics from one culture to another is possible with data from the current study which used locally generated categories in order to avoid category fallacy.

The identification of children with ADHD characteristics is based on culturally specific assessment instruments which recognised the potential influence of culturally preferred tolerant attitude towards children's behaviours. The study acknowledged that attitudes might differ between cultures though most cultures recognise children who are distressed or behaviourally disturbed. For example, Hackett & Hackett (1993) reported that Thai, Jamaican, and Gujarati (India) parents were less tolerant of under-controlled behaviour than American and British parents. Furthermore, Wilcox *et al.* (2007) reported that Indian parents were sceptical about the biomedical psychiatric model of children's deviant behaviours. However, the culturally adjusted assessment tools used in the present study created little problems for making comparison between different cultures. To support this, Canino & Algeria (2008) reported that such assessment tools are necessary to validate the cross cultural transfer of concepts or studies. The lower number of children with ADHD characteristics in the current sample schools does not suggest that children enjoy favourable mental health as found by Hackett *et al.* (1999). This is limited to the cultural and contextual factors as I mentioned in the previous Chapter. I would suggest that this is one reason why caution needs to be exercised about the comparative figures across different cultures and that there are problems for comparisons of prevalence between cultures as reported by Hackett *et al.* (1999).

One of the key findings of the study is that there were few children with hyperactivity characteristics within the sample schools. The modest prevalence rate of hyperactivity type characteristics indicates some cultural and contextual factors which is similar to the results of a Chinese study (Leung *et al.*, 1996). These authors suggested that child rearing practices within the Chinese culture caused lesser numbers of children with hyperactivity. In the current study, children generally were encouraged to be

disciplined, discouraged from displaying overt behaviours and to show conformity to authority or elders. Leung *et al.* (1996) suggest that the higher reporting of hyperactive-disruptive behaviour problems in Thai and Chinese cultures is due to the parents' suppression of aggression, anger and strong emotions or overt behaviours in these contexts. In Saudi Arabia also similar finding was reported (Hamed *et al.*, 2008). It is therefore possible that a higher likelihood of suppression of behaviours could affect a lower rate of children with hyperactivity characteristics within the current study. To support this, Weisz, Chayaisit, Weiss, Eastman & Jackson (1995) argued that over-control is a feature within some cultures. According to many teachers in the current sample, children were hiding their true feelings because of the fear of authority. Another aspect, which could hinder children's overt behaviours, might be a cultural belief of 'teachers as equal to god' – a traditional Indian interpretation so that whatever teachers do is blindly followed. It seems that respect for authority, power and older people are greatly evident in Asian cultures. This is further exacerbated by the use of corporal or physical punishment, which is still a highly notable feature of Indian schools. For many parents and teachers in India, physical punishment is an acceptable part of child rearing practices and in fact, it is often seen as an essential criterion for good parenting or teaching.

Additionally, the result of a lower number of girls with ADHD characteristics in the study tells more about some cultural specific factors within Indian context. India is generally observed as male dominated society. The Keralian social context is not exceptional though it has higher number of females than males in its general population. In this aspect, female children were not expected to behave overtly than boys and their silence and quiet behaviour in the class were considered as good qualities as learners. This opinion is held by interview teachers who were predominantly women (19 out of 21). Hyperactivity is an externalising aspect of ADHD where as inattention is an internalising aspect of ADHD. Due to the cultural specific factors, female children with inattention characteristics were observed as internalising characteristics of silent, quiet and socially withdrawn. It is therefore in some instances, teachers believed the characteristics of ADHD as 'normal'

characteristics of children. However, the most sufferers of the difficulties associated with ADHD characteristics in the current study context are female children with inattention difficulties. It suggests that there is significant cultural influence on the sex difference on the perception of behaviour by teachers and parents. However, the male excess of externalising characteristics compared to the females concurs with some studies (Hackett *et al.*, 1999; Gaub & Carlson, 1997).

This suggests that the notion of ADHD is not a product of Western culture, but it is a universal problem (Anderson, 1996; Canino & Alegria, 2008) affecting a significant number of children in the sample schools. However, its construction and manifestation largely depend upon the culture, context and the social world. This is raising the possibility that cross-cultural studies need to be conducted to show extent to which Indian society is differing with Western societies (USA) in socio-cultural and contextual features in its assessment of children with ADHD characteristics within classrooms. It might be also worthwhile to consider whether any fundamental differences for the cognitive development of children from one culture to another. Cross-cultural follow-up research may help to answer this question. Some of the population-based studies showed that varied prevalent rates of ADHD across cultures can be the result of differences in child-rearing practices in different cultures. However, it does not suggest that ADHD is non-existent in India, but it suggests that the manifestation of the disorder is varied from other cultures including developed countries and developing countries (Weiz *et al.*, 1987; Graetz *et al.*, 2001; Buitelaar *et al.*, 2006). However, the detailed cross-cultural evaluation based on this study is not possible considering the nature of the study and sample size.

7.5 Summary

In this chapter I argued that the characteristics of ADHD are not exclusive of Western culture, but also exist in India variedly according to its culture social and educational context. The important issues with the DSM IV criteria are

that there are no culturally valid guidelines for identifying children with ADHD characteristics in different cultures. Some of the characteristics, terms, and expressions appeared to be non-existent in Trivandrum school context of India. As discussed suggests there are some perceptual differences in Indian culture and Western culture, without correction for these, cross-cultural prevalence rates of hyperactivity may not be comparable between countries (Mann *et al.*, 1992). In other words, the prevalent rate of ADHD between different countries is featured with cultural and contextual factors and therefore the recognition of such factors are very important in the understanding of ADHD as a valid 'disorder'. The culturally preferred assessment procedures used in this study were useful to identify issues with the assessment of ADHD characteristics in a culturally different population like India. The findings of this study support notions that ADHD is an educational dysfunction which needs educational interventions for children with such characteristics where limited understanding of biological factors prevails. More studies of this nature are needed to expand the knowledge of ADHD in to different contexts in order to provide better services for children with ADHD-like behaviours in the classrooms.

CHAPTER EIGHT: CONCLUSIONS AND IMPLICATIONS

This chapter discusses the originality, conclusions and implications of the study together with some limitations.

8.1 Originality of Research

As a study in an area rarely considered in an Indian context the reported research has some unique characteristics, in terms of its methodological approaches, philosophical underpinning and use of methods. Social constructivist principles were applied together with the established standard assessment procedures of DSM IV (TR) for the construction of the theory reported in this thesis. The data was collected through two phases using qualitative interviews (both parents and teachers), direct observations (children) and the rating scale (teachers) during the academic year of 2006-07 in the Trivandrum (locally termed as Thiruvananthapuram) district of India. Qualitative analysis procedures were applied together with the criteria outlined in the DSM IV (TR). Therefore it can be stated that this identification and interpretation of ADHD from the Indian context is partially socially constructed. That is, it has both a socially constructed component which is determined by the research context, language and culture and an observable or objective component which is defined through the use of the DSM IV (TR) criteria. In other words, both objective and subjective experiences are balanced to produce knowledge. This research procedure provides new data and interpretation of ADHD in a specific country context. Three points can be considered to illustrate this:

- Originality in exploring the unknown
- Originality in instruments, tools and procedures
- Originality in the construction of ADHD knowledge

Originality in exploring the unknown

Prior to this study, ADHD was little reported from Indian classrooms and therefore it was unknown to most people within the study area. In addition, teachers' and parents' perceptions about children's ADHD-like characteristics were seldom reported. The educational issues of these learners, the management of their difficulties and their appropriate level of inclusion, were rarely discussed from the Indian research context. Little was known about teachers' knowledge, attitudes and behaviours towards children with ADHD characteristics in this country. The interpretation of ADHD and these children's social, behavioural and academic functioning rarely appeared in the literature.

Mainstream teachers in an Indian school context are never asked to identify children's diverse needs such as those associated with ADHD or to modify their teaching strategies according to these needs of the children. Academic journals and the public media rarely discuss such issues. The only available source of information is from a medical context which considers ADHD as a medical problem and 'treats' it with medical procedures. This interpretation is widely criticised by educators because of its limited impact on school practices. Additionally, little recognition is given to know children's classroom difficulties associated with ADHD. The current study is the only one conducted in India to explore this unknown issue of ADHD within the mainstream school context. Considering these facts, the findings of this study are clearly an addition to what is already known about ADHD in India. Moreover, the findings from this research may not only be applicable to an Indian context but also in other non-Western countries where little is known about ADHD from an educational perspective (Rohde, 2002; Wilcox *et al.*, 2007).

Originality in instruments, tools and procedures

Though the study has adopted the US model of DSM IV (TR) criteria, culturally valid assessment tools were developed for assessing children with ADHD-like behaviours. It is because cultural and contextual influences within the standard assessment procedures were considered as inevitable. The blind adoption of this would have created an external validity issue in which it was considered that the criteria which developed in one culture may not be generalisable to another culture. Realising this, a checklist of categories of behaviours was developed from the standard assessment procedures as described in Chapter Four. The tool has 24 behavioural characteristics, 12 of each inattentive and hyperactivity type instead of 18 categories (9 of each inattentive type and hyperactivity type) of behaviours outlined in the DSM IV (TR) criteria. This is a simplified and an adapted version of DSM IV (TR) 'symptoms' criteria. However, for the analysis purposes, the original 18 categories of behaviours were used. Thus the study has used a novel application of DSM IV (TR) criteria together with the locally created categories of behaviours.

Another tool particularly developed for this study was a behaviour rating scale. The adoption of this tool has two unique characteristics. First, this was mainly used for assessing educational difficulties of the identified children with ADHD categories of behaviours. Second, this was constructed in the local language Malayalam after giving considerations to cultural and contextual factors within the sample schools of the study. Therefore, this tool is different from the standardised rating scales which were constructed by Western researchers.

In terms of procedures adopted for identifying children with ADHD characteristics within the educational context of India, the study has applied a number of unique approaches. Three steps were involved in the identification process.

- Case selection-'probable ADHD cases' from school context
- Case identification- together with home context

- Case confirmation-‘definite ADHD cases’ with six months validation

First, it was essential to select some probable cases from the sample schools as children with ADHD were not reported beforehand. This case selection was socially determined where the participants (teachers) contributed with the researcher to identify the cases of interest or the ‘probable cases of ADHD’. The selected cases were observed individually in two separate lessons and their actual life situations were recorded based on the pre-determined 24 categories of behaviours. Additional data collection methods were then used to obtain more detailed information for these 24 cases.

In the second stage, information from the home context or parents’ information was additionally gathered in order to comply with DSM IV (TR) criteria. Thus the case identification stage involved a combination of information from school and home contexts. However, this was not enough information to identify children with ADHD according to the standard assessment procedures of DSM IV (TR). According to the criteria, children should exhibit the categories of behaviours at least six months period of time. Therefore, the cases identified in the second stage were again subject to further verification which was conducted after a six months period of the initial case selection.

Third, in the case confirmation stage, a rating scale with teachers was employed together with further conversations with the parents and the teachers. The purpose was to know whether children remained consistent in their originally identified categories of behaviours after a six months period of time to confirm the cases of interests as potential cases of ADHD. This was related to 52 categories of behaviours within a four-point scale of rating. At this stage, 3 cases were dropped as they were not able to follow the assessment procedures. Case analysis procedures were used for this purpose.

Originality in the construction of ADHD knowledge

Unlike many other studies, the focus of this study was not just on identifying children with ADHD-like behaviours in order to find out whether they meet the 'symptoms' criteria adopted by the DSM IV (TR). As this is an educational study, a comprehensive assessment was essential to identify them and to assess their functional needs in order to provide better support for them. In other words, the identification of children with ADHD characteristics and remediation of their special educational needs were the focus of the current study. The remediation programme which would develop from the study will suggest an appropriate educational provision to recognise and to support their needs appositely. This was one of the reasons why the study had adopted qualitative data collection and analysis procedures as described in Chapter Four. In reality, this was the only study in India, which adopted such procedures with a focus of both parents and teachers' perspectives in identifying children's ADHD characteristics and suggesting appropriate educational provision. In this process of knowledge construction, there further three steps were involved. They are:

- Amalgamation of the whole data or synthesis
- Interpretation: evaluation and analysis of data
- Reporting results

The whole qualitative data collected from two different sources using multi-methods and a number of instruments in two phases were combined together to construct the new knowledge of the existence of ADHD in the Trivandrum mainstream educational context of South India. The procedures adopted in this study to construct this new knowledge are explained in the data analysis section of Chapter Five. The results reported in the thesis involved my own interpretation as a researcher. This interpretation provided a new insight into the issue of ADHD in a wider world. This was able to provide evidence for independent and critical thought (Silverman, 2000). In such many aspects, the knowledge reported in this thesis is primary source of information about ADHD in India. Moreover, this new knowledge was partially socially

constructed or based the combination of the social constructivist principles and the standardised assessment procedures.

8.2 An Indian (educational) Perspective of ADHD

The present study has identified 21 (3%) children with ADHD characteristics in the mainstream schools studied in the Trivandrum region of India. This reveals that ADHD as a phenomenon which is said to be increasing in Western culture is as common within this area of India. However, the interpretation of this had been influenced by social and cultural factors within the research context. A majority of teachers and parents within the study have expressed their concerns for and challenges with this group of learners in respect of them being provided with an appropriate level of learning and thereby their inclusion in classroom lessons. Unfortunately, consideration is not being given to their special educational needs and their associated difficulties in learning. Furthermore, school factors (for example exclusionary practices, poor admissions policy and overcrowded classrooms), socio-economic factors (such as poverty and social disadvantage) and teacher factors (including inefficiency and negative attitudes) have created additional challenges for children with ADHD characteristics in these schools. This indicates an urgent need for attention from policy makers and educators in India to consider an educational provision which can cater for the needs of these children.

The identified children with ADHD-type characteristics presented with a number of difficulties in learning, academic performance and social relationships. They were perceived as unpredictable, uncontrollable and difficult to manage and likely to create issues related to difficult management in classrooms. They had little engagement in learning and were most often isolated and left alone without much support and help from their teachers. They always challenged their teachers' expertise and skills to provide appropriate tasks and activities for them. Classroom lessons were disturbed frequently by their presence. Boys were more likely than girls (4:1) to

present with the characteristics of ADHD in this study. This is in keeping with the literature reported from elsewhere in the world. Girls generally demonstrated inattention characteristics with learning difficulties and social relationship problems of withdrawal rather than being disruptive. Boys were more likely to exhibit behavioural problems but were seen as having fewer learning difficulties than the girls in the study sample. This suggests that the difficulties associated with ADHD in the context of the study are gender specific, but the factors responsible for this are uncertain.

An interesting finding of the present study is that inattention characteristics were more problematic than hyperactivity characteristics within the sample schools. This is not particularly the case with this study; similar findings were also recorded by studies from other parts of India (for example, Bhatia *et al.*, 1991). In contrast, Western literature reports more children with hyperactivity characteristics than inattention characteristics (for example, Barkley, 1997). It may be a good research question to be asked why there are more children with inattention characteristics within the Indian context, whereas studies in the West have found difficulties in locating inattention rather than hyperactivity characteristics. This would also be useful if further study could explain whether cultural and contextual factors influence this particular feature in India.

A higher number of children with ADHD characteristics were from lower socio-economic backgrounds within the study. Social disadvantage, poverty, lack of parental involvement and noisy neighbourhoods were some of the background features common in the lives of these children. These factors might exacerbate the difficulties associated with ADHD and might have created additional challenges for these children. It might be one of the reasons why teachers considered social factors as a prime cause of children's ADHD characteristics. Genetic or biological factors are reported in the literature (western) as main causes of ADHD but have received little attention as yet in India. This suggests that an increased understanding of causal factors may well be essential if an understanding of ADHD is to be achieved in India.

The study found that there was little or no information within the Trivandrum schools context of India about ADHD and its associated difficulties. It is therefore understandable that teachers and parents had some 'misconceptions' about children's ADHD behavioural characteristics and their ability as learners. Often ADHD characteristics were interpreted as childhood pranks which would go away after some years of maturity. In addition children's failures in academic terms which may well be related to ADHD characteristics were considered as laziness and lack of interest from them. These factors contributed to teachers and parents having a negative view that these children cannot achieve much in learning.

These limiting concepts or interpretations have prevented children with ADHD characteristics from having the opportunities of active participation in learning in the sample schools in India. The interpretations of the children's social, emotional, behavioural and academic difficulties were negative and unhelpful. As a result of this, both teachers and parents often blamed the children for their unexpected behaviours or lack of control during classroom or social activities. Teachers were seen as being ashamed of teaching these children. They had low expectation and little motivation with regards to the needs of these children. In addition, they had little sympathy and affection for this group of learners as they created many challenges in the management of classroom activities. However, some teachers had mixed feelings; on some occasions, they felt positive when the children showed improvements in their behaviour and their participation in lessons, but these teachers tended to be very few in numbers. When the children made limited improvements in their learning, even these teachers left them as 'unwanted'.

Further finding of this study is that teachers used more punitive methods (i.e., sanctions and physical punishments) to manage children with ADHD characteristics than they did with the general school population. A majority of the informants believed that these methods were important as children with ADHD-like traits had no control over their own behaviours. They had few issues with the use of corporal punishment, and had the view that this was the only way to control and invite the attention of children with ADHD

characteristics. Use of these interventions was based on the severity of the challenges created by them. For example, since children with inattention characteristics (both boys and girls), were not disruptive, their lack of engagement in learning was not a particular concern for their teachers. On the other hand, children with disruptive characteristics were physically punished, verbally abused (more negative language use), and frequently moved from one class to another.

Some interventions used by the teachers were gender specific. For instance, girls with inattention characteristics were generally ignored and hardly given opportunities to engage in learning whereas boys were treated with physical punishments, leadership roles and seating closer to the teachers. Another aspect is that teachers' positive or negative interventions depended on the parents' interest in their children's progress in academic performance. For instance, teachers were asked by parents to punish or to give more homework to the children lacking academic skills. Those who had got 'lucky parents' were treated with special attention which included physical punishments, others were ignored. This was the case even where a class had less than 20 children. Such exclusionary practices at some point can be seen within much of the Indian context. This is further fuelled by limited resources and support within schools. The study indicates that if progress is to be made it will be necessary to provide more support within classrooms.

In contrast to the findings from this study, in a Western context, a higher level of information is available (from different sources) about ADHD and its associated difficulties. Teachers and parents in the West have had opportunities to develop a sympathetic attitude towards children with ADHD characteristics. Western parents are empowered with much information about ADHD and demand a higher service from the professionals for their children. In effect, the children's difficulties are considered as special educational needs and means that they are at times provided statutory arrangements for these learners. Clearly, the 'information gap' between Western and Eastern contexts about ADHD suggests that positive or negative views about learners with ADHD depend on the availability of information.

The study found that most of the items in the DSM IV (TR) criteria were clearly transferable in the local Malayalam language and were very useful in assisting with the identification of children with ADHD characteristics within the Trivandrum school context. An exception to this were two of the inattention characteristics (i.e., often difficulty in organising tasks, often forgets to bring things). These were particularly not identified within the classroom contexts of the sample schools. This is because children have fewer opportunities to demonstrate these two behavioural items in their classrooms. This may be generalisable to a wider school context in India. Furthermore, teachers and parents within the Indian context had different interpretations about ADHD characteristics and its associated difficulties. In this we can see that culture, language and research context play a part in determining the interpretation of ADHD. Clearly, it suggests that some cultural and contextual factors impacted upon the validity and reliability of the criteria.

This reinforces the fact that culturally valid assessment tools are important in identifying children with ADHD. Though ADHD has been widely discussed, unfortunately limited studies have been conducted on the cultural validity and reliability of standard assessment procedures used to identify children with ADHD. More research of this nature is needed to assist in explaining the issues surrounding the transfer of a concept from one culture to another.

Finally, the applicability of the current findings can be generalised into the current inclusive practices in Keralian schools and in some aspects to the wider Indian situation. The information gathered about ADHD from the current study is, for example important for teacher education in India and the development of training programmes to assist in improving practices. In consideration of possible future policy and practical implications, many factors affect children's inclusion in the educational process. This study provides some practical suggestions which are worthy of consideration. Further research on this aspect should be explored in other schools in the state education system in Kerala.

8.3 Limitations of the Study

The research reported in this thesis set out certain boundaries which were considered as essential prior to commencing the study. Firstly, it was essential to recognise that the results of this study are from schools of one region of India. This means that there are limitations in respect of generalisation. However, the study has specific relevance to the study area and can serve as a useful model to others wishing to replicate the research elsewhere in India. Secondly, only the schools which follow the Kerala state syllabus were included in the study samples. This was in order to ensure that it would be possible to eliminate variables which might have been present had a broader selection of school types been studied.

Thirdly, special schools were discarded from the study sample as the study was focussed on examining ADHD behavioural patterns of children within mainstream education. However, involving special schools could possibly have provided additional information in respect of the understanding and management of children with ADHD-like behaviours within the Keralian education system as it is possible that there may have been a greater overall appreciation of special educational needs issues within these schools.

Nevertheless, the findings in this qualitative research study could be subject to different interpretations as is always the case in studies of this nature. It is not intended that the findings should be generalised to a wider population and indeed it is recognised that to do so on the basis of such a limited sample would be problematic. However, the acquired information compiled in the study will contribute to the development of a local educational provision which it is intended should provide apposite learning for children with ADHD characteristics. In the following section of this chapter sampling and methodological limitations of the study are discussed.

Sampling limitations

Though some results of this study can be generalised to a general education situation in the Indian context, several components of this study have limitations. The study included teachers, children and their parents as participants from five primary (LP) schools within the Trivandrum region of India. The research provided a coverage of 736 children representing 20 sample classrooms within these schools. This is a relatively small sample size. The use of small sample studies might limit the generalisability of the findings, but it should be considered that in a multiple-case design like the one used in this study, replication logic is important, and emphasises careful choice in case selection (Yin, 2002). Sampling logic, which relies on numbers, was not used in this study; therefore, the findings cannot be generalised to all children within the state education system in Kerala. Relating to the sample, some other issues should also be considered.

Since the teachers were selected on a convenience basis, there are issues of their motives and willingness to participate in the study which were beyond researcher's control. Furthermore, the selection of the parents was guided by the information from the teacher samples. Their overall participation was very limited as they were not able to provide much information about their children's difficulties at home although efforts were made to encourage their active involvement in the study. Thus the main source of the data remains with the teachers. Additionally, the applicability of the male participants might be limited as there were only three of them (one teacher and two parents) in the study. Since some authors reported that male parents had contrasting views about children with ADHD as compared to female parents (Singh, 2003; Chen *et al.*, 2008), this could be seen as an important limitation.

However, it is necessary to consider some cultural and contextual justifications for the lack of male participants in the study sample. For instance, there is an under representation of male teachers in lower primary (class I-IV) school settings in Kerala. Only female parents were willing to talk

about children's educational matters as is generally the case within the state of Kerala, though this may not be the case in some parts of India. However, the views of more male parents might have provided a better balance for the study. It is not known whether or not years of experience, motivation and satisfaction in their working area, or age played a role in the teachers' willingness to participate (as they were volunteers for participation) or if these factors influenced their views, perceptions and educational practices in the matter of children with ADHD characteristics. This is one of the less researched areas in the field of education for children with ADHD characteristics as reported by Sherman *et al.* (2008). Since many factors (i.e., socio-economic conditions of the children, overcrowded classrooms, teachers' motivation, satisfaction and their professional skills) contribute to whether or not a child is able to attend and focus in school, future studies may be needed to explore this.

Methodological limitations

The study also has some limitations due to the research design and the use of some methods. Firstly, as with any research conducted by researchers who are not permanently located in schools the frequency, duration and length of the classroom observations was limited. This situation may not have allowed for the recording of all behaviours or change in the behaviours of the children. The researcher in this situation can only hope to gain a snapshot of school life. By using a behaviour rating scale for the teacher participants, an attempt was made to minimise the issues surrounded by the limitations of direct classroom observations. This is where the strength of a multi-methods approach becomes most apparent. Secondly, the rating scale was employed to supplement the information collected from the interviews and observations, however, this four-point rating scale did not have the properties of an established rating scale (for example, Conner's Teachers Rating Scales). Factors influencing the ratings of the teachers were not known. Future studies are needed to yield similar results using the procedures secured by the current study in order to demonstrate reliability.

Furthermore, though many studies recommend that children's views are important in the assessment of ADHD (Cooper & Bilton, 1999; Lloyd *et al.*, 2006), no data measuring children's views (either from the identified children or their peers) were sought for the current study. This was due to the context specific ethical and practical reasons. It would have been interesting to know if the children with ADHD characteristics had experienced a particularly frustrating day at school or at home relating to their specific difficulties in learning. Additionally, it would have also been beneficial to see whether the peers of children had similar experiences with these children as those reported by the respective teachers and parents.

An additional limitation could be that the study did not differentiate the learning difficulties of children with ADHD-type behaviours and other special educational needs (SEN) categories (Learning Disability, Autism, and Dyslexia). This was beyond the scope of the current study. Some difficulties in respect of the identified children might be associated with other SEN categories. Further studies are needed to explain such comparisons. A final worthwhile point could be made that teachers were the main source of information for this study and therefore, the results of this study depends on the accuracy of teachers' information. Such a limitation was also identified by some authors (for example, Sciutto *et al.*, 2000) in respect of other studies in this area.

Another limitation of the study is that it is not very clear from the data whether the identified children's ADHD characteristics were presented before the age of 7 years old. The sample teachers had the opinion that they received lists of complaints from previous years' teachers about these children and their behaviours/ characteristics; however, parents could not say much about these though efforts were made (for an instance, See Appendix VIII).

8.4 Implications for Future Teaching Practices, and Policies

Despite its acknowledged limitations, the study has some potential implications for teachers, policy makers and others concerned in improving the education of children. Based on the findings, the following implications for future practices and policies in an Indian (Keralian) context can be applied:

- It is important to raise awareness about ADHD within the Indian educational context. There has been evidence of good practices elsewhere which have emerged with an adequate level of knowledge. Teachers should be provided with positive intervention strategies to engage children with ADHD characteristics in learning. A number of the strategies outlined in the literature review might be helpful. Seating arrangements, grouping children, delivery of lessons and providing tasks are all issues to which teachers should give much more attention.
- In-service and pre-service teacher training programmes should contain an adequate level of information about ADHD and its positive management in classrooms. Measures to include them in learning should be a focus of the agenda of training teachers and schools should give attention to the professional development of teachers in respect of having a better understanding of children's difficulties in learning and the teachers' capacity to meet the challenges created by them.
- In addition to teacher training, there should also be a provision for training of parents as a part of whole school development. There are indications of positive outcomes when parents of the children with ADHD have training to meet the challenges of their children in the western contexts (Purdie *et al.*, 2002). Positive links between school and home or teachers and parents are important in addressing the special educational needs of children with ADHD characteristics. Since parents greatly depend on teachers' professional skills, it is important to take the initiative

from school to home for meeting the needs of the identified children with ADHD-like behaviours.

- Including children with ADHD characteristics in learning is very important. The mere physical presence in the classroom of this group of learners will not provide any positive outcomes in respect of learning. Their participation in learning is very important in developing appropriate academic and social skills. It is also important to have external service support. Social, medical and educational services working together to maintain children's appropriate level of progress in learning is crucial.
- Some policy interventions are necessary in the provision of quality education for all learners with ADHD. The condition should gain special educational needs category definition.

Each of the above policy and practice discussions has elaborated as important implications for schools in a Keralian context in India. They are discussed below and see the table (viii) after, for the summary of the recommendations with timescale.

1. Raising awareness about ADHD; difficulties, causes and positive interventions

One of the intentions of my study was to raise awareness about children's difficulties in learning. The results of the study suggest that limited knowledge and understanding about ADHD has resulted in negative labelling and poor management of children with ADHD characteristics within the sample schools in Trivandrum, Kerala. Therefore, teachers, parents, educators and the wider community should be encouraged to engage with programmes which raise awareness about ADHD, its causes, satisfactory educational interventions, and positive models. Many studies showed that learners with ADHD have benefited from teachers and parents who have good knowledge and understanding about ADHD. At the same time a lack of understanding has a negative impact within classrooms as the current study shows. This necessitates the importance of increasing awareness and

understanding about children's difficulties associated with ADHD which a follow up to this study will make efforts to achieve. This is particularly important in an area where a high number of children come from lower social backgrounds and with less support at home as is the case in the district reported in this study.

Furthermore, teachers and parents were unaware of positive intervention strategies for meeting the needs of children with ADHD-type traits. That is why, in response to the challenges created by these children, teachers' reactions were unsatisfactory. In the current practice, the learners' inattentive, hyperactivity and impulsivity characteristics were 'treated' with more punitive than positive behaviour management approaches. For many educators these are unacceptable practices which would not make any positive improvements in learners. Additionally, it should also be considered that the psychological impact of these negative interventions could be damaging and have lasting repercussions. In a review of research studies in Western contexts, Sherman *et al.* (2008) reported that teacher factors influenced the children's low academic skills and poor performance in academic tests. Since the children within the research reported in this thesis were often seen as having a poor relationship with their teachers this may be assumed to be a significant factor within the Keralian context. Cultural factors reinforce the fact that gender specific interventions are more appropriate in the current research context in India, since the gender specific issues are surrounded by their management procedures for this group of learners.

It is intended that these findings will be reported through educational journals in India and presentations will be made in teacher training centres in Kerala and elsewhere in India. Such an effort has already been made in Bangalore and in Trivandrum. The presentation of the findings to the Keralian education authority in Trivandrum made a significant impact upon their teacher education programmes and planning of a curriculum for in-service teachers. However, many teachers and parents are unaware of the current findings and it is clear that I will need to take further steps in raising awareness about ADHD and appropriate management in schools and in

homes. Workshops, seminars and presentations will be conducted as part of this awareness campaign within a range of Indian contexts.

2. Teacher training and professional development

Both the special education teacher and the mainstream teachers who participated in the study indicated that they had received limited training from in-service programmes provided by their school districts. This is not a particular case within India alone; in many countries the training of teachers for meeting the special educational needs of children with ADHD characteristics is very limited. Studies in the USA showed that the teachers had a few hours training about ADHD and those who were trained, showed that this had a positive impact on their teaching practices. The information about children with ADHD-like behaviours and their associated difficulties provided by the teachers and parents of this study is an important consideration for school districts and those involved in university training programmes as consideration.

Firstly, in-service training programmes under the SSA regime should focus on children's special educational needs associated with ADHD. In this, the government should take necessary steps to stop exclusive training systems: one for special education teachers and the other for mainstream teachers. Both RCI and SSA trainers should work together to maintain an appropriate level of training for teachers. This will avoid mainstream teachers' dependency on special education teachers for managing special educational needs in their children. Some in-service programmes might be helpful for the teachers to identify children's diverse needs. As part of this it is worthwhile for teachers to use a small portion of their day to address ADHD as it is possible to improve teacher knowledge and confidence in a relatively short period of time.

Secondly, university/college training programmes (pre-service) which prepare future teachers may need to add to or re-evaluate their current requirements for teacher qualifications and the training modules in the

curriculum. This should include course work and field based experiences in working with children with special needs in a general education setting. The future programmes should focus on 'hidden disabilities' such as ADHD for mainstream teachers. It should emphasise that if the children appear as 'normal' this does not necessarily mean that they do not possess any special educational needs as interpreted by the teachers and parents within the current study.

Thirdly, schools should provide opportunities for the professional development of teachers. There are no such opportunities in the current context. Teachers should be encouraged to develop their professional skills through higher level degree programmes. In the current scenario, primary school teachers have never had opportunities for further education for improving their professional skills. Schools should raise some funds for this and the SSA should provide additional funding for schools with the intention of raising teachers' behaviour management skills. It is particularly significant when a system of trust has been placed on teachers by the Indian society in positive child development.

Lastly, colleagues could be taught to view the strengths of children with ADHD characteristics as opposed to their multitudinous deficit areas that are usually reported. This is particularly important in a context where teachers believe that children with ADHD characteristics cannot be taught. Lots of negativity in terms of attitude, labelling, language use, interventions and communication between home and school surrounded the teachers' general approach towards these children in the study here reported.

3. Parent training and collaboration between home and school

Additionally, providing similar training to parents might be beneficial to assist in the collaboration between home and school. Since there currently exists an element of negative communication between teachers and parents about children's difficulties at home and schools, positive collaboration with parents and educators would likely result in greater consistency in terms of positive

management for the child. Furthermore, parents' guilt and shame feelings about their own children would be minimised with this effort. In this partnership, parents and teachers should share information, expectations and intervention strategies for children with ADHD characteristics. Purdie *et al.* (2002) reported that parents training had improved the arithmetic and language skills of children with ADHD; there is no reason to believe that these and other improvements could not be achieved in India.

4. Inclusion: addressing learning needs of all children appositely

The needs of children with ADHD-like characteristics were not addressed appropriately in the Indian context studied within this research. Students were given limited opportunities to engage in learning. There was a lack of support for their social, emotional and academic needs. They faced many difficulties in the classrooms which were broadly academic, behavioural and social. Teachers were challenged by their physical presence and lack of involvement in learning. They seldom made friendships or finished the tasks and activities in which they were engaged. They were excluded from most aspects of learning. Unfortunately, the current inclusive education movement in India has failed to address the exclusionary practices or learning issues of children with diverse needs which are already present in the mainstream education system (Singal, 2006). This suggests that there is a 'locational view' of inclusion which focuses on placing children in mainstream schools in the Indian context rather than on appropriate learning strategies.

Notwithstanding, the results of the current study suggests that there needs to be a 'participatory view' of inclusion in which opportunities for individual participation should be maintained. Teachers should be equipped for providing a process of children participation in lessons. In order to encourage their involvement in classroom activities and social situations, teachers should have extra support within the classrooms, possibly through the deployment of additional adult help, whether employed or voluntary. There

was only one support teacher within the five sample schools. Teachers need support within the classroom to manage children with ADHD categories of behaviours effectively. In this aspect, a single teacher management approach may not be possible whilst considering the potential difficulties created by this group of learners. Many countries have recognised this need and are making efforts in the provision of additional staff in schools to meet the diverse needs of children.

Beyond the capacity of teachers, a higher number of social risk factors exist within the context of the study. This is particularly important for children with ADHD characteristics who are likely to be given fewer opportunities for learning within the current arrangements. No external support agencies are in place to support the mental health needs of children within the Indian context. As in many Western countries, partnership or collaboration between professionals and various organisations working to support children in understanding the difficulties of the children is needed.

5. Policy implications

In many senses, the education of children with ADHD characteristics was denied in the research context of India. The schools had limited resources to engage them in learning and their specific needs were ignored. Since India has made efforts to make education a fundamental right of every child, children with ADHD-type traits should not be denied education because of their potential difficulties in learning. Every child should enjoy schooling at a level appropriate to her/his own needs. It is the duty of the policy makers to ensure healthy practices within schools, and parents' powerlessness to demand higher a level of services from the professionals should not be considered as an excuse. Improved social, behavioural and academic functioning of these children is essential for their engagement as members of society.

An interesting finding of this study is that there is a segregation of children with special educational needs in particular schools. That is, a large number

of children with such hidden disabilities as ADHD are grouped into lower performing schools with disadvantaged characteristics. Though there were a lower number of children in these schools, the teachers had negative attitudes and low expectations about children's difficulties and their social backgrounds. Teachers in these schools had less motivation to teach though they had an expected level of qualification and years of experience. These schools were provided with inadequate facilities, resources and a lack of proper management systems. Such practices will add further difficulties for children with ADHD characteristics as they are already disadvantaged by a lack of parental support and poor socio-economic backgrounds. This is caused by a selective admissions policy, lack of government regulation and limited accountability in educational provision. This suggests that disadvantaged children are less fortunate and have limited resources and support within schools.

In addition, many factors influence teachers to follow the old system of didactic approaches in teaching as opposed to government prescribed active learning or child-centred approaches. Quality issues in the mainstream education system seem to be ignored. Unfortunately, there is a lack of provision to identify such issues within the school system in Kerala and the provision of quality education for all children within the mainstream education system, as proposed within Indian legislation has been ignored. These issues challenge the claim of Kerala as an inclusive education provider in India. There is no appropriate guideline or provision for giving education to all children in India, most often their needs are unaddressed and this has become a human rights issue.

The findings of this study suggest that some policy decisions should be taken with regard to class size, admissions policy, teacher training, and provision of resources (both human and physical) in addition to the adoption of positive behaviour management approaches. A lower class size would benefit children with ADHD characteristics where innovative educational approaches are possible. Moreover, teachers are able to locate the individual differences of the children because of fewer numbers in class with the possibility of better

interaction and communication within the classroom. This would encourage the building of positive relationships with their peers and their teachers as reported elsewhere. Most importantly, a course of action is needed in terms of the professional development of teachers with a focus on positive motivation in schools with disadvantaged backgrounds. Additional resources including human resources should be provided in these schools.

Table (viii): Summary of recommendations with time scale

Recommendation	Time scale
Raise awareness about ADHD	This can be achieved in the short term in relation to the sample schools with whom I worked. These schools can become a hub through which case studies of working practice can be developed and disseminated to others. A longer term goal will be to assist training providers to develop a plan of action for awareness raising and the provision of skills to teachers.
Influence the development of changes within both initial teacher training and professional development courses.	This will require negotiations with course providers and will be more readily achieved after the publication of my research findings. An initial action will be to make contact with academic staff in university education departments in Kerala and to disseminate my work to them. This has the possibility of leading on to collaborative work for the development of training materials.
Parents' training	This is a longer term goal as parental awareness of ADHD and its causal factors is considerably behind that of teachers.
Facilitating inter-disciplinary understanding	Again this is a longer term aim which will be achieved only once high credibility with professionals is established. It will demand an initial partnership with teachers to gain their confidence in working with children which may then be used to demonstrate the effectiveness of interventions with other professional colleagues.
Policy change	Policy at the micro level (within communities) may be impacted by direct intervention of training and awareness raising. At macro level – Kerala State and nationally, this will take far longer and will need a co-ordinated response with representatives from many agencies.

8.5 Implications for Further Studies

Though the current study was able to achieve its objectives, certain aspects of the issues raised by the research need to be further investigated. Firstly, formal diagnosis may be needed for the identification of children with ADHD characteristics. This study is a perception or an interpretation of ADHD by parents and teachers in an Indian context of Trivandrum region. This inevitably places limitations upon the study as discussed above. The use of a more formal diagnostic tool would provide a truer picture of ADHD in India. This formal diagnosis should differentiate ADHD characteristics from other coexisting difficulties. Furthermore, the parents' data collected for this study is incommensurate to the teachers' data and further efforts are needed to be made to obtain more information from the parents about their children's history of ADHD characteristics. This would provide useful data in any further study.

Secondly, further studies are needed to explore how teacher factors (i.e., negative attitude, lack of motivation) and school factors (i.e., overcrowded classrooms, lack of support) influence children's difficulties associated with ADHD characteristics (Sherman *et al.*, 2008). Additionally, it would be valuable if such studies could explain why ADHD is more common in lower social class backgrounds within the Indian context. This may be particularly important where studies on ADHD in a social science perspective are rarely reported (Wilcox *et al.*, 2007). Such research should also explore how socio-economic factors (i.e., poverty, lack of parents' involvement) make additional difficulties for the children with ADHD characteristics.

Thirdly, the results of the present study showed that a perceived inverse relationship exists between class size (number of children in a class) and percentage of children with ADHD characteristics. That is, in a classroom of a large number of children, there are a lower number of children with ADHD characteristics and vice versa. It may be the case that teachers find difficulties in differentiating the individual difficulties of children as a result of a larger class size. However, the current study suggests that a number of

cultural and contextual factors (selective admissions policy, social disadvantage) are responsible for this particular phenomenon within the Keralian school context. This has resulted in more children with difficulties in lower performing schools. As the present study is very small in scale, efforts should be made to generalise these results through a replication of the study elsewhere. A large scale study is needed to explore whether these phenomena are significant in the wider context of Keralian schools. This might also prove helpful in an effort to explain whether class size matters when identifying children with ADHD-type traits. When conducting such research, the other two syllabus defined types of schools (CBSE and ICSE) should also be included. It is also uncertain from the current study whether children with ADHD characteristics are excluded from schools.

Fourthly, this Indian study has followed the assessment procedures of the US model of DSM IV (TR) criteria. For this reason cross-cultural studies need to be conducted to show the extent to which Indian society differs from Western countries in socio-cultural and contextual features in its assessment of children with ADHD characteristics. Cross-cultural follow-up research may help to answer this. Some of the population-based studies showed that differences across cultures are likely and the varied prevalence rates of ADHD across cultures may be the result of differences in child-rearing practices in different cultures. More studies of this nature are needed to expand the knowledge of ADHD into different contexts in order to provide better services for children with ADHD characteristics. However, there were some cultural and language influences of using DSM IV (TR) criteria which I encountered in the current study as described earlier and their consideration may be an important factor for any further research conducted within a South Indian context. Therefore additional modification and validation of the DSM IV (TR) should be conducted.

Fifthly, this study was limited to teachers' and parents' perceptions and therefore any future study should focus on children's perceptions about their own difficulties in learning and relationships. This is more significant in an Indian context where little is known about children's voices and their

participation in research. It is also worthwhile to record peer group members' observations about those identified children with ADHD-type behaviours in the study. This would add to our appreciation of their social functioning in non school contexts. (Another important aspect to mention here is that it was not clear from the current study whether peer rejection was an issue. An examination of this issue could prove to be important). However, whilst proposing such a study, it would be essential to consider contextual and cultural specific ethical issues with regard to children's participation in research.

As a further point, many studies show a higher number of boys with ADHD characteristics than girls as with the current study. More importantly in the present study, it appears that there is a significant difference between boys and girls with reference to the appearance of ADHD characteristics. As there is a significant difference in the behavioural expectation of girls and boys within Indian society, it would be necessary if this particular factor is to be researched to consider how socio-cultural factors might impact upon gender and ADHD-type traits. Since the difficulties of boys and girls varied within the current study, it may be worthwhile to investigate whether gender specific intervention approaches are needed to meet the needs of children with ADHD characteristics.

Finally, the results of this study showed that a number of 'negative' labelling factors (i.e., 'bad', 'mad' or 'unwanted') for children with ADHD characteristics exist. These 'traditional' or 'conventional' labels were used as an excuse to nullify the underlying causes of children's difficulties and to sanctify adults' actions, for example the use of corporal punishment. These labels might have influenced children's inactivity and withdrawal from classroom activities and efforts in making friendships. These labels might also be used to justify teachers' and parents' negligence of children's difficulties associated with ADHD. It is therefore worth exploring whether 'scientific' labelling of ADHD may be helpful in promoting understanding of the learning and behavioural difficulties of these children (Barkley, 2005; Hughes and Cooper, 2007).

8.6 Summary Remarks

Schools are increasingly asked to provide appropriate education for all children in response to the international inclusive education agenda and the Indian government's drive for the quality education for all. Overall, this study found the existence of children with ADHD characteristics within the mainstream schools in India. They are taken for granted, often treated with physical punishment and sanctions. This study suggests that the inclusion drive in India should focus on unaddressed issues like ADHD in ordinary Indian classrooms. If the teachers and parents could gain a better understanding and support for meeting the diverse needs of children in the classroom, it could lead to significant improvements and reduce the use of negative labelling. Teachers need support from parents and policy makers in order to enable them to meet the challenges of children with ADHD characteristics. There is a need for awareness raising and training for mainstream teachers and all involved in supporting children with ADHD-like behaviours.

Unfortunately, limited support is available for children with ADHD characteristics even when they are identified as present in classrooms in India at the moment. A considerable number of service facilities should be used to identify children's various needs, associated difficulties in learning and their appropriate inclusion in learning. Teachers should be aware that there are a range of different strategies (as mentioned in the literature chapter) which can be used for the benefit of children with ADHD characteristics in order to identify and to meet their needs.

Compared to the Western findings, the identification of ADHD is inadequate and few efforts are made by educators in India to provide an educational provision for meeting the needs of children. Additionally, cross cultural comparisons or transfer of concepts from one culture to another in terms of ADHD is very limited. The results reported in the study have been interpreted after a judicious interpretation of the challenges associated with the transfer of concepts from the US model of ADHD to an Indian cultural context of

Kerala. Even within a Western context, there are limited studies which have reported teachers' perceptions about children with ADHD characteristics and their intervention strategies adopted for these children. Methodologically, there is still a lack of culturally valid assessment tools to identify children from non-Western contexts within these countries.

Appendix I

The Structure of Education in India

The Indian Education System comprises stages referred to as Nursery, Primary, Secondary, Higher Secondary, Graduation and Post Graduation. Some students enter into different stream after Secondary for 3 Years Technical education called Polytechnics. Overall, schooling lasts 12 years, following the "10+2 pattern". However, there are considerable differences between the various states in terms of the organizational patterns within these first 12 years of schooling. The government is committed to ensuring universal elementary education (primary and upper primary) as compulsory education for all children aged 6-14 years of age.

The **Pre-Primary Education (nursery)** is not compulsory in India and a limited number of children attend pre-schools. Normally, the pre-primary education starts at the age of 3. The nursery or kindergarten education is divided into two stages Lower Kindergarten (LKG) and Upper Kindergarten (UKG). In the absence of significant government provisions in this area, the private sector play a major role and typically the children from wealthier backgrounds are enabled to attend kindergartens.

Children start primary school education at the age of six (or 5+) and finish at the age of fourteen organised into classes one through eight which constitutes the **elementary education** stage. The primary school system is divided into Primary-LP (class one to five) and Upper Primary-UP (class six to eight). The two stages can be combined in one primary school or attached to one high school or separated into LP schools and UP schools. For some states in India, their primary school education covers seven years (grade one to grade seven).

Secondary school education covers class nine and ten and the pupils aged fourteen through fifteen, and **higher secondary school** students aged sixteen through seventeen are enrolled in classes eleven through twelve. During the 10th standard, there is a central or state level examination which is known by different names in various parts of India that determines whether students can qualify for further education (higher secondary education). Here major shifts take place in the choice of subjects and scheme of studies. At the end of class twelve, there will be another central or state level exam for the qualification entry into higher education.

Higher Education in India provides an opportunity to specialize in a field and includes technical schools (such as the Indian Institutes of Technology and Indian Institutes of Information Technology, Design & Manufacturing), colleges, and universities.

Generally, three syllabus systems are followed all over India. The main types of syllabuses and schools are those controlled by:

- The state government boards like SSLC-Secondary School Leaving Certificate (in Kerala) in which the vast majority of Indian school children are enrolled which is different to different states.
- The Central Board of Secondary Education (CBSE) board
- The Indian Council for Secondary Education (ICSE) board

CBSE School Syllabus System

CBSE is an autonomous organisation which functions under the overall supervision of the Controlling Authority which is vested with the Secretary of Education, Government of India, Ministry of Human Resource Development. It was reconstituted in its present shape in the year 1962. The Board has six regional offices in different parts of India including Chennai and Delhi. Schools located outside India are looked after by regional office in Delhi. In the capital state, Delhi, there is no state syllabus school system as Delhi Board of Secondary Education was merged with the Central Board and thus all the educational institutions recognized by the Delhi Board also became a part of the Central Board. Initially, the main objective of CBSE schools is to be responsive to the educational needs of those students whose parents were employed in the Central Government and had frequently transferable jobs. Nowadays, it acts as an alternative education system for the children of India other than state syllabus with the medium of instruction either in English or in Hindi with the purpose of serving the educational institutions more effectively. CBSE affiliated schools are known by different names such as Kendriya Vidyalayas, Government Schools, Independent Schools, Jawahar Novodaya Vidyalayas and Central Tibetan Schools. Kendriya Vidyalayas or Central schools are to cater to the educational needs of children of transferable Central Government employees including Defense and Paramilitary personnel and working in collaboration with National Council of Educational Research and Training (NCERT) to develop the spirit of national integration and create a sense of "Indianness" among children. It has been adopted an activity based approach with a grading of assessing the child's performance. Central Tibetan Schools Administration (CTSA) is administered through Delhi and comprises the Central schools for Tibetans in India for the education and training of Tibetan children. It also preserves and promotes Tibetan Culture, Heritage and Tradition (<http://ctsa.nic.in>). All the independent CBSE schools are fee paying private schools.

ICSE School Syllabus System

The ICSE syllabus is managed and administered by Council for Indian School Certificate Examinations (CISCE) which was established in 1958 by the University of Cambridge Local Examinations Syndicate. The idea of establishing such a council in India was to replace the overseas Cambridge school Certificate Examination by an All India Examination through the medium of English to become adapted to the educational needs of the

country and assign the ultimate control of the same on the COUNCIL. There are about 100 ICSE schools in Kerala (<http://www.winentrance.com/schools/icse/Kerala/>).

Overall, according to the latest Government survey undertaken by NUEPA-National University of Educational Planning and Administration (DISE, 2005-06), there are 1,124,033 schools in the country.

Open School System

The National Institute of Open Schooling (NIOS) formerly known as National Open School (NPS) was established in November 1989 as an autonomous organisation in pursuance of national policy on education (1986) by the MHRD, Government of India. It is providing a number of vocational and community oriented courses besides general and academic courses (<http://www.nos.org/index.htm>). Recently, the NIOS engaged in establishing a programme of Open Basic Education (OBE) as an alternative educational programme providing elementary education for school drop-outs and neo-literates, out of school learners through its Accredited Agencies all over India. The OBE programme is aimed at: a) children below 14 years of age and b) adults above 14 years of age and it is offered at three levels: a) OBE Level A-equivalent to class one to class three in mainstream school, b) OBE Level B-equivalent to class four to class five, and c) class six to class eight.

Non-formal education

In 1979-80, the Government of India, Department of Education launched a programme of *Non-Formal Education* (NFE) for children within the 6-14 years age group, who cannot join regular schools. These children include school drop-outs, working children and children from areas without easy access to schools. The initial focus of the scheme was on ten educationally backward states. Later, it was extended to urban slums as well as hilly, tribal and desert areas in other states. The programme is now functional in 25 states/UTs. '100%' assistance is given to voluntary organizations for running NFE centers. Most of the non-formal education centres are run by the non-governmental organizations (NGOs) in India.

Adult Education

Adult education for illiterate people in India is under the supervision of the National Literacy Mission (NLM) in participation with extensive involvement of Voluntary Agencies. With such efforts, the literacy rate of India has increased from 18.33% in 1951 to 65.38% in 2001.

Appendix II

The research context in Kerala: additional information

Part A: General features

Kerala is one of the South Indian states which are located at the extreme South-western tips of the Indian subcontinent on the tropical Malabar Coast. It borders with the state of Tamil Nadu in its east and the state of Karnataka on the northeast and the Indian Ocean and islands of Lakshadweep on its west and the Maldives on the south. Kerala's 38,863 km² (1.18% of India's landmass) are wedged between the Arabian Sea to the west and the Western-Ghats to the east. It is one of the most densely populated (819 per sq kms) states of India with the population of 31.839 Millions (3.1 per cent share of national population). Unusually, women outnumbered men (1058 women for 1000 men) although in the 0-6 age group there are slightly more boys than girls

The state was formed in its present shape on 1 November 1956 under the States Reorganization Act. Malayalam is the local language which is one of the 18 official languages of India and is also spoken in the Lakshadweep Islands of the west coast of India. One of the official languages widely spoken within the state is English. It is the medium of arguments and records in every court in India, from the highest to the lowest. Since English is the medium of education in all higher secondary, most colleges, universities and some primary and secondary schools it is widely spoken, especially by young people. There are a small number of speakers of other languages, mainly members of Scheduled Tribes (ST), Kashmiri traders and Tamil migrants. Malayalam is the official language of Kerala state. The fundamental fact about Kerala that make it unique in India is its openness to external influences. These have been many and varied; Jewish, Arab, Romans, Chinese, British and for that matter Islamists, Christians, Marxist (arguably, the second democratically elected a communist government on earth) influences have gone into the making of Malayali people. It has practised openness and tolerance from time immemorial; which has made religious and ethnic diversity a part of its daily life rather than a source of division. The state is a microcosm of every religion known to the country; its population is divided into almost equal fourths of Christians, Muslims, higher caste and Scheduled caste Hindus.

Although the successive governments regularly alternate between the Left Fronts and Congress led coalition a certain stability has been maintained. It should be specifically mentioned that the state is obliged to provide free higher education for the children from poor socio-economic the backgrounds in general courses and subsidised fees for professional courses with free food and accommodation for those students who would need to stay in the student hostels during their education. The researcher, as a member of an economically disadvantaged community has benefited personally from the state welfare policies. Kerala's working women and men enjoy a greater

rights and a higher minimum wage than anywhere else in India. Here education is considered as an important factor in ensuring a higher social status and better economic life for its citizens. Its economy largely depends on the foreign remittance from the NRIs (Non-Residents of Indians) especially, of the Gulf countries and health care professionals in Western countries which largely accounts for 24 percent of spending on education purposes (Amanda, 2005). The state has achieved its total literacy status (according to Indian standards), though the figures are often exaggerated. During the 1990's Kerala was approved by UNESCO (1992) as India's most literate state. Additionally, agitations, stirs and strikes are daily life events which adversely affect the number of working days in the schools of Kerala.

One third of the Kerala population consists of children and young people under the age of 18 years (9.9 million). According to Grumiau (2000), India has 55 million slave children but none of these are in Kerala, with the possible exception of Tamil migrants. There are, however, over 120,000 child workers, shown in one study to be largely young people who dropped out of school at the age of thirteen or fourteen, and most likely to come from the scheduled castes and scheduled tribes (Sooryamoorthy 1998). Nevertheless, this constitutes the lowest proportion of child workers (0.5 percent) in any Indian state (five percent of total child population). Kerala has by far the lowest number of out of school children aged 5-14, at 3.0 per cent compared to the national average of 35 percent, which is less than a million out of 31 million of the total population, according to the estimates based on 7th AIES Data (2002) and Compiled from the data given by Burra (2006). Most of these non-school attendees are from the poorest socio-economic backgrounds of all the communities in Kerala. In India as a whole only 28 per cent of pupils enrolled in class one finish class four, where as in Kerala there was found to be almost no drop-outs and even from classes one to eight the rate for Kerala was less than one per cent (Source: *Selected Educational Statistics: 2004-05*, MHRD, GOI, New Delhi; and *Education in India*, MHRD, Government of India) as opposed to 59 percent for India as a whole. At every level, drop-out rates in Kerala are lower for girls than for boys (Eapen & Kodoth 2002). Generally, the children who dropouts from the school were from marginalised sections of the society such as coastal areas, hilly tribal areas, slums, migrant Tamils and conservative Muslim backgrounds (Sachar Committee Report on *Social, Economic and Educational Status of the Muslim Community of India, 2006*, Government of India). Nevertheless, there are serious concerns about the quality of education in Kerala. It is observed that 'a sizable percentage' of primary school children could not read, write and recognise numbers and also many have unsatisfactory levels of literacy and numeracy when they reach class ten (Sukumaran 2002).

Kerala is considered as a role model in India which other states wish to emulate in education. The average class size is smaller than elsewhere in the country (Lower Primary-LP; 1: 27, Upper Primary-UP, 1: 29) compared with other parts of India where the classrooms are generally crowded, often with 40-50 children and inadequate learning resources though large number of children are out of school.

Part B: the structure of education in Kerala

Most schools follow the state syllabus system with Malayalam (local language) as the medium of instruction which is formulated by the State Council for Educational Research and Training (SCERT), a subset of National Council for Educational Research and Training (NCERT). But there are an increasing number of English medium schools within the state syllabus system. The Department of General Education under the Education Ministry of State and its subsequent bodies are responsible for:

- Providing state education from pre-primary level to the secondary level
- Training teachers (District Institute of Education and Training-DIET)
- Maintaining educational standards and research (SCERT)
- Overseeing the curriculum and examinations (Department of Public Instruction-DPI)

Formal school education system

Formal school education starts at the age of five years and normally finishes at the age of around 17 or 18. Early year's education is not compulsory though there are many nurseries and Lower Kindergarten (LKG) and Upper Kindergarten with Anganavadis and Balavadis (local name for pre-primary schools). The whole school structure is divided into lower primary (class one to four-LP), Upper Primary (class five to seven-UP), secondary (class 8 to 10) and higher secondary or Plus One (class 11) and Plus Two (class 12). Some primary schools are separate from the secondary schools and some others are enclosed within the secondary or higher secondary schools. The transition from one grade to another depends on the results of year end examinations, which are administered and assessed within the schools by the relevant teachers. The proportion of 'failed' children who are retained in a class having failed to meet required standards for progression through the school during the primary stage is comparatively higher than is the case in the high school classes. This does however mean that there might be children who are older than the majority of their peers sitting in the same classroom. In Kerala almost every village has more than five primary schools. There were 6,748 lower primary schools, 2,966 upper primary schools and 2596 high schools and 49 per cent of all school children were girls. There were also 931 higher secondary schools. In higher secondary, girls are 15 percent higher than boys. These figures are from the official educational website of the Kerala government, 2000 (<http://www.kerala.gov.in/education/school.htm>). Amanda (2005) reported that the state supports 12,271 schools and every settlement has an elementary school within two Miles.

At the end of class ten, all children are asked to sit for the state level written examination (SSLC-Secondary School Leaving Certificate) which will determine their fate in respect of the next level of education. A new system of grading for assessing children's learning outcomes and performance was recently introduced, which ensures that there is no pass or fail system, but the students must attain a minimum standard requirement for higher

secondary education which varies each year according to the number of seats available and the overall performance of the students in the exam. Here a major shift takes place in the choice of subjects and scheme of studies. The entire subject options are divided into four groups. English is a compulsory language for all groups of study and the students must choose any of one the optional languages including the Mother Tongue. Usually, students choose Hindi or Malayalam.

Qualified students can enter into the higher secondary education or further education ("10+2 pattern"). At the end of the Plus Two, there will be state level exam for the qualification for entry into higher education. Only a few students with higher marks are able to get admission in the colleges for their higher education and there is huge competition for the places in the colleges. The admission system to the colleges is very complex and malpractices and political and religious recommendations are very common in efforts to gain admission. However, there is a 40% reservation for the children from the poor socio-economic background which is mainly determined by caste divisions. For the students who wanted to study medicine or engineering, they have to appear for the state level entrance examination which is very competitive and the numbers of seats are restricted. The selection of the students depends on their performance in the examination. Only those students who have selected the science groups are eligible to appear for this examination. Here again, there is a 40% reservation for the children from poor socio-economic backgrounds. They have a 10 times subsidised fee for the education, but their stay in the hostel (including food, accommodation and travel) will be paid by the state government. However, there is huge difference in fee payment in the private colleges. This is a major issue in Kerala between the present communist government and the private management in many institutions, especially Christian management in the matter of fee, appointment of teachers, donation and admission policy. At the moment, the private management can take major independent decisions on these issues. For a teacher qualification at primary level, the student must complete 12 years of formal education plus two years teacher training. To become a high school teacher, the students have to finish three years undergraduate degree in their prescribed subjects with one year on the training programme to obtain a B.Ed degree. In higher secondary teaching, the teacher must be qualified with a B.Ed and a higher degree in specified subject.

School Management

The range of school in Kerala are either government-run, government aided private schools or private unaided schools. Private and aided schools are generally run by religious organisations such as Christian churches, the Muslim Education Society (MES) (this was started in Kerala and now has branches all over India and in the Gulf) and Hindu societies such as the Nair Service Society (NSS) and the Shree Narayana Dharma Parishad (SNDP). Parents, however, seem to choose the school they consider the best, irrespective of their or the school's religion. Similarly schools take children

from any religious group. However, recently, most teachers in each establishment are found to be from their own respective religious or community background as are the children in attendance. Of 12,271 schools, just fewer than 36 percent of primary and secondary schools are government schools (2551 LP, 957 UP and 984 HS), about 60 percent are private aided (4003 LP, 1870 UP and 1409 HS) and about 4 percent are unaided schools (158 LP, 124 UP and 215 HS). Nevertheless, it is reported that private spending on education has been rising steadily and in 2004 the average household with children spent Rs. 6,600 (about £82.19 at 2008 March exchange rates) (Amanda, 2005, also in <http://www.education.kerala.gov.in/statsindex.htm>). In higher secondary level, there are about 45 percent government run schools, 54 percent aided schools and less than one percent unaided private schools (Kerala Department of Education, 2000).

CBSE and ICSE syllabuses

There are also syllabuses other than state syllabus namely CBSE (Central Board of Secondary Education) and ICSE (Indian Council for Secondary Education). The Kerala CBSE schools come under the supervision of the regional office at Chennai. Its medium of instruction is either in English or in Hindi with the purpose of serving the educational institutions more effectively. There are 19 Kendriya Vidyalaya schools in Kerala (<http://kvsangathan.nic.in>). There are 16 Novodaya vidyalayas in Kerala (http://www.winentrance.com/schools/Jawahar_Navodaya/Kerala/). All these schools are under the central government administration. And the privately managed affiliated CBSE schools run with the higher amount of donation and monthly fee. There are about 100 ICSE (Indian Council for Secondary Education) schools in Kerala.

Most children in ICSE and CBSE schools are from socially and culturally advantaged areas. These schools follow a selective system based on competitive tests even for the very young children. The results of this test will determine whether they gain entry to these schools. Kerala's first generation learner children are very few compared to other parts of India, for instance, there is only 3% of the parents who have not received formal schooling or gained reasonable levels of literacy (Amanda, 2005). However, the children from the poorest backgrounds may still be left out from government schools in some circumstances. Another interesting aspect of the schooling in Kerala is that there are an increasing number of English medium schools in state syllabus together with CBSE and ICSE schools. All these English medium schools are better performing in academic terms and tend to provide a relatively high quality education within a selective and test oriented education system. This has a detrimental impact upon the willingness of such schools to admit children with learning difficulties.

Non-formal (Adult) Education

A programme of non-formal education is intended for dropouts and older people who missed schooling. The first organised introduction of adult and non-formal education in Kerala started with the people's library movement with the establishment of Trivandrum Public Library by Maharaja Swathi Thirunal in 1819, which was later influenced by the spread of western education, strongly supported by successive governments and active involvement of various social and political organisations (Ramannair, 1993). It was further strengthened by the formation of '*Kerala Grandhashala Sangham*' in 1941 which won the Krupsakaya Award in 1975 from UNESCO (Government of Kerala 2005) and is now firmly established through the Kerala State Library Council, democratically run but with state government funding (Pillai 2003). Another major development in adult and non-formal education took place with the formation of KSSP (*Kerala Shashtra Sahitya Parishad*, which translates literally as the Kerala Science Literature Group) in 1962 with the motto of 'science for social revolution', which was instrumental in establishing the people's science movement in India. The main focus of this organisation was to communicate western science in Malayalam to the local people and it has become a movement for the mass dissemination of science in Kerala. In 1974, a Kerala State Literacy Council was set up to provide '*Saksharatha*' (literacy) to the people of Kerala. The Total Literacy Campaign of 1989 to 1991 was another major initiative in adult and non-formal education. All these developments were highly influential achieving the most literate state status in India. In fact, out of the ten most literate Districts in India in 2001, seven were in Kerala and one is Mahe, a part of the union territory of Pondicherry and an enclave within Kerala (Census Division, Office of the Registrar General, India, 1994; Census Division, Office of the Registrar General, India, 2004). Currently non-formal education is focussed on continuing human resource development for the new literates and expanding the literacy activities to socio-economically marginalised communities with the support of an agency namely KANFED.

Appendix III

DSM IV (TR) Diagnostic Criteria for Attention-Deficit/Hyperactivity Disorder (ADHD)

A. Either (1) or (2):

(1) *inattention*: six (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

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

(2) *hyperactivity-impulsivity*: six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity

- (a) often fidgets with hands or feet or squirms in seat
- (b) often leaves seat in classroom or in other situations in which remaining seated is expected
- (c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- (d) often has difficulty playing or engaging in leisure activities quietly
- (e) is often "on the go" or often acts as if "driven by a motor"
- (f) often talks excessively

Impulsivity

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

- B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.
- C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).
- D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
- E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorders, or a Personality Disorder).

Code based on type:

314.01 Attention-Deficit/Hyperactivity Disorder, Combined Type: if both Criteria A1 and A2 are met for the past 6 months

314.00 Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type: if Criterion A1 is met but Criterion A2 is not met for the past 6 months

314.01 Attention-Deficit/Hyperactivity Disorder, Predominantly Hyperactive-Impulsive Type: if Criterion A2 is met but Criterion A1 is not met for the past 6 months

Coding note: For individuals (especially adolescents and adults) who currently have symptoms that no longer meet full criteria, "In Partial Remission" should be specified.

Source: <http://www.behavenet.com/capsules/disorders/adhd.htm>
Accessed online on 03 August 2006

Appendix IV

Letter of permission to Visiting Schools researching on 'Attention deficit hyperactivity disorder (ADHD) within a South Indian (Keralian) mainstream school context'

Dear Sir/Madam,

This is Johnson Jament pursuing PhD research study at the University of Northampton, England. I am originally from Trivandrum. As part of my study, I am planning to conduct research in some schools in Trivandrum area including yours if I could get your permission.

First up all, I would like to visit your school and discuss my research with you and your teachers of primary class one to four teachers. I just want to know whether you will be able to give an appointment to visit your school. All formalities of the research process will be discussed when we meet face to face.

Thank you very much in advance for your support. I am looking forward to meeting you and some teachers for the discussion about the research.

Please do feel free to contact me at:

Centre for Special Needs Education and Research
School of Education
University of Northampton
Boughton Green Road
Park Campus, Northampton
England, NN2 7AL
Tel: _____
Email: _____

Local address:

TC 47/295
Near Church
Poonthura P. O
Trivandrum-26
Tel: _____
Email: _____

Yours Sincerely,

Johnson Jament

Letter of seeking permission to conducting the research on 'Attention deficit hyperactivity disorder (ADHD) within a South Indian (Keralian) mainstream school context'

Dear Sir/Madam,

Thank you very much for permitting me to visit your school. Further to this, I am very happy to pursue the research in your school. As I discussed with you, this research is about identifying children with 'attention deficit hyperactivity disorder (ADHD)' and management of their special educational needs associated with this condition.

Let you know that I have also secured permission to conduct the research in schools in Trivandrum area from the Department of Education, Kerala state. The signatory of honourable Education Secretary for general education is attached with this letter.

The research will take place in the course of an academic year (June 2007-March 2008). During this period, I would be collecting data from your staff to identify children with ADHD characteristics in your school. The research is also tends to study teachers and parents interpretations of children's such characteristics and what they would do for these children. This would give some ideas of maintaining positive aspects of their schooling and proposing an educational provision which would be suitable for their appropriate education.

In the first part of the data collection, I will be interviewing teachers (some of them already interested-as you know- and also those who free to interview at the proposed time) one-to-one and face-to-face. This will guide me in further investigation by observing children in classes and interviewing teachers. I would also like to scrutinise some documents for the research purpose. As this research has adopted flexible study design, some of the methods of data collection will be emerged from the initial data. In each stage of data collection and adoption of a particular instrument will be informed to the teachers prior to the application (Please refer to the signed Ethical Code attached to this letter).

I would be very grateful if you could approve that I can conduct this research in your school. Should you require further information related to any aspect of this research, please let me know. You can contact me at the following addresses:

Centre for Special Needs Education and Research
School of Education
University of Northampton
Boughton Green Road
Park Campus, Northampton
England, NN2 7AL
Tel: 0044 1604 892395
Email: _____

Local address:

TC 47/295
Near Church
Poonthura P. O
Trivandrum-26
Tel: _____
Email: _____

Thank you very much for your cooperation.

Yours Sincerely,

Johnson Jament

Letter of consent to teachers for an interview for researching on 'Attention deficit hyperactivity disorder (ADHD) within a South Indian (Keralian) mainstream school context'.

Dear teacher;

This research is my study in Education in the University of Northampton, the UK. As part of my research, I would like to seek your consent for participating in the research. To conduct the research, I will be collecting data from a range of people in education. The focus of this interview is to investigate children's difficulties in classrooms in terms of learning, relationship and academic achievement. The research also tends to examine your perceptions about children's these difficulties and what you do with them for their improvement.

The interview will be in semi-structured format and lasts for about 45 minutes. I am very grateful if you could spend time with me for this purpose. Your information will be kept in confidence and your identities will not be revealed without your permission. You have the freedom to withdraw from the interview at any stage of the study. Your co-operation will be greatly appreciated. Should you require any further information related to any aspect of this research, please do feel free to contact me at:

Johnson Jament
Centre for Special Needs Education and Research
University of Northampton
Boughton Green Road
Northampton, England
NN2 7AL.

Email: _____

Tel: _____

Thank you very much,

Johnson Jament

Letter to the parents of the schools for the research on 'Attention deficit hyperactivity disorder (ADHD) within a South Indian (Keralian) mainstream school context'

Dear parent,

I am Johnson Jament. As you might have been informed by the school, I would like to interview for the research which is part of PhD study. If you could tell me your interest in the research and your preferred time, I would like to meet you wherever it is convenient to you. The permission to do this research is attached with this letter.

I will discuss the formalities and research procedures when I meet you in person. In the meantime, I will let you know that your information will be kept in confidential and your names will not be revealed to any third party or without your permission. The information will be only used for academic purpose.

Thank you very much in advance.

You can contact me at this address below.

Centre for Special Needs Education and Research
School of Education
University of Northampton
Boughton Green Road
Park Campus, Northampton
England, NN2 7AL
Tel: 0044 1604 892395
Email: Johnson.jament@northampton.ac.uk

Local address:

TC 47/295
Near Church
Poonthura P. O
Trivandrum-26
Tel: 0471 2380408 (home)
Email: _____

Yours Sincerely,

Johnson Jament

Interest in the interview:

My preferred time: _____

My name: _____

My Signature: _____

My contact details: Tel: _____ Email: _____

Appendix V

Ethical Code of the research on 'Attention deficit hyperactivity disorder (ADHD) within a South Indian (Keralian) mainstream school context'

PhD research to be conducted from September 2006 to September 2009

This code is informed by the principles established in the revised Ethical Guidelines for Educational Research (2004) issued by the British Educational Research Association (BERA). It is also informed by the Research Ethics Committee Guidance of the University of Northampton. Meanwhile, the researcher will work in accordance with the ethical guidelines for conducting educational research in India. He will also abide by the research norms and values as commonly practised by educational professionals in India.

The researcher recognises the rights of all participants including teachers, children and their parents. Their confidentiality will be protected at all times. Participants in the research have a right to withdraw from the process at any time and will be informed of this right. Voluntary informed consent will be sought before any forms of research are conducted with any informants as part of the research process. In the case of the teachers, their consent will be sought from head teachers prior to the research and subsequently teachers themselves. In the case of the pupils, the consent will be sought from through their teachers or parents. Let teachers know that the pupils have the right to refuse participation and will not be pressured or coerced into taking part in the research although they will not be informed that they are being observed. In consideration of the parents, their consent will be sought before collecting any information from them.

The researcher is under an obligation to describe accurately, truthfully and fairly any information obtained during the course of the research. The identity of the participants will remain anonymous and confidential throughout the research process and in the report the thesis. The information collected will be used for academic purposes only. It will not be given to any third party.

The research report in thesis form will be made available in both paper and electronic format to the head teachers of the participating schools and the Government of Kerala. This thesis will also be made available to the respective local educational authority as required. Once agreed, no part of this ethical statement may be changed or modified without justification and recourse to discussion with all interested parties.

Name of the researcher:

Date and Signature of the researcher:

**BERA (2004) Revised Ethical Guidelines for Educational Research (2004).
Southwell: British Educational Research Association.**

**Research Ethics Committee (2006) Research Ethics Committee
Guidance of the University of Northampton. Northampton: The University of
Northampton. Available online at:
[http://www.2.northampton.ac.uk/portal/knowledgeexchange/homepage/Grad
School/student-toolkit#Ethical Approval](http://www.2.northampton.ac.uk/portal/knowledgeexchange/homepage/GradSchool/student-toolkit#EthicalApproval). [Accessed May 15 2007]**

Appendix VI

Adapted version of ADHD checklist

(This checklist was attached with interview schedule) (English Version)

Use the checklist below to assess your children, can you find some children fit into these characteristics in your classroom?

Inattention Check	Teacher's Response
1. Often does not listen to anything carefully	
2. Often appears very gloomy (feeling down) in classroom	
3. Often seems very lazy or does not take interest in any classroom activities	
4. Often irresponsible	
5. Often need 'force' from teachers	
6. Always need support from others	
7. Often appears not listening/always seems daydreaming	
8. Often need to tell instructions repeatedly (like a tube light)	
9. Often wandering here and there/distracted by other (s)' events/activities	
10. Often does not sustain attention for long/show limited focus or loses interest after a while	
11. Easily forget things	
12. Often loses things	
Hyperactivity Check	
13. Often overactive	
14. Often leave tasks unfinished/tendency to finish very quickly	
15. Often unable to sit quiet when seating is expected	
16. Often makes unwanted noises in class	
17. Always on the go	
18. Often seems lack of control	
19. Often too talkative	
20. Often blurt out answers	
21. Often unable to wait turn/impatient	
22. Often fighting with others	
23. Unable to respond to discipline	
24. Often gets physical punishment	

Appendix VII

Interview Schedule for Teachers

Interview schedule

Title: An investigation into the identification and remediation of attention deficit hyperactivity disorder (ADHD) and those social and cultural influences which determine educational provision within a South Indian context

- Semi-structured interviews
- Specific questions will be drawn from the list depending on the particular interviewee

Background information of the interviewee

Name of the interviewee:.....

Gender:.....

Name of the school:

Person interviewing:

Day

Date

Time

Enclosed:

BERA (2004) Ethical Guidelines

The Kerala government permission letter

Consent forms

Letter from the University of Northampton

Research proposal

Interview Questions	Why am I asking this question?	What will I do with this information?	Will the respondent be able to answer the question?	Probes and Prompts	Non-verbal clues
1. How long have you been teaching?	-To establish rapport -To know teachers' background, experience	I will use this information for understanding teacher's knowledge and experience	Definitely yes	Are all these years in the same school?	
2. How do you feel about your school?	-to make the interviewee comfortable enough to talk to -general information about school practices, difficulties if any.	This may guide me to structure the following questions	Yes		
3. What are the best things about teaching in your present class?	-positive feedbacks about the school -which will lead into the negatives	Comparison of favourable and unfavourable experiences at home	YES	Can you provide some examples?	
4. Is there something different about teaching in your class?	-moving into specific questions -general difficulties as a teacher	Finding the difficulties faced by the parents Academic or learning difficulties	YES	IF (YES), what are the difficulties? Are these difficulties related to specific pupils?	

				Tell me more about these pupils	
5. Are there particular children with behaviour problems in your class?	-to find out child's behavioural difficulties	Helpful for collecting relevant information	YES	IF YES, How many children with these difficulties? Are these children of the same sex or different? What kind of difficulties do they have?	
6. Are there particular children who have learning difficulties?	- to find out learning difficulties of the children	To get into knowing academic difficulties and 'ADHD' characteristics	YES	If YES, What kind of difficulties these children show? Are the difficulties related to specific pupils? Tell me about these pupils	
7. Do you think are there any children with concentration problems?	-To understand the attention level of the child	Explore concentration problems Compare and contrast with existing research findings and 'ADHD' characteristics	YES	If YES What are their difficulties? Are these difficulties with some sex or different? Tell me about these	

		ics		pupils	
Giving them Checklist	Can we look at the children in your class who have behaviour and concentration (attention) difficulties are at a time using the checklist?				
<u>Post Interview Sheet</u>					

Important notes:

- The interview was conducted according to the preferred time and location of the teachers within the school
- Purpose of the interview was discussed with the teacher prior to the interview
- Informed consent from teachers written as well as oral
- Discuss the interview outcomes with the teacher

Appendix VIII

Interview Questions for parents

Interview type: Informal

Part A

- Does your child enjoy school?
- Are all these years in the same school?
- How do you feel about your child's school?

Part B

- What are the things your child does well?
- Can you provide some examples?
- Are there some things which your child finds as difficulties?
- IF (YES), *what are the difficulties?*
- *Are these difficulties related to specific aspects of learning?*
- Tell me more about these (e.g. when was such difficulties started? How long has it been present?)

Part C

- How does your child behave at home?
- IF (some negative behaviours),
- What kind of difficulties does he have?
- Can you compare with your other children (if they have any)?
- How often does he show these difficulties?
- Tell me more about these (e.g. when was such difficulties started? How long has it been present?)

Part D

- How does your child behave at school? If (some negative report from the school)
- What kind of difficulties does he have at school?
- Are the difficulties related to specific aspects of learning?
- Tell me about such things (e.g. when was such difficulties started? How long has it been present?)

Part E

- What is the level of concentration of your child? If (something noticeable negatively)
- What are their difficulties?
- Are these difficulties with some specific things?
- Tell me about such things (e.g. when was such difficulties started? How long has it been present?)

Notes:

- The interview was conducted according to the preferred time and location of the parents within the school context and home contexts
- Purpose of the interview was discussed with the parent prior to the interview
- Informed consent from teacher written and/or oral
- Discuss the interview outcomes with the parent

Appendix IX

Structured Observation Schedule

Observation type: non-participant observation

Date:					School:					Observer:			
Other Adults Present: Y/N ()													
Participant ID:					Lesson:					No:			
Type of activity													
											(positive)	(negative)	
Categories of Behaviour	0-5 m	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	Sub Totals	Teacher behaviour	Teacher behaviour	
1. <i>Inattentive</i>													
2. <i>Appears gloomy</i>													
3. <i>Lazy</i>													
4. <i>Irresponsive</i>													
5. Need 'force' from teachers													
6. <i>Disorganised</i>													
7. <i>Daydreaming</i>													
8. Needs repeated instructions													
9. <i>Distracted</i>													
10. <i>Short attention span</i>													
11. <i>Forgetful</i>													
12. <i>Idle</i>													
13. <i>Hyperactive</i>													
14. <i>Unquiet</i>													
15. <i>Out-of-seat</i>													
16. <i>Intrrupting</i>													
17. <i>Fidgety</i>													
18. <i>Aggressive</i>													

19. <i>Talkative</i>													
20. <i>Blurting out answers</i>													
21. <i>Impatient</i>													
22. <i>Fighting</i>													
23. <i>Indiscipline</i>													
24. <i>Often gets physical punishment</i>													
Total:													
Notes/Other Behaviours:													

Definition of the characteristics

1. <i>Inattentive</i> (fails to give close attention, not listening what expected to listen)
2. <i>Appears gloomy</i> (feeling down, appears sad or depressing)
3. <i>Lazy</i> (avoids, dislikes, or reluctant to engage in tasks)
4. <i>Irresponsive</i> (not or fails to follow or understand instructions)
5. <i>'Forced learner'</i> (Need 'force' from teachers to engage in learning)
6. <i>Disorganised</i> (difficulty in organising tasks and activities)
7. <i>Daydreaming</i> (appearing not listening, staring into space)
8. <i>'Slow learner'</i> Needs repeated instructions (often need to tell instructions repeatedly or 'blink' like a tube-light-takes time to be lightened)
9. <i>Distracted</i> (distracted by external things or losing contact with important stimuli at times; wandering here and there/distracted by other (s)' events)
10. <i>Short attention span</i> (does not sustain attention or listening for long/show limited focus/looses interest after a while)
11. <i>Forgetful</i> (forget things needed for activity or task or even content of the some aspects of the learning)
12. <i>Idle</i> (loses things necessary for tasks or activities)
13. <i>Hyperactive</i> (excess motor activity or non-stopping in doing sth which irrelevant to the situation)
14. <i>Unsettled</i> (leaves tasks unfinished or tendency to finish very quickly)
15. <i>Out -of-seat</i> (lack of self control or runs excessively in inappropriate situations)

16. <i>Intrruptive</i> (disturb and/or destroy things, shouting out, interrupting other children, making excessive noise)
17. <i>Fidgety</i> (tapping pencil, hands, feet or squirming in seat)
18. <i>Aggressive</i> (destructive or on the go)
19. <i>Talkative</i> (always on the talk)
20. <i>Blurting out</i> answers
21. <i>Impatient</i> (difficulty in turn taking)
22. <i>Fighting for anything</i> (lack of emotional control)
23. <i>Indiscipline</i> (unable to respond to discipline)
24. <i>Often gets physical punishment</i>

Notes:

- Purpose of the observation was discussed with the teacher prior to the observation
- Informed consent from teachers to observe the target child and the respective teacher (but not from the observed children)
- Discuss the observation outcomes with the teacher (but not from the observed children)

Appendix X

Behaviour Rating Scale

Covering Letter to the teacher in collecting data through behaviour rating scale for the research on 'Attention deficit hyperactivity disorder (ADHD) within a South Indian mainstream school context'

Dear teacher,

Thank you very much for your cooperation to the research so far. Your comments and appreciation of the research are valuable and worthwhile for this nature of the research. As I discussed with you previously, I will need some more information from you for the research. This time, I would like you to look at the rating scale attached with this letter.

The purpose of this tool is to identify academic, social and behavioural difficulties of the target child. This is also intended to know whether the child has any changes of his behaviours after our initial discussion some months ago. There are 52 items and four rating scales. Please give kind attention to each item and rate accordingly. I will be providing any additional information or support if you require completing this exercise. Let you know that instructions are provided in each of the four sections.

Thank you very once again for your time, willingness and cooperation.

Yours Sincerely,

Johnson Jament

School Information

School	
Telephone Number	
Head Teacher	
Religious character	
School category	

Information about the child

Name Gender

Date of Birth Year Group

Is the child in the correct year group?

Caste/class Medium of Language

Current Address

Current attendance

Teacher assessment of child's attainment (above average/average/below average)

<i>Subject</i>	<i>Current Level</i>	<i>Level for Previous Year</i>
Reading and Writing		
Speaking and Listening		
Maths		

Exclusion history

<i>Permanent / fixed term</i>	<i>Date</i>	<i>Duration</i>	<i>Reason</i>

BEHAVIOUR RATING SCALE

Teacher:

Date:

Please circle each of the following behaviours in the appropriate column. Your decision will depend on:

- a) whether or not it is disruptive or cause for concern in a given situation
- b) the number of times you would expect an average pupil to do such a thing

A: Academic Difficulties (the difficulties in learning such reading, writing and arithmetic)

- 0 slightly true (as far as you know)
- 1 some what or sometimes true
- 2 very true or often true
- nn this does not apply to the pupil

- | | | | | |
|--|----|---|---|---|
| 1. difficulty completing tasks | nn | 0 | 1 | 2 |
| 2. fails to complete tasks | nn | 0 | 1 | 2 |
| 3. avoids tasks which need mental effort | nn | 0 | 1 | 2 |
| 4. arithmetic problems | nn | 0 | 1 | 2 |
| 5. sloppy handwriting | nn | 0 | 1 | 2 |
| 6. poor spelling | nn | 0 | 1 | 2 |
| 7. difficulty in learning | nn | 0 | 1 | 2 |
| 8. not completing homework | nn | 0 | 1 | 2 |
| 9. achievement about one year behind | nn | 0 | 1 | 2 |
| 10. poor reading | nn | 0 | 1 | 2 |
| 11. poor memory | nn | 0 | 1 | 2 |

B: Attention Difficulties (the difficulties seriously influence children's ability to concentrate in classroom activities)

- 0 would mean it occurs a usual number of times compared to an average pupil
- 1 occurs more than a usual number of times compared to an average pupil
- 2 occurs considerably more than a usual number of times compared to an

average pupil
nn this behaviour does not apply to the pupil

12. hard time paying attention	nn	0	1	2
13. not focusing on a task	nn	0	1	2
14. fidgets a lot	nn	0	1	2
15. distracts easily	nn	0	1	2
16. when eyes are not on, loses it	nn	0	1	2
17. daydreaming	nn	0	1	2
18. does not answer anything quickly	nn	0	1	2
19. complete task only with supervision	nn	0	1	2
20. appears to lack leadership	nn	0	1	2
21. trouble concentrating	nn	0	1	2
22. forgetful	nn	0	1	2
23. loses things	nn	0	1	2
24. careless mistakes	nn	0	1	2

C: Behavioural Difficulties (the difficulties seriously disrupt the classroom activities)

- 0 would mean it occurs a usual number of times compared to an average pupil
- 1 occurs more than a usual number of times compared to an average pupil
- 2 occurs considerably more than a usual number of times compared to an average pupil
- nn this behaviour does not apply to the pupil

25. always on the go	nn	0	1	2
26. hard to control	nn	0	1	2
27. runs excessively	nn	0	1	2
28. restless	nn	0	1	2
29. difficulty waiting	nn	0	1	2
30. difficulty being quiet	nn	0	1	2
31. blurts out answers	nn	0	1	2
32. makes inappropriate noises	nn	0	1	2
33. overly sensitive	nn	0	1	2
34. demands must be met immediately	nn	0	1	2
35. demands teacher's attention	nn	0	1	2
36. taps pencil/ruler	nn	0	1	2
37. bangs furniture	nn	0	1	2
38. stamps feet	nn	0	1	2

D: Social Difficulties (the difficulties seriously influence children's ability to make friendships and develop social skills through classroom activities)

- 0 Strongly Disagree
- 1 Disagree
- 2 Strongly Agree
- nn this behaviour does not apply to the pupil

39. no friends	nn	0	1	2
40. loses friends	nn	0	1	2
41. does not make friends	nn	0	1	2
42. does not get invited	nn	0	1	2
43. fighting	nn	0	1	2
44. comments on everyone else	nn	0	1	2
45. very immature	nn	0	1	2
46. very uncooperative with classmates	nn	0	1	2
47. very easily angered everybody around him	nn	0	1	2
48. interrupts others	nn	0	1	2
49. quarrelsome	nn	0	1	2
50. uncooperative with teacher	nn	0	1	2
51. denies mistakes/blames others	nn	0	1	2
52. no sense of fair play	nn	0	1	2

Appendix XI: Categories and Coding Scheme

Participant ID	Ramu (pseudonym), age 10 in class 3 C-Teacher Interview 10									
School	School C, managed byand located in.....									
Gender: Boy or girl (Tick as appropriate)										
Codes	0-5 m	5- 10	10- 15	15- 20	20- 25	25- 30	30- 35	35- 40	40- 45	Sub Totals
1. NLC										
2. AG										
3. LNI										
4. IR										
5. FL										
6. NSO										
7. AD										
8. NRI										
9. DI										
10. AS										
11. FT										
12. LT										
13. A										
14. TU										
15. SQ										
16. UN										
17. AoG										
18. AoC										
19. A										
20. OA										
21. WT										
22. I										
23. N										
24. PP										

Inattention Check	Categories	Codes
1. Often does not listen to anything carefully	Not Listening Carefully	NLC
2. Often appears very gloomy (feeling down) in classroom	Appears Gloomy	AG
3. Often seems very lazy or does not take interest in any classroom activities	Lazy No Interest	LNI
4. Often irresponsible	Irresponsible	IR
5. Often need 'force' from teachers	Forced Learner	FL
6. Always need support from others	Need Support from Others	NSO
7. Often appears daydreaming	Appears Daydreaming	AD
8. Often need to tell instructions repeatedly (like a tube light)	Need Repeated Instructions	NRI
9. Often wandering here and there/distracted by other (s) events/activities	Distractive	DI
10. Often does not sustain attention for long/show limited focus or loses interest after a while	Low Attention Span	LAS
11. Easily forgotten things	Easily Forgotten Things	EFT
12. Often loses things	Often Loses Things	OLT
Hyperactivity Check		
13. Often overactive	Overactive	OA
14. Often leave tasks unfinished/tendency to finish very quickly	Leave Tasks Unfinished	LTU
15. Often unable to sit quiet when seating is expected	Unable to Sit Quiet	USQ
16. Often makes unwanted noises in class	Makes Unwanted Noises	MUN
17. Always on the go	Always on the Go	AoG
18. Often seems lack of control	Lack of Control	LoC
19. Often too talkative	Talkative	TA
20. Often blurt out answers	Blurt out Answers	BoA
21. Often unable to wait turn/impatient	Unable to Wait Turn	UWT
22. Often fighting with others	Fighting	FI
23. Unable to respond to discipline	Indiscipline	IN
24. Often gets physical punishment	Gets Physical Punishment	GPP

Appendix XII

Categories and Codes for Final Data Analysis

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
Inattention Characteristics (IC)	Hyperactivity Characteristics (HC)	Impulsivity Characteristics (IMC)	School Background (SB)	Teacher Background (TB)	Pupil Background (PB)	Academic Problems (AP)	Behavioural Issues (BI)	Social Issues (SI)	Knowledge of ADHD (K)	Teacher Attitudes	Teacher Beliefs (TC)	Teacher Interventions (TI)	Pupil Changes (PC)	Communication (C)	School Policy (SP)	Exclusion/Inclusion (EI)	External Support (ES)	Parent Concerns (PC)	Home Support (HS)
Nine categories of DSM IV (TR)	Five categories of DSM IV (TR)	Four categories of DSM IV (TR)	Physical location, facilities, class size etc.	experience, training and awareness of ADHD	Socio-economic, noted disability etc.	Learning and academic performance etc.	Inter-nalising and externalising behaviours	Relationships in the classroom	Whether participants have any idea on ADHD	Positive attitudes towards them	What teachers think about these characteristics	Teachers' positive and strategies	Impact of teacher interventions	Discussion, meeting between teachers and parents	Behavioural policy towards children	Whether children engaged in learning	Any other support outside the school	Parents' worries, issues with children	Parents positive and negative support

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