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Case Studies Regarding Assessment of Intervention Strategies for Preschool Age Children At-Risk for Attention Deficit Hyperactivity Disorder (ADHD)

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CASE STUDIES REGARDING ASSESSMENT OF INTERVENTION STRATEGIES FOR PRESCHOOL AGE CHILDREN AT-RISK FOR ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

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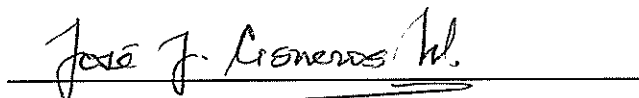

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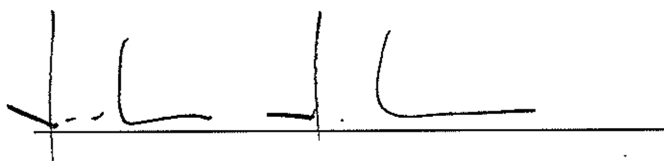

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Resumen

Cuatro niños de cuatro años de edad, quienes fueron considerados, por el Departamento de Necesidades Especiales de un colegio privado de la ciudad de Quito, como estudiantes en riesgo de desarrollar el Trastorno de Déficit de Atención e Hiperactividad (TDAH), participaron en un estudio de caso cualitativo exploratorio dirigido a evaluar el uso de estrategias adecuadas para una intervención temprana. Durante ocho semanas, la profesora de la clase, una profesora del aula de recursos y un para-profesional usaron varias estrategias que intentaban mejorar el auto-control de los cuatro niños, y disminuir la inatención, impulsividad e hiperactividad. A través de un análisis inductivo de la información recolectada, se identificaron categorías específicas, y de esa manera se realizó una descripción de cada caso, se presentaron los hallazgos detalladamente, y la aplicación de las estrategias conductuales fue considerada. Una mejoría considerable se dio en cuanto al auto-control; sin embargo, cada caso tuvo un desarrollo diferente de acuerdo a factores externos que afectaron su desenvolvimiento. Las implicaciones de este estudio en el campo de Educación Especial fueron discutidas.

Abstract

Four children, age four, who were considered by the Special Needs Department of a private school of Quito at risk of developing Attention Deficit Hyperactivity Disorder (ADHD), participated in a exploratory qualitative case study addressing adequate early intervention strategies to be used by the classroom teacher and special education teachers. During eight weeks the core teacher, a resource room teacher and a paraprofessional used a variety of strategies that attempted to improve self-control and lessen inattention, impulsivity and hyperactivity. Throughout an inductive analysis of the collected data, specific categories were identified, and so the general background of each case was described, the findings were stated in a detailed way, and the application of the behavioral strategies was considered. Major improvements were found regarding self-control; however, each case had a different development according to external factors that affected each child. Further implications of this research in the field of Special Education are discussed.

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CHAPTER I
INTRODUCTION

The world of children has always been an everlasting source of inquiry and research, since every child is a unique being and each situation is never similar to another. For many years educators have been asking why some students simply do not *fit into* their classes. Learning disorders have been identified as one of the elements that may be the cause of children not fitting in class, they possibly change the dynamics of a class. The most important action to be performed is to detect possible learning disorders as soon as possible because early intervention makes a great difference in childhood development as a whole (Fratt, 2005).

During approximately the last 20 years, two new terms have been included in our everyday language, and they are Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD) (Armstrong, 1999). These two concepts are not only used by teachers, neurologists and psychologists, they are also used by the people that know something about the condition of lacking a normal attention or showing extreme activity or impulsivity. However, these concepts are not completely understood by all the people that use them. As Armstrong (1999) states, ADD and ADHD have a neurobiological basis, and that is why people with the disorder are people who may need special education or attention; therefore, there is much more than just a disorder. Not only the person is affected but also all the family, friends and community can be affected somehow. As a matter of fact, if a child has been diagnosed with ADD or ADHD and if the learning community is committed to helping the student, then this

community would be composed of the parents, the teachers, the administrators, the psychologists, and even the child himself and they will be permanently involved in the treatment.

ADHD (Attention Deficit Hyperactivity Disorder) is a syndrome that affects 1.6 million elementary school children in the United States of America according to the latest statistics of the Centers for Disease, Control and Prevention (CDC, 2005). Since it was introduced as a learning disability, teachers and parents are better able to detect the disorder in time because of all the information, strategies, tests and other kinds of tools available to do it. If children develop ADD or ADHD and remain undetected, they may not only suffer from terrible drawbacks in all the developmental domains, but they will also be severely affected in their self-esteem, and as a result the possibilities of dropping out of school will clearly increase (Armstrong, 1999). The same is true about any other learning disorder; however, it is not easy to help these children overcome their weaknesses. A great deal of support is needed from teachers, psychologists and parents. Consequently, all of these people should be involved in helping identify children that may be at risk of developing ADD or ADHD, in such a way that an early intervention program could be applied.

Nevertheless, although many efforts have been made, there are still too many doubts and questions about which strategy to propose or implement to prevent disabilities in young children. The "setting in which students with disabilities should receive educational and related services is a much-discussed, much-debated topic" (Smith, Polloway, Patton and Dowdy, 2004, p.17) and this is

the reason why many options should be considered.

As a matter of fact, the Office of Special Education and Rehabilitative Services of the Department of Education of the American Government designed, in July, 2000, the Individualized Education Program (IEP) that attempts to assist parents, teachers and the students with learning disabilities. The Individualized Education Program is a helpful guide for the learning community to develop a plan that is completely individualized according to the needs of each special student. The concept of Least Restrictive Environment was introduced as part of the IEP, and it refers to the appropriate educational placement of students with special needs. One of the most accepted educational environments nowadays is the inclusion of students in regular classrooms, though some modifications have to be made by teachers to adapt the physical arrangement of the class as well as their teaching strategies. The aim is to get to meaningful and quality education through the inclusion of each individual program in the curriculum in such a way that the students with disabilities can register a normal academic achievement. The IEP may go through modifications according to each school's or student's case (My child's special needs. A guide to the individualized education program, 2000).

It is precisely the opportunity that each school has to modify the IEP according to the students' special needs that makes it complicated to know what is the best option. For example, many schools decide to make use of the special needs department to help these children in a resource room, and that means that the students would be "pulled-out" from their regular classroom at different times of the day. Other institutions prefer the use of paraprofessionals, who are Special

Education teachers that work with students inside the classroom without taking them to another place. These two options have various advantages, like giving students the opportunity to catch up with their friends in the areas where they are weak, but they can also be disruptive for the classroom and confusing for the child (Smith et al., 2004, p. 20-21)

Accordingly, the objective of this research was to study the impact of an early intervention plan for three to four year-old children identified at risk of developing ADD or ADHD through an inclusion program in which teachers would apply instructional and behavioral strategies to help children improve their attention skills and at the same time develop self-control. To do this, four children of a private school were chosen through the suggestions of the Special Needs Department specialist, and then during six weeks their teachers applied various strategies to diminish the disability's traits. The stimulus was applied by the teacher of the participants (to all her group of students without individualization), one Special Education teacher (in a resource room) and the researcher (individually in the classroom as a paraprofessional). To obtain results, the following strategies were used: structured interviews with the teacher and special education teacher were carried out; a daily field log based on informal observations was kept by the investigator; instruments like the report cards handed in to parents every three months were taken into account; parents' perceptions at the end of the year were also considered; and an observation checklist, filled out by the investigator, helped to analyze specific information about each child. It is important to mention that the observation checklist was basically based on the referral checklist used by the Special Needs Department of

the school to maintain their standards; however, some modifications related specifically to the disorder were done based on the literature reviewed. The checklists contain information about motor, language and social skills as well as attention, hyperactivity and impulsivity traits and they were assessed through observation. An example of one of the items is “the child climbs and goes down the stairs alternating the two feet” and the observation will determine if the answer is “yes”, “no” or “sometimes”.

Even though there are clear steps to follow regarding early intervention programs for children identified *at risk*, the Special Needs department is too short in members to care about all the children that have been referred. The members concentrate the most on the students that have severe problems. Students with mild or occasional problems may not receive as much attention. The members of the department are extremely concerned about the situation as well as the teachers that feel a lack of support for some of their kids. If the reality is this, there are many kids that have special needs to be met, including students who may develop ADHD who are not going through an early intervention plan. Therefore, this study attempts to address the situation in such a way that collaboration becomes the basis for the early intervention program. This is based on the idea that the learning community (teachers, parents, administrators, students, etc.) are actively involved in the development of any plan to meet the special needs of each student.

As a matter of fact, the results will be highly meaningful for the school because they will show the effectiveness of considering teachers´ and

paraprofessionals´ support in the classroom, as well as the help obtained from resource room teachers, as a way to improve the early intervention programs that the institution implements currently through the Special Needs Department. This means that the Early Intervention specialists of the school would get more positive results at the end of each school year because of the support given by various members of the learning community. And finally, the members of the Special Needs Department would feel supported and more motivated to work in a cooperative environment since it may be much more beneficial for students and for the institution too.

The objective of any research in education may always be the well being of students. Finding solutions to help children who need special education is still one of the areas in education that needs more research, especially when we talk about inclusion. Any research may help professionals understand more about the right way to carry out intervention programs inside the classrooms, and in that way to prevent children from suffering in the years to come.

CHAPTER II
LITERATURE REVIEW

Early intervention to address preschool students´ special needs is a whole concept that has to be fully understood before developing a plan. Early intervention attempts to prevent, remediate or accommodate certain traits that children show, so that in the future they do not develop learning disabilities or some of their symptoms. (Fuller, 2006). Thus, early intervention is part of special education programs, as it addresses special needs of students to help them access any educational program. To understand this process, a historical background would be the best beginning.

A. A Historical Perspective of Learning Disabilities

The majority of studies in different disciplines have shown great improvements in the last 100 years because of the usefulness of technological tools. The field of education is not the exception. "Today we understand many things about teaching and learning that we had no way of knowing a century, or even a few decades ago" (Tomlinson, 1999, p.17). This better understanding of the learning process has occurred mostly because of the great interest in studying the brain, which has been strongly supported by the revolution of technology.

Historically, education was a privilege for those of the elite with no hope for the rest to benefit from it. As this was true, people with any kind of disability were not even taken as possible candidates to access education. However, in the

1700s some schools for students with disabilities were established in Europe and in the United States of America; nevertheless, it was common to believe that people with physical and sensory disabilities were mentally retarded, so all children with an impairment were sent to the same kind of school programs (Villa & Thousand, 2005).

It was not until the late 1800s that Pierre Paul Broca proposed various revolutionary statements about the way in which the brain works. For instance, he talked about the two hemispheres and the complex and specific functions each of them had. Although it was a very criticized theory, it let people identify all the ways in which the brain helps us learn, and; consequently, people understood that humans could show certain functional disabilities and still be intelligent (Gearheart, 1987).

From then on, "we have witnessed a movement toward mainstream education for many previously segregated learners, a movement sometimes slow and hesitant, but always progressive" (Villa & Thousand, 1995, p.16). This movement of education for the learning disabled has been characterized by different stages. Beginning from complete to relative isolation, then to mainstreaming or integration and now to the universal goal of inclusive education which is a war very hard to fight (Smith et al., 2004; Villa & Thousand, 2005).

Specifically, in the United States of America "in 1958 Congress authorized funds to support and prepare special education teachers" (Villa & Thousand, 2005, p.15) and with this authorization, many laws were issued for the benefit of

all the people with learning disabilities. The Rehabilitation Act, Section 504 was issued in 1973 to protect the rights of people with disabilities regarding employment. In 1975 the Individuals with Disabilities Education Act (IDEA) was passed by Congress to "assure that all children with disabilities have available to them a free appropriate public education which emphasizes a special education and related services to meet their unique needs" (IDEA as cited in Heward, 2000, p.16).

The declaration that all the children, regardless of their disabilities, have the right to be included in public education means that "the federal law stated that children with disabilities have the right to an education in the least restrictive environment (LRE)" (Villa & Thousand, 2003, p. 19). One of the mandatory principles of IDEA declares that children with mild, moderate and severe disabilities have to be placed in regular classrooms with children without disabilities, to the maximum extent possible, considering their qualifications for additional special aides or services (Heward, 2000; Villa & Thousand, 2003). Through these procedures the United States of America has approached the inclusion model in which all the children go to public schools; and this is the reason why the percentage of students with disabilities in regular classrooms has increased dramatically since the 1990s until these days.

Unfortunately, here in Ecuador it is different. Since our country is a poor one, outstanding improvements have not occurred in the field of education because of the lack of economic resources. However, before the 1950s, charity and religious organizations were interested in helping children with severe

disabilities like mental retardation, cerebral palsy or blindness. It is important to mention that in the 1970s an organized group of parents and educators, very concerned about their children with disabilities, caught the attention of governmental departments which took some responsibility for the education and health of people with disabilities. In 1973 the government created the CONAREP, National Council for Professional Rehabilitation *(Consejo Nacional de Rehabilitación Profesional)* which is in charge of including people with disabilities in employment environments. Since 1984 special services for people with disabilities extended all through the country thanks to the cooperation of private international organizations like UNICEF. Finally, in 1992 Congress issued law 180 that talks about a National Plan for disabled people and their right to health and education. With this law the creation of CONADIS, National Council for Disabilities *(Consejo Nacional de Discapacidades del Ecuador)*, was achieved. Since then, CONADIS has been in charge of proposing policies regarding disabilities, promoting research in the field, and coordinating the support of public and private entities to prevent disabilities and to include people with disabilities in society. Thanks to the research carried out by this institution we know that one million six hundred Ecuadorians have been diagnosed with some kind of disability: 592,000 with physical disabilities, 432,000 with mental or psychological disabilities, 363,000 with visual impairments and 213,000 with auditory or language impairments (*Antecedentes históricos de las discapacidades en el Ecuador,* 2006, translation by author).

All throughout the history of education, the concept of disabilities has been a much debated topic. Therefore, it is a field that needs research and decision

making because "society is gradually moving away from the segregationist practices of the past and toward providing all students an equal opportunity to have their educational needs met within the mainstream of general education (Gartner & Lipsky, 1987). It is up to us, educators, to promote equity among all our students.

B. What is a learning disability?

Before understanding what a learning disability is, it is important to understand that a disability in general "refers to the reduced function or loss of a particular body part or organ that limits the ability to perform certain tasks. It is sometimes used interchangeably with the term impairment" (Heward, 2000, p.4). Examples of disabilities are: cerebral palsy, mental retardation, deafness, blindness, etc. If a disability, as the word clearly indicates, involves problems or difficulty when performing certain ability, then, a learning disability has to do with limitations when performing educational tasks.

It is important to note that the term *learning disabilities* requires several social and learning characteristics so that the child can be labeled as impaired to learn (Gearheart, 1987). According to various authors a learning disability can be defined as the discrepancy found between the student's academic performance and his or her real intellectual ability (García, 2001; Gearheart, 1987; Heward, 2000; Major & Walsh, 1977). "Beginning in the late 1880s, the concept and subsequent definitions of *learning disability* developed in a parallel but fairly independent manner within the fields of neurology, psychology, and education"

(Mather & Goldstein, 2002, p. 36). Consequently, due to an effort of specialists in the above mentioned fields, the following definition was proposed by the Nacional Joint Committee on Learning Disabilities of the United States of America in 1989 (as cited in Heward, 2000, p. 247):

> Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction, and may appear across the life span. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, serious emotional disturbance) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction) they are not the result of those conditions or influences.

Therefore, people who have been diagnosed with any kind of learning disability can "see, hear and talk normally and they have an average intelligence that can be, in many cases, above the average. Nevertheless, they show difficulties in learning because they cannot acquire or use information properly due to impairments in memory, language, attention, motor control, perception or conceptualization" (Harwell, 1989, p.3). As a matter of fact, "students with learning disabilities tend to demonstrate more mild problems than severe problems" (Bender, 2001, p. 254). Harwell (1989) states that as children with learning disabilities do not show any physical handicap, people around may not notice they are learning impaired and many times they are misunderstood.

As a consequence, as Major & Walsh (1977) explained learning disabilities are frequently misunderstood because of the complex definition they have been

given. This concept was best illustrated in 1998 by the National Joint Committee on Learning Disabilities of the United States of America (as cited in García, 2001, p. 18, translation by author) which assigned five constructs to the term *learning disabilities*:

1. They are heterogeneous, interpersonally and intrapersonally.
2. They imply meaningful difficulties in the acquisition and use of comprehension, talking, reading, writing, mathematics and reasoning.
3. They are intrinsic of the individual.
4. They can occur together with other disabilities.
5. They are not the cause of extrinsic stimuli

With these clarifications it is understood that diagnosing a learning disability is much more complicated, and has to be done by specialists who have to follow strict protocols like the *Diagnostic and Statistical Manual of Mental Disorders* of the American Psychiatrist Association used to diagnose mental, emotional or behavioral problems.

The causes of learning disabilities are still under discussion. However, the most commonly addressed have to do with prenatal, perinatal or postnatal brain damage and also a heredity factor has also been mentioned as a cause (Gearheart, 1987; Heward, 2000).

Moreover, "most students with learning disabilities show one or more of the following characteristics: reading problems, deficits in written language, underachievement in math, social skills deficits, problems with attention and hyperactivity, and behavioral problems" (Heward, 2000, p. 249). Whenever a student is diagnosed with one of these learning disabilities because of chronic symptoms, he qualifies to be served in special education programs in the least

restrictive environment (Keegan, Brigham, Cardellichio & Brigham, 2005). It is interesting to know that the most common learning disability, identified during the last years, has been reading impairment. Various options have been developed regarding programs to meet special needs of children with this disability.

When we deal with students who are learning disabled we need to know that we are dealing with their special needs. In order to meet these needs, the first step is to identify all the strengths and weaknesses of the student, not only in academic tasks but also in perception, auditory, visual and memory skills (Major & Walsh, 1977). Once the teacher gets this information about the child "instead of simply tasking the student with fewer responsibilities because of his weaknesses, he must be taught how to use a variety of effective learning tools so that he can succeed in the same academic tasks their peers are expected to perform" (Risko & Bromley, 2001, p. 138-139). In this way, the correct level of expectations will be set on the child causing no extra burden on his self-esteem since he will feel as capable as the others in the class.

C. Special Education

Whenever we teach students that have learning disabilities we consider Special Education. "As educators, we are committed to student diversity. We appreciate that learning differences are natural and positive" (Villa & Thousand, 2003, p. 19). Tomlinson (2003) expresses that the basis of Special Education always has to be equity in order to address special needs in positive rather than in negative ways. For instance, instead of looking for deficits or weaknesses,

teachers must look for abilities and strengths to help students overcome their disabilities and succeed in their academic and social life. As a matter of fact,

> special education can be defined from many perspectives. However, it has to be understood primarily as a purposeful intervention to prevent, eliminate, and/or overcome the obstacles that might keep an individual with disabilities from learning and from full and active participation in school and society (Heward, 2000, p. 30-31).

To achieve this goal, a whole analysis of the strengths and weaknesses of these students has to be carried out by a team formed by key members. Consequently, as part of the Individuals with Disabilities Education Act (IDEA), an Individualized Education Program (IEP) has to be developed. "To create an effective IEP, parents, teachers, other school staff--and often the student--must come together to look closely at the student's unique needs" (My child's special needs. A guide to the individualized education program, 2000). The IEP must include a complete description of the child with a justification to be eligible to receive special services. "The program may contain current performance, annual goals, learning and/or behavior management strategies, special education and related services, participation of non-disabled students, participation of standardized tests, dates and places, and transition service needs" (Fratt, 2005, p.1).

"One of the most critical decisions to be made by the IEP team is where the child's needs should be met" (Harwell, 1989, p. 43). Going back to what the IDEA, in the United States of America, and the CONADIS, in Ecuador, say, education shall occur in the already mentioned *least restrictive environment* (LRE). The environment may vary from a homebound or hospital educational

program to the full inclusion of the child in a regular school. Bender (2001) suggests various kinds of environments that exist nowadays and that go from the least common to the most common. The programs assigned to the minority of students are the homebound or hospital ones in which there is no other alternative because of the students' severe symptoms. Then, depending on the seriousness of the disabilities students can be located in separate special schools with no integration at all in a regular school or with some periods of mainstreaming. And finally, the program that is mandatory by the law, in every case possible, is inclusion in regular schools. However, inclusion can have three variations: full inclusion in regular classrooms, full inclusion in regular classes with the help of paraprofessionals to assist the teacher inside the classroom, and inclusion in regular classes with *pull-out* periods in which the kids are taken to a resource room to practice their weak skills with the help of a specialist (Bender, 2001, Fuller, 2006).

Sapon (2003, p.26) believes that "inclusion is about social justice because it helps us create the inclusive, democratic society that we envision for our future". Some of the reasons why inclusion is promoted by many governments around the world are that students are not isolated anymore, they have real role models, they have enriching socialization experiences, they are expected to reach the goals for all the students in the class and that does not only help improve their academic skills but also their self-image (Smith et al., 2004, p.21). Besides, there are few authors like James Kauffman (1995 as cited in Villa & Thousand, 2005, p.18) who still believe that inclusion "ignores or distorts the responsibilities we have to construct the most habitable restrictive environments we can for our students".

Even though each school incorporates inclusion according to their philosophy and policies, the way in which the promotion and implementation of the model is fulfilled has much to do with its success (Villa & Thousand, 2003). "The leadership that each school site chooses to address LRE is critical to how, or even, whether much would be accomplished" (Hasazi, Johnston, Liggett & Schattman, 1994, p.506). Therefore, inclusion assumes that there is more than only one person specialized in learning disabilities. "For inclusive education to work, educators must become effective and efficient collaborative team members" (Villa & Thousand, 2003, p.22) together with parents, paraprofessionals, administrators, advocates and students.

This is the reason why resource rooms and paraprofessionals can become the best solution to address the special needs of some students. Specifically, children who attend resource rooms spend most part of the day in regular classrooms. When they are away from the class and in the resource room, they are learning, practicing or reinforcing specific skills they need to develop to go through the learning process normally. "The resource room placement, coupled with general education placement, is still the most frequently used type of educational placement for students with learning disabilities" (Bender, 2001, p. 263).

On the other hand, "*relief* is the word that many teachers use to describe their experiences of inclusive programs with the support of paraprofessionals who help a student with disability inside their classrooms" (Giangreco, 2003, p.50). Aside from this opinion, there are also specialists that suggest that teachers believe in programs that include paraprofessionals because they relieve them

from the burden of individualizing their classes. However, they are not taking into account relieving students' weaknesses; they may be setting themselves apart from the problem (Bender, 2001; Giangreco, 2003). At any rate, the last word has not been given yet, and according to the literature reviewed, it will not be given in a long time because of the disagreement among authors and the lack of extensive supportive research on the topic. Though the inclusion model demands hard work from the whole learning community, "by embracing it as a model of equity and justice, we can create a world fir for us all" (Sapon, 2003, p.25).

Obviously, in the inclusive model, teachers play an essential role in the success of an IEP. Their full engagement and commitment to help children with diverse needs can even turn into a predictor of good results. "Teachers can be successful by stretching, individualizing, and intensifying teaching models and strategies" (Giangreco, 2003, p. 50-51). In addition, one of the duties of the classroom teachers is to take into account the three Special Education's levels of intervention that Heward (2000) supports: preventive, remedial and compensatory types of intervention.

Usually the IEP multidisciplinary team focuses on trying to remediate the disability or to compensate it through the teaching of skills that may replace the ones that are impaired. In the same way, we have to be aware of certain characteristics that could easily lead teachers to predict some problems in learning through observing of each child while working (Smith et al., 2004), and "this means that by knowing what to look for, teachers can actually *prevent* certain types of learning disabilities" (Bradway & Albers, 2004, p. 3). Through the timely

identification of specific traits in each child, teachers can encounter students that are *at risk* of developing a specific learning impairment. "When one student is not a full participant of his learning process and community, then we are all at risk" (Sapon, 2003, p.27).

To illustrate, the term *at risk* "refers to children who, although not currently identified as having a disability, are considered to have a greater-than-usual chance of developing a disability" (Heward, 2000, p.4). According to several authors, the majority of students considered *at risk* are preschool children due to the fact that no learning disabilities should be diagnosed before the age of 6 or even 10, until students have already developed most of their personality and academic traits (Mather & Goldstein, 2002). Then, what IDEA suggests is to develop an early intervention plan to work on prevention strategies to try to avoid the disability or at least lessen the effects of it in the learning process of the child.

D. Early Intervention

Heterogeneous groups of students are the reality for teachers. Even if they do not encounter special education cases, instructors do have to take into account the learning styles, the needs and the interests of each one of their students. "To say that no problems emerge and that everyone rises fairy-tale-like to the challenge may be satisfying, but it would not be honest at all" (Tomlinson, 2003, p.7). Early childhood (3 - 6 years of age) education is not an exception. Children, no matter how young they are, will show their unique characteristics since the first

day of class. And the goal of every school should be to “educate fully every child who walks through their doors” (Wright, 2006, p.35).

To meet this goal, teachers, principals and specialists have to be aware of identifying young children who might be *at risk* of developing any learning disability on time. It is better to work on an early intervention plan, than to spend the rest of the student´s school life providing special services to remediate the effects of the disability in his learning processes. And this is precisely what happens when interventions are delayed until the child is seven or ten years old and his self-image and self-esteem have already been severely affected (Mather & Goldstein, 2002).

On the other hand, some authors like Fletcher, Francis, Shaywitz, Lyon, Foorman, Stuebing & Shaywitz (1998, p.197) consider that early identification of *at risk* students is not advisable because it can cause serious limitations in the sense that they will not be given the same challenging tasks as their peers, and expectations may be lowered. Brown & Brown (2006, p.27) believe that “while acknowledging student diversity, instead of working on problem prevention and remediation, we should be promoting development”, and they also remind schools that prevention programs represent a great effort and challenge for all the members of the learning community. Though these statements may be valid, it is also true that if teachers let students develop the learning deficit, it can easily become chronic and that will result in the urgent need of applying much more complicated and intensive intervention programs in the future (Wright, 2006).

On the other hand, "effective interventions result in improved academic performance or in that the person has learned to circumvent difficulties (Mather & Goldstein, 2002, p. 29). Thus, "implementing a formal plan for identifying a disability as early as possible in a child´s life" (Heward, 2000, p. 20) is crucial to implement the correct early intervention programs. An early intervention plan has to take into account cognitive, motivational, environmental, and behavioral factors, as well as educational and special health care services, "all considered to reduce the effects of disabilities or prevent the occurrence of learning and developmental problems later in life for children presumed to be at risk for such problems" (Heward, 2000, p. 156; Mather & Goldstein, 2002, p. 41). For example, in the pilot study developed by the author of this research paper, 12 participants were given a pretest and a post test to determine the effectiveness of an early intervention plan. After four weeks of treatment, they showed progress in traits related to self-control and impulsivity. Nine points (out of 16 items of the checklist for Habits and Routines) and 11 points (out of 25 items of the checklist for ADHD traits) of difference between the scores of the pretest and the post test suggested that the use of early intervention programs might help lessen the effects of ADHD in 3 to 4 year-old children with the use of strategies by the teacher during the teaching periods in a classroom.

Law mandates this procedure in the United States of America, and CONADIS in Ecuador strongly supports early intervention programs too. "One of six resolutions passed by the Association for Supervision and Curriculum Development (ASCD) was for full inclusion of special programs that focus on prevention of learning disabilities rather than after-the-fact labeling" (Villa &

Thousand, 2005, p. 19). To assure the success of the preventive strategies to be implemented, the procedure has to be intentional, organized and completely planned, with an explicit requirement of structural and formal goals that have to be based in reliable theory and research (García, 2001). In fact, "multidisciplinary intervention teams are most effective when they follow a structured problem-solving model that will show better student outcomes" (Write, 2006, p.39).

Moreover, remediation and accommodation techniques should be used by the team. To illustrate, remediation stands for activities, aides or special services that can be used to eliminate the learning problem, while accommodation strategies are modifications that teachers make in the physical arrangement of the class, in their instructional strategies, etc., with the same purpose: to avoid or lessen the effects of the learning disability. In fact, "several curricular, instructional and assessment practices that teachers include as part of early intervention programs, benefit all the students in the classroom and help ensure successful inclusion" (Villa & Thousand, 2003, p. 22). Giangreco (2003) gives some practical alternatives that will be helpful for all or at least the majority of students in the class. Some of them are: reducing the number of students per class, working in collaboration and consultation with other teachers, counting on paraprofessionals´ support in planning lessons, or establishing peer support programs.

All these efforts go for *inclusion* as the selection of the *least restrictive environment* for preschool children who are considered at risk of developing learning disabilities. In this way, children will develop emotionally and socially in

the healthiest way possible. All depends in the knowledge and expertise that teachers, paraprofessionals and special education teachers acquire through training and experience in "understanding manifestations of learning disabilities in time, so that they can shift from an approach based on school failure to one based on early intervention and prevention, and so, on success too" (Mather & Goldstein, 2002, p.41).

E. Attention-Deficit Hyperactivity Disorder (ADHD)

One of the learning disabilities that has caused controversy during the last 25 years is Attention-Deficit/Hyperactivity Disorder (ADD or ADHD). To understand the reasons why the disability is so controversial, a detailed definition will be given and its symptoms will be explained.

According to Jensen (1998) attention is one the most important cerebral processes of human beings since its main purpose is survival in any environment we are exposed to. As a result, the person that cannot control her attention span, may be suffering serious impairments in various areas of her life. The same author (1998, p.41) even talks about teachers categorizing students as "good kids" who pay attention, and "problem kids" who do not.

ADD/ADHD has been defined as a psychiatric disorder, characterized by the primary symptoms of inattention and/or impulsivity and hyperactivity, and it is evident in approximately 3-5% of school-aged children, with a gender difference that shows that from seven children diagnosed with the disorder, six are boys and one is a girl (6;1) (García, 2001, translation by author; Monastra, Monastra &

George, 2002). However, every single person may go through inattentive or hyperactive moments during the day or maybe during a certain period in his or her life. This is where the criticism lies, because the disorder can be largely misdiagnosed.

Many people do not belief that the disorder exists because the person with ADHD does not show any special physical characteristics; they look normal. Although there is a high percentage of overdiagnosed cases, ADHD has been proven to occur as a biological disorder through extensive research carried out in four specific fields: neurology, psychology, education and sociology (Armstrong, 1999). Barkley (1999, p.33) assures that ADHD is a real and authentic disorder that, although it was not considered as so 25 years ago, it can become a complex problem and limitation for the person that suffers it because "it is a self-control disorder that causes problems to focus the attention and to control impulses and levels of activity".

Furthermore, several causes have been identified. One of the strongest causes is supported by evidence that there is a brain alteration in people who suffer ADHD. Jensen (1998, p. 49) talks about an abnormal activity in the "outermost right frontal lobe areas and basal ganglia" and this may include central nervous system problems too. So the characteristics occur inside the brain and can become visible through positron emission tomographies (PET), magnetic resonances (MRI) or studies of cerebral glucose metabolism (Armstrong, 1999). In their research, Rapport, Chung, Shore & Isaacs (2001, p.48) suggest that "there are biological influences (e.g. genetics, prenatal insults) that cause

differences in the functional properties of neurobiological systems that are etiologically responsible for the core psychological features of ADHD".

Additionally, though more and more research studies show a neurobiological basis for the disorder, there are also studies that showed a relationship with heredity and environmental factors. In fact, Goodman and Poillon´s (1992 as cited in Heward, 2000, p. 256) "review of 48 articles and books on ADHD written by leading authorities revealed that 38 different causes of ADHD were proposed" and this is the reason why the origin of the disorder is still under the eye of the specialists in the topic. This is also why "a central devoir for researchers and clinicians interested in child psychopathology is to bridge the gap between theory and practice" (Rapport, 2001, p. 3).

Conversely, three specific subtypes of ADHD have already been clearly identified:

> (a) ADHD predominantly inattentive type (ADHD-I) for children who display attention deficits without gross hyperactivity and impulsivity, (b) ADHD hyperactive-impulsive type (ADHD-H-I) for children who display hyperactive and impulsive symptoms without gross inattention, and (c) ADHD combined type (ADHD-C) for children who display both inattentive and hyperactive-impulsive symptomatology (Maedgen & Carlson, 2000, p.30).

To define these subtypes, all the symptoms displayed by individuals who suffer the syndrome had to be taken into account. To illustrate, the American Psychiatric Association (APA) issued the *Diagnostic Criteria for Attention-Deficit/Hyperactivity Disorder (DSM-IV-TR)* that includes a list of inattention and hyperactivity-impulsivity symptoms which help diagnose the impairment in the patient. This diagnostic criterion defines the deficit as minimal brain dysfunction

(Bender, 2001; García, 2001) (See Appendix A). Even though this checklist has been used effectively for many years, there have been other diagnostic tools suggested by experts which are based on social, emotional or behavioral assessments. The results of the research done by Power, Costigan, Leff, Eiraldi & Landaus (2001, p. 399) "indicate that a strategy that aggregates symptoms in the order in which they are accurate in predicting a diagnosis of ADHD is a more effective strategy than the approach used in *DSM-IV* because it involves more sources of information (parents, teachers, etc.) rather than only the specialist's view".

As ADHD can occur together with other learning disabilities, there can be many cases that have been misdiagnosed. In fact, there is evidence that various learning disabilities like Emotional Disturbance or Defiant Behavior have similar symptoms that may be wrongly diagnosed as ADHD but they are just part of another learning impairment (Fuller, 2006). This has caused some researchers to believe that learning disabilities could be grouped into one, whereas the majority of authorities in the field just support the comorbidity or coexistence of learning disabilities (Bender, 2001). Sapir & Nitzburg (1973) agree in diagnosing ADHD as a unique syndrome; the key strategy is to isolate symptoms that do not fit in the profile so that they can be deeply analyzed to discard other disabilities or to diagnose concomitant disorders.

To avoid overdiagnosing or misdiagnosing attention-deficit/hyperactivity disorder, "assessment for ADHD should involve an exhaustive emotional, developmental, behavioral, and medical evaluation by a team of trained

professionals" (Mather & Goldstein, 2002, 59). In addition to the symptoms listed in the *DSM-IV*, there are plenty of lists that include extremely specific examples of symptoms that are essentially the same as the APA criteria. It is important to include two new symptoms that can clarify some perceptions:

- significant problems with working memory (retrieving facts from long term memory to encode and restore new information) that may be the cause of disorganized thinking and actions (Bender, 2001; Rapport et al., 2001).
- lack of correct regulation and intensity of emotions that could be somehow correlated to social status (Maedgen & Carlson, 2000).

It has to be emphasized that individuals with ADHD belong to a society. It is this mere fact that makes the disorder a serious impairment for the individuals to develop and perform normally in their community. Maedgen & Carlson (2000, p.39) concluded, after their research, that "regardless of group, social performance, emotional regulation, and, to a lesser extent, social knowledge appear to be predictive of social status".

Therefore, some secondary problems might appear, and if the disorder is not addressed correctly, those problems can become extremely detrimental for the individual. Apart from the individual, the first people affected negatively are the family who usually lose their temper after many attempts at helping him or her, and sometimes they even feel threatened (Hallowell & Ratey, 2001). Moreover, emotional disturbances like low self-esteem, depression or extreme anxiety can occur together with socialization and health problems. Finally, aside from the

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learning implications of the disorder, in the majority of non-treated cases, the person can lose cognitive or linguistic skills crucial for their school and professional life (García, 2001).

1. *Treatment and Early Intervention*

Weiss & Trokenberg (1993) carried out an intensive research with babies and they found that children that may develop ADHD in the future manifest precursor symptoms since they are born. For example, babies could have long and frequent crying periods unrelated to any other condition, sleeping problems (either they are excessively sleepy or they cannot fall asleep easily) could exist, feeding problems could also appear because of poor sucking or distractibility during feeding, and even vocalization delays.

No significant related studies were found, but the researchers of this interesting study suggest the possibility that early identification may be crucial because parents, specialists and teachers can work on early intervention plans to avoid the disorder or at least to prevent a high intensity of its symptoms. According to the literature reviewed by the investigator of this case study, there are arguments to support early intervention and others that do not. There is not even agreement on the correct treatment for children, youngsters or adults that have already been diagnosed with ADHD since there are various points of view among researchers and specialists.

One of the most popular treatments of ADHD is the medical one. "Ritalin is a central nervous stimulant that inhibits the reuptake of dopamine and norepinephrine, which helps to boost the *signal* of the more important information and helps inhibit some of the distracting motor movements" (Jensen, 1998, p. 50). Stimulant medication increases attention spans and prevents overactivity and impulsivity. However, there are no positive extended effects, and they can cause short and long-term negative consequences like tics and health and cognitive problems (Heward, 2000). Consequently, when medication is used it has to be carefully managed by a specialist so that the individual takes it in the proper way.

Medication alone may not show the expected results; interventions in which Ritalin is combined with the appropriate behavioral strategies can result in greater improvements. If a coherent and constant treatment is carried out, medication can be abolished without any drawback (Garber, Daniels & Freedman, 1996). Society may have to change the perception that ADHD can only be treated successfully with medications especially in the educational realm where strategies can do much more for the child (Pisecco, Huzinec & Curtis, 2001).

If we talk about early intervention, preschool children considered *at risk* of developing ADHD and that have gone through prevention programs may show great improvements in their learning process as well as in their socialization skills. On the other hand, a longitudinal study developed in New Zealand during seven years, showed that early intervention could be postponed until the age of seven when a formal diagnosis could be established (Keegan et al., 2005; Weiss &

Trokenberg, 1993). The diverse results show that there is the need of more research on early intervention programs for young children *at risk.*

What is definitively true is that the application of cognitive, behavioral, emotional and instructional strategies inside the classrooms or in resource rooms can help improve ADHD symptoms (Joselevich, 2003). Self-control, behavior shaping, listening skills, clear rules, schedules and routines, and organization are some of the skills or activities that must be emphasized. Any early intervention program has to be clearly planned, organized and fulfilled. "Clarity also ensures that teacher, learners, assessment, curriculum, and instruction are linked tightly in a journey likely to culminate in personal growth and individual success for each child" (Tomlinson, 1999, p.10).

In conclusion, through the literature review a variety of opinions, points of view and criteria about learning disabilities and the appropriate intervention plans were discussed. The field of education is going through a very accelerated evolution process and this topic is part of that process. Hopefully, in a few more years the answers to the most relevant questions about the best practices regarding learning disabilities will be given. Meanwhile, as teachers in Ecuador, or anywhere in the world, we have to keep struggling to obtain the best results in our classrooms for the benefit of students with special needs and the whole society, and this is precisely the goal of this study.

CHAPTER III
METHODOLOGY

A. Unit of Analysis

This study was carried out in a private school in Quito. The school was founded 11 years ago and its target clients are students of high socio-economic status families. Currently, it has more than 1,300 students and it has four sections that contain from the early childhood program to high school.

The school's mission is to educate each student as a whole being, in such a way that they will be able to participate in their society at different levels. For this reason, they have chosen a full-English immersion program. In the early childhood program, which is the unit of analysis of this study, each class has a head teacher and an assistant. No class has more than 18 students. Adequate spaces have been provided for the classrooms as well as for the playground. The methodology used is based on learning centers where students are given the opportunity to develop different skills each day with the appropriate activities. For instance, there is a Writing Center where students can practice skills needed for writing, the Art Studio where students can practice fine motor skills, etc . There is a specialist in curriculum and planning who is in charge of setting the curriculum of the nursery section. Standards have been established throughout the years, so all the teachers work with them to achieve success through the same methodology (full-immersion program, learning centers, etc.).

In addition, the early childhood program (nursery to second grade) includes a Special Needs Department in which two psychologists are in charge of helping teachers detect special needs in students and address them in the best way possible. The procedures that have to be fulfilled begin with a pre-referral by the head teacher to the Special Needs Department. The pre-referral document is based on a checklist regarding specific behaviors shown by the child that can be classified in different developmental areas (physical, cognitive, emotional, etc.) that has to be completed by the teacher through a deep observation of the child. The pre-referral is filled whenever the teacher notices that the student may be at risk of developing any learning disability or when the student is going through a critical emotional stage. The document has to be discussed in a meeting with the teacher, assistant if possible, and the members of the Special Needs Department. Once the specialists analyze the case, they work on observations to corroborate what the teacher has observed. When they have deeply understood the case, and only when they have an accurate report, they will meet again with the teacher and the principal, if possible. In that meeting they arrange an appointment with the parents of the child in order to agree on the actions to be taken.

B. Role of the Researcher

The entrance of the researcher to the site was, as McMilllan & Schumacher (2001) define it: participant-observer. The investigator took this role because she works in the institution and because she was in charge of working individually with each participant inside the classroom as a paraprofessional. This type of role is usually suggested for case studies like this. The researcher's knowledge of the

site was extremely beneficial to understanding the procedures to be fulfilled. In addition, it was easier for her to have almost unlimited access to the four participants and also to any other documents required during the research, and that were authorized by the principal.

To achieve disciplined subjectivity when describing the limitations, the researcher states her biases and background. It is essential to state that the researcher has worked at the institution for only five months, but that she has experience in education for more than five years.

C. Participants

In first place, it is important to mention that the Preschool Principal granted a special permission with her consent regarding the whole procedure of the research as well as the cooperation needed from the teacher and the members of the Special Needs Department (See Appendices B, C and D). As she considered that the research is beneficial for students, and it could have been a program created by the Special Needs department as a way to counteract the symptoms mentioned. Parents were not involved. The special needs teacher and the core teacher of the classroom also granted formal consents.

Convenience sampling occurs when "the participants for a study are selected on the basis of being accessible to the researcher" (McMillan & Schumacher, 2001, p. 175). Therefore, convenience sampling was the strategy used in this research since the four participants belonged to the investigator's class. This was

beneficial for the investigation since the researcher could follow each case on a daily basis, be involved directly with each participant, work with him or her regularly, and carry out an ongoing assessment. In addition, this sampling technique was combined with a comprehensive sampling technique because "every participant, group, setting, event and other relevant information was examined" (McMillan & Schumacher, 2001, p. 401).

The participants that were involved in this research where chosen by the members of the Special Needs Department of the preschool section of the school. The criteria for selecting them were:

- students have been pre-referred by the teachers as *at risk* of developing ADHD.
- students have shown symptoms of ADHD as provided by DSM-IV from September 2005 to April 2006.
- students have been considered in need of early intervention.

Four students were selected, their ages range from four years zero months to four years five months. According to gender statistics provided in the literature review for each girl there are at least six boys diagnosed with the disorder (Barkley, 1999; Bender, 2001). This gender bias was also reflected in this sample; out of the four participants, three were boys and only one was a girl. In the case of all the students, social interactions with their peers have already been affected significantly.

The core teacher of the class and the resource room teacher cooperated not only in providing relevant information about the students but also in using the strategies consistently in a regular basis. They helped the researcher create a network to obtain valuable data to triangulate information obtained from them, the four participants and the instruments used, and make it more valid. Parents were intended to be active participants of the study in its initial phase; however, the principal of the preschool section of the school did not permit their active involvement although she consented to use of some information provided by them as a way to help the participants in their learning process. The principal expressed that parents may not be willing to work consistently for a study, and she considered that this situation might have affected the investigation.

1. Participants' Description

a. Case Study # 1

Student 1 is a boy, he was four years old when the case study began, and when it was finished he was four years and two months old. Physically, his eyes and hair are brown, his skin is white, his height at that moment was approximately 39.50 inches, and his weight around 36 pounds. His father used to travel because of his job, and his mother was a housewife. He has a sister who is one year younger than him.

b. Case Study # 2

Student 2 is a boy, who was four years and four months old when the case study began, and when it was finished he was four years and six months old. Physically, his eyes and hair are black, his skin is white, his height at that moment

was approximately 41 inches, and his weight around 39 pounds. His father was the general manager of a big enterprise, but he used to spend all the time possible with his child, and mother was a housewife. He does not have siblings from his parents´ marriage, but he has three siblings from his father's first marriage. They are much older than him, around 20 or 28 years old.

c. Case Study # 3

Student 3 is a boy, he was four years and two months old when the case study began, and when it was finished he was four years and four months old. Physically, his eyes are blue, his hair is brown, his skin is white, his height at that moment was approximately 37 inches, and his weight around 32 pounds. His father was the general manager of a technology company, and his mother was a housewife. He has a sister who is four years older than him. They get along very well according to the parents although they use to have big fights.

d. Case Study # 4

Student 4 is a girl, she was three years and 11 months old when the case study began, and when it was finished she was four years and one months old. Physically, her eyes are brown, her hair is black, her skin is white, her height is approximately 36 inches, and her weight around 31 pounds. Her parents are getting divorced. Her father is a medical doctor, and her mother is a fitness trainer. She has a sister who is six years older than her, and a brother who is three years older than her. She has a better relationship with her brother, than with her sister.

D. Collecting Data

As the case study lasted eight weeks, an ongoing assessment of each case was fulfilled. Various strategies to collect data were used:

- An intervention plan based on different behavioral strategies, suggested by various sources of the literature review, was developed to be implemented by core teacher, special education teacher and participant observer with each of the cases studied (See Appendix E).
- Long profound semi-structured open as well as short unstructured interviews were carried out with the special education teacher (resource room teacher) and the core teacher of the class and they were recorded, transcribed and organized according to the phases of the case studies (initial situation of the child, while the intervention was applied and at the end of the application of the treatment). Transcription and organization of the interviews was conducted immediately after the interview to avoid data loss, and to determine if the information retrieved was complete or if another interview was needed.
- An observation checklist (the same instrument used in the pilot study as pretest and post test) was applied at the end of the study to determine improvement in specific areas (See Appendix F). The process lasted at least a whole school day per participant, so that the researcher could observe all the items in the checklist. It is important to state that the observation checklist is based on the pre-referral checklist used by the Special Needs Department of the school in such a way that the same type

of standards could be maintained for further research and at the same time meet the expectations of the institution. In addition, the DSM-IV criteria used to diagnose ADHD were also used as reference to create the checklist. Bradway & Albers (2004) and Mather & Goldstein (2001) suggest certain behaviors as symptoms of people who may develop ADHD, so those were also taken into account when developing the instrument. Therefore, the instrument has 65 items divided in five sections that address: gross motor skills, fine motor skills, habits and routines, language and ADHD traits.

- A daily log was kept by the researcher in which any significant event was registered and immediately classified according to the categories established. This document was based on the observations of each child, so they were mostly structured according to the ADHD traits that the researcher wanted to remediate.
- Some documents and artifacts were collected during the research including evaluations and reports issued by the members of the Special Education Department, evaluations or diagnoses issued by neurologists or specialists, the reports issued by the teacher in a meeting held with parents at the end of the school year, and other documents that contained information regarding ADHD traits and the progress of the child.
- An interview with a neurologist was carried out. This interview provided the researcher with information about the way in which medical doctors view early intervention regarding ADHD, specifically the use of medication as a treatment.

- Ethical considerations were important to validate the study, like consent forms that stated the right for participation, anonymity and confidentiality (See Appendices B, C and D).

E. Procedure

The study followed three main steps that will be described in the way that they were carried out. To begin, the study lasted eight weeks. One week was used to choose the sample, the best strategies for intervention and the consent of the participants. Six weeks were devoted to follow each case while the intervention was applied, and one more week to collect information through final interviews and observation checklists.

The sample selection was carried out by the analysis of cases of students considered *at risk* of developing ADHD in the future. Once the members of the Special Needs Department analyzed each file, they elaborated a list with twelve names of students. These children participated in the prior pilot research carried out by the researcher. From these 12 students, four were chosen because they belonged to the class where the researcher works. The results obtained through the pilot study helped to analyze the best behavioral strategies to address the special needs of these four students. To corroborate this information an initial interview was held with the core teacher and one with the Special Education teacher (the other is the researcher).

During the six weeks of stimulus delivery (behavioral strategies), some short interviews to the teachers and daily observations were fulfilled. Once this period of time was finished, the observation checklist was applied to each child through a very deep observation, a final interview with the teachers was carried out, and some information about parents´ perception of their children throughout the school year was used. This last information was obtained in the last meeting held at the end of the school year where the core teacher handed in the final report card.

1. *Inductive Analysis of Information*

Throughout the treatment input process the researcher carried out inductive data analyses´ to obtain a preliminary view of each case. This procedure helped as an assessment to realize if some information was missing but mainly to guide the study according to its objective which is to understand how the implementation of an early intervention plan, based on behavioral strategies, help three to four year-old children, considered at risk of developing ADHD, overcome their weaknesses.

Once the researcher gathered all the information, from the strategies mentioned as part of the methodology of the study, it was organized by categories based on the literature review and on the data obtained from all sources. As suggested by McMillan & Schumacher (2001), patterns, repetitions and connections were identified to organize data in three levels: general background of each case, findings and behavioral strategies. In the first level the following sub-categories were found: impulsivity, aggressiveness, hyperactivity, frustration

and socialization. In findings, progress, drawbacks and parent support were the sub-categories. And the third level, the analysis was based on how the behavioral strategies worked with each case.

The most relevant information was selected to avoid redundancies or useless information that could confuse the reader. Triangulation was paramount for the study, in which the opinion, perceptions and facts presented by teachers and members of the Special Needs Department, were useful to maintain subjectivity to the minimum extent.

In conducting these analyses, valuable information was obtained in order to determine the failure or success in the application of the treatment in the sample. However, important factors that could have affected the results significantly were included in the analysis. The discussion of the results, the limitations of the research and the conclusions will be provided in the next chapters.

CHAPTER IV
DATA ANALYSIS

As stated in the previous chapter, after gathering all the information, the researcher organized the information in such a way that each case could be clearly followed throughout the process. Specific categories appeared while analyzing the data; those were taken into account to describe each case as well as specific factors that influenced the way in which each case developed during the eight weeks. Some of these categories refer directly to the each child´s background, the findings and the behavioral strategies used with each one of them. In addition, some sub-categories were identified and they were related to impulsivity, aggressiveness, hyperactivity, frustration and socialization. Drawbacks and parent support were other sub-categories found. Although all the cases show these main categories, each one of them was influenced by other variables in either a positive or a negative way. Therefore, some marked differences among cases may be found. It is important to mention that some interviews and information were in Spanish, and they were literally translated by the author to English.

A. Case Study # 1

When the researcher carried out the first interview to the teachers, student 1 was considered by his teacher as "a very cute boy, but extremely active, he usually takes much more time than his classmates to finish his work because he can't concentrate for more than one minute". Some of the traits that are

characteristic of ADHD are “the levels of inattention (e.g., difficulty in concentrating on schoolwork), impulsivity (e.g., frequently interrupting conversations or activities), and/or overactivity (e.g., difficulty remaining seated when required to do so)” (DuPaul & White, 2006, p.57). The resource room teacher agreed saying that “the teachers in the classroom and the parents at home need to help student 1 finish what he begins, trying to help him focus himself each time a little bit more”.

In addition, impulsivity was one of the main characteristics of student 1. The regular observations showed that he usually did not think before acting, he just blurted out questions or comments when he was supposed to raise his hand, or he hit his peers with no reason. According to Chung et al. (2001) impulsivity is one of the core features of the disorder, and also one of the most complicated traits to treat. As a matter of fact, the resource room teacher believed that “student 1 is so impulsive that he can’t think about consequences, he just acts”. Likewise, the teacher said that she and the parents “have to work together towards self-control”.

As a result of this characteristic, the individualis unable to follow rules or cope with routines established at home or at school (Barkley, 1997). Student 1 definitely had problems at school because of this; in his report card, for the three sections of the school year he had as recommendation for his parents to “work with your child using clear and simple rules that have to be obeyed at all times and by all the members of the family. Keep a simple routine so he can follow it every day, even though he may not like it”. The resource room teacher, in an

interview mentioned that student 1 “always needs to be reminded about the rules of the resource room, it seems he forgets them each time he goes back to the class”.

Regarding his emotional behavior, he was always a very sociable kid, who tried to overcome frustration so he could be part of his peers’ group. The observations suggest that he became very angry when his friends did not want to play his game, but he immediately realized this behavior was not proper so he tried to reach an agreement with the others. According to the teacher, “sometimes he was left apart by his friends when he was fighting too much, but as he liked to play with them, he usually found a way to integrate himself again”. “Children with ADHD typically have difficulty with making and keeping friends, primarily because of their high levels of verbal and physical aggression” (DuPaul & White, 2006, p.58).

1. Findings

When the end of the school year arrived, various activities helped the researcher gather information about each case study and its evolution during the investigation: final interviews to teachers, report card, observation checklist, final meeting with parents and the daily field journal.

Based on this information, it seemed that student 1 had progressed in various characteristics related to his probability of developing ADHD in the future. Mainly, his hyperactivity, impulsivity and lack of self-control had improved. His teacher stated that “student 1 progressed a lot in the sense that he can control

himself when we are in teaching time, he still fidgets a lot, but he tries to raise his hand before speaking, at least when he sees his friends doing so". The resource room teacher assessed student 1 as "progressing very slowly, but progressing clearly. He tries to settle down his own limits so he can share with his friends without fighting". She concluded that much of this progress had also to do with the elimination of the extra-curricular activities in which student 1 participated during the afternoons (swimming, karate, etc.), because she and the teacher told the parents that those activities may have caused the school to be an *energy outlet*. In the report card the comments referred to "progress in his impulsivity, but still needs to work on it".

On the other hand, the observation checklist applied at the end of the study suggested that student 1 still had problems concentrating, following rules and routines, and understanding consequences for his actions. On the other hand, apparently there was a progress in his hyperactivity and impulsivity (See Appendix F). This information was confirmed by his parents in the last meeting when they said that:

> we have seen good changes in student 1, now he does not fight too much with his sister, he does not hurt himself as frequently as he used to because he tries to stay still, when eating for example. But we still see that he is not able to follow our instructions, or that he is not able to concentrate when we give him worksheets to color. We need to be sincere and say that it is not easy for us to keep a strict routine at home because of our work, so he is not used to specific hours to do things at home.

The observation records show that student 1 was one of the last students to finish his tasks at school, though he did not get frustrated with this situation. He easily got distracted with any kind of stimuli. The resource room teacher

explained that “even when he was playing with some friends that belong to his resource room group, he got distracted with other toys and he did not follow the game or its rules”. Therefore, one of the factors in the development of this case may have to do with the parents. They admitted that it is difficult for them to accomplish a routine, as well as to keep rules and consequences for not obeying them. Joselevich (2003) supports the idea that to help students with their inability to concentrate, finish their work and organize themselves, teachers at school and parents at home, should keep a fixed similar schedule and consistent rules; these repetitions constantly stimulated at different times and through different sensorial channels generate and strengthen neurological connections that improve their working memory (which helps them organize their thinking) and as a consequence improve their time management as well as their concentration spans.

To be specific, the mother found it difficult to cope with rules because student 1 spent all Saturdays with his grandmother and “she spoils the child at all times”. A confirmation of this information is that student 1 was absent for 10 days during the study because his parents were out of the city and he stayed at his grandmother’s house. The teacher called her to know about student 1 and the reason why he was not attending school, and she responded that the child told her he did not want to go to school, so she accepted that. This may be the reason why the teacher explained that “when he comes back after the weekend it seems that he had forgotten everything we learned in class, all the rules and the whole routine”. This is the reason why the teacher, together with the members of the Special Needs Department of the institution, decided that student 1 was not promoted to pre-kinder and that he had to continue with the resource room

teacher the next year. According to Fuller (2006), retention can be a good solution for students who are still struggling with some skills needed for the next grade, or when they have not yet remediated or accommodated their weaknesses. According to the professor, "the earlier the retention, the better for the student" (Fuller, 2006).

Consequently, it could be concluded that Case Study # 1 revealed progress in traits related to hyperactivity and impulsivity. The behavioral strategies used by the teacher, resource room teacher, and by the participant observer, may have helped student 1 to have better social relationships. However, following routines and rules, and focusing his attention for longer periods of time did not show any progress. There was also no reinforcement at home, although parents knew that they had to work consistently in these aspects. Garber, Daniels & Freedman (1996, p.57) state that successful interventions "center on three elements of change: making changes at home and at school to improve functioning, altering the task to improve production, and adopting behavioral interventions to modify ADHD behavior patterns". In this way, it is understood that any plan to help a student remediate or compensate behaviors related to ADHD, has to be implemented in collaboration with the whole learning community in order to be consistent and successful.

2. Behavioral Strategies

The majority of behavioral strategies were used to work with student 1. The teacher, the resource room teacher and the participant observer worked on a daily basis on rules, routines, modeling, using a variety of activities to teach, etc.

(See Appendix E). However, there were specific strategies that did not work. To illustrate, "time-out" did not work since the student did not feel he was losing a privilege as Armstrong (1999) suggests it should be. When he was in "time-out" he easily got excited about any other stimuli that caught his attention. In the same way, working near a partner that could work as a model was not beneficial for him since he did not notice the work that his peer was doing.

On the other hand, there were specifically three strategies that were useful for student 1. The first had to do with the creation of a visual cue in order to help him concentrate or avoid any disruptive behavior. This cue was when the participant observer touched her nose, in this way student 1 immediately tried to concentrate or to stop disruptive behavior. The second strategy was to touch him softly his shoulder when he was distracted while doing his work; he immediately went back to work. And finally, constantly repeating rules or anticipating the next activity helped him organize himself. He remembered that he had to raise his hand to speak, he had to wait for his turn to go to the bathroom, etc.

In conclusion, these strategies helped to "empower student 1, not control him" (Armstrong, 1999, p.56). He felt that he had control over himself and that he could do a great job when he tries hard. When the researcher was working on the observation checklist the student talked to her and let her know that "I did a great job today coloring the fish, I finished quickly". This shows that he was aware that he could be successful when he tried hard.

B. Case Study # 2

Student 2 was considered by the teacher as one of the "problems of the class, since he is very violent, he usually likes to talk about violence, death, blood and related topics". The resource room teacher stated that "he is a very impulsive boy who does not know the meaning of limits, his lack of tolerance to frustration makes him be isolated from his peers". In a meeting held with his mother, she specified that student 2 spent four to six hours watching television, and that may be the reason why the child seemed to be so aggressive and impulsive.

The report card suggested that student 2 "gets easily distracted when he is not really engaged actively". Besides, his mother considered that he could concentrate for hours while he was watching movies or cartoons, though he "cannot stay still while eating or when he is asked to finish a home chore like ordering his room". The resource room teacher confirmed that a part of his aggressiveness was caused by television because he always wanted to play with his peers games related to violent cartoons or movies. She stated that "sometimes student 2 wants to impose his game, and his friends don´t like it, so they leave him alone, and as he cannot tolerate the situation he begins hurting himself, crying or becoming extremely nervous or anxious". Monastra, Monastra & George (2002, p.231) concluded that "in addition to the primary characteristics of ADHD, there are multiple secondary symptoms that are frequently noted, including learning disorders, anxiety, frustration, depression and other mood disorders". In the same way, Jensen (1998, p.49) states that students that have

problems concentrating may "include the inability to form close relationships, anxiety and stress trauma".

According to the interviews, the observations and the report card, student 2 showed short attention spans, impulsivity that was directly associated with violence, and high levels of frustration and stress. This situation caused him to be isolated from his peers and it was very difficult for him to pertain to social groups.

1. Findings

Through a systematic collection of information various conclusions could be drawn from Case Study # 2 at the end of the school year. In the first place, the teacher considered that student 2 "showed a great positive change, he is able to overcome his tolerance to frustration, and he can control more his emotions and impulses, he also learned how to concentrate for longer periods of time especially when we were in teaching time". Additionally, the mother, in the last meeting held with her, let the teachers know that "I am really grateful because I have seen great changes in my son, he is much less impulsive, he is not hitting her or the maid anymore, and he can manage better his frustration", she said "we work everyday with a schedule to maintain routines at home, and we are working as a family to use the same rules everyday". The resource room teacher thought that "the mother did a great job working with him at home, forbidding television, and helping him understand that every action has a consequence". Hallowell & Ratey (2001, p. 182, translation by author) explain that "overcoming the conflict, caused by the symptoms of the disorder, represents a hard work for all the family, they have to cooperate every single day".

"Changing behavior is difficult, but it can be a success if school, work and home are modified in the same way to gain the same results" (Garber, Daniels & Freedman, 1996, p. 57). To illustrate, the report card showed no comments and the suggestions were "to reinforce all what has been gained throughout the school year: avoiding television, working on rules and routines, helping him understand consequences before he acts, and helping him overcome frustration".

The observation checklist of student 2 suggests an improvement regarding the ADHD traits section (See Appendix F), although in the daily observation journal there were some days in which he still could not control his frustration or his impulsivity; he was very aggressive with his friends. However, the majority of days he was very obedient to rules and routines of the classroom, and it seemed he was making a great effort to avoid violence in every sense. Once he expressed "my work will look better if I don't use black, won't it?". In other situation he explained "look, I am not damaging my work, I'm coloring inside the lines, and I'm not using black".

In conclusion, this case may have evolved in the expected way since there was parental support and because the child felt motivated to work on his problems. According to the resource room teacher "he is very motivated to be part of the group, since he is much more friendly and less violent and impulsive, he has more friends and it seems that it is a positive reward for him". Two factors that may have helped student 2 remediate and compensate some of the characteristics of ADHD, which showed that he was at risk of developing the disorder, include collaboration among the community members and the intrinsic

motivation of the child to work towards improving his weaknesses. "Children with ADHD appear to function significantly better in a consistent environment" (Mather & Goldstein, 2001, p. 74). Because of this situation, the teacher together with the Special Needs Department decided he is ready to go to pre-kinder, although the resource room teacher thought that he may be under observation during the first month to know if he still needs the resource room support.

2. *Behavioral Strategies*

Regarding behavioral strategies, the majority of them apparently worked (See Appendix E). Maintaining clear routines and specific rules with consequences may have helped him control his impulses and concentrate in a better way. Modeling from teachers and from specific peers seemed to help him noticeably. The teacher agreed that "student 2 works better when he is surrounded by good models, and that is why I place him near myself during teaching time, and while he is working near students that can model correct behaviors". "Children can learn a great deal simply by observing the behavior of others" (Sapir & Nitzburg, 1973, p. 633).

Observations suggested that making student 2 understand that each action has consequences, sometimes positive, others negative, sometimes helped him control his emotions and impulses. "Teachers manipulate consequences as a primary means of classroom intervention, and use of positive reinforcement along with mild forms of punishment. The management of consequences has become very creative, useful and successful" (Mather & Goldstein, 2001, p. 70). The use of positive reinforcement for specific behaviors expected from him seemed to

improve his self-esteem and he tried to repeat those behaviors constantly. For example, raising his hand to speak, waiting for his turn, etc.

Although the majority of strategies may have worked with student 2, there were two of them that seemed to be of no help. Time-out could not be applied because he understood clearly he was losing the privilege of being part of the class, so he got really frustrated. Although the teacher tried to make him understand, this negative reinforcement did not help as praising helped, for example. A visual cue was agreed upon with student 2, and it was when the participant observer showed her thumb up; however, the child tried to control himself during teaching time and was not aware of the cue.

Finally, strategies used with student 2 showed what Armstrong clearly explains "students labeled ADHD may become frustrated with the removal of points or privileges and have a harder time behaving, these kids function more effectively when they have some control over their fate". According to the teacher's final report, Student 2 seemed to feel he had the power to become better each day, and with the help of his parents, teachers and friends he could improve positively.

C. Case Study # 3

When the investigation began, the teacher and the resource room teacher agreed to say that student 3 was "a very cute boy, he always likes to help the

teachers in the class, but he is the most active boy of the class, he cannot stay in one place for more than one or two minutes".

The report card showed that "student 3 is always in action, he loves activities that involve active participation and exploring, that was why in teaching time we need to call his attention several times because he gets easily distracted". The resource room explained that "student 3 has a low control of his impulses, sometimes he causes harm to his friends for acting before thinking, but he does not have any problems in getting back to the group after saying 'I'm sorry'". His father thought that student 3 "is really active since he was born", he thought that was part of his personality, but he believed that he needed clear rules at home to remediate his impulsivity. In their research, Power et al. (2001, p.399) considered that "children with high levels of inattention, hyperactivity and impulsivity may have problems functioning in multiple settings, in particular home and school, parents and teachers have to combine their assessments".

Regarding socialization, although student 3 is clearly very active and impulsive, he is also very talkative and empathic. The resource room teacher describes him as a leader during playtime, and the teacher believes he organizes many of the games in the playground. "Not all kids labeled ADHD have social problems; some, in fact, are leaders, popular friends, or naturally gregarious" (Armstrong, 1999, p. 87).

1. Findings

Once the school year was over, various sources of data showed some interesting findings about student 3. First, the teacher still considered that student 3 "is so cute, but terribly active in class". However, in his report card the following comments were included:

> Student 3 has demonstrated that he can overcome his weaknesses, like controlling his emotions and tolerating frustration. He has progressed in his periods of concentration, but he still needs to work on this. It is very important that he is always exposed to clear rules, routines and consequences, reinforce them at every place and time. He needs to know that there are things he has to do even though he does not like to do them. All this will help to prepare student 3 for a successful school life.

In the same way, the resource room teacher believed that "student 3 showed a great progress, he learned how to wait for his turn, and control himself. He went through a very clear maturational progress in which he learned that he could not always do what he wants, and that he has to respect the others". The daily observation journal reflects that student 3 could control himself when he was really involved in the activity, but he always had trouble concentrating for more than three or four minutes. When the teacher explained through various techniques the activities that would come during the day, student 3 was better disposed to finish what he began and concentrate in his activities. "The use of words to help direct the mind toward specific goals is one of the central features of verbal activity in human beings. Very young children organize much better when exposed to short term objectives" (Armstrong, 1999, p. 6).

Moreover, the observation checklist suggests that there was an improvement in the ADHD traits section (See Appendix F). His parents, in the last

meeting, expressed that they had "a terrible time working with student 3 at home, because he is so sweet that sometimes he can manage to avoid a punishment through negotiation". Joselevich (2003) states that negotiating can be beneficial for impulsive children because they feel they have the control, and they can get good things when they behave. On the other hand, the mother considered that "all the rules are very clear, simple and very strict, but the father does not follow them all the times, and that does not help me control student 3". Therefore, there was a contradiction with rules at home, and that lack of consistency did not help student 3. As the teacher expressed "he tries to go over limits all the time to see if the others would accept breaking the rule for that time, although he knows that this situation would never happen at school". Hallowell & Ratey (2001, p. 196, translation by author) agreed with Joselevich (2003) regarding the use of negotiation, but they do not believe that it is convenient with preschoolers, "these children need clear structures and limits at all times".

To conclude, student 3 showed great improvements in his impulsivity, hyperactivity and concentration. His socialization skills may have also had positive consequences, and according to the resource room teacher he "is considered as one of the most popular kids in the classroom". One of the factors that might have influenced in his improvement, in two senses, was parental support. The mother tried to cope with the plan presented by the teachers to help student 3, and she worked on it on a daily basis, but according to what both parents expressed in the last meeting, there was not coherence at all times, and that may have caused certain imbalance for student 3.

2. *Behavioral Strategies*

As a consequence of the situation at home, the behavioral strategies that worked the best with student 3 were the ones related to clear rules and routines, concentrating on consequences for his actions, repeating instructions by himself, etc. (See Appendix E). It is important to mention that he clearly understood that every action has certain consequences that can be good or bad for him and for others. As a matter of fact, time-out strategy was one of the most used in class. He knew that when the teacher counted to "three" he had to go out of the circle and sit on a chair, and that was losing a privilege. The first time he cried because he was in time-out for five minutes; from then on, he never got to "three". Garber, Daniels and Freedman (1996, p. 70-71) explain that "the key to time-out lies in its definition and how and when it is applied, remember that time-out means time-out from positive reinforcement, the student must feel he is losing out on something". In fact they emphasize in using one-two-three, because it represents an immediate consequence if the behavior persists.

"External self-monitored cues help the child be an active participant in behavior change, an auditory or visual cue has been found to be as effective as direct teacher monitoring" (Mather & Goldstein, 2001, p.71). As student 3 was considered a leader by the teachers and as he liked to have power or control over the situations, the creation of a visual cue might have been very important for his improvement. When the participant observer touched her ear, the student would respond immediately and stop disruptive behavior or concentrate.

The teacher tried to permit non-disruptive behavior. To help him release his energies, she used to have student 3 help her in different kinds of activities, like passing materials.

Finally, peer modeling and inhibition and delay of his impulses seemed not to work for student 3 since he was always “on the go” as his teacher described him. He did not notice his peers actions, and he usually never though about his actions unless he was warned before by the teacher with the one-two-three time-out strategy, the visual cue or by direct instruction of an authority. Armstrong (1999, p.97) believes that these kind of behavioral strategies “are intended to give students a greater sense of ownership over their lives in helping to change attention and behavior”.

D. Case Study # 4

Case Study # 4 was considered by teachers as one of the most complicated in the class. At the beginning of the prior pilot research, the Special Needs Department considered that student 4 was at risk of developing ADHD in the future. However, throughout the school year some other factors appear to be influencing directly on the child’s behaviors.

The report card at the beginning of the study reflected that student 4 “is a student that is always trying to go far from limits, she is a difficult girl to manage in class because she does not follow rules or routines, she acts even though she is warned about the consequences for her actions. She is not progressing in her

socialization skills". The resource room teacher expressed that student 4 "has high levels of impulsivity and aggressiveness, she does not establish social relationships with her peers in the group, she never expresses her feelings, she usually seems to be angry or very mad". As DuPaul & White (2006, p. 58) clearly state, "approximately 50% to 60% of these children exhibit significant symptoms of other disruptive behavior disorders, including oppositional defiant disorder (i.e., excessive defiance of authority figures and problems following rules) and conduct disorder (e.g., stealing, fighting, and truancy)".

The teacher believed that "student 4 cannot concentrate in teaching time, although she can concentrate more when she likes the activities". According to the observation records, student 4 was usually out of her place, trying to fight with her peers or causing damage to physical objects inside or outside the classroom. This same behavior was registered by the assistants of the buses in which she came to school or went home. They once sent a written communication in which they encouraged "the parents to talk to her about not hitting other children or taking things away from them".

Her parents were not much in touch with the teachers, although the school had suggested a psychological therapy for the child because of recurrent situations in which she caused harm to herself or to the others. The resource room teacher talked to them and handed out a plan to work with student 4 in clear rules and consequences, as well as maintaining a strict set of simple routines at home. Her father once said that "my child sometimes does not obey any order or rule, although I try to reinforce it each time I see her". In this point, it is important

to mention that the child's parents were getting divorced, and it seemed that the situation was very complicated for the whole family. "It is critical to note that many students experience emotional and/or behavioral disorders because of the environmental factors that affect their lives, such a peer rejection or dysfunctional families" (Smith et al., 2004, p. 207).

1. Findings

At the end of the year, all the sources provided relevant information about this case. In the first place, the comments in her report card were the following:

> Student 4 has improved a little in her attention spans, but it is necessary to continue working on them. She still tries on going far from limits, so she needs to be exposed to clear rules, routines and consequences and they have to be reinforced daily and everywhere. She needs to understand her feelings as well as the others feelings, she needs to work on empathy.

In the same way, the resource room teacher expressed her improvement in socialization since she believed that "from the beginning until the end of the school year, student 4 seems to be much more relaxed and open to play with her peers, she is now much more tolerant, she tries to control her emotions and impulsivity". She also believed that she was maturing slowly, and that if she received the needed support at home, she would be better.

The teacher explained that "the mother is not going through a good period in her life with the divorce, so she is not concentrated on her kids, but on herself, and that does not help student 4 since there is no reinforcement of strategies at home". This was confirmed in the last meeting held with both parents in which the mother expressed that "I am working almost all day long, and I am trying to be with my children in the mornings before they leave to school". The father, on the

other side, tried to blame the mother for not complying with the suggestions of the school, the teacher and the Special Needs Department.

The observation suggests improvement in the section related to the ADHD traits, specifically in fighting with her friends (See Appendix F). However, on the observation journal many positive changes were registered throughout the process. Student 4, as both teachers expressed, improved in her socialization skills; she began to form bonds with different students in the class, and her aggressiveness decreased. In the same way, following rules and routines still was difficult for her, even though in many cases she expressed "can you see I'm waiting for my turn, I'm criss-cross", in other time she called the attention of the teacher, who still had not called on her to speak yet, and said "teacher, can't you see I'm raising my hand, I'm ready to say something".

Unfortunately, the resource room expressed "her behavior depends on the situation at home, if the parents had a fight, or the mother is depressed, the child shows terrible drawbacks". This quote suggests that maybe student 4 may have been emotionally affected because of her family situation, and because of this disturbance she possibly showed aggressive, impulsive and inattentive behaviors related directly to ADHD. Smith et al. (2004, p. 207-208) mention that "because of the difficulty in defining and identifying emotional and behavioral disorders, they can be misdiagnosed between them as they both exhibit a wide range of similar characteristics that can differ in type as well as in intensity".

In conclusion, in this case there was an environmental factor that seemed to affect student 4 directly causing symptoms related to ADHD and that was the reason the Special Needs Department thought that behavioral strategies would help. However, by the end of the school years the school authorities talked to the parents and let them know that the institution worked hard during the year to help student 4 progress, but as there was no support at home, the child was not promoted to pre-kinder. In addition, as they related her aggressiveness, impulsivity and lack of concentration and empathy to the situation at home, the Special Needs Department highly recommended family therapy to prevent a new retention in pre-kinder.

2. *Behavioral Strategies*

The findings suggest that student 4 may not be at risk of developing ADHD in her future, but that she might suffer an emotional disturbance. However, as the symptoms are similar, the strategies seemed to work for her (See Appendix E). As the ADHD cannot be diagnosed until she is at least six years old, the objective of the case study was not to remediate the disorder, but to remediate or compensate some of the weaknesses caused by her situation.

The teacher found it "complicated to work with her" but she realized that positive reinforcement was one of the strategies that worked the best. The resource room teacher agreed explaining that "letting her make her own decisions and being praised because of them, helps her repeat the same behavior next time". Mather & Goldstein (2001, p. 75) refer to impulsivity and hyperactivity as the cause of eliciting negative reinforcement, so they motivate teachers to "make

sure that the student has an opportunity to try again, succeed and be praised". According to the observation journal of the participant observer, whenever student 4 was praised for specific actions, she would immediately repeat them to receive more positive reinforcement. Garber, Daniels & Freedman (1996, p.69) confirm that by "giving frequent, brief comments while systematically ignoring negative, attention-getting behaviors, positive behaviors can be built up".

Furthermore, ignoring her disruptive behaviors may have also worked with student 4; "systematic ignoring keeps negative behaviors in the dark where they can't glow" (ibid, p.70). However, it was not always easy for her teachers to ignore her aggressive behaviors, since she usually did not think about consequences and she could harm herself or others.

Another strategy that seemed to work well was to gently touch her back or shoulder when she was not behaving or not concentrating. She would immediately turn back to the activity, if nothing else was said to her.

Time-out may have helped her in activities. Peer modeling or anticipating consequences were strategies that teachers tried but that had no positive results with the child. In fact, the strategies that might have worked took time to show positive results, and as the resource room teacher expressed "it all depends on her mood".

In conclusion, Case Study # 4 was complicated because of the external factors that were affecting the entire process. Even though some strategies

seemed to work at school, there was no consistency at home. The child was not building limits, rules, consequences, routines. Her emotional problem may have consumed her concentration, and apparently this could have caused her to forget strategies used at school.

After the description of the most meaningful information obtained throughout the development of the four case studies, various conclusions were drawn from each one of them. However, an overall conclusion could be obtained through the discussion of the results presented in this chapter.

CHAPTER V
DISCUSSION

The field of Special Education is still of great interest to educators, paraprofessionals and researchers. There is still an ocean of doubts and questions to be answered in the future. Addressing the needs of preschool children, who cannot be diagnosed with any kind of learning disability before the age of six or seven, is a challenge for any learning community. Indeed, what can be successful is the identification of students that might be at risk of developing any learning impairment. The objective of detecting any important signal should be immediate intervention, in such a way that the disability can be eliminated or at least reduced in its severity.

Here in Ecuador, many schools are already concerned about Special Education, and many others with Early Intervention as well. However, not everything relies on the specialists. Teachers are key players in the wellbeing of all their students, and they can sometimes be the only option to help them. ADHD (Attention Deficit Hyperactivity Disorder) is one of the most common learning disabilities, and it is also one that still has not been fully understood in terms of treatment. Therefore, the study, carried out by the researcher for eight weeks, attempted to understand if certain behavioral strategies used by teachers, helped diminish traits of four students that had been identified *at risk* of developing ADHD in the future.

Specifically, the researcher examined how four students (three to four years old) of a private institution reacted to an early intervention plan in which the core teacher, the resource room teacher, and a paraprofessional (participant observer) would apply several behavioral strategies to help remediate or compensate some of the symptoms related to ADHD that these four students showed.

After an eight-week follow-up, the findings obtained reveal a complex picture of the development of each case, all shaped by their immediate environment and their individual characteristics. As the neurologist interviewed for this research explained "each child is completely different to the others, some of them would react perfectly to drugs, while others would not" (Personal communication, May 13th, 2006). He also described how parents believe that using drugs is the best solution, but he thinks that drugs are only an aid when the disorder has already been correctly diagnosed, "before this there are many paths to follow in order to help the child live up with his problems, and that depends exclusively on the child's characteristics".

Overall, results suggest that the consistent use of a set of behavioral strategies by various members of the learning community to meet special needs of three and four year olds *at risk* of developing ADHD, can produce an improvement of specific weaknesses identified in each one of them. However, to bring clarity to the research some issues need to be discussed.

In the first place, in all the cases, parental support seemed to be extremely important as a variable that affected the development of each case. When

parents where supporting teachers using the same strategies at home, students showed positive improvements. In the case of student 1 and 4 there was no help at home; students showed no progress in those areas or they even showed drawbacks. This suggests that working in collaboration is a key element to help these children manage their weaknesses and improve their school life, and probably their way of living. "Working as a team enables teachers to plan more effectively, to problem-solve more efficiently and to intervene with a student throughout the day" (Allsop, Santos & Linn as cited in Smith et al., 2004, p. 44). As a consequence, students' assessment will show positive results at school, at home and any other environment regarding traits like impulsivity, concentration or hyperactivity.

Despite consistencies among cases, there were some important differences that suggest that there are some variables that affected the intervention. The behavioral strategies proposed at the beginning of the study were taken from consensus of all the literature reviewed, but not all of them were useful for the four participants. Tomlinson (2003, p.8) assures that "a teacher that decides to teach all of her students means that she will accept the responsibility for the success of each individual, regardless of the circumstances of that student's needs, interests, weaknesses, way of life". Furthermore, Smith et al. (2004, p. 41) emphasizes that "a teacher needs to understand each individual in the classroom as well as possible, because different types of diversity exist and it is important to recognize and celebrate each one of them".

When teachers look for individual needs, specific strategies can be used to help students overcome their weaknesses or at least know how to deal with them. "Children with ADHD traits are very different in their needs and their reactions to specific treatments; what works for one child will not necessarily work for another" (DuPaul & White, 2006, p.60). And this was true about the four cases; in each one of them different strategies work. Nonetheless, there were some strategies that were emphasized at all times, and with the correct parental support, worked very well in helping kids control their impulses and improve their concentration. For instance, the continuous use of clear and simple rules throughout the day, as well as following the same routines helped students work on self-control. "A consistent routine and a structured environment enhanced by a highly organized format of activities are recommended for children with ADHD. Specific daily schedules, rules, expectations and consequences are optimal" (Mather & Goldstein, 2001, p. 67).

Ultimately, Rapport and colleagues (2001, p. 48) in their research determined that interventions could lead to success if "they focus on a wide range of behaviors (e.g., compliance or rule following, social skills), to be used in diverse settings (e.g., home, school, leisure), and that require considerable involvement by others (e.g., parents, teachers, peers, siblings)". They also state that each case has to be taken apart from the other because according to the symptoms and their severity, a different plan may be applied.

A. Limitations

As in most studies, the results obtained in these case studies are not the last word for the theoretical field involved because of the limitations the study carries within. It is precisely for this reason that some specific situations or factors have to be noted in order to establish possible limitations for the study.

One important limitation of this study is that the unit of analysis was concentrated in only one private institution devoted to students of a higher socio-economical class. The results cannot be generalized in any other kind of institution that differs significantly from the one described in the study. Although the findings may be useful for the educational realm, especially for Special Educators, the fact that the sample is small and that it only belongs to one institution limits generalizations to other populations.

The observations carried out by the investigator are not predictive in any way. As this was not a controlled study, no causal conclusions based on observations could be drawn. However, the observations are useful in that they give future researchers an idea of what could work in early intervention programs and what kind of obstacles they may encounter when implementing such an intervention.

Finally, one of the most important limitations has to do with the researcher's role. It is essential to state that the researcher has worked at the institution for only five months, but that she has experience in education for more than five

years. Then, the researcher was deeply involved with the study and the participants, and this may have caused her to blur the analysis of the data collected during the research because her objective was to obtain positive results regarding improving self-control and other weaknesses in the participants. For instance, the researcher may not take into account important information that does not support her research question.

The various limitations mentioned are meant to foster future investigations that can address the objective of this study from another point of view and take special considerations with the factors that can affect the results obtained.

B. Research Implications

Specific recommendations for preschool teachers can be suggested, although the results of this study cannot be generalized. Teachers who find students with clear ADHD symptoms, can improve self-control skills through the everyday use of strategies that attempt to teach children how to control themselves. Reminding students the rules of the classroom, reinforcing routines, teaching explicitly self-monitoring techniques and many other strategies, can help not only children *at risk* but probably all the students in the classroom benefit from this plan.

Moreover, as mentioned before, there is still much more to be researched about Special Education, Early Intervention, ADHD and its treatment. In future research, investigators could work with larger samples from different socio-

economic statuses that belong to schools that address special needs in a different way.

Other studies could help verify the results obtained in this pilot through the application of the treatment for longer periods of time, and with the consistent support of the family to understand if this variable defines the student's improvement when working on an early intervention plan. A quantitative controlled study is suggested for future researchers to examine the effects of similar early intervention programs and their results in the improvement of children considered at risk of developing ADHD.

In Ecuador, where Education needs significant research in various areas including Special Education, this study helps to understand the importance of early detection as a way to create an early intervention plan in which the whole learning community is involved. On the other hand, regarding the different types of schools we can find in this country (public, religious, private, etc.), similar studies could be carried out in schools where special needs are addressed in a different way, or are simply not addressed. A qualitative case study, as McMillan & Schumacher (2001, p. 398) state, "is important for theory generation, educational practice improvement, illumination of social issues and action stimulus because it focuses on one phenomenon to be understood in depth". Certainly, each child lives a different reality, and only by studying deeply the child in his or her context, with his or her special circumstances might we begin to understand a way to implement early intervention programs that can adapt to each child's needs.

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APPENDIX A

Diagnostic Criteria for Attention-Deficit/Hyperactivity Disorder

A. Either (1) or (2):

(1) 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:

Inattention

(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 schoolwork, 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) 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 or 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 Disorder, or a Personality Disorder).

Diagnostic criteria for attention-deficit hyperactivity disorder (ADHD).
Source: American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., p. 92-93). Washington, DC: Author.

APPENDIX B: Consent Form for Principal of Early Childhood Section

APROBACIÓN DE USO DE INFORMACIÓN

TITULO DE INVESTIGACION: Estudio de Caso Exploratorio Cualitativo sobre intervención temprana en niños de 3 a 4 años considerados en riesgo de desarrollar Déficit de Atención con o sin Hiperactividad, relacionado a las herramientas prácticas (estrategias) que las profesoras y miembros del Departamento de Special Needs pueden utilizar.

Mi nombre es Catalina Bossano Noboa. Soy estudiante de la Maestría en Educación en el Facultad de Educación en la Universidad de San Francisco de Quito, Cumbayá. Usted está invitada a participar en un estudio que examina la conveniencia del uso de las estrategias adecuadas en un modelo de colaboración entre los miembros de la comunidad educativa, para ayudar a los niños considerados en riesgo de desarrollar Déficit de Atención con o sin Hiperactividad de la guardería de la prestigiosa institución a la cual usted representa. Usted ha sido seleccionada por que puede aportar de manera significativa tanto en la obtención de datos como en el desarrollo fluido del estudio.

A través de este estudio, espero profundizar y orientar mejor la planificación de la intervención temprana en niños de 3 a 4 años considerados en riesgo de desarrollar una dificultad de aprendizaje, de manera que se puedan utilizar diversas estrategias de instrucción para evitar la dificultad en el futuro, especialmente en lo que se refiere a estrategias para desarrollar un mejor auto-control (manejo de impulsividad y emociones).

Si usted decide participar en este estudio, usted podrá proporcionar la información necesaria para la base del proyecto, así como sus impresiones luego de haberlo terminado. Espero también poder pasar tiempo informal con usted para desarrollar pequeñas entrevistas estructuradas. Se le dará la oportunidad de discutir y verificar las conclusiones finales hechas por la investigadora.

Todas las actividades previstas se llevarán a cabo antes del mes de julio de 2006. También estoy pidiendo permiso para realizar observaciones a cuatro estudiantes, su profesora, y los miembros del Departamento de Special Needs, así como también tener acceso a cualquier documento institucional pertinente que usted quiera compartir. También se solicita la colaboración de las profesoras y asistentes involucradas con los cuatro niños.

Este estudio es parte de mi investigación para la tesis de grado de la Maestría. Esto podrá será presentado en reuniones académicas profesionales y publicada en revistas académicas. Su identidad será protegida al máximo durante
todo el período de estudio y después de él. Cualquier información que sea obtenida en conexión con este estudio que pueda identificarlo se mantendrá

confidencial y serán reveladas únicamente con su permiso.

Si decide participar en este estudio, es libre de retirar su formulario de consentimiento y dejar de participar en cualquier momento sin ninguna penalidad. Si usted tiene alguna pregunta sobre este estudio favor contactarme directamente. Si tiene alguna otra pregunta o preocupación, por favor llamar o escribir al correo electrónico del Director de la Maestría en Educación de la USFQ cornellm@mail.usfq.edu.ec Cornell Menking, Ph.D., o mi directora de tesis Nascira Ramia, Ph.D. nascirar@mail.usfq.edu.ec.

Se le entregará una copia de este formulario para su archivo.

Usted está tomando una decisión sea que participe o no. Su firma indica que usted *ha decidido participar* y que *ha leído la información* suministrada. Sin embargo, al firmar *no significa que usted renuncia a sus derechos legales.*

______________________ ____________________________________

Fecha Firma del Participante

______________________ ____________________________________

Fecha Firma del Investigador

APPENDIX C: Consent Form for Teacher

APROBACIÓN DE USO DE INFORMACIÓN

TITULO DE INVESTIGACION: Estudio de Caso Exploratorio Cualitativo sobre intervención temprana en niños de 3 a 4 años considerados en riesgo de desarrollar Déficit de Atención con o sin Hiperactividad, relacionado a las herramientas prácticas (estrategias) que las profesoras y miembros del Departamento de Special Needs pueden utilizar.

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A través de este estudio, espero profundizar y orientar mejor la planificación de la intervención temprana en niños de 3 a 4 años considerados en riesgo de desarrollar una dificultad de aprendizaje, de manera que se puedan utilizar diversas estrategias de instrucción para evitar la dificultad en el futuro, especialmente en lo que se refiere a estrategias para desarrollar un mejor auto-control (manejo de impulsividad y emociones).

Si usted decide participar en este estudio, usted podrá proporcionar la información necesaria para la base del proyecto, así como sus impresiones luego de haberlo terminado. Espero también poder pasar tiempo informal con usted para desarrollar pequeñas entrevistas estructuradas. Se le dará la oportunidad de discutir y verificar las conclusiones finales hechas por la investigadora.

Todas las actividades previstas se llevarán a cabo antes del mes de julio de 2006. También estoy pidiendo permiso para realizar observaciones de los cuatro estudiantes seleccionados de su clase, así como observaciones de la manera en la cual usted utilizará las estrategias propuestas.

Este estudio es parte de mi investigación para la tesis de grado de la Maestría. Esto podrá será presentado en reuniones académicas profesionales y publicada en revistas académicas. Su identidad será protegida al máximo durante todo el período de estudio y después de él. Cualquier información que sea obtenida en conexión con este estudio que pueda identificarlo se mantendrá confidencial y serán reveladas únicamente con su permiso.

Si decide participar en este estudio, es libre de retirar su formulario de

consentimiento y dejar de participar en cualquier momento sin ninguna penalidad. Si usted tiene alguna pregunta sobre este estudio favor contactarme directamente. Si tiene alguna otra pregunta o preocupación, por favor llamar o escribir al correo electrónico del Director de la Maestría en Educación de la USFQ cornellm@mail.usfq.edu.ec Cornell Menking, Ph.D., o mi directora de tesis Nascira Ramia, Ph.D. nascirar@mail.usfq.edu.ec.

Se le entregará una copia de este formulario para su archivo.

Usted está tomando una decisión sea que participe o no. Su firma indica que usted *ha decidido participar* y que *ha leído la información* suministrada. Sin embargo, al firmar *no significa que usted renuncia a sus derechos legales.*

____________________ __________________________________

Fecha Firma del Participante

____________________ __________________________________

Fecha Firma del Investigador

APPENDIX D: Consent Form for Special Education Teacher

APROBACIÓN DE USO DE INFORMACIÓN

TITULO DE INVESTIGACION: Estudio de Caso Exploratorio Cualitativo sobre intervención temprana en niños de 3 a 4 años considerados en riesgo de desarrollar Déficit de Atención con o sin Hiperactividad, relacionado a las herramientas prácticas (estrategias) que las profesoras y miembros del Departamento de Special Needs pueden utilizar.

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A través de este estudio, espero profundizar y orientar mejor la planificación de la intervención temprana en niños de 3 a 4 años considerados en riesgo de desarrollar una dificultad de aprendizaje, de manera que se puedan utilizar diversas estrategias de instrucción para evitar la dificultad en el futuro, especialmente en lo que se refiere a estrategias para desarrollar un mejor auto-control (manejo de impulsividad y emociones).

Si usted decide participar en este estudio, usted podrá proporcionar la información necesaria para la base del proyecto, así como sus impresiones luego de haberlo terminado. Espero también poder pasar tiempo informal con usted para desarrollar pequeñas entrevistas estructuradas. Se le dará la oportunidad de discutir y verificar las conclusiones finales hechas por la investigadora.

Todas las actividades previstas se llevarán a cabo antes del mes de julio de 2006. También estoy pidiendo permiso para realizar observaciones de los cuatro estudiantes seleccionados de su clase, así como observaciones de la manera en la cual usted trabaja con ellos fuera de clase.

Este estudio es parte de mi investigación para la tesis de grado de la Maestría. Esto podrá será presentado en reuniones académicas profesionales y publicada en revistas académicas. Su identidad será protegida al máximo durante todo el período de estudio y después de él. Cualquier información que sea obtenida en conexión con este estudio que pueda identificarlo se mantendrá confidencial y serán reveladas únicamente con su permiso.

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Se le entregará una copia de este formulario para su archivo.

Usted está tomando una decisión sea que participe o no. Su firma indica que usted *ha decidido participar* y que *ha leído la información* suministrada. Sin embargo, al firmar *no significa que usted renuncia a sus derechos legales.*

____________________ ________________________________

Fecha Firma del Participante

____________________ ________________________________

Fecha Firma del Investigador

APPENDIX E

BEHAVIORAL STRATEGIES

Teachers should try to:

1. seat the student near a positive role model (this can be near the teacher, or another student that behaves in the proper way)
2. include a variety of activities during each lesson (when you see the child finished immediately direct him to another completely different and fun activity, if not he will immediately begin to look for action!)
3. provide a variety of aids when introducing activities or topics (all the visual, auditory and kinesthetic (dramatizing, etc.) aids may be extremely useful for all the kids, it would be great if for the essential topics (like rules) you use at least three kinds of aids.
4. make sure instructions are understood:
   a. repeat instructions as many times as possible using various strategies (oral, visual, etc.). Repeat them even during the activity. Ex: "Remember to push your chair in when you're done".
   b. having the students model the rule or activity.
   c. making students repeat instructions, rules, etc. Ex: once you explain the instruction you may say: "Who can repeat what you have to do?", if the "at risk" students don't volunteer you may have to ask them to repeat the instruction. This doesn't have to be understood as a punishment.
   d. use simple words for instructions (relate to prior knowledge or meaningful past experiences) Ex: "Do you remember yesterday's activity? You have to do the same but ….."
   e. try to be near the student when giving or repeating instructions

5. keep rules simple and clear and remind them to students every single day during routine in circle time. Use visual aids.
6. constantly repeat rules for all the classroom (use different strategies: oral, visual, **modeling**, role-playing). It's great if you can use situational teaching: use examples of real events to reinforce rules. Ex: during snack, "remember that you don't talk if you have food in your mouth" and then you model that.
7. allow non-disruptive movement. These kids need to move after a small period of time, don't lose your temper if they are moving a little bit without distracting others or interrupting the class flow.
8. create a visual or auditory cue that may not need class interruption to call the attention of the child (a sign, eye blink, etc.). This needs a previous agreement with the child (for the teachers that have many students with problems, you can first try it and see if it works, then you can establish only one cue for everyone). This strategy may be used to avoid using the name of the kid each time you need him to follow instructions or rules of the classroom, calling him by his name all the time may be a positive reinforcement so that the child will continue looking for your attention. A

cue may help to avoid this plus increase his attention skills since he has to be aware of whether you used the cue or not.

9. always give positive reinforcement for appropriate behavior stating specifically what the teacher is praising. It is not the same saying "good job!" than saying "good job! you colored inside the lines", "excellent! you stayed all the time in your place"
10. use the kid to help the you in activities that need moving (passing things, helping with the cups, etc.), especially when you see he is energy-loaded and about to burst!
11. help the student develop **self-control:**
    a. anticipating consequences (telling him what will happen if...)
    b. appreciating feelings (empathy, how does my friend feel if I....)
    c. managing frustration (errors are good! We learn from them)
    d. inhibition and delay (help them to hold their impulses).

For example: teach him to count up to ten when he wants to stand up, to interrupt or to disrespect his turn; discuss specific events in circle time with concrete examples (we don't run in the class because...., etc.)

12. if things get worse TIME OUT is a great strategy as long as you stick to it ALWAYS, that means that all the children must know that you will use the "Magic 1, 2, 3. Say "that's 1", "that's 2" and when your say "that's 3", you must also say "time-out, go get a chair for five minutes or until you are ready to come back and behave" This has to be used to **all** the children. If only once you get to "3" and you don't do what you have to, they will know you can forgive him next time too
13. remember that students want your attention, so ignoring can also work for you and for them!
14. give them always lots of love!

Sources:

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APPENDIX F

OBSERVATION CHECKLIST

DATE: ________________________

Age: **1.** 3 years old
2. 4 years old

Student´s number: __________

Sex: **1.** Female
2. Male

#	**Gross Motor Skills** (the student has difficulty:)	YES	Sometimes	NO
1	running with agility			
2	climbing and going down the stairs alternating the two feet			
3	jumping from the last stair to the floor			
4	maintaining balance while walking on a board			
5	receiving a ball in his extended arms			
6	throwing a ball with his hands			
	Fine Motor Skills (the student has difficulty:)	**YES**	**Sometimes**	**NO**
7	completing a puzzle of three pieces			
8	completing a fitting game			
9	introducing objects in a box with holes			
10	opening objects			
11	imitating circular, vertical, horizontal and cross-like shapes			
12	building towers of up to 5 cubes			
13	using his hands in any activity because it seems that they are too flaccid			
14	using his hands in any activity because it seems that they are too rigid			
15	imitating a bridge with cubes			
	Habits and Routines (the student has difficulty:)	**YES**	**Sometimes**	**NO**
16	putting his shoes on alone			
17	unbuttoning his clothing			
18	eating alone			
19	remembering and using the routines of the class			
20	working independently without excessive help from others			
21	understanding the instructions without asking the teacher to repeat them			
22	listening to what is said by the teacher or others			
23	maintaining at least 10-minute attention span in Circle Time			
24	working in a center activity from 5 to 10 minutes			
25	working because he/she seems to be tired and/or sleepy			
26	working because he/she seems to be weak and/or sick			
27	with his/her sight and needs to draw near the paper or board			
28	maintaining cleanliness in his physical appearance			
29	maintaining cleanliness in his class work			
30	enjoying all activities because he/she prefers exploring different materials and textures			
31	with sight because his/her eyes hurt, blinks continuously			
	Language (the student has difficulty:)	**YES**	**Sometimes**	**NO**

32	understanding what the teacher says			
33	speaking because he/she replaces the majority of consonants			
34	speaking he/she omits the majority of consonants			
35	understanding different common sizes and adjectives			
36	listening and understanding story-telling, songs, tales.			
37	reading books with images/drawings			
38	understanding simple relationships/consequences among facts/situations			
39	requesting answers from the rest			
40	using question words to ask questions			
	ADD/ADHD traits	**YES**	**Sometimes**	**NO**
41	his/her sentences are brief, and sometimes searches for words			
42	he/she communicates more with body language			
43	he/she always talks to inanimate objects			
44	he/she always likes to play outside no matter what the weather			
45	he/she has difficulty organizing his possessions, work and thoughts			
46	he/she always runs, jumps and climbs constantly			
47	he/she prefers active play to sit-down activities			
48	he/she always draws unrecognizable shapes			
49	he/she always relates physically with lots of touching			
50	he/she always fidgets and squirms during sit-down activities			
51	his/her moods are always extreme			
52	his/her feelings are easily hurt			
53	he/she always fails to give close attention to details			
54	he/she always seems to be distracted when spoken directly			
55	he/she always fails to follow rules/instructions and to finish schoolwork or tasks			
56	he/she always has difficulty organizing his activities			
57	he/she is easily distracted by external stimuli			
58	he/she is always forgetful in daily activities			
59	he/she has difficulty in playing or engaging in activities quietly, he talks excessively			
60	he/she blurts out answers before questions have been completed			
61	he/she always has difficulty awaiting turn or instructions			
62	he/she always interrupts or intrudes on others			
63	he/she always with peers constantly			
64	he/she always have difficulty sharing with peers or other people			
65	he/she has family conflicts			

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