ACADEMIC AND SOCIAL INCLUSION IN COLOMBIA

VOICES FROM THE FIELD

RESEARCH FROM THE SPECIALIST PROGRAM IN BILINGUAL EDUCATION

ÚNICA
INSTITUCIÓN UNIVERSITARIA
COLOMBO AMERICANA

CNG Colegio NUEVA GRANADA

JOSEPHINE TAYLOR SERIES EDITOR

ACADEMIC AND SOCIAL INCLUSION IN COLOMBIA

VOICES FROM THE FIELD:
RESEARCH FROM THE SPECIALIST PROGRAM IN BILINGUAL EDUCATION

Josephine Taylor
Series Editor

ÚNICA
INSTITUCIÓN UNIVERSITARIA
COLOMBO AMERICANA

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PRESENTATION

María Lucía Casas Pardo
President, Institución Universitaria Colombo Americana, ÚNICA

It is a great matter of pride for ÚNICA to announce the launching of this first number of *VOICES FROM THE FIELD*, a new series of valuable works that our University will be publishing as part of its mission of disseminating relevant and high quality research in Education.

VOICES FROM THE FIELD is intended to gather outstanding research conducted by the students in our graduate program in Bilingual Education. Every issue will have selected papers on a particular topic chosen by the Editor among the vast amount of work that has been conducted by our graduate students. The criteria used for selecting the topics and the research papers that will be published on each number are mainly defined by quality, pertinence, relevance and contributions to education today.

I want to thank Professor Taylor, editor of *VOICES FROM THE FIELD*, for her initiative and for the effort and enthusiasm she has given this endeavor. I anticipate that it will become a must-have in the library of each educator and institution that cares about education today and that are part of ÚNICA's research activity.

María Lucía Casas Pardo is the President of ÚNICA, the first bilingual Teachers College in Colombia. She earned an undergraduate degree in Modern Languages and Education and a Master's degree from the *Universidad Javeriana*, in Bogotá. Ms. Casas has worked as a school teacher, and Professor of English and Pedagogy in the *Universidad Javeriana*. She was Academic Director of the *Gimnasio Campestre* and IB Coordinator at the *FUNDEFA-Gimnasio del Norte*. She was also the Dean of the Business School and Director of the International Relations Office in *CESA*, Director of Education in *Compensar*, and Coordinator of the Colombian National Bilingualism Committee. She has acted as advisor for the National Ministry of Education in Colombia, and the *Universidad Católica de Chile*.

TEACHING THE 21ST CENTURY STUDENT

Charlotte Samper

Coordinator, Specialist Program in Bilingual Education, Colegio Nueva Granada, Bogotá, Colombia

Our world is changing very rapidly; technology being its main promoter is challenging us to become more adept and knowledgeable in its usage. Humans have had to move rapidly from being mainly agricultural to industrial and, finally, to technological in a short period of time. How does that affect us as teachers? Well… we also must change. The students we have today are not the same as the students we had 10 or 15 years ago. Their needs as future citizens are different; their skills, interests and abilities have also modified. The **Teacher Training Institute (TTI)**, founded by UNICA University and Colegio Nueva Granada nine years ago, seeks to support teachers' efforts in making changes in order to reach their students more effectively and help fulfill the needs they presently have.

The postgraduate program in bilingual education is a three semester program with classes offered at Colegio Nueva Granada on Fridays from 4:00 to 8:00 P.M. and Saturdays from 8:00 to 12:00. What makes this program unique? Classes are in English, which gives students the opportunity to read, write and converse in English using the vocabulary they learned while reading about educational topics, not grammar. More importantly, the TTI students, on Mondays, can apply what they are learning on the weekends to their own classrooms, use the materials they produced, and study the results. At the end of the week, part of the discussion circles around whether they observed any differences in their students' attitude, behavior, sense of responsibility, collaboration and interest. Since the methodology used in the classroom is practical and hands on, the TTI students experience a different approach to education which leads to better results.

The designers of the curriculum looked into the requirements of different teaching certificates in the U.S. and other countries, and also considered present day teachers' professional needs. Many teachers have not necessarily been taught how to manage difficult discipline problems or how to meet the needs of inclusion students, for example. The resulting program satisfies both aspects: that of teacher certification and the possibility of meeting the challenges of educating students for the 21st Century.

Another plus offered by this program is the fact that students come from the public and private sectors, so there is a constant exchange of experiences and realities which enriches everyone's knowledge base. Beautiful friendships have resulted from this interchange, friendships that bridge many social and educational gaps and have contributed to a better understanding of our country and its problems.

The **Teacher Training Institute** is definitely unique in Colombia. Those who have graduated from the program always mention the impact it has had on their teaching. They find that their students are happier, more productive, better behaved and more responsible. Change is not easy, but it is very fruitful if we make up our minds to make the needed adjustments to what and how we are teaching. We welcome you to join us.

Charlotte Samper has worked at *Colegio Nueva Granada* for over forty years. She is a lifelong student and holds two Master's degrees: one in Educational Administration from the University of Alabama, and another in Educational Leadership from Lehigh University. She is presently the Academic Coordinator for the postgraduate Specialization in Bilingual Education offered by *UNICA* and *Colegio Nueva Granada.*

INTRODUCTION

Josephine Taylor

Inclusion is the law in Colombia, as in many places. Nevertheless, inclusion practices in schools in Colombia in general are failing children and adults with special needs. In Colombia, as in most other countries, conditions do not exist for successful inclusion of students with a wide range of difficulties learning and adjusting to school as an institution. Most teachers encounter such individuals continually in their classes, whether they have been formally diagnosed with a particular learning, psychological, neurological, physical or social challenge. Because of the general lack of awareness or training on these difficulties, teachers are unprepared to provide for the learning of students with special needs. They rely on experience, trial and error, and occasionally training, which they mostly seek out and pay for themselves. Only occasionally do schools provide training on teaching learners with special needs. When they do, teachers see the benefit of this and request more.

These observations are possible and clear when we examine the literature on implementing successful strategies and programs for special needs students. Inclusion standards and laws are clear. Institutions, however, fall far short of even the minimum suggested provisions set forth by laws in Colombia. Some schools in Colombia even refuse students with special needs. Research from around the world demonstrates the pivotal role of the teacher as a key variable in affecting positive attitudes in the classroom and successful inclusion of students with special needs in the learning process and classroom culture. Teachers with more experience and a positive outlook towards working with students with special needs are consistently more successful in terms of making inclusion students part of the class, and providing for their academic achievement. Cooperation between members of the school community,

especially between teachers, administration and support staff is also a key factor in successful inclusion, in particular in the definition of individual education plans according to each student's needs. Finally, school administrators must provide for training, infrastructure, specialized staff and must take the lead in initiating communication channels among all stakeholders and agents in the school community.

This volume supports and adds to existing research on inclusion, particularly in reference to the local environment. All of the studies were conducted in Bogotá, Colombia, in private schools and one foundation. Findings support the existing literature and contribute to particular understandings in many facets and in reference to particular needs. All of the studies in this volume were originally final research projects in fulfillment of the Specialist Degree in Bilingual Education, offered by the *Institución Universitaria Colombo Americana, ÚNICA* in Bogotá, Colombia, in alliance with the *Colegio Nueva Granada*. Although the degree is in bilingual education, not special education, the program includes a course in Learning Disabilities. This course is the beginning of a lifelong journey for many students in the program who develop a keen interest and passion for helping especially the most challenged students learn and feel emotionally supported and stable in their classroom. The studies reflect local, usually passionate concerns that stem from observation and support of particular students with particular difficulties. The chapters include two case studies, as well as exploratory and descriptive studies of inclusion conditions and practices at particular schools in Bogotá. As training is consistently found as an important missing piece, the volume also includes a needs analysis and resulting teacher training scheme.

These studies from the field reflect local agents' concerns, reflections, problems and challenges, questions arising from daily observation and practice in a particular setting. The studies explore existing conditions without stirring them up, in order to arrive at an accurate statement of the current situation. The results are detailed baseline descriptions of particular phenomena of interest. In this way, the research is phenomenological as it inquires as to the workings of established

realities. The result is a consistent picture of better results with more care and attention, guidance and communication. Where attitudes are negative, successful inclusion is impossible. Lack of awareness and training are also key factors that affect the ability of teachers and institutions to properly provide for all students.

In ***Chapter 1, Inclusion Policies, Practices and Attitudes in One Primary School,*** **Catalina Montoya Gonzalez** describes the practices, policies and classroom realities of inclusion students in a private girls' school in Bogotá. The school accepts inclusion students and provides support personnel and academic adaptations, particularly for evaluations. Support staff, particularly shadow teachers, have more awareness and training on helping students with learning difficulties, but teachers have essentially no training. Classroom assistance is present, but generally uninformed by training. Teachers express willingness to receive more training and to have more communication with support staff about particular students.

Inclusion is the preferred practice and current paradigm for providing education to individuals with special needs. Research indicates that everyone benefits from inclusion, as opposed to pull-out programs, or seclusion of these individuals into separate educational facilities. Not only do students with special needs receive individualized support, but when inclusion really works, students are also incorporated into the social and cultural fabric of school. Positive and successful inclusion benefits other students as well, as they learn important lessons about otherness, difference and diversity, which they will need throughout life. ***Chapter 2, Successful Inclusion for High School Students with Disabilities: Perspectives from Parents and Students*** explores the construct of successful inclusion from the perspectives of parents and the students themselves, and places emphasis on social inclusion in terms of feelings, emotional well-being, friends and social aspects. **Giselle Persyko Kardonski's** study also reveals the willingness parents and students have about speaking about their experiences as receivers of institutional inclusion from schools. Once again, we can see the pivotal role of the teacher's attitude, and communication in the school. Interestingly, the high school

students in the study report higher levels of satisfaction with their friends' circles and social lives than what parents believe about their ability to adapt socially.

Chapter 3, Identification and Intervention of Primary Students with Attention Deficit Disorder *stems from* **Olga Lucia Camacho Pabón's** keen interest in attention difficulties in young children. The school in the study receives inclusion students and protocols and policies are in place to filter these students through the support department. In consistent findings with Montoya's study (this volume), support staff were trained and prepared to help these students. Teachers' actions, however, although often beneficial for students with attention problems, were not informed by training. Teachers are almost always self-taught although many of the strategies for attention students are applied evenly to all students in the class as a way of enforcing set expectations in terms of paying attention, following instructions, and adhering to classroom rules and norms of behavior.

Elizabeth Cristina Gil Corrales was similarly interested in exploring and describing students with attention difficulties, in ***Chapter 4, A Baseline Study of Attention Difficulties in Teenagers.*** She was particularly interested in how instruction and teachers' actions might affect students' ability to focus and pay attention, in positive or negative ways. Gil found that teachers, perhaps inadvertently or due to their own lack of training and information, manage their classes in such a way that often causes distractions for students, and affects their ability to concentrate. Frequent interruptions, lack of clear instructions, and lack of motivating classroom practices were found to have a negative impact on learners, including those without any evidence of attention disorders.

In a similar vein, in ***Chapter 5, The Impact of Teachers' Instructional Practices on Achievement and Behavioral Outcomes in a Fourth Grade Student with Attentional Disorder: A Case Study,*** **Norma Constanza Gómez Rubiano** asked herself how teachers' actions, instructional practices, behaviors and attitudes might affect a particular student with attention disorder, whose academic achievement, behavior and well-being presented a steady decline over a period of a few

years. In findings similar to the literature, Gómez found that teachers' negative attitudes, exhibited openly to the student and in front of his peers, were the source of frustration, and lack of motivation, and seriously affected his well-being in school. Further, teachers appear to focus on the behavioral aspects of the disorder, and are unprepared to tailor instruction in such a way to help the student focus.

In the second case study of this volume, ***Chapter 6, Strategies for Teaching Inclusion Students in a Primary EFL Classroom: A Case Study,*** by **Nubia Milena Castillo Celeita**, demonstrates that informed actions by teachers can make the difference in inclusion students' academic performance and emotional well-being in the classroom. This action research study focused on the implementation of specific strategies informed by the literature. While not all of the strategies were successful, many of them were, and can help form the basis for further work with this and other students.

At-risk learners are more prone to exhibit learning difficulties, and as such, it is vital to examine the effectiveness of programs designed to help such students. ***Chapter 7, The Effects of a Music Program among At-Risk Children and Adolescents***, by **Claudia Gaitán McAllister** demonstrates how consistent exposure to music, as well as learning and playing an instrument help boost resilience, self-confidence, positive emotions and outlooks on life, and other protective factors. This evidence is provided by participants in the program and parents, and by members of the school and community.

As the research demonstrates, successful inclusion is strongly influenced by well-trained teachers and support staff, programs and policies implemented consistently in schools, as well as effective communication among all involved. ***Chapter 8, The Handwriting without Tears and Zoo Phonics Programs as Interventions for Preschool Children with Difficulties in Early Literacy Skills,*** by **Luisa Fernanda Castellanos** demonstrates such a situation, particularly in reference to early work to prevent or address dyslexia and other reading difficulties.

The final chapter in this volume addresses the urgent need for teacher training on specific learning difficulties. ***Chapter 9, Developing Training on Autism: A Needs Assessment of***

Teacher Competence, Knowledge and Attitudes, by **Natalia Ortiz Gutiérrez** proposes an initial training on Autism Spectrum Disorder based on a needs analysis conducted with a sample of teachers from private schools in Bogotá. The training was specifically designed to involve teachers in determining their own needs and strategies, and particularly addresses teachers' anxiety and fears about being unprepared to deal with students with autism.

It is our hope that this volume might contribute to the literature on inclusion practices and the effect of such practices on students with special needs. While these studies help close the gap in the literature in Latin America, specifically in Colombia, all of the studies were conducted in private schools in the capital city. It would be quite helpful to stimulate research in smaller cities and rural areas, as well as in the public sector in order to arrive at a true understanding of the current state of inclusive education in the country.

Josephine Taylor holds a BA in English and French from Emory University and an MS in Teaching English as a Second Language from Georgia State University, both in Atlanta, Georgia. She has taught for over 30 years and is currently full time professor and editor at ÚNICA.

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INCLUSION POLICIES, PRACTICES AND ATTITUDES IN ONE PRIMARY SCHOOL

POLÍTICAS, PRÁCTICAS Y ACTITUDES DE INCLUSIÓN EN UNA ESCUELA DE PRIMARIA

Catalina Montoya Gonzalez

Although inclusion is the law in Colombia, many private schools do not have inclusion programs or accept students with special needs. The Gimnasio Pepa Castro *has been accepting and working with students with special needs for several years. Primary school teacher Catalina Montoya asked herself how the inclusion program actually worked at the school, and especially how teachers and the school support special needs students inside and outside the classroom.*

ABSTRACT

Schools today around the world are implementing inclusion, which is to educate all children with or without disabilities together the same classroom in order to help students become more accepting and sensitive to one another. This project was carried out with the purpose of identifying teachers' attitudes toward having special needs students in their classrooms. The study also explored the guidelines and practices teachers follow in order to implement inclusion in their classrooms. The study took place with a group of primary teachers, administrators, and support staff from the *Gimnasio Pepa Castro.* Data collection techniques included classroom observations, document analysis, and interviews with teachers, support staff, and administrators. It was found that it is possible to observe and describe some instances in which inclusion practices are carried out by teachers. However, it was also possible to observe that there is no formal document which guides or supports inclusion practices or policies in the school. It was also possible to recognize that most teachers do not have enough experience or training to work with special needs students. Nevertheless, teachers in general do make accommodations for special needs students in their classrooms. They also express strong interest in improving their practices, and report that more training and direction is needed.

Key words: Inclusion, Special needs, SEN, Accommodation, Shadow teacher, Teacher attitudes

RESUMEN

Actualmente los colegios alrededor del mundo están implementando la inclusión, es decir educar a todos los niños, con o sin discapacidades, en un mismo salón de clases, para ayudar a los estudiantes a ser más receptivos y sensibles entre ellos mismos. Este proyecto se llevó a cabo con el propósito de identificar las actitudes y cualidades necesarias que los maestros deben tener hacia los estudiantes con necesidades especiales en

sus aulas. El estudio también indago las directrices y prácticas que los profesores siguen para implementar la inclusión en sus aulas. El estudio se llevó a cabo con un grupo de docentes, administrativos y personal de apoyo del *Gimnasio Pepa Castro,* en la Ciudad de Bogotá. Las técnicas de recolección de datos incluyeron observaciones en el aula, análisis de documentos y entrevistas con maestros, personal de apoyo y administrativos. Se encontró que es posible observar y describir algunos casos en que las prácticas de inclusión son llevadas a cabo por los profesores. Sin embargo, también fue posible observar que no existe una directiva formal que guíe o apoye las prácticas o políticas de inclusión en el colegio. Además fue posible reconocer que la mayoría de los maestros no tienen la suficiente experiencia o capacitación para trabajar con estudiantes con necesidades especiales. No obstante, los maestros en general adaptan las aulas para sus estudiantes con necesidades especiales. También expresan un gran interés en mejorar sus prácticas e informan que se necesita más capacitación y orientación.

Palabras clave: Inclusión, necesidades especiales, SEN, adaptación, profesor asistente, actitudes de los docentes

INTRODUCTION

Inclusion is a way to value diversity, which means that all kinds of students, those with or without learning disabilities, difficulties or special needs, work together in the same classroom on the same activities and have equal opportunities. Inclusion takes into account not only the education but also the values of each person; it builds relationships, teaches students to live together, and fights exclusion. It is known as a program of acceptance, which is divided into three levels: physical integration, functional inclusion, and social inclusion. Today, many schools are implementing inclusion programs where they involve every student in every activity.

In Colombia, inclusion became the law with the Decree 2082 of 1996, by which public schools are required to accept students with any kind of learning disability (LD) in mainstream

classrooms (Ministerio de Educación, 1996). Despite the existence of this law, there are many schools that do not have an inclusion program, nor receive inclusion students. This may be due to the fact that school administrators are unclear as to how to work with these students. On the other hand, their teachers may not be trained to teach inclusion students.

Research indicates that teachers' attitudes are a determining factor in an inclusion process. Since inclusion is a dynamic process, teachers who have a positive attitude toward inclusion are open to practices that include students with disabilities. Additionally, research suggests that schools need to plan and implement personnel development programs designed to not only help teachers adjust instruction to students with special needs, but also help to them identify and implement instructional strategies if inclusion is to succeed.

In light of this situation, the present project was carried out with the interest of inquiring as to how one Colombian school, the *Gimnasio Pepa Castro*, handles inclusion. Specifically, it was thought worthwhile to explore teachers' attitudes toward working with inclusion students as well as the kinds of accommodations they may be implementing in their classrooms. Finally, the project proposed to establish whether, as research suggests, teachers' attitudes may be affected by their experiences working with inclusion students.

THEORETICAL FRAMEWORK

Inclusion is a program whose main objective is to look for a transformation not only in the education system but also in all learning environments. The basis of inclusive education is to eliminate exclusion (by race, social class, religion, gender, or ability) (Hick, Kershner, & Farrell, 2009). Inclusion comes from the field of special education, which was first separated from regular education. In the past century, the majority of students who presented disabilities did not attend school; therefore, special schools were developed for students with learning disabilities and their special needs. Afterwards, special education was joined with regular education and

called "integration," where the term inclusion was rarely used. This referred to integration or mainstreaming, which consisted in placing students with disabilities in a mainstream class; functional integration, where a student with disabilities was placed full time in a mainstream class; and locational integration, where a student with disabilities was placed in a special class in a mainstream school (Hick, et al., 2009).

However, at this point no changes were made to the mainstream curriculum, causing teaching and learning difficulties. Teachers did not know how to handle students with disabilities, and students with disabilities faced frustration, due to the fact that they did not understand what they were learning. This stimulated segregation, and did not show evidence that students learned more efficiently (Topping & Maloney, 2005). That is why the United Nations decided to frame inclusion under the initiative "Education for All" (EFA), which guarantees a basic education of good quality for all children around the world (UNESCO, 2005). The principle of inclusive education is to be philosophical, sociological, and educational (Ainscow, 2009). Inclusion describes how schools and communities invite students with disabilities to be members of the group (Hick et al, 2009).

In order to make inclusion effective, it is necessary to handle the different needs of the students with disabilities by valuing all the contributions they can make. This can be done by differentiating and sometimes individualizing the curriculum, where psychology has been a fundamental tool for inclusion (Ainscow, 2009). Psychology has always been a support for teachers, and it helps with sources and ideas for teaching, and especially for teaching students who present certain difficulties while learning.

There have been some misconceptions about inclusion. For example, it is expensive, it is theoretical but not practical, and it requires special skills and capacities. Inclusion is looking for quality in the classroom, and this can be done not only by adapting or changing policies of the school in order to become inclusive, but also by changing the culture in schools. There must be changes on all levels, so there has to be flexibility and variations. In other words, individual adaptations must be

done so that all the students can be in the same classroom. The role of teachers is also important, so they must be tolerant. Teachers must be positive towards the challenges; therefore, it is important to have a clear purpose, realistic goals, motivation, support, resources, and evaluation. It is also important to highlight the importance of teachers, parents, and school authorities, who are valuable to support inclusion (UNESCO, 2005).

In addition to having inclusion, some elements have to be taken into account when developing an inclusion program. First, it is important to have always in mind that inclusion is a never-ending research; therefore, educators always have to look for better strategies. In addition, data must always be collected in order to have evidence of what has been done to stimulate creativity and problem solving. Inclusion is also about presence, which refers to the place where students are being educated, how their participation has been, and their achievement and results (UNESCO, 2005).

Today, worldwide education has been looking for more effective ways to interact with all the children and young people in their communities. One of the reasons for this is that in poor countries, there are a number of children who do not attend school. On the other hand, despite the resources wealthy countries have, young people finish school without profitable qualifications. Other students are separated from their mainstream classrooms, and are placed in special education classroom. Some drop out of school due to the fact that they are not able to find the importance of the lessons they are taking, or are not able to make connections with the lesson and their daily life experiences. This is why inclusive education has increased lately in order to face all these challenges (Hick et al., 2009).

LITERATURE REVIEW

Studies have shown that teachers' attitudes are determinant in an inclusion process. In general, research suggests that teachers who have a positive attitude toward inclusion are open to

practices that include students with disabilities. Teachers with negative attitudes, on the other hand, tend to display barriers to the implementation of inclusion practices. Issues that affect these attitudes have been found to include training, prior experience, support, and strategies.

Some teachers are resistant to inclusion due to the fact that they may have not received enough knowledge about different disabilities in their pre-service training. Therefore, they may not have the skills to handle disabled students' needs. Ojok (2008) and Campbell, Gilmore and Cuskelly (2003) report that the combination of information-based instruction with structured fieldwork experiences can change attitudes towards disability and inclusion. The studies also demonstrate that raising awareness of one disability may lead to changes in attitudes towards disability in general. Leatherman (2007) argues that there should be more hands-on workshops not only to learn more about the characteristics of students with special needs, but also to obtain strategies on behavioral management and adapting instruction.

Heflin and Bullock (as cited in Ojok, 2008) found that more experienced teachers tended to show negative attitudes because they may have been practicing traditional methods that they were unwilling to drop. Kalyva, Gojkovic and Tsakiris (2007) found that teachers with experience in teaching children with Special Educational Needs (SEN) hold more positive attitudes and beliefs towards inclusion. After teaching children with SEN, teachers become more confident in their teaching effectiveness. Teachers that have the opportunity to work with SEN children recognize that it is challenging, but they have grown as teachers. These teachers also report that it has been rewarding because they have seen their students with special needs not only grow, but also develop and become accepted and understood by not only their teachers but also their classmates.

Kilanowski-Press, Foote and Rinaldo (2010) found that it is important to work as a team when there is a co-teaching. Co-teaching is effective when there is a mutual instruction to students with or without disabilities by special and regular teachers. Jackson, et al. (as cited in Young, 2004) demonstrated that there has to be a collaboration between general teachers

and special educators, where the roles and responsibilities are defined. In addition, there has to be effective communication among colleagues in order to share their experiences, and work together to find the students' needs. There also has to be a collaboration between educators and service providers. Finally, there must be integration among special therapists and the general classroom, which means to fight against the traditional pull-out models.

Family is also important in an inclusion process. Jackson et al (as cited in Young, 2004) state that there has to be open communication between the school and parents. The school should use parents as the first source of information. Parents should take into account when decisions have to be taken. There must be cooperation. Wisniewski and Alper (as cited in Young, 2004) also suggest that there has to be a developing network which begins by establishing collaborative relationships between teachers and parents who share a common vision. Additionally, they will share in the efforts as well responsibilities, and decision making towards promoting inclusion.

Ryndak, et al. (as cited in Young, 2004) found that teachers have to prioritize goals in order to make adaptations for students with disabilities. In order to make adaptation, it is important to have a flexible curriculum that can be modified for students with special needs. There has to be an integration of the individual instructional activities within the general lesson plan. Children with special needs in an inclusive classroom may need specialized strategies to participate, and the teacher in the inclusive classroom has to make those accommodations as a part of how she constructs her classroom. Schools administrators have to support teachers in order to make these accommodations in the classroom. The teacher also needs support from and collaboration with the other adults (therapists and special education teachers) who can make the inclusive classroom successful (Skrtic & Sailor, as cited in Leatherman, 2007). Further, the school system should plan and implement personnel development programs designed to not only help teachers adjust instruction to students with SEN, but also help to them identify and implement instructional

strategies if inclusion is to succeed (Hutchinson et. al.; York et. al, as cited in Gaad & Khan 2007).

There are some strategies that can be used in order to have a better inclusion. Bruneau-Balderrama found the importance of having clear and open communication with all the students in an inclusive class (as cited in Alahbabi, 2009). It is important to monitor how other students in their classroom may benefit from the strategies that the special education consulting teachers and the classroom teachers develop for students with disabilities. Maphula (2005) found that learning cooperative groups are also beneficial in class. Finally, inclusion practices have been found to be beneficial to non-disabled students because they grow in social cognition, increase tolerance, reduce fear of human differences, and develop personal principles, interpersonal acceptance and friendship (Peck, et al., as cited in Young, 2004).

METHODOLOGY

RESEARCH DESIGN

The methodology used for the research was based on the qualitative research design due to its intention to understand teachers' attitudes towards inclusion students, the accommodations they may use, training they have received, as well as the kinds of documents, policies or protocols that might be present to support inclusion. To understand these, a variety of techniques for gathering information was used, based on Cohen, Manion & Morrison's (2007) statement, "There is no single prescription for which data collection instruments to use; rather the issue here is of 'fitness for purpose" (p. 181). For this reason, ethnographic research kept a balance between a commitment to catch the diversity, variability, creativity, individuality, uniqueness and spontaneity of social interactions (Cohen, et al., 2007). Besides, Cohen, et al. (2007) propose a triangulation data collection process in which independent sources may answer the research questions for this study.

CONTEXT

The context of this study was the *Gimnasio Pepa Castro*, a small private girls' school located in Bogotá, Colombia. The school has one section per grade in primary. Each grade has approximately 20 students. This school has an inclusion pilot program, whose main objective is to include students with special needs in regular classes. There is a support area, which determines which students are considered students with special needs. This support area is in charge of determining which accommodations teachers should make for these students. These accommodations are made especially during formal evaluations. Some students with special needs also have a shadow teacher with them in some classes, depending on the subject. Most of these students with special needs receive different kinds of therapy, including speech, occupational, and physical therapy. They also receive additional tutoring.

PARTICIPANTS

The participants of this study were students from first through fifth grade, from seven to twelve years old. In primary, there are students who have been diagnosed with mild mental retardation; there are also some students who present attention deficit disorder.

Participants also included six teachers, plus administrators and support staff who work with inclusion students: primary teachers who teach math, Spanish, English, science and social studies; the school administrator in charge of school policies; and the psychologist and therapist who support those students with special needs.

DATA COLLECTION INSTRUMENTS

For gathering the necessary information of this study and to answer the research questions, it was necessary to use different qualitative techniques, including classroom observation, interviews and document analysis.

Classroom observation. This classroom observation took place in first, second, third, fourth and fifth grade classrooms. These observations were carried out in one grade per week, each grade in a different subject. Ethnographic field notes were taken during each observation. The behavior towards inclusion students and the accommodations done by the teacher were recorded in the notes taken during the observation. Also, some descriptions of the strategies applied by the teachers were written and described.

Interviews. The interviews took place with the primary teachers who teach math, Spanish, English, science and social studies, the school administrator in charge of school policies, as well as with the psychologist, therapist and shadow teacher who support those students with special needs, and teachers in first, second, and third grades. The idea was to look for new information about their knowledge about inclusion, the accommodations they make and their attitude towards inclusion students. The interviews also established whether teachers have received any training, and if it has been effective in terms of supporting their process of teaching inclusion students. Some informal conversational interviews were completed after a couple weeks of classroom observation. In addition, open-ended interviews were designed to determine how well the accommodations are working for the context of the students in this school.

Document analysis. A revision of accommodation materials and artifacts was carried out regarding local efforts to train teachers to implement inclusion. This was done in order to understand the school's position regarding the topic and its expectations and training policies for staff members, if existent. It also shed light on the amount and type of training available to teachers presently.

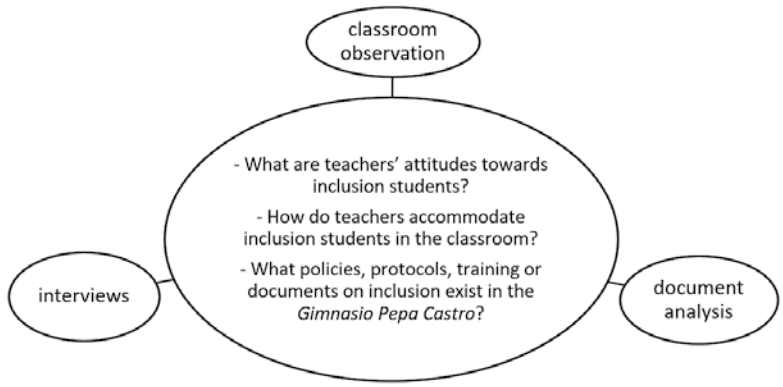

Figure 1. Data triangulation

Figure 1 illustrates how the data collected allowed for the answering of the research questions, through a process of triangulation in which perceptions, information, facts, opinions, artifacts, events and experiences are cross-referenced in order to allow for inter-subjectivity and well-rounded treatment of the phenomena recorded.

DATA ANALYSIS AND INTERPRETATION

In order to analyze and interpret the data gathered a coding exercise was conducted in which different categories were constructed that were common and repetitive in each instruments.

Classroom observation. Each classroom observation was transcribed and analyzed for recurring themes. These themes were grouped into the following categories.

Table 1. Categories resulting from content analysis of classroom observations

Category	Code	Description
Concepts	**CON**	This refers to the lack of clarity teachers have about the concepts related to inclusion. In other words the meaning of inclusion itself and the differences between accommodations, modifications, and differentiation.
Experience	**EX**	This refers to the experience that teachers have in teaching not only regular but also SN students.
Training	**TR**	This refers to not only the training teachers have in teaching SN students, but also the training they receive from school.
Guidelines	**GL**	This refers to the existence, or in this case, the lack of clear or formal guidelines about inclusion.
Collaboration	**COL**	This refers to collaboration among teachers and between teachers and support staff, e.g. there are no lesson planning meetings or teamwork. Teachers do not exchange strategies.
Accommodations	**ACO**	This refers to adaptations made by teachers to the curriculum or methodology, accommodations or modifications, e.g. accommodations made for SN students during formal bimestrial evaluation.
Support	**SUP**	This refers to evidence of support from the department in charge of the inclusion and / or administrators, e.g. there is no frequent feedback or specific monitoring from the department in charge of inclusion nor from the administrators.
Technology	**TIC´S**	This refers to the use teachers give to IPads and video beams as aids.
Information	**INF**	This refers to the information given to the teachers about the SN, or in the case that the information is incomplete or unclear.
Willingness	**WILL**	This refers to teachers' attitudes towards inclusion, e.g. when teachers report that they think it is a great experience, they enjoy doing it, but need more support, training, information, etc.

Document analysis. Each document was read and notes were taken. Notes were analyzed for recurring themes. These themes were grouped into the following categories: accommodations, evaluations, descriptions of special needs students, formal papers, and report cards.

Teacher interviews. After analyzing the classroom observations and the documents, a series of possible questions was designed for the follow-up interviews with the teachers of the classes observed. In general, the interviews sought to clarify issues or questions that arose from the observations. They were also intended to discover teachers' backgrounds, attitudes, thoughts and opinions about working with special needs students and inclusion practices and procedures in the school (See Appendix).

Teacher interviews were conducted, and notes were taken and transcribed. These notes were also analyzed using content analysis to identify recurring themes. These themes were divided into the following categories:

Table 2. Categories resulting from content analysis of interviews

Category	Code	Description
Interaction	**INT**	This refers to the communication, not only between teachers and SN students, but also SN students with their classmates. It also refers to the participation of the SN students in class, how teachers encourage, engage and motivate SN students.
Attitude	**ATT**	This refers to some students' attitudes towards SN students, e.g. when a SN student asked for an eraser and the classmate didn't lend it, or teachers that sit down with SN students and work, or others who are neutral and their attitude is the same with all the students.
Self- control	**S/CON**	This refers to conflict resolution, e.g. when a SN student starts crying when a classmate doesn't lend her an eraser. On the other hand, there are other SN who show positive behaviors.
Instructions	**INS**	This refers to the instruction given to the students by the teachers, e.g. some teachers give instructions oriented to SN students.
Tutor	**TT**	This refers to the tutor's role, how often the tutor assists in class, and with which SN students.
Accommodations	**ACO**	This refers to adaptations/ accommodations applied, e.g. in the formal bimestrial evaluation.
Classwork	**CW**	This refers to the way SN students work in class, which means that sometimes SN students work with the teacher "one to one work", in other opportunities they work by pairs. This refers to the way they work, e.g., they might take more time than their classmates completing a task.
Technology	**TIC´S**	This refers to the usage the teachers give to IPads and video beam as an aid, e.g., the use of an audiobook.

RESULTS

In general, it is possible to observe and document specific inclusion practices in the school even though teachers do not share a clear or unified concept as to what inclusion is, and in the absence of clear or formal school policies or procedures. The Department of Counseling and Psychology shares some information with the teachers, including specific information

about the individual special needs students, and an institutional document on how to make adaptations. There is also a shadow teacher available in some classes. Nevertheless, teachers all give different definitions of inclusion and report that they do not have enough support or feedback from the Department of Counseling and Psychology or school administrators.

Nevertheless, it is possible to observe that teachers made some adaptations in their classes, especially at the end of the term when they adapt the evaluations of the special needs students. Some teachers work closely with the special needs students. Teachers also use technology as a tool to help special needs students. Although there are no special education teachers in the school, there is evidence that there are some teachers who have more experience working with special needs students. It is also possible to observe that the teachers in the study are generally willing to help special needs students. Finally, it is important to point out a generally positive attitude towards inclusion students at the school. Teachers express strong interest in improving their work with learners with special needs, and report that more training is required for teachers and more involvement on the part of everyone with helping these students.

SCHOOL PROCEDURES FOR INCLUSION

The document analysis and interviews with school administrators as well as the school psychologist revealed the existence of some procedures and protocols for inclusion in the school. Nevertheless, these procedures are largely informal and undocumented. Students with special needs complete the admission process the same way as regular students. If they are applying for preschool, special needs students do not have to present a formal evaluation. After that, the Department of Counseling and Psychology observes these students. According to the observations and after identifying the student's capacities, they are placed in a classroom with their peers.

The Department of Counseling and Psychology informs teachers formally of inclusion students. This information

includes students' strengths and weaknesses. In addition, some suggestions are given on how to work with these students, such as what kind of accommodations or adaptations they should take into account in terms of both academic and behavioral aspects. If the teachers see that a student is presenting difficulties in their classes, they report it to the Department of Counseling and Psychology. After identifying the difficulties, they hold a parent conference and depending on the difficulties, the Department asks for a neuropsychological evaluation by the speech or occupational therapist. With the results, the department makes decisions on what kind of accommodations must be done.

During the first term, teachers are asked by the Department of Counseling and Psychology to accommodate the final evaluation of the inclusion students. This accommodation is essentially to shorten the evaluation for inclusion students. In the second term, teachers receive a document on how to make curricular adaptations as well as a format for these adaptations. Teachers are also asked to complete the form with the content students will see during the term, the learning objectives, and the skills students will use or need in order to achieve the objectives. In addition, teachers are asked to provide information as to what type of adaptations will be done, if they will be methodology, content or evaluation adaptations.

Inclusion students are removed from English classes or subjects taught in English and instead sent to therapies due to the school's schedule, which includes more hours in English. This is also because some of the students with special needs present difficulties in their mother tongue. The shadow teacher's role is to help the inclusion student organize herself, and to plan and complete activities. This person also helps the special needs student to develop to skills and strategies for self-control and the proper development of executive functions.

The special needs report card is different from that of regular students because the academic model in the school is more quantitative than qualitative. Special needs students cannot be graded with just a number. Even though they are graded with numbers, there are other performances taken into account.

CONCEPTS

Interviews with teachers revealed that each teacher has a slightly different concept of what inclusion is. For the fourth grade math teacher, inclusion is to promote skills in the disabled students in her class. For the primary science teacher, inclusion is to include students with cognitive weaknesses or with special conditions in the same classroom with their classmates. For the primary Spanish teacher, inclusion is to include girls with a different way of learning in regular education. For the first grade science teacher, inclusion is the need for people who have special needs to be involved in a special education process. For the primary mathematics teacher, inclusion is the exercise of teaching disabled people in a normal classroom. In this way, the regular students will learn to accept a different person, and the disabled people feel part of a community. Finally, the fifth grade social studies teacher defines inclusion as the time given to students who have flaws or a disability to enter a formal education process, however having them in a special process so they can advance with their cognitive processes. While teachers have unique but accurate definitions of inclusion, most do not know the difference between modifications, adaptations and accommodations. This may explain why it is possible to observe teachers handling special needs students differently in the classroom.

ADAPTATIONS / ACCOMMODATIONS

There are some adaptations by the teachers for the special needs students during the academic process. One of the most important adaptations is in the evaluations of special needs students, specifically, end-of-term evaluations. During the interviews, all the teachers who have special needs students in their class explained how they adapt evaluations for these students by making them shorter and giving instructions that are more specific. On the other hand, during the class observations, it was possible to note that the fifth grade science teacher gave one of the special needs students the opportunity to choose between answering orally or in writing.

It was also seen during classroom observations that the instructions and the development of classwork for the special needs students is sometimes different from the rest of the class. The science teacher sits next to the special needs students and helps them to start their work. She gives them one specific instruction or step for them to do at a time. She also asks the special needs students to repeat the instruction to check if the student understands what she has to do. There was also evidence in the third grade mathematics class, where the teacher is always checking and giving instructions to the special needs students. If the special needs students do not understand, sometimes the teacher gives the explanation again, but this time individually. In addition, the primary math teacher reported in the interview that he gives specific and direct instructions to the special needs students.

In addition to adaptations in the evaluations, teachers make other accommodations for special needs students. Some teachers said in the interviews that in order to motivate these students, they give them an additional grade for their participation in class. Others motivate them by praising their work, as evidenced in the class observation of the third grade math teachers. Some teachers make different workshops for the special needs students, such as the fifth grade social studies teacher, who looks for specific and concrete information for the special needs students. The first grade science teacher shows them picture cards so they can understand better. This teacher also reported that in the English class, for example, she tries to look for a reading at a lower level. For example, if the regular class is A2, she tries to look for an A1 reading. Finally, during the observation, it was seen that the primary Spanish teacher moves the special needs students in order to have them close and therefore help them not only with their tasks, but also to keep them focused in class.

EXPERIENCE

For some teachers, this is the first time working with special needs students, but other teachers have had the experience of working with special needs students before. However, more

experience does not necessarily constitute more adaptations for special needs students. For example, the fifth grade social studies teacher has worked with students with Down's syndrome, autism and Asperger's syndrome. Nevertheless, this teacher argues that the teaching process must be the same for every student, and that it is the teacher's responsibility to involve students in her process or class without doing different things. For this teacher, doing different things in her class constitutes exclusion because the special needs students may feel excluded when they see that the teacher checks their work in a different way. During the class observation, it was possible to observe that the fifth grade teacher asked a student with special needs to participate. Even though the girl gave a correct answer, the teacher did not give her a paper, which represents bonus points. This is evidence of not treating the special students need differently.

On the other hand, the primary mathematics teacher also has had the experience of working with special needs students but advocates more support and attention for teachers with special needs students. He reports that in his previous experience, there were several meetings during the school year with parents, therapists, and teachers who work with the student. There were also meetings with a team that supported the teachers, in which different information was given and shared in order to establish a work plan for the special needs students. This teacher reported that under these circumstances, the results were better. During the class observation, it was evident that even though the math teacher feels that he does not have enough information about his students with special needs, he is always checking the special needs students' work.

SHADOW TEACHER

During the class observations, it could be seen that there is a shadow teacher in some of the subjects such as Spanish, social studies, and mathematics, subjects that are taught in the first language. Teachers who have a shadow teacher in their classes reported in the interviews that the shadow teacher is in charge of helping the special needs student understand the teacher's

instruction. She also helps the student look at and follow the book. She solves any questions the special needs student may have. She also has to make sure the students are taking notes and supervises the students' work. Although the shadow teacher works with special needs students, they do not appear to collaborate with the teacher. During the observations, it was possible to note that the shadow teacher had no contact or conversation with the teacher at all. Teachers in the interviews also reported that they did not have an official or constant meeting with the shadow teacher.

In the interview, the shadow teacher reported that her communication with the teachers is informal. She asks the teachers what they are going to do during the class. If it is an activity that does not requires her support, she does not attend the class. She also said that she does not receive feedback from the Department of Counseling and Psychology, the ones in charge of giving her the guidelines.

TECHNOLOGY

Most of the teachers reported in the interviews that they use technology as a tool in their classes. They also said that this tool is helpful for the special needs students. There is evidence of this in the Spanish class were the teacher used an audio book, which helps the special needs student to follow the reading. In addition, when the first grade science teacher showed some animals to her students, it was done visually for the special needs student. On the other hand, teachers say that the use of technology helps special needs students learn in a better way due to the fact that things are more visual for them. This helps them focus their attention, and as a result, they participate more in class. The teachers that teach subjects in English say that there are many different applications and programs to use with the special needs students; however, there was no evidence of this during the class observations.

ATTITUDE / WILLINGNESS

Teachers said in the interviews that they made adaptations in order to help the students with special needs. There is evidence in the class observations that some teachers work closely with the special needs students. Others are willing to help these students, but reported that they do not feel trained enough. Teachers reported in the interviews that they feel glad when things are meaningful for the special needs students. They feel satisfied with the work they have done. Therefore, they are willing to help the special needs students. In order to help the special needs students more, teachers suggested more teamwork so they can look for better activities. Another aspect that motivates teachers is to understand how special needs students analyze or think about certain situations. Finally, they enjoy seeing the special needs students' development.

SUPPORT FOR TEACHERS

During the interviews, most teachers said that they did not receive enough support, not only from the Department of Counseling and Psychology, but from the school administration as well. Therefore, they are not sure if what they are doing to support special needs students is actually effective or not. They commented that they would like to receive first an explanation from trained people about not only what inclusion is but also how to handle these kind of students. In addition, they would like to have more materials and resources in order to work with the special needs students.

Furthermore, teachers stated that they would like to have more teamwork, in which teachers, support staff, the Department of Counseling and Psychology, and even parents gather at least three times per year to see how the process is going. Besides this, they would like to have constant meetings with the Department of Counseling and Psychology in order to check students' processes, and in this way to see what is working for them or if some changes must be done.

Moreover, teachers reported that they would like to receive constant feedback on special needs students' processes, not only during the time of evaluations. Even though teachers receive a document on how to carry out adaptations, they would like to have not only feedback on what they have done, but also support while they are making these adaptations. In addition, the teachers interviewed said that they need more information about the special needs students. They maintain that the information given to them on the special needs students is not clear since it is a simple document that only describes some characteristics of these students. They say that Department of Counseling and Psychology and school administrators need to give more detailed information to the teachers about the special needs students in order to have a better process. Finally, teachers mentioned that it would be interesting if they had clear and established policies or guidelines for the inclusion program.

CONCLUSIONS

This study sought to perceive primary teachers' attitudes toward inclusion, and to explore if teachers had any training or experience in inclusion. It also sought to investigate accommodations, policies and guidelines followed by the teachers, as well as any kind of support provided by the support staff or administrators.

Based on the findings, it was possible to draw a number of conclusions. It was found that the teachers working at the *Gimnasio Pepa Castro* have no training in special education. As a result, they generally do not feel prepared to teach students with special needs. They feel that they do not have sufficient knowledge about disabilities or skills on how to handle special needs students in their classrooms. However, there are some teachers who have had prior experience teaching special needs students; for this reason, they use different strategies in their classes in order to work with the special needs students. Teachers affirm that even though it has been challenging, working with inclusion students has been a gratifying experience. This corroborates findings by Kalyva, Gojkovic and Tsakiris (2007),

that teachers with experience in teaching children with Special Educational Needs (SEN) hold more positive attitudes and beliefs towards inclusion. However, in this study, it was found that even teachers with little experience teaching students with special needs were found to be positive and to make accommodations for these students in their classrooms.

On the other hand, there is a teacher that despite of having prior experience teaching special needs students stated that it is not mandatory to do different things during class with the special needs students because it may contribute to exclusion. This may be linked to what Heflin and Bullock (as cited in Ojok, 2008), who found that the more experienced teachers tended to show negative attitudes because they may have been practicing traditional methods that they were unwilling to drop.

Teachers make adaptations for the special needs students, especially on the evaluations at the end of each term. In spite of having an institutional document on how to make adaptations, teachers feel they do not have the enough support and feedback from the Department of Counseling and Psychology. Therefore, they are not sure if the adaptations they are doing are good or bad. This links to Skrtic and Sailor's (as cited in Leatherman, 2007) findings, that the teachers also need support from and collaboration with the other adults (therapists and special education teachers) who can make the inclusive classroom successful.

Kilanowski-Press, Foote and Rinaldo (2010) found that it is important to work as a team when there is a co-teaching. Co-teaching is effective when there is a mutual instruction to students with or without disabilities by special and regular teachers. This can be related with the shadow teacher. This person is in charge of supporting and helping special needs students in their classes. Despite this, it was found that there is little formal communication between the teachers, the shadow teacher, and the Department of Counseling and Psychology. Therefore, there is not a clear understanding of the role and responsibilities of the shadow teacher.

Most of the time teachers work in isolation; that is to say, they plan their classes without sharing any strategies with their co-

workers. Teachers do what they consider best for the special needs students. This may not be the most effective way of working, as Jackson, et al. (as cited in Young, 2004) argue the importance of effective communication between colleagues in order to share experiences and work together to address students' needs.

Although the administrators the Department of Counseling and Psychology ask teachers to fill in several formats, findings suggest that there are no official documents that support the inclusion program. Therefore, teachers, especially the ones who are new at school, are unfamiliar with the procedures of the inclusion program. Hutchinson. et al. and York, et al. (as cited in Gaad & Khan, 2007) found that the school system should plan and implement personnel development programs designed to not only help teachers adjust instruction to students with SEN, but also help to them identify and implement instructional strategies if inclusion is to succeed.

Finally, Jackson et al. (as cited in Young, 2004) state that there has to be an open communication between the school and the parents. The school should use parents as the first source of information. Parents should take into account when decisions have to be taken. There must be a cooperation. This can be linked to what some teachers suggested. Teachers stated that parents have to be taken into account during the inclusion program. Therefore, the school should have a meeting with parents, teachers, and Department of Counseling and Psychology in order to check the students´ process.

ACTION PLAN

The proposed plan of action based on this study for the school *Gimnasio Pepa Castro* and specifically for the inclusion program include the following:

- Establish a Leadership Team, which includes administrators, support staff, parents and teachers in order to create develop a framework for the inclusion program in school.

- Develop a framework that defines the following: the concept of inclusion for the school, the vision of the program, the goals and objectives of the program, the roles and responsibilities of those participating in the program, and the barriers and benefits of the program.
- Carry out training sessions for teachers in which they can not only clarify concepts but also obtain tools and strategies on how to handle special needs students' academic and behavioral process.
- Provide constant support and feedback on the part of the support staff and administrators in order to have a formal follow up of the program and a continuity of the procedures in order to avoid misunderstandings and gaps.
- Collaboration is important for inclusion programs. Therefore, the school should give teachers time in order to work together and exchange strategies and ideas to help the special needs students.
- Clear communication among parents, teachers, support staff, and administrators is needed in order to benefit the special needs students.
- A flexible curriculum is needed in order to support flexible learning and assessment, in other words, a curriculum that can be adapted, modified or accommodated.

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APPENDIX

Interview Questions (for Teachers)

1. How long have you been working at Pepa Castro school? ¿Cuánto tiempo llevas trabajando en el Pepa Castro?
2. ¿Cuántos años ha estado enseñando? How many years have you been teaching?
3. Do you have a special education certification? ¿Tiene alguna certificación en educación especial?
4. Qué entiende usted por inclusión? What do you understand by the concept inclusion?
5. Does the Pepa Castro have a clear guideline for the implementation of inclusion? ¿Tiene el Pepa Castro tiene una directriz clara para la aplicación de la inclusión?
6. Does the Pepa Castro provide any professional support to manage inclusion such as(training, seminars, workshops) How often? ¿El Pepa Castro ofrece algún apoyo profesional para gestionar la inclusión como (formación, seminarios, talleres) ¿Con qué frecuencia?
7. Who is involved in managing the implementation of inclusion? ¿Quién está encargado en el manejo de la aplicación de la inclusión?
8. How are modifications to the curriculum made and who makes the decision? Cómo están las modificaciones al plan de estudios realizados y quién toma la decisión?
9. How often do you meet with your coworkers to plan together? How often to you receive feedback or support from the area icharge of the inclusion? ¿Con qué frecuencia se reúne con sus compañeros de trabajo para planificar juntos? ¿Con qué frecuencia recibe retroalimentación o apoyo del área de encargada de la inclusión?
10. Do you make any adaptations in your classes (instruction, materials, evaluation)? ¿Hace algún tipo de adaptaciones en sus clases (de instrucción, materiales, evaluación)?
11. What kind of strategies do you use in your classes in order to hook, encourage motivate the special needs students?

¿Qué tipo de estrategias utiliza usted en sus clases con el fin de enganchar, animar, motivar a los estudiantes con necesidades especiales?

12. What is the role and responsibility of the tutor in the classroom? ¿Cuál es el papel y la responsabilidad del tutor en el aula?
13. Do you use technology as a support in your classes? ¿Utiliza la tecnología como apoyo en sus clases?
14. Are there any personal aspects that influence the fact of teaching students with special needs? ¿En que aspectos personales influyen el hecho que este enseñando a estudiantes con necesidades especiales ?
15. Why do you think the Pepa Castro decides to have an inclusion program? ¿Por qué cree usted que el Pepa Castro decide tener un programa de inclusión?
16. How do you ensure that inclusion is implemented at Pepa Castro? ¿Cómo puede usted asegurar que la inclusión se esta implementando en el Pepa Castro?
17. If you were to suggest about inclusion at pepa castro, what would be your suggested changes? ¿ si usted fuera a sugerír cambios acerca de la inclusión en el Pepa Castro,que cambios sugereria?

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SUCCESSFUL INCLUSION FOR HIGH SCHOOL STUDENTS WITH DISABILITIES: PERSPECTIVES FROM PARENTS AND STUDENTS

INCLUSIÓN EXITOSA DE ESTUDIANTES DE SECUNDARIA CON DISCAPACIDAD: PERSPECTIVAS DE PADRES Y ESTUDIANTES

Giselle Persyko Kardonski

Successful inclusion is often conceived in terms of academic achievement. However, for parents and their children with disabilities, social inclusion is equally if not more important, especially in high school. Giselle Kardonski sought out parents of special needs high schoolers in order to find out what they consider successful inclusion, and especially how they feel about social inclusion.

ABSTRACT

The present research project was conducted with the purpose of inquiring into the criteria of successful inclusion according to parents and high school students, and the factors necessary to create a successful inclusion program. The study was conducted with thirteen sets of parents and their children with special needs, most of them high school students, in the US and Colombia. The techniques for the data collection included open-ended and closed questionnaires, interviews, and a reflective journal. It was found that parents strongly believe that schools with successful inclusion programs are those that ensure teachers' positive attitudes as a key element to teaching special needs children in regular classrooms, and provide support and training. Parents also point out the importance of teamwork among staff, as well as funding in order to adapt the school for the physically challenged and provide assistive technology. Another key finding of the study were the differences of opinions between parents and special needs students. Parents seem to believe their children are less happy at school and have less satisfactory social lives while the students believe their social lives are satisfactory.

Key words: Inclusion, Social inclusion, Inclusive education, Individualized Educational Programs (IEP), Teacher attitudes, Special needs students, Parents of students with special needs

RESUMEN

Este proyecto de investigación se realizó con el propósito de indagar entre los padres de familia y los estudiantes de secundaria sobre los criterios y factores necesarios para crear un programa de inclusión exitoso. El estudio se realizó con trece grupos de padres y sus hijos con necesidades especiales, la mayoría de ellos eran estudiantes de secundaria en colegios en Estados Unidos y en Colombia. La recolección de información se realizó a través de cuestionarios abiertos y cerrados, entrevistas y un registro diario. Se determinó que los padres creen firmemente en que los colegios con programas de inclusión exitosos, son aquellos

Palabras clave: Inclusión, inclusión social, educación inclusiva, programas educativos individualizados (IEP), actitudes de los docentes, estudiantes con necesidades especiales, padres de estudiantes con necesidades especiales.

que aseguran que sus profesores tengan una actitud positiva hacia la inclusión, y la consideran un elemento clave para poder enseñar a los niños con necesidades especiales en aulas regulares. También se determinó que los padres creen que los colegios con programas de inclusión exitosos son los colegios que proporcionan apoyo y entrenamiento. Los padres también señalan la importancia del trabajo en equipo entre el personal, así como la financiación, con el fin de adaptar la escuela para los estudiantes con discapacidad física e implementar tecnología de apoyo. Otro hallazgo clave del estudio fue las diferencias de opiniones entre los padres y los estudiantes con necesidades especiales. Los padres parecen creer que sus hijos son menos felices en el ambiente escolar y tienen vidas sociales menos satisfactorias mientras que los estudiantes creen que sus vidas sociales son buenas.

INTRODUCTION

Educating children with disabilities has been an important issue since the development of organized education. With the advancement of society, technology, and education in general, inclusion is a topic that is currently changing education today. Inclusive education is extremely important because successful inclusion of students with special needs brings extensive benefits to children both with and without disabilities. It allows the disabled to interact with peers that have more developed social skills. They can use these peers as models or receive extra help from them. This also helps the regular students learn empathy and a greater understanding of diversity. Inclusion can also help develop teamwork among disabled and non-disabled children. Inclusion builds children's confidence, both groups become more self-assured, and the impact is great. In the end, it changes the lives of the children involved.

According to research, there are several perspectives that schools should consider in order for inclusion to be successful, including those of the school, staff, parents, and students. There

are also different techniques that schools might employ in order to produce the best inclusion programs possible. For example, when a school develops an inclusion program, it should focus on working together and forming good communication among staff, disabled students, and support groups. There should also be support for the teacher in terms of training and help in communication. Research also suggests that staff, including the regular and the special education teachers, should work together in order to avoid conflict and misunderstandings. Another factor is making sure teachers' attitudes stay positive because a positive teacher attitude is one of the main factors in achieving successful inclusion. Finally, the school should analyze the social situation of the students and work on sensitivity training and identifying how the school can support the students.

The present project is relevant because all children, including children with disabilities, have a right to a high quality education. It is extremely important to achieve successful inclusion because students with special needs deserve the same opportunities as regular students. The research reviewed along with this study can help schools realize what important factors are necessary to implement and keep in mind in order to have successful inclusion programs. Schools can understand how they can prepare themselves in order to have inclusion programs that allow children to learn, grow, and be happy and productive. Schools can realize that without adequate inclusion practices, children with disabilities will not be able to receive the quality education they deserve and regular children will not be able to benefit from all the positive aspects of a well implemented inclusion program.

THEORETICAL FRAMEWORK

INCLUSIVE EDUCATION

Inclusion in the classroom means that every student, no matter the differences, should be incorporated into the same learning environment. This occurs by making sure that every individual

is given the right tools to be in the same circumstances to be able to learn the material provided and be able to grow and advance to the next level of learning. The opposite of this is to reject students that do not fit in to the "norm" and to place them in a segregated space apart from everyone else. Inclusion assumes that if students need special help to be able to achieve the same work as the rest of the class, it is provided to him or her. The objective may also need to be modified in order for the student to reach the goal. This is because the main objective of inclusion is to provide opportunities for each individual to learn, grow, and become a useful human being, just as everyone else.

INCLUSION IN HISTORY

In the beginning of last century, the trend of creating inclusion in general schools was exactly the opposite. The disabled were separated into special schools. With the influx of immigration into the United States, education began to be viewed as imperative due to the fact that the different cultures living together began clashing. The need to homogenize the population became critical in order to create a more peaceful environment. All children started attending school and the extremely disabled were separated into special schools or stayed at home, but mildly disabled children were still included in the classrooms (Reddy, 2012).

As the number of students increased, schools began to separate all students with disabilities with the idea that the special education would be more beneficial to these students because they could achieve more specialized attention. This trend is exactly the opposite of today's trend of inclusion with the same idea, to benefit the students with disabilities. They also believed that if there were less academic demand, there would be less stress for these children (Reddy, 2012).

During the 1930's until the 1950's, the idea that specialized attention would be beneficial began to fail. Funding was extremely limited towards special education and schools for the disabled were held in the least desirable environments.

The students were not treated with basic human rights, were separated from society, and only stayed within the confines of their special school and home. Parents began to speak out about this violation of basic human rights, which led to the beginning of the passing of breakthrough laws that would protect the rights of students with disabilities. The first law that made a difference was the Brown vs. The Board of Education law in 1952. This case opened new doors for minority students and students with disabilities. What was important about this law is that it transferred responsibility from the parents to the school systems and the teachers involved in their education. It also opened doors for future laws that would be approved in favor of the disabled (Reddy, 2012).

During the 1990's, schools in the United States began allowing students to join the regular classrooms and stopped segregating disabled students into special schools. During President Bill Clinton's administration, inclusive education was turned into a priority in the government's agenda. They took the 1975 Education for All Handicapped Children Act (EAHCA) and renamed it the IDEA act. This new IDEA act placed more focus on the individual instead of the individual's condition. This reauthorization of IDEA gave schools a greater responsibility for the well-being and learning of disabled children and also gave States the responsibility of coming up with performance standards that matched or were more similar to the goals of students in general education. States also had to accommodate students into regular classrooms and make necessary accommodations and alternate methods of testing for assessments and state exams (Reddy, 2012).

In Colombia today, the focus of education reform has been towards inclusive education. In the past few years, the Colombian Government has passed important laws in order for schools to add inclusion. In various territories of the country, a classification system has been implemented in order to determine the levels of inclusion needed in schools *(Ministerio de Educacion Nacional, 2007).* In 2003, Resolution Nr. 2565 established that all territories must determine the characteristics of each student with a disability in order to propose what the school needs to adjust in order to guarantee

the pertinent education to the individual. In addition, all municipalities must inform the different state and social development organizations in order for the Ministry of Education to determine the general pedagogical orientations of the municipality *(Ministerio de Educacion Nacional, 2007).* There have been also the *Planes de Mejoramiento Institucionales* (PMI – Institutional Improvement Plans), which are several plans passed by the Colombian Ministry of Education stressing that the implementation of inclusion be in all areas including in the school directive in the administrative, academic and in the community (Ministerio de Educación Nacional, 2007).

In February 2013, the most important law to this day in Colombia in the topic of inclusion was passed. There had been laws in the past, but the Ley 1618 of 2013 is a statutory law, which means that it holds priority to all other laws, and it guarantees equality for all disabled individuals especially in the area of education. This law also unites all other laws that have been approved in the past. The other benefit of the passing of this law is that it dictates specific measures for the implementation of inclusion and mentions parties that are responsible. With this law, schools will have to identify the disabilities and come up with ways to change in order to assist these students. Schools will have to follow up on these students, add measures of prevention, and have tools and accessibilities that will help with the education of the disabled. Also, the curriculums will have to be adapted, and teachers will have to be trained in order to be able to absorb students with disabilities into their classrooms (*El Congreso de la República de Colombia,* 2013).

PROBLEMS WITH INCLUSION

Research of the past 25 years has shown that normally students with disabilities have had a very hard time staying in schools. They have a dropout rate of over 50%, which is twice the general population. Aggressive behaviors, hyperactivity, impulsivity, acting out, delinquency, and disobedience are also often seen in disabled children. These behaviors may cause these students to be a risk in general education settings. They might suffer from a lack of social acceptance as well as inappropriateness

of curriculum. Due to this, various studies have shown that inclusion has no benefits compared to separate education, regardless of the type of intensity of the disability (Coleman, Webber, & Algozzine, 2012).

Many students with disabilities do not want to be included in general education schools. Studies say that the reasons most mentioned include prejudice, and the belief that coping will be impossible due to the severity of the disability and the lack of accessibility in schools. There is also a belief that general education is only for students with mild disabilities. Concerns also exist about behavior, and the belief that education with the necessary adaptations will be too expensive. Another belief is that general education cannot add to lessons needed by disabled to their curriculum, such as life skills. In addition, the National Education Goals in 1990 implemented by governors all over the U.S. challenged the educational system to produce citizens that would be productive and successful at employment. This forced schools to focus heavily on curricular subjects such as math, science, social languages, etc. (Coleman, et al., 2012). According to special education scholars Brooks & Sabatino, the problem with this is that students with learning disabilities need to be taught skills such as "self-control skills, coping strategies, social skills, functional life skills, vocational skills, and social problem solving skills" (p. 44, Knitzer, as cited in Coleman, et al., 2012) aside from the general educational curriculum. These standardized curriculums, designed to meet national and state goals, are not optimal and become problematic for students that need individualized curriculums (Coleman, et al., 2012). In schools that are specialized for disabled children, the primary focus is to teach the skills mentioned above which allow these students to become independent and productive citizens (Coleman, et al., 2012).

According to Coleman, et al, "the assumption that the general education classroom is the best place for all students to learn academic content has not been substantiated" (2012, p. 44). In terms of behavioral disorders, there are more arguments against than for inclusion. One of the arguments is that there has been very little progress in combating perception. They are the least accepted students with disabilities and schools react

very strongly to them. When students with emotional and/or behavior disorders (EBD) are placed in general education settings and a certain behavior is modeled for them, most of the time they do not react positively; this may even work in reverse. Students with EBDs may even have a negative experience when placed in general education classrooms (Coleman, et al., 2012).

The other factor that works against inclusion is teacher tolerance. According to special education professors and authors Cook & Semmel (2012), teacher tolerance is the "unique range of student characteristics that a teacher can simultaneously address with effectiveness" (p. 74). In other words, tolerance is the amount of attention that a teacher can simultaneously give in order to lead a productive classroom. Students with disabilities require higher teacher tolerance, and if the assistance is not optimal, the classroom and lesson suffers (Cook & Semmel 2012).

There are several strategies that may increase teacher tolerance, but these also have their problems. Peer tutoring and cooperative learning are two strategies used to increase teacher tolerance with students with disabilities in the classroom, but some argue that these are not really freeing the teacher of time. It appears to be doing the opposite because teachers need to concentrate more. According to many studies, this type of cooperative learning is not acting as a method to increase teacher tolerance in the classroom; it is called constructivist teaching. Theorists argue that these strategies actually restrict teacher tolerance because students with disabilities need specialized attention (Cook, & Semmel, 2012).

The theorists that do not believe in inclusion believe that the combination of inclusion and the need for schools to reach academic excellence may lead to disastrous results for students with disabilities (Cook, & Semmel 2012). Another setback for inclusion is decreased attitudes and augmented fear of having students with disabilities in the classroom. In order to battle this, increased resources and improved instructional strategies are added for the teachers. In order for an ideal situation to happen, all students with disabilities should be placed in the general education classroom with an aid. This could become problem in schools because due to limited funding, most of

the time the child does not come by the opportunity to receive the aid. Another option is grouping many or all students with disabilities in a school in a special classroom together. This model today is not accepted by society because it goes against the principle of inclusion.

SUPPORT FOR INCLUSION

Today, tremendous attention is focused on inclusion. It has expanded towards the general education reform movement and not only special education. Most of the major educational organizations have passed resolutions focusing on inclusion. The reason for this is because there are characteristics that come out of inclusive schools that are considered extremely important in education today. Important characteristics such as sense of community, equality, sense of belonging, and acceptance of differences, make better citizens at the end (Thousand & Villa, 2012).

In 1994, there were three meta-analyses that debated whether inclusion was the best option for disabled students. According to Baker, Wang and Walberg, the findings were that "special need students educated in regular classes do better academically and socially than comparable students in non-inclusive settings" (as cited in Thousand & Villa, 2012, p.106). They also found that if they had high quality IEPs, the result was more learning and higher engagement times than their peers with similar disabilities in non-inclusive settings. There was also more academic learning and understanding and lower levels of competing behavior compared to special schooling settings (Thousand, & Villa, 2012). The studies also found that having students with severe disabilities study in general school settings was more cost effective. They found that inclusion enhanced peer learning to both the special needs and the regular student. Finally, and most importantly, the more time disabled students spent in general education classes the more effective they became in the workforce (Thousand, & Villa, 2012).

It has been proven that general classrooms can bring benefits to the person with disabilities, such as social interaction with

all types of individuals, and a wider variety of materials people, experiences, etc. On the other hand, the benefits towards the regular student are also many. Once the school is organized to be able to accept students with severe or mild disabilities, education can be enriching for the special education student and the general education students as well (Thousand, & Villa, 2012).

Another point in favor of inclusion is that it is very important to note that segregating a sector of people and not providing them with the benefits that everyone else has access to is a violation of the civil rights of the group of people (Thousand, & Villa, 2012). There is also a racial factor affecting the inclusion as well as African American and other minorities are two to three times more likely to be placed in special education. This might be an overrepresentation of minorities labeled as disabled.

THE PSYCHOLOGY OF LABELING

To label is to assign a category or description to the individual with a disability. Labeling in inclusion can have positive and negative effects on the special needs child. One the positive side, labels help design the Individualized Educational Program (IEP) and help to determine the right level of support. On the other hand, the same labels can lower the expectations of the teacher and can result in low self-worth. In the past, the levels of the disabilities were labeled pointing out the varying degrees of the disability. As an example, mental retardation was labeled as: EMR - Educably Mentally Retarded, and TMR - Trainable Mentally Retarded. Later, they were labeled as mild, moderate, severe and profound mental retardation based on the IQ tests (Cook & Semmel 2012).

Today, in order to battle the negative aspect of labeling, the levels are measured by the amount of support needed, thus making the level of disability less static. The labels are as follows: 1) *intermittent support,* which means that support is not always needed, it is short term, and it switches from high and low intensity; *limited support*, in which the support is time needed but consistent; 2) *extensive support*, in which support is

needed regularly and frequently and is not limited by time; and finally 3) *pervasive support*, which is high intensity support that is constant and life sustaining.

This way of defining disabilities changes the way that inclusion is viewed. It is now based on the level of support the individual needs and assumes that with the appropriate level of support, the person can achieve success wherever he is placed (Cook & Semmel 2012). This is in line with the inclusion movement of today because just as Clinton's IDEA act changed the focus on the individual instead on the condition, this labeling system tries to reach away from the disability and it focuses on the individual.

As mentioned above, society has typically gone against labeling individuals with special needs, but today it is proven that labels could be used to set expectations on how individuals should behave towards the person. This helps the sociability of the individual because when there is odd behavior, the individual might not be judged at all. When there are individuals with mild mental retardation that appear "normal" and they act out, they might be judged harshly and shunned socially because the expectations are of that of a normal person (Cook & Semmel 2012).

Many educators expect students with mild retardation to succeed in normal classroom. First of all, socially they are not perceived to have a disability at first sight. They also blend into the group and are more included. On the other hand, they are less likely to receive special support because they blend in, but these students also require support in order to succeed. Many of these children are not classified as having a disability and are classified as slow learners and they do not receive help. All this is due to changes on how mental retardation is defined and changes in the cutoff of the IQ test (Cook & Semmel 2012). Appearing normal is viewed as a factor that promotes acceptance; however, peers might hold the individual with expectations much higher than the ones that can be handled. This leads to peer rejection, rather than being excused or disregarded. Paradoxically, students with mild mental retardation are likely to be rejected because they are not perceived by peers as having a disability. The acceptance

of a student with Mild MR has more to do with "fitting in" or not contradicting peers on their expectation of what the group behavior "should be" (Cook & Semmel 2012). The acceptance of a student with severe MR, on the other hand, is based on the fact that the students know of deviance and will expect it and accept it. Students with severe disabilities are more highly nurtured those students with mild disabilities in classrooms (Cook & Semmel 2012).

LITERATURE REVIEW

Inclusion has been a topic of interest in the education world in the last decade. However, most research on factors for successful inclusion has just began to emerge. One factor that most studies agree upon as an ingredient for successful inclusion is the teacher's positive attitude. Co-teaching is also common today and has been successful if the right conditions are present. Finally, social participation is a defining factor for successful inclusion.

SUCCESSFUL INCLUSION IMPLEMENTATION

In terms of successful implementation, good programs can be developed in any setting, as can bad ones, both in high school and in general education schools. It is not enough to simply accept children with disabilities into the schools. The acceptance needs to be equally qualitative as it is quantitative (Rice, 2006). According to one case study in a large urban high school in a Midwestern U.S. city, in order for a successful inclusion program to be developed, it is essential for leadership to be shared (Rice, 2006). The principal does not need to be solely in charge anymore. Teachers do not need to plan and execute by themselves. There needs to be a team assigned working towards the goal. As a beginning, there needs to be a shared school vision towards inclusion. School coordinators and the management need to work as allies and avoid "talking past another." Another factor is to combine educational strategies in order to come up with effective ones (Rice, 2006). All this

involves teamwork and cooperation between all colleagues in a school.

Funding is another factor that is vital for successful inclusion implementation in schools. Schools can say that they have embraced inclusion but if the accessibilities for the physically impaired, the training for teachers, and the adaptive technology is not available, inclusion will not be successful. In *Colegio Tejares* in Bogota, Colombia, the inclusion program has been added to the school curriculum years ago, but due to the lack of funding and the poor conditions, inclusion has been mainly quantitative and not qualitative (Ruiz Manquillo, 2015)

There are other factors that also create successful inclusion in schools. These factors are more social and methodological, such as involving typical students in other roles, involving parents and families, and designing more flexible school structures and curriculums. Typically, students can fulfill many roles such as helping to read, acting as tutors, and acting as guides. This can be very motivating for a special needs student and at the same time help in the social area, especially in high school (Alquraini & Gut, 2012). School administrators' roles and having parents and family members as allies is also a key factor in successful inclusion. In a large study done in 56 schools in the southeast of the United States in 2008, it was determined that the key factor for successful inclusion in schools is the positive attitude of the teachers working with the special needs students. The principal's supporting role and the parents and family members assisting helps very much, especially in high school (Pitts Santolli, Sachs, Romey, & McClurg, 2008). Principals can help in problem solving, creating programs for staff development, providing support when problems arise, helping in collaboration and communication between the staff members involved with the special needs child, providing resources for the teachers to be able to teach effectively, and finally collaborating with assessments and assessing how teachers are progressing with the special needs student. Parents on the other hand help out in emotional support, with transmission of concerns to the staff and the counselors. They can help tweak the resources used in order to choose the correct ones, and they might help with important day-to-day information in order to be able to reach

an understanding of the child in general (Alquraini & Gut, 2012).

Finally, a gradual approach to the implementation of inclusion in a school that is new to the concept is extremely important. Schools need time to organize, to pass on the message, and to train the staff in order to bring in something as complex as inclusion. Training of the staff is especially important in high schools because of the level of difficulty of the curriculum taught. Factors such as fear of what might happen and inability to deal with the disability, plus the lack of knowledge of how to teach needs to be counter attacked before bringing in inclusion. Careful planning, monitoring of the school, and review need to be performed before taking any steps (Avramidis & Norwich, 2012). Schools that have been inclusive for longer periods of time have teachers that are more willing to commit to students with disabilities, and this creates a better environment for learning in the regular classroom. A model of inclusion that has been poorly implemented and that has limited resources cannot be better compared to a model in which there is a large investment of time, energy, and money (Zigmond, 2003).

CO-TEACHING

Today in schools, co-teaching has become one of the most practiced methods for helping SEN students cope in the regular classroom. Schools in general accept the special needs student, but it is essential that the student have a co-teacher to help. Co-teaching is considered to be an effective method for the regular teacher to be able to handle the classroom and have someone in charge of the special needs students. This aids the regular teacher as she or he may not have to spend so much time explaining or making accommodations and ignoring the rest of the class. It has been found that the correct collaboration can be extremely effective and promotes success in the classroom. Also, the teacher in general feels more positive because of the special help with the students. They show a positive attitude and are thankful for the additional attention given to the special education student (Mastropieri, et al, 2005).

On the other hand, after years of observing co-teachers in inclusive schools, it has been found that they are taking a rather submissive role in the classroom, especially in high school where the subject matter is considerably more complicated to teach (Scruggs, Mastropieri & McDuffie, 2007). The special education teacher is general schools is increasingly taking a subordinate role to the main teacher. The "one-teach one-assist" method where the teacher teaches the subject and the special education teacher acts as an assistant can be detrimental at the end. The special education teacher does not contribute to the teaching of the subject matter at all, and neither the special needs student or the general education class benefits. Special education teachers have their strengths and always have a lot to bring to the lesson (Scruggs, et al., 2007). In order to address the co-teachers concerns there should be more administrative support encouraging special education co-teachers to become part of content departments. This should especially happen in higher grades where content becomes much more of a factor. If the administration helps in picking the teacher that is compatible with the co-teacher and along with that provides training of content knowledge, the symbiosis should be effective (Scruggs, et al., 2007).

Another factor that has been a problem is volunteerism. There should always be volunteerism from both the special education teacher and the regular teacher to want to work together in order to have a success in the classroom. Both teachers should want to work together and this should help with compatibility. They should also plan together and brainstorm together on how to lead the class. The main problem in high schools is that content teachers consider that special education teachers do not have enough knowledge of the subject matter. This way of thinking should always be addressed by the support staff such as the principal because it is detrimental to the lesson at the end (Mastropieri, et al., 2005).

Having time to plan together is a factor that has been currently ignored in schools. Magiera and Simmons (2007) conducted a study to determine if co-teaching was being performed effectively in all the school district high/schools. They performed 10 classroom observations and interviewed 22

teachers. Based on findings, they concluded that it is important for regular classroom teachers to include the special education teacher in all their planning. The special education teacher can bring a different perspective and different teaching methods to the table, benefiting not only the special education student but also the regular education students (Magiera & Simmons, 2007). It is also important to provide training that is both updated and that matches the current curriculum of the school in order to have a more effective co-teaching model. This way, teachers can more consistently apply a successful co-teaching model within the classroom. Other logistical recommendations included keeping effective co-teaching pairs together, and tracking student outcomes. Both these factors require effective planning (Magiera & Simmons, 2007).

Part of this successful planning should include conversations about the roles each teacher takes in the classroom in order to prevent the leader-subordinate roles. They should talk about how the instruction will be provided in order to join ideas. Another very important factor is handling classroom management and discipline. Bouck (2007) studied the construction of a co-teaching team of a special education teacher and a regular classroom teacher in two 8th grade U.S. history classes. She concluded that handling classroom behavior is something that should be pre-planned always. There could be a discipline case, and most individuals manage these cases differently. Coming to a consensus on how this is going to be managed can avoid many problems especially between the two colleagues. Both teachers always need to be open to sharing instruction and should have an understanding on how this is going to be done. Finally, measuring student outcomes such as assessments and grading is a factor that should be planned together (Bouck, 2007).

TEACHER'S POSITIVE ATTITUDE

In terms of inclusion, it is extremely important to touch the subject of teachers' attitudes. It seems that the most important factor for successful inclusion is a teacher with a positive attitude and willingness to take on the challenge (Avramidis &

Norwich, 2002). There are several factors that influence teacher's attitudes towards inclusion. The first factor is the feeling of preparedness to teach students with disabilities. Teachers that feel more prepared to teach students with disabilities have more positive attitudes about having them in the classroom versus teachers that feel unprepared. It seems that the perception of preparedness is directly related to the attitude, adequate attention, and treatment of the students in the classroom. In a study conducted of 343 teachers in the city of Bogota, the result was an astounding feeling of unpreparedness by the regular classroom teachers to have a child with a disability in the classroom (Padilla Muñoz, 2011). In the United States, there was another study held in San Antonio, TX of 125 teachers, with the same result. There was a significant relation of the amount of training a teacher has to the presence of positive or negative attitude towards inclusion in the classroom (Van Reusen, Shoho & Barker, 2001).

In addition to the importance of attitude, not only was the amount of training a determining factor in the positive or negative attitude of the teacher, but the nature of the disability was also key (Avramidis & Norwich, 2012). It seems that "28,9% (97) of the teachers felt prepared to work with children with physical disabilities; 19,9% (67), felt prepared to work with students with sensorial disabilities and; 19,3% (65), felt prepared to work with students with cognitive disabilities and 45,8% (154), felt prepared to work with children with emotional disabilities" (Padilla Muñoz, 2011, p. 670). This may be a matter of perception because in most cases the amount of positive attitude from the teacher and the planning and support from the school can make any disability hard or easy to handle (Avramidis & Norwich, 2012).

Another factor that strongly influences teachers' attitudes are the socio-political views of the teacher and the environment they live in. In countries where there were explicit and well-known laws regarding integration, the teachers expressed more favorable views and positive attitudes than in countries that were less supportive of integration (Avramidis & Norwich, 2012). Also, in countries where there is a greater sensitivity towards minority groups and people with disabilities, there

was an increase in the teacher's willingness to teach children with disabilities (Avramidis & Norwich, 2012). Aside from the social and political environment, the grade level taught is another factor. In this, it could be argued that in primary school the mindset is to be more inclusive and holistic, with better teachers' attitudes about inclusion. On the other hand, in secondary school, there is a focus on curriculum and being subject based, and this affects teachers' attitudes negatively. Teachers claim that it is harder to deal with special needs students from the point of view of practicality of teaching of the subject matter (Avramidis & Norwich, 2012).

Another factor that affects teachers' positive attitudes and willingness to teach students with special needs in the classroom is the support. The school system should adopt a support system for the general education teacher in order to teach special needs students. The majority of the teachers when faced with having to teach a special needs student, they imagine the worst-case scenario, which is to have to fend for themselves, and for the child not having the support necessary to be able to succeed in the classroom (Avramidis & Norwich, 2012). This created a negative attitude. Once the teacher received the support needed, the attitude changed completely. The support received was key in becoming the teacher's ally and taking away the feeling of the teacher having to face extraordinary workloads. Additional funding specifically for the physically disabled resulting in a restructuring of the physical environment (turning building into accessible places for students with physical disabilities) and the provision of assistive technology and adequate material for support were also very important in the development for the teachers to change their attitudes. Aside from these supports, the availability of training, smaller classes, and direct support from the staff and the school management also generated positive attitudes towards inclusion (Avramidis & Norwich, 2012).

SOCIAL PARTICIPATION IN CHILDREN WITH SPECIAL NEEDS

The social aspect of special needs students has always been the most complicated to remedy. When regular children enter

adolescence, they have a tendency to have feelings of loneliness, isolation, and social problems due to hormonal imbalances. This problem is taken to the extreme when it comes to children with special needs. Special needs children tend to feel excluded and outcasts (Locke, Ishijima, Kasari & London, 2010). To add to the previous statement, students with special needs begin school having a relatively positive early school experience but as they reach adolescence, as indicated by multiple indices of adaptation to school, they begin to have less positive school experiences (McIntyre, Blacher & Baker, 2006).

There have been few studies that include the social aspect of integration and they suggest factors that might help relieve the problem that the disabled face socially. First, it is important to the school to foster early social skills (McIntyre, et al., 2006). Teaching young children about the differences of all people and how we must embrace these differences may be an important teaching point for increasing the positive adaptation to school for young children with disabilities. Once they grow up, children may then have these social skills ingrained in their behavior (McIntyre, et al., 2006). In several studies, it was found that the bonds of the disabled children with regular children in both the positive and negative aspects were directly affected by the adjustment the child made emotionally and behaviorally. This shows that there needs to be behavioral and emotional support for both regular and disabled children for them to be able to adapt to each other. Furthermore, this shows that schools should consider from the beginning that the social aspect of their inclusion program must be analyzed and explored in order for it to reach success (Murray & Greenberg, 2006). Another point is the conclusion that all children's social success is dependent on how they are perceived by their classmates in terms of their 'normality' and 'abnormality.' This means that the students with disabilities in one way or another will never be able to fit in or will always have a difficult time socially. This calls for further studies on how this perception should be handled by the schools in order to be changed (Locke, et al., 2010). Maybe, these perceptions can be changed by having schools add additional supports such as sensitivity training for students in order to make social inclusion in high school bearable. It is very important for scholars to realize that

there is a lack of information in this area and future studies are needed to be performed in order to understand adolescents with disabilities so that one can begin to bridge the social gap between them and their peers (Locke, et al., 2010).

METHODOLOGY

RESEARCH DESIGN

This project used a descriptive/naturalistic case study methodology based on qualitative and quantitative study of people (Cohen, Manion & Morrison, 2007). It is valuable to contextualize the opinions of actual human beings who live the situation day to day in order to be able to merge the information and come up with an important conclusion on the topic (Cohen, et al., 2007). In this study, students with disabilities and their parents provided the cases to study. The insights gained from the case study were compared with the literature reviewed in order to address the research questions.

CONTEXT AND PARTICIPANTS

The context for the research were eight parents and three teenagers from Colombia, and five parents and five teenagers from the United States with various types of disabilities and inclusion experiences. Five of the participants have Williams Syndrome, which is a disability that compromises the thinking process and executive functioning, one has a language impediment, one has a psychological/behavioral disorder, and one has Cerebral Palsy, which is a disability, which in this case, only compromises the physical abilities. These children were all part of inclusion programs in different schools in different cities and all have different life experiences. The parents were found through Facebook in special groups associated with children with disabilities. The study was announced and the parents were willing to help. There were also other children reached out through personal contacts. Once the questionnaire was

filled out, the parents were interviewed by phone, personally or by email.

The students are all in upper grade levels. All the children in the United States are in public schools and all the children in Colombia attend private school. All the students have ongoing Individual Educational Programs (IEP) and attend schools with inclusion programs. The parents all have ample experience with inclusion programs due to their children's advanced age.

DATA COLLECTION INSTRUMENTS

The information was collected through different methods of data collection in order to interpret the information gathered. The techniques for collecting information for this research belong to both qualitative and quantitative data collection instruments. These were applied in order to quantify the thoughts of the parents and special needs students in terms of their belief in their inclusion programs. The qualitative method was used in order to further explain their answers.

Questionnaires. The first method of data collection was by using open and closed ended questionnaires sent through Google Forms to the parents and their children. The closed ended questionnaire was done using a Likert multiple choice scale style questionnaire. The student's questionnaire was presented without open-ended questions in order to keep it easy for them. The parent's questionnaire was both closed and open-ended where the answers could be as long as the subject desired (Cohen, et al., 2007). Four different questionnaires were given. The first set was in English and Spanish and the second set was parents and children. The closed ended multiple-choice questions were the same for all four questionnaires with slight adaptations for the parents and the students. The other set was in English and Spanish and this was because the questionnaire was given to families from the United States and also from Colombia. It was important that the questionnaire was written in their mother tongue in order to be able to receive the most precise answer possible.

Clarification interviews. After analyzing the results of the questionnaire, semi-structured interviews were conducted with both the children and their parents. These interviews were made whenever there was a valid question or a doubt on any answer given by the questionnaire. This allowed for more in-depth exploration of some of the points expressed in the questionnaire. The researcher reached out to parents both through special groups in Facebook, and once their emails were collected, the questionnaire was sent to them through Google Forms. If there were additional questions later after the questionnaire, they were contacted by email and or via phone interview. Informed consent was obtained from parents. These interviews were recorded and transcribed in the native tongue (either English or Spanish) in order to come up with further information on why certain questions were showing their answers. These answers also brought up some categories that are pointed out in Table 1 below.

Reflective journal. Since the individuals interviewed are people with feelings and points of view, in order to keep the data organized, a detailed diary about each of the individuals was kept by the researcher (Cohen, et al., 2007). Once all the details were described in the same place, the information was compared with the literature research that was performed about the same topic and conclusions were drawn from this.

DATA ANALYSIS AND INTERPRETATION

After the data was collected, the information was transcribed and the content was analyzed. Content analysis is "the process of summarizing and reporting written data-the main contents of data and their message" (Cohen, et al., 2007, p. 475). The main idea of content analysis is to gather the vast information gathered and reduce it to the most important key points. This way the information becomes clear, understandable and transferrable. The information was categorized by theme and each theme was colored differently in order to be compare them.

The questionnaire was created in Google Forms and then tabulated in Excel where the graphs were placed in a comparison table next to each other in order to analyze the differences and similarities in detail and the written answers were categorized and color- coded. These categories are illustrated in Table 1.

Table 1. Categories by theme, color and their descriptions

Category	**Description**
Inclusion in Colombia	This category refers to any time a parent mentions the issue of inclusion particularly in Colombia, e.g. when a parent says, "Oh, we have such a long way to go here."
Equality in Education	This category refers to each explanation parents make about their children being in a fair environment.
Advantages and Disadvantages of Inclusive Education	Parents philosophize about what they believe is beneficial and what they believe to be a struggle in inclusive education.
Social Inclusion	This category talks about the social aspect of inclusion in schools.
School Readiness, Curriculum and Teacher Training	The category refers to the opinions of parents in terms of how ready they feel schools are in terms of curriculum modification and accommodations, teacher training and support in order to create a successful inclusion program.
Understaffed Schools and Teacher's attitudes	This category refers to the opinions of parents about why inclusion in schools is failing.
Inclusion as a "Taboo"	This topic refers to the opinion of parents on how in Colombia inclusion it is at its beginning stages and it is still a taboo.
Costs of Inclusion in Colombia	This topic refers to the increased costs that parents have to pay versus the regular child for the inclusion programs at the schools, the additional therapies and extra time.

RESULTS

The analysis of the data allowed for the answering of the research questions. In addition, it provided evidence of other key issues for parents related to their children's inclusion. In terms of the factors that affect successful inclusion, there are numerous issues that involve participants, schools, governments, and social aspects. According to participants, teachers are a key factor in the implementation of inclusion, both in Colombia and in the U.S. Particularly, teacher attitude is determinant and this is directly related to the support coming from the school and parents. In Colombia, it also seems that there are a variety of factors that influence a general lack of "readiness" for inclusion, including issues internal to the school, external to the government, and in terms of the general attitude of society. The participants from Colombia in this study are able to afford private schools with inclusion programs. These individuals feel that their needs are being met, but report a complete void in less affluent schools and especially in public schools. The participants from the U.S. are mostly in public schools and feel that their academic needs are being met, but report that the problem is more social than academic.

In the graph below, when parents were asked if they thought if their children's inclusion programs were successful, we can see that 40% of parents are undecided or do not agree that son/daughter's inclusion program is successful

In my opinion, my son/daughter's inclusion program is successful.

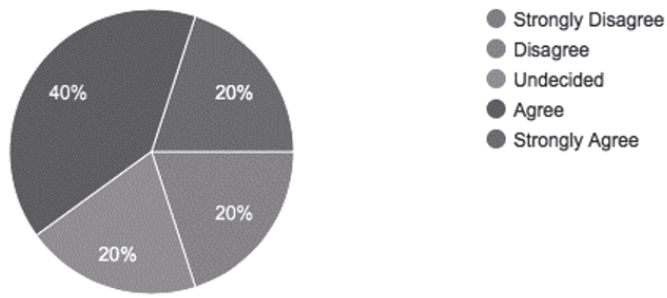

Figure 1. Successful inclusion program

In terms of successful inclusion for high school students, while both parents and students consider the social aspect paramount, these participants have consistently different opinions about high school students' social inclusion. There is constant discrepancy between parents and high school students in terms of attitude towards social inclusion. Another important issue concerning successful inclusion for high school students relates to the feeling of safety from bullying. In general, the student participants from Colombia feel less "safe" from bullying in schools compared to the U.S. students.

FACTORS IN SCHOOLS AFFECTING SUCCESSFUL INCLUSION

A mother in the study defined inclusion this way:

> Inclusive education implies that all children, of a determined community learn together independently of their origin, their personal conditions, culturally and socially, including those that present any learning need or disability.[1]

According to the findings in this study, this definition of successful inclusion is possible and can be achieved in real life, by several factors put into place. Teachers, for example are in the center of these findings. According to the parents, depending on teacher's attitudes, they can "make or break" a school year. They also mention several ways to help teachers' attitudes become positive.

A social inclusion program at schools is a factor that has been consistently overlooked, but that directly affects the emotional well-being of all students, including the children in inclusion programs. Social inclusion is a topic in both the quantitative research and the qualitative research that is considered vital by the parents. Funding is another factor very present in the lives of disabled students in Colombia. Without the appropriate funding, the inclusion programs at the schools are affected and

[1] Interview excerpts in Spanish translated into English.

cannot exist. There is a great difference in Colombia between the inclusion programs in public schools and private schools particularly because of funding. All these factors can be considered significant in terms of successful inclusion.

Teachers. As mentioned above, all the findings in the study strongly suggest that teachers are the foundation of a good inclusion program. Teacher attitudes are determinant in students having a successful school year or not, no matter how advanced the inclusion program is at the school. According to the study, parents perceive that schools tend to be understaffed and teachers are not able to meet the children's individual unique needs. Also the qualitative data points to several factors needed in order for teachers to feel optimistic about teaching students in the inclusion program.

According to parents, support from the administration is important. This includes the overall motivation from administrators, support for different and more creative ways of teaching the curricula, the training of the teachers in the different disabilities and ways to teach them or manage the classroom with them, offering and approving different methods of assessment, and measuring excellence in terms of student progress and not overall grades. Finally, the research points to the importance of the synchronicity of special education students with the main teachers and the way this directly affects teachers and the success of the inclusion programs in the schools.

Attitudes. Most parents reported that teacher attitudes are a key factor in order to achieve successful inclusion in school. In one case, Paul's[2] mother explains how the teacher's attitude affected his performance.

> The teacher was reporting bad behavior and the typical behaviors everyone knew that Paul exhibited (restless, a bit hyperactive, difficulty focusing for very long, easily distracted and perseveration regarding other kids in the class). As it turns out that 4th grade teacher was a very bad choice for Paul and that year was definitely his worst

[2] Pseudonym

> year in terms of happiness and growth. Coincidentally, other typical boys in that class (at least 2) had similar experiences and my typical daughter, who was in that classroom 3 years later, did not have a great year despite the fact that she has a higher than average IQ, is quiet and studious and has never, ever received a bad report from any teacher in her 10 years in school. So in hindsight, the issues Paul had that year were really teacher driven and even, most likely, caused and not due to his special needs.

This statement is quite typical in schools according to the study. The study points out that teachers' attitudes are vital to a successful inclusion program. Another mother states, "Adequate curriculum modification is important, but if the teacher does not have the attitude, there is no curricular modification that will work."

According to the study, several mothers pointed out that teachers' attitudes are affected by several factors, but most importantly they are affected by lack of knowledge and support, which may cause the teacher to become nervous and anxious. The support that the school gives is vital. One mother points out that teachers "are willing and anxious to work with parents that want to work with them and will help the child to very best of both abilities." Another mother states, "The best years Manuela[3] has had, with the most academic and personal growth and the most happiness, has been the years she's had great teachers!"

Parents were asked if they felt that the achievements of their students were recognized and valued by the teachers and so inclusion students' self-esteem is enhanced. As seen in Figure 1, forty percent of the US parents answered that they were undecided. When asked why, most replied that teachers were not really doing this due to their attitude.

[3] Pseudonym

The achievements of all students are recognized, valued and so that students' self-esteem is enhanced.

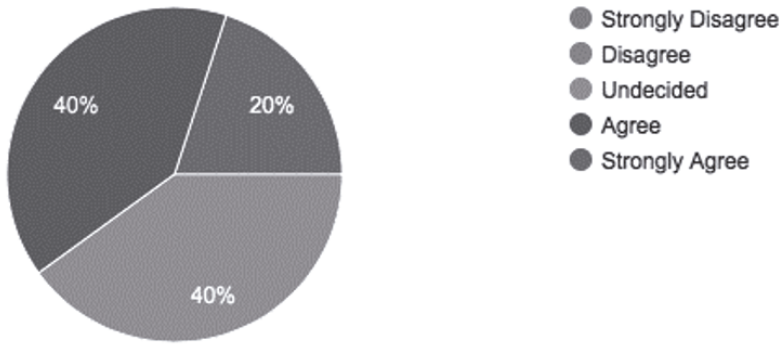

Figure 2. Achievements recognized by the school

Training. As mentioned above, several mothers pointed out that lack of training directly affects teachers' attitudes, which affect inclusion as a whole. Mothers point out that when their children are about to begin a new year, there is a lot of anxiety coming from the teacher. They argue that this anxiety comes from not knowing. A mother states, "Teachers are not always trained to handle differences." Another mother points out that she believes that "taking the time to learn the student's special needs and learning abilities will produce a better outcome." Parents are tired of having their children arrive at a class at the beginning of the school year and the teacher has no idea about their child's disability. A mother states that "it should be a right of all disabled children and that schools should prepare for them," just as they prepare for regular children.

Another point that is seen in the study is that sometimes disabilities grow in complexity as the years go by. A mother speaks about her son's disability and states, "It is complex and as my son grows, the complexity of his disability and level of commitment of all involved grows." This statement calls for training and preparation from the staff in an urgent manner.

Mary[4] , a mother from Colombia claims that in her school, "the preparation of the teachers is missing and it is important to be able to help the children." A third mother speaks about the importance of "understanding the importance of inclusion. Learning more about accommodations and modifications and thinking outside the box," would be helpful in order to achieve successful inclusion in the classroom. All this, they believe, is accomplished by training. To further the study, various mothers suggest that the training can be outsourced, or come from staff. One mother points out that "all IEP trainings, support and accommodation/academic specialists are a world of knowledge and great refreshers for the teachers."

Administrative support. In the study, support from the school administration is also a big factor that seems to affect successful inclusion. According to the study, parents believe that schools are not doing enough to support teachers when faced with a disabled child. They argue that there are various ways that the school administration can help in order to achieve successful inclusion. One way is by teacher training as pointed above. One mother points out that co-taught classes by the special education teacher and the regular teacher are a good idea because they each learn from each other, benefitting inclusion. Another mother points out that the school administration could help inclusion by adding parental help groups or extracurricular activity centers for children with disabilities or learning difficulties. Various parents pointed out that the school administration should seek ways of bringing the therapies and assistive technology to school in order to save time and money. Parents complain that the money spent on therapies outside of schools are too much aside from the extra cost that the school charges for the inclusion programs. They believe that their children have the right to receive all services in school. Aside from this, the parents also complain that the time that the child spends going to and from the school to the therapies interferes with playtime, which is also something extremely important.

The study also points to the vision of the school coming from the administration. A mother states, "Like everything in life

[4] Pseudonym

... schools have to know how to sell it. Administrators sell the idea of the benefits of inclusion. Teachers buy it!" This relates to the fact that schools need to add inclusion to their vision and school philosophy. Another perspective is administration support to the families of the disabled children.

When asked if the school consults or has ever consulted with parents in developing a social inclusion policy, the parents did not feel that the school includes them or brings them support. In the graph below, we can see how 60% of parents disagreed, 20% strongly disagreed and 20% were undecided.

Has the school has consulted with parents in developing a social inclusion policy?

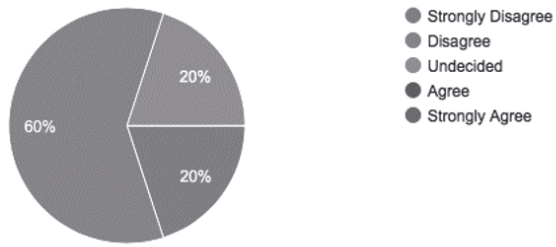

Figure 3. Parental involvement on a social inclusion policy

Synchronicity with Special Education teachers. Another way of achieving successful inclusion according to the study begins with the special education teachers. The following mom describes her experience with the special education teachers in her school.

> In my experience over the last 13 years, the special education departments, professionals, "experts" are rarely very well trained and often, in my opinion, lazy. I know they are over worked and underpaid and often overwhelmed but I have found that most just want the easy answer. If the child is struggling, pull them back down. If the child needs extra help, stick them in a classroom with more supervision but less academics, if

> the child misbehaves, punish them rather than figuring out what is most effective for each one.

Most parents in the study agree with this mother and according to the findings, the problem of underpaid and overworked special education teachers and special education department is exacerbated when the special education teachers and the regular education teachers are not working together. One parent states that the success of her child is related to both teacher's synchronicity and the support of the administration in achieving it. She writes, "I just feel that the school finally has defined the same objectives between the teacher and the special education teacher and the school periodically is evaluating the progress." Another mother when asked if she felt that inclusion is working well in her daughter's school she answered, "Yes, although the para professionals could be working better with the teacher." A third parent states, "Once the departments begin to work together, our kids will take off." This means that there is a belief that the lack of cooperation is hindering the inclusion programs at schools.

Social inclusion in school. All the findings in the study point to social inclusion as one of the most important factors for successful inclusion today. The study finds that the social aspect in terms of inclusion in schools is still at its young stage, in the United States and in Colombia. In Colombia, some schools have been able to implement successful academic inclusion programs but socially they have faltered. In the United States, the disabled children suffer the same problem. They feel lonely and bullying is a big problem. According to the study, most parents disagree, and only 20% agree that their schools are committed to creating a social inclusion program so that all students will feel socially accepted.

Is your school committed to creating a social inclusion program so that all students will feel socially accepted?

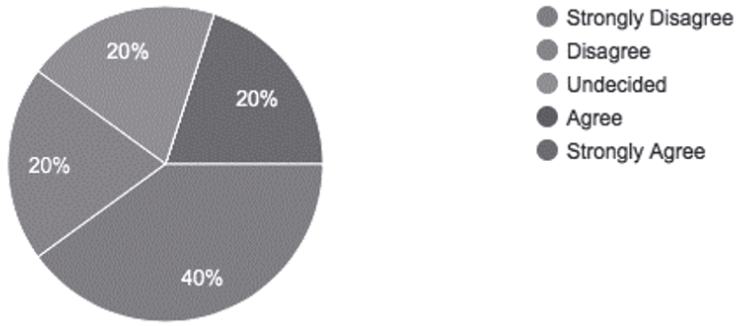

Figure 4. School's social inclusion policy

Parents point out that schools are not making an effort into social inclusion and are mostly focusing on academic achievements. One parent states:

> The inclusion program at our school seems good to me, but I think it can be better with respect to the social part and acceptance of others Even though they do not have the same abilities and opportunities, they should ensure that the children get more involved and can share in the after school activities and the parents and family members can also participate and integrate.

Parents in general complain that their children feel included but that they do not get invited to social gatherings. This points towards the school not making enough of an effort to create social inclusion. It also points towards a large discrepancy in the study. Parents in general believe that their children are not being included socially but the children believe they are.

When parents are asked about this discrepancy in their results to their children's results, parents reported that they believe that they know better than their children. One mother added,

> My son feels included and feels that he has many friends but he has not been invited to an event, or dance, or "friends" house since elementary school. So asking if he feels included and has friends doesn't really tell the truth about these kids who are socially and cognitively impaired.

Another mother adds, "The school can improve and parents as well in including the special children there is much to do and that is a real acceptance." While a third parent adds, "Social is always a curveball for us. I feel the school could be much better and more straightforward about student success with this specific area of inclusion." A fourth parent adds, "The success of education in this country should not be measured only under the indicator of academic excellence but in the excellence of inclusion in society." Most children in general answered in the study that they feel that they do have friends, but when asked personally, they were undecided. One student answered, "Well, I sometimes feel that the friends at school sometimes ignore me." In consensus, the study points to social inclusion as a topic that is in dire need to be addressed in order to achieve successful inclusion in schools.

Funding. According to the study, there is a disparity on what the government says that should happen and what is really happening in Colombia and in the United States. Parents from Colombia complain in the study that "there are very few schools that have well-structured inclusion programs" and this is all due to appropriate funding. One mother from Colombia writes,

> It is already extremely expensive from the effort and all the therapies that must be done on the side, at home and clinics, and in addition to all these expenses, having to pay because a special child should be included in a school is an outrage!

The research points to the fact that parents are not being able to provide their children with the education they deserve because of the lack of funding at the schools for the inclusion programs. Another mother states,

> In Colombia, costs for inclusion programs are very high and there is a big issue because private schools that offer inclusion are few and expensive, and public schools are not well funded causing the school to not be prepared. In Colombia, inclusion also is also dependent on social stratum and it is something that is very sad because many families cannot afford it.

In relation to teacher training, according to the parents in the study, schools need government funding in order to have teachers access training and for schools to be appropriately equipped to receive children with all types of disabilities including physical, or cognitive. Another mother adds, "My son's school has a need for Augmentative communication apps" in order to help her child, and another asked for "physiotherapy and motor support within the school (academic)" but has not received it yet.

OTHER FACTORS

Among other factors that are important for successful inclusion in schools are the government participation and a society that is ready to participate. There is an overall consensus in the study from parents that the government should become much more involved in inclusive education, especially in Colombia, where they report a lack of focus on inclusion and a very slow adaptation to it. The other factor is participation of society. Parents in the study feel that society is ignoring the importance of variety and the value of differences and is mostly focusing on academic achievement. Particularly in Colombia, parents have mentioned the lack of "readiness" and the added "taboo" on the topic of inclusion. Overall, the parents in the study state that the schools feel that they belong to the regular children and the disabled children are accepted.

Government. Some of the definitions of inclusion that the parents state are "that every child has the right to receive a qualified education regardless of his or her limitations," or that "every child participates, shares and is 100% included in

all the academic, social, socioeconomic activities in a society and education," or "that the child receives the same education as other children, with a program formulated for the child, receiving class with others." At the same time, however, most of the parents believe that the government is not working with them to achieve these goals. Parents shared statements such as, "Inclusion it seems to be a new topic in Colombia and the schools are in a trial-error mode. Most teachers are not trained or have no patience," or, "Inclusion is a phase under construction, little is known about the paths that lead to success, lack of dedication on the part of the government in its application." Among the specifics that parents mention include the following: a) the government allows for private education to leave out inclusive education; b) there is not sufficient funding from the part of the government; and c) schools cannot afford special education staff, teacher training, assistive technology or physical accommodations of the school grounds. Parents also speak about schools giving them the option of having physiotherapy and speech therapy in school grounds in order to save money and time. Another parent states that the government allows for the schools "to 'recommend' to parents to look for another option," instead of passing laws that pressure schools to accommodate to the student's needs.

Another complaint from parents in this study is that the Colombian government does not allow students that have modified curriculums to graduate, leaving an entire population of citizens who attended twelve years of school and finished, without an official diploma.

SOCIAL INCLUSION IN COLOMBIA

According to the study, another area that parents believe needs improvement in order to achieve successful inclusion in schools is purely social. Statements from parents such as "the success of education in this country should not be measured only under the indicator of academic excellence but in the excellence of inclusion in society" allow us to conclude that parents do not feel there is a real acceptance of inclusion in society yet. Parents in this study feel that schools are focusing

too much on academic excellence and without the focus on inclusion in society, there is a lack of tolerance that is taught in education. One parent states, "In the schools they lack much in this subject (meaning tolerance and inclusion). Or they are not interested in having different children who damage them the average in the different state tests."

The study suggests that there should be social programs developed by the government in order to promote real tolerance. According to one parent, she would like to have access to "parental help groups or extracurricular activities centers for children with disabilities or learning difficulties.... I would like my son to participate in sports, music, etc., but the theme is that there are always mix of children and teachers are not always prepared to handle everyone by different."

Colombia and its lack of "Readiness". The study points out to a lack of readiness in this country in terms of inclusion. Just as mentioned above, parents feel that there is a long way to go. Children with disabilities are ignored by teacher's in their classrooms or left to repeat the grade or "just passed" without any effort of the teacher to assure there is real learning happening to the child. One mother states:

> If the child is struggling, pull them back down. If the child needs extra help, stick them in a classroom with more supervision but less academics, if the child misbehaves, punish them rather than figuring out what is most effective for each one.w

According to the study, this is a reality in the schools and it needs to change in order for successful inclusion to be achieved. One mother points out that in Colombia "acceptable inclusion depends on the social stratum and it is a harsh reality that many families are not able to have access to it."

HIGH SCHOOL STUDENTS' PERSPECTIVES OF SUCCESSFUL INCLUSION

According to the study, there are two areas that are important for students in inclusion programs these are academic and social. In the academic part, 100% of students feel that they do

well in their schoolwork and 80% of the parents feel that their children do well in their schoolwork. On the other hand, 80% of the children feel that schoolwork is sometimes hard vs. 60% of parents feel that schoolwork in not hard at all. In addition, 60% of students feel frustration in their schoolwork while 60% of parents feel the opposite, that their children are not frustrated with their schoolwork. When the parents were asked about this disparity, one parent pointed out that "this has nothing to do with the inclusion program, typical boys and girls feel the same way because of their state as teenagers."

In the social part, there was even a larger disparity between the parents and the children. As mentioned above, parents in general believe that their children are not being included socially but 100% of the children believe they are. When asked about this disparity one mother answered "My son feels included and feels that he has many friends but he has not been invited to an event, or dance, or "friends" house since elementary school. So asking if he feels included and has friends doesn't really tell the truth about these kids who are socially and cognitively impaired." She believes that the children feel that they are socially included but in reality they are not.

In the verbal interviews, two of the students that I spoke to seemed to think that their social life was not good enough. The third student was young and still not entered puberty. He was very happy with school, and felt he had a lot of friends. One student pointed out, "Sometimes I feel they talk to me but they are not really my friends." Another student mentioned that he was included in everything and they invited him to all events but he still did not feel included because when it came down to sports and social gatherings, he could not do the same things as the other kids and felt out of place. The report points out to the fact that there are definitely issues in the inclusion in schools in the points of views of teenagers with disabilities. In the academic, students tend to think that they have to do more work than the regular student and wish things could be easier, and in the social part, students feel that they have friends but when it comes down to it, they do not really feel that they belong. They wish that the school would have more opportunities for them.

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CONCLUSION

This research project sought to find out what factors affect successful inclusion in high schools in the United States and in Colombia. It also sought to find out the meaning of successful inclusion to high school students. The project aimed at discovering what factors influence programs that work or do not work, in both the United States, which is a country that is more advanced in the subject of inclusion, and to compare it how far along Colombia is in terms of the development of inclusion in schools. At the same time, the study sought to find out firsthand the opinions of teenagers that have disabilities and what they consider to be a successful inclusion program. It also sought to find out if these teens' opinions are the same or different in the United States and Colombia.

The results of the study point to teacher's attitudes being one of the most important factors that can make successful inclusion in schools. The school could have funds, it could be fully staffed with special education teachers and at the same time not be successful because of the teacher's attitudes. A teacher with the right attitude is willing to work in other to find the best way to accommodate her inclusion student into her class. Other factors that affect teacher's attitudes are training, support from staff, and synchronicity with the special education teacher. Training is extremely valuable because it will give teachers the knowledge to work with the particular disability. Support from staff is also valuable because sometimes teamwork is needed in order to come up with solutions to different problems. Finally, the best way that a teacher can work with a special education teacher is to work together. The typical scenario is the special education teacher disappearing into the background of the class. In fact, studies show that if the special education teacher learns about the regular subject and equally participates in class planning, teaching and even behavior management, the success rate is much higher.

The other question that this study wanted to answer is what is the meaning of successful inclusion to high school students. According to all the data collected for high school students, social inclusion is key to a successful inclusion program. Aside

from being able to pass the class and understand and learn, high school students want to belong socially. They want to be able to have friends and want to be able to participate in social gatherings and extracurricular activities. Research also pointed out that mothers worry about their children because most find them to be lonely. Parents in this research believe that schools are not making enough effort in social inclusion. They feel that the focus is mostly academic. Some suggestions from the parents are for schools to bring more awareness of tolerance and differences since kindergarten, to come up with activities that they know all children can participate, and encourage rules of inclusion such as birthday parties should invite all children or all boys or all girls but not just some children.

This study also discovered that in Colombia, the inclusion movement has a long way to go, especially in public schools. In order to find any sort of inclusion program that is viable, parents need to matriculate their child in private school. Public schools are just beginning to implement and understand what it means to have an inclusion program. Teachers are overworked and underpaid. Classrooms have too many students and whenever there is a student with a disability, usually they are ignored in their seat. At the end of the year, these students either fail the year or are passed onto their next grade and not taken seriously or into account. Schools have very little funding for inclusion purposes and there are very few schools that provide physical access for the physically impaired. In private schools on the other hand, schools charge extra fees for anything that is provided outside of the regular curriculum. So, if the child receives extra help with an in-school therapist or has the need of a special education teacher or "shadow" to help at all times, the parent will have to pay extra. Most of the time, this "extra" is a lot of money. Another problem found in private schools in Colombia is that there is a perception that the child has to adapt to the school and the school does not have to adapt to the child. If the student needs something that the school is not being able to offer at the moment, the school advises the family to find another school instead of adapting to the student's needs. This causes disabled students to have to change schools over and over until graduation or the end of their schooling.

In the United States, according to the parents in the study, the picture is different. Parents prefer placing their children with special needs in public school because it is the best way a family to access the necessary assistance. Inclusion programs in public schools are well organized. In the United States, a caseworker is assigned to each student with the purpose of making sure all parties (school, therapists and parents) are working together. Also, the caseworker is in charge of making sure the child has everything needed in order to be able to have a fair education. Of course, it is not perfect. Mothers still complain about the negative teacher attitudes and the lack of effort for social inclusion, but in the United States, the issues are very different.

From the different sources of data collected in this study, the factors suggested to create successful inclusion in schools keep on being the same. As mentioned in the study by the parents and the research done by Nancy Rice in 2006, on a Midwestern city of the United States, the administration, the special education teachers and the regular education teachers need to work together as a team in order for the education process to be effective (2006). Another factor mentioned by both parents and research is funding. Funding is key to be able to provide quality education to children with special needs (Ruiz Manquillo, 2015). The social factors are also important. Parents and students in the study complain of having a hard time socially. Some recommendations according to research are peer tutoring, and involving parents. Finally, teacher's attitudes are considered to be of utmost importance in all research done (Alqrainin & Gut, 2012).

One subject mentioned in the research but was not mentioned by parents in the study is the implementation of inclusion in schools. The research recommends that inclusion should be in a slow and organized manner, keeping in mind that forcing the implementation can be detrimental (Avramidis & Norwich, 2012). The social political views of the teachers mentioned in the study by Avramidis and Norwich is clearly shown in the difference of inclusion between the United States and Colombia when parents are interviewed in the current study. According to Avramidis and Norwich, teachers showed more willingness to teach children with special needs in countries that show

a higher tolerance and sensitivity (2012). This could be true when we look at the differences between what the children go through in the two countries. In the United States, people tend to be more aware and it seems that the inclusion programs in the schools are more prepared. The inclusion programs in Colombia on the other hand have a long way to go. Avramidis and Norwich also mention that teachers tend to be more tolerant in primary school and lower grades, and this seems to be true in the study (2012). The mothers with younger children report having teachers with better attitudes.

In the research, the social aspect inclusion in high schools is found to be very difficult according to the parents. This is also true amongst the research. The research claims that teenagers accept their peers according to their 'normality' and abnormality' (Locke, et al., 2010), and this seems to ring true in the study because according to parents, after a normal childhood, in high school children tend to lose their previous friends and enter a lonely stage.

Despite the conclusions of this research, some limitations might have affected the results and conclusions. The first limitation was that in the United States, the students were from public schools, but in Colombia the students attended private school. It would have been important to study students in public schools in Colombia and students in inclusion programs in private schools in the United States in order to be able to compare the situations more accurately.

The other limitation of this study was that in Colombia, parents did not want to give much access to their children. Parents were much more protective of the children and very few were able to participate in the study. The study had to be based on fewer children than in the United States. In Colombia, parents tend to think that they know what their children are going to answer. Finally, the time of the year the study was conducted was also not the best because the school year was almost over for the holidays and the subjects of the study were only willing to give a short time due to their hectic end of the year schedule.

ACTION PLAN

- There is a lack of knowledge of the process of inclusion in Colombia and schools have a lot to learn in this subject. Schools that have inclusion programs should follow the points below. If the school is thinking of establishing an inclusion program, the points below are important to achieve success in creating it.
    - Administrative support towards teachers including, team work, moral support to teachers and students, serving as guides and communication between parents, students, special education teachers and staff. Administrators should keep in mind that they do not work alone. The team is the most important factor for the program to flow.
    - Make sure the special education team is working together with the regular education team. This means that the special education team (specialists, shadows, etc.) should have training in the school subject and should be participating with the teacher teaching in regular classes, planning, assisting and even behavior management.
    - School administrators should address funding in order to equip the school for the physically challenged and bring assistive technology and training programs to the staff and regular education teachers.
    - Training programs are vital and should be implemented at least once a year.
    - The social inclusion program at the school should be revised and if there is no program in place, the school should establish one. The school should realize that for the inclusion students, this is the most important factor for a successful inclusion program. This program should include the special needs students, the regular students, the staff and the parents should also be involved.

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APPENDIX 1

Open Ended Questionnaire for Parents in English

Dear parent. I would like to thank you for participating in this investigation project about the importance of Successful Inclusion Programs in the upper levels of schools. This survey is anonymous, your identity and the information that you hand in is strictly confidential.

You can take your time in responding the questions. Please be as honest as possible with your answers.

Written answers

Child's name *(Name can be made up)* _____

Date of birth _____

Child's gender: ☐ Male ☐ Female

Grade: _____

Please read every sentence carefully and tick the box that applies to this student. Please answer all questions!

Written Interview:

1. What is your definition of inclusion?

   _____

2. What are the advantages and disadvantages of inclusion?

   _____

3. Do you feel that inclusion is working well in your son/daughter's school (yes or no) and why?

   _____

4. Do you feel that educators have the support, resources, training, and time to implement inclusion effectively?

_____

5. If not, what support, resources, and training would be helpful to you?

_____

6. Do you feel your child is learning? Why?

_____

7. Why do you feel the inclusion program in your school is/is not successful?

_____

APPENDIX 2

Multiple Choice Questionnaire for Parents in English

What do you think? Please check only on box for each question		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	My child likes going to school					
2	He/she has a lot of friends in his/her class					
3	He/she gets along very well with his/her classmates					
4	He/she feels alone in his/her class					
5	He/she does well in his/her schoolwork.					
6	School is fun for him/her					
7	He/she has very good relationships with his/her classmates					
8	He/she feel many things in school are too difficult for him/her					
9	He/she likes his teachers					
10	He/she feels a lot of frustration with schoolwork					

11	He/she feels socially included					
12	He/she has been helped academically and socially in an inclusive environment					
13	The school is committed to creating an environment of care and trust and for all students.					
14	The school has consulted with parents in developing a social inclusion policy.					
15	The school is committed to creating a social inclusion program so that all students will feel socially accepted.					
16	My child feels safe from bullying at school.					
17	The school has a clear, transparent and consistent way of working with children involved in teasing and bullying.					
18	The achievements of all students are recognized, valued and so that Students' self-esteem is enhanced.					
19	In my opinion, the inclusion program at my child's school is successful.					

APPENDIX 3

Multiple Choice Questionnaire for Students in English

Dear student. I would like to thank you for participating in this investigation project. This survey is anonymous, your identity and the information that you hand in is strictly confidential.

You can take your time in responding the questions. Please be as honest as possible with your answers.

Your name _____

Date of birth _____

I am a ☐ Boy ☐ Girl

Grade: _____

Read every sentence carefully and tick the box that applies to you. Please answer all questions!

What do you think? Please check only on box for each question		**True**	**Mostly True**	**Sometimes true**	**Not True**
1	I like going to school				
2	I have a lot of friends in my class				
3	I get along very well with my classmates				
4	I feel alone in my class or school				
5	I do well in my schoolwork				
6	School is fun for me				

7	I have no desire to go to school				
8	I feel many things in school are too difficult for me				
9	I like my teachers				
10	I feel a lot of frustration with my schoolwork				
11	I feel socially included				
12	I am being helped academically and socially				
13	I feel school helps me if someone teases me				
14	I feel safe from bullying in my school				
15	My achievements are recognized				
17	In my opinion, the inclusion program at my school is good.				

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IDENTIFICATION AND INTERVENTION OF PRIMARY STUDENTS WITH ATTENTION DEFICIT DISORDER

IDENTIFICACIÓN E INTERVENCIÓN EN ESTUDIANTES DE PRIMARIA CON TRASTORNO POR DÉFICIT DE ATENCIÓN

Olga Lucia Camacho Pabón

Successful inclusion practices depend on many factors, including the existence of school procedures for independent learning plans, intervention, and support. Sometimes teachers are unaware or untrained in these protocols even though they do possess a battery of strategies of their own to serve these students in their classes. Olga Lucia Camacho documented one school's identification and intervention of students in primary school with attention deficit disorder, as well as support staff and teachers' classroom strategies to support these students.

ABSTRACT

The present research project was carried out with the purpose of inquiring into the procedures to identify primary students with attention problems, and the interventions carried out with those students diagnosed with attention deficit disorder by educational support staff and classroom teachers. The study was conducted with a group of teachers in the primary section, and the educational support teachers and coordinator of a private bilingual school in Bogotá. The techniques for the data collection included interviews, questionnaires for educational support team and classroom teachers, and classroom observations. It was found that the school applies an action plan to identify students with attention problems. Additionally, classroom teachers are aware of, and apply different behavioral strategies with students in their class diagnosed with attention deficit disorder. However, it was found that the primary staff have not been trained on the matter, and that teachers state that they need to receive training and support from the educational support team.

Key words: Attention, Attention deficit disorder, School-based interventions,

RESUMEN

El presente proyecto de investigación se realizó con el propósito de indagar sobre los mecanismos utilizados por el equipo docente del colegio para identificar a los estudiantes de primaria con problemas de atención y las intervenciones realizadas en los estudiantes diagnosticados con este tipo de trastornos. El estudio se realizó con un grupo de docentes de primaria y el coordinador de un colegio bilingüe en Bogotá. La recolección de datos se realizó a través de entrevistas, cuestionarios al equipo docente y observaciones de clase. Se encontró que el colegio aplica un plan de acción para identificar estudiantes con problemas de atención. Además, los docentes son conscientes de la situación y aplican diferentes estrategias

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Palabras clave: Atención, trastorno de déficit de atención, intervenciones colegios

de comportamiento con los estudiantes de sus clases que han sido diagnosticados con trastorno por déficit de atención. Sin embargo, se encontró que el equipo docente de primaria no ha recibido entrenamiento en el tema y manifestaron que es importante recibir capacitación y apoyo del colegio.

INTRODUCTION

One of the most common neurodevelopmental disorders identified by professionals in school-age children is attention deficit disorder. The diagnostic and statistical manual of mental disorders, DSM-V, divides this disorder in three different subtypes, and their main characteristics correlate with inattentiveness, impulsivity, and hyperactivity. Usually children diagnosed with these subtypes have difficulties focusing their attention on an activity, -inattentive-, struggle controlling impulses, and their behavior - impulse and hyperactive-, or present a combination of both. Professionals often refer to this diagnose as ADHD.

Children with this disorder encounter behavioral problems at home, and usually behavioral, social, and academic difficulties in school, interfering with their performance throughout their academic life, and if not treated, until adulthood. As a result of these symptoms, the classroom environment may be challenging for a child with this diagnosis and teachers of these individuals.

Several studies of the brain and brain structures on people diagnosed with attention deficit disorder have found differences among this population, as compared with people without the disorder. Some of these differences show that people with ADHD have trouble paying attention and successfully controlling their emotions (Sousa, 2011). Other studies have proven that in some cases medication is effective as it decreases symptoms of hyperactivity and impulsive types of attention deficit disorder (Brown, 2005). At the same time, behavioral interventions, training, and educational support address the conduct and academic difficulties encountered by children

with this diagnosis. School staff, parents, and professionals that treat this disorder often decide to work together to support the child diagnosed, and apply different interventions so that students are able to succeed academically and socially.

Considering the situation faced by teachers and school professionals regarding students diagnosed with ADHD, the purpose of the present research was to inquire into the identification and intervention of primary students from a Colombian private school in with attention difficulties. Data was collected by applying a Likert scale questionnaire to the primary classroom teachers and educational support staff. In addition, class observations of three third grade teachers were conducted as well as an interview with the school's educational support coordinator.

Findings reveal that students are identified by several evaluations conducted by the support coordinator and psychologist of the primary section, and according to the results, are referred to external professionals who evaluate whether the children have ADHD or not. Results from the questionnaire and interview show that support teachers help students with attentional and executive functions activities on a one-on-one basis, and in attentional clubs created specifically for those students diagnosed with ADHD. The educational support staff also provide teachers with strategies to apply in the classrooms with these students. The strategies applied the most by teachers in the lessons observed were behavioral interventions; however, neither support nor classroom teachers have received any training from the school regarding interventions specifically with those students diagnosed with ADHD.

THEORETICAL FRAMEWORK

ATTENTION

Attention is one of the cognitive processes that has been studied by many disciplines, including philosophy, neuropsychology, neuroscience, and more recently educational neuroscience.

During the 1950's, cognitive psychologists thought of attention as a separate process, which filtered the stimuli received by the senses, to allow other cognitive processes to take place (Cohen, 2014). However, with years of studies and experimentation, first with animals and then with patients, scientists have come to understand attention as a complex process that involves several other cognitive processes, present in different areas of the brain (Howard, n.d.). Years later, cognitive and behavioral scientists studied the complexity of attention, coming to the conclusion that attention includes not only cognitive, but also behavioral processes that are unique from others studied so far (Cohen, 2014).

More recently, attention has been understood as a focused selection towards a determined stimulus, while filtrating, inhibiting, and discarding the information not needed. It is a complex, multimodal, dynamic, and hierarchical system connected with neural networks and located in different nervous structures. At the same time, attention is considered to be either passive or active. The passive attentional processes are related with involuntary attention, located in the deeper areas of the brain, while the processes that require a voluntary selection are located in the cortical areas (Portellano, 2005).

Attention also involves the ability to deal with challenging situations and/or people, recollection of facts, the accomplishment of tasks by using short-term memory, and monitoring the entire context in order to achieve the goal set at the beginning of the activity. It requires that the subject is able to handle frustration and all the emotions that come with it, at the same time self-regulating while performing any activity that involves concentration. As such, attention might be understood as the "integrated operation of the executive functions" (Brown, 2005, p. 21).

Attention is a complex and important process that facilitates cognitive and behavioral performance. This process lowers the amount of information that the brain receives, by focusing and sustaining the information needed to attend to a specific situation or object. It also allows a larger amount of information to be gathered when the situation requires, and guides the behavior depending on the spatial and temporal input gathered

(Cohen, 2014). This process can be understood as a result of a variety of interactions between neuronal mechanisms that enable both a controlled and automatic selection of attention. Certain amounts of concentration, persistence, suppression of information, and information taken into consideration by the individual are necessary for these types of attention to be selected (Cohen, 2014).

TYPES OF ATTENTION

Numerous types of attention have been identified, which differ but also share some essential features (Cohen, 2014). Studies have shown that these types of attention take place in different parts and structures of the brain and central nervous system, and maintain a strong correlation with other cognitive processes, such as memory and executive functions (Howard, n.d.). Attention is considered a supramodal process, which means that it goes beyond the vision and hearing channels, where information is combined from more than one sense. It takes place in different parts of the brain and has a hierarchic structure divided in three levels (Portellano, 2005).

Vigilance or alertness. Vigilance is considered the basis of attention. It allows the central nervous system to have enough capacity to take in external and internal information. Vigilance has two components, tonic and phasic attention (Portellano, 2005). Tonic attention is understood as the "minimum threshold of vigilance needed to pay attention during the performance of a task during a long period of time" (Portellano, 2005, p.144). Phasic attention is the ability to give a quick answer to a relevant stimulus that is presented in an unexpected way, causing the organism to pay attention to the source of this stimulus, and then act accordingly. This biological response activates the frontal and thalamic circuits in the brain (Portellano, 2005).

Sustained attention. Once the organism has been activated and there is access to that information in the Central Nervous System, the body can react to the stimulus, and sustained attention in needed. This type of attention is used when an activity demands more persistence and constancy over a long

period of time (Cohen, 2014). Therefore, sustained attention is the competence of maintaining the focus of attention, and by resisting fatigue or conditions that might be distracting (Portellano, 2005).

Selective attention. Selective attention is at the higher level of the attention hierarchy. It is known as the ability to select and integrate specific stimuli, while focusing or alternating between them, and eliminating those irrelevant to the situation (Portellano, 2005). This aspect of attention takes place at all times in a place and time frame of reference (Cohen, 2014), and can be divided in three sub-types of attention.

Focused attention. This involves the ability to respond to specific sensorial stimuli, allowing the process of stimulus, while ignoring others (Portellano, 2005), in relation with the temporal and spatial limitations of the situation (Cohen, 2014).

Alternating attention. This implies the ability to shift the focus of attention from one stimulus to another, switching between various tasks that demand different cognitive answers, and at the same time, selecting the information in a controlled way (Portellano, 2005).

Divided attention. Divided attention is the ability needed to respond to different stimuli and activities at the same time, while performing one task (Portellano, 2005). Studies have shown that this kind of attention is very limited, and depends on the number of information sources to which an organism must pay attention. As the amount of information increases, the performance in attention might decrease, if the task is more demanding (Cohen, 2014).

Effortful attention. Effortful attention is considered the amount of attention directed to a stimulus or activity, which sometimes requires more effort than others. Effortful attention is needed when the assignment demands greater endeavor, and thus requires more conscious awareness (Cohen, 2014). Another neuropsychological model of attention posits four neurobehavioral processes that are related, and at the same time distinct. These processes usually share mutual neural mechanisms, but are perceptible in distinct situations (Cohen, 2014).

Sensory selection. This involves filtering, focusing and automatic shifting. Filtering requires choosing certain characteristics of features to attend to; consequently, attentional focusing takes place when "high order sensory systems interact with motivational and response-mediational influences" (Cohen, 2014. p. 9). When certain information is chosen, automatic shifting happens as a consequence of focusing on that specific information combined with the orienting response (Cohen, 2014).

Executive-attention: response selection, and control. Attention is usually the effect of paying attention to the needs of a situation. Four factors are crucial to this attention-response intention: initiation and inhibition, and active switching and executive supervisory control. When active switching happens, intentional response initiation takes place, as well as inhibition, so all the attention is placed in a specific task. It requires the exploration of the surroundings associated with the orienting response (Cohen, 2014).

Focusing relative to capacity limitations. There is a limit to what humans can pay attention to, and finite information that can be taken care of. As a result, different attentional constraints influence the capacity of attention and the information processed at one time, such as memory. Other attentional constrains are related with the speed in which neurons process information, the spatial-temporal representation, and certain neurological aspects. The brain also has activating systems that have an "energetic tone" to push the system into action. Effort is the last energetic factor that exhibits the temporary focus of a person regarding an activity. Depending on several factors, such as reinforcement and motivational states, attention can be influenced and the level of effort can be different. (Cohen, 2014).

Sustained attention, vigilance and response persistence. Sustained attention can be understood as the result of the other three factors that distribute the way these factors take place. At times, this type of attention might come into place when persistence is required, and as a result, there could be cognitive or physical fatigue. Sustained attention can also be affected depending on the task that is taking place, and the demands

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of it. In some cases, when there is no cognitive demand from a task, and almost nothing is happening during its completion, vigilance is required. An example of this is when a guard is monitoring the cameras of a building, anticipating that someone may show up. In this case, the guard will have trouble with the sustained attention if there is someone trying to break into the building. Vigilance is then strongly related to the incentive of deliberately paying attention, and the intrinsic and extrinsic motivations of the guard (Cohen, 2014).

NEURAL BASES OF ATTENTION PROCESSES

An important part of attention is its neural bases. Different parts of the brain are strongly related with several processes, attention being one of them, but not the only one. As said before, attention is a complex process that takes place in many structures of the Central Nervous System (Portellano, 2005).

Reticular formation (RF) and thalamus. Both the tonic and phasic attentions depend on the reticular formation. It regulates the alertness state, which is located in the central core of the brain stem and thalamus. The nuclei of the reticular formation are the ones in charge of "turning on" the principal base of attention. This enables the organism to be alert at all times, and allows the attentional processes to develop, starting with the sensory processing of those stimuli with access to the brain (Portellano, 2005). Then, the RF sends this information to the thalamus, which then sends it to the cortex. Later on, the thalamus acts as the center that exchanges sensor and motor information form the periphery of the brain, and directs each stimulus towards the appropriate perceptive channels. At the same time, it is in charge of coordinating the intensity of the stimuli. The reticular formation itself is important, considering that when it is not activated, the level of vigilance decreases significantly, and might cause different kinds of disorders (Portellano, 2005).

Basal ganglia. The Basal ganglia establishes the bridge between the reticular formation, cerebral cortex, and limbic system. The caudate nucleus and putamen, which are part of the basal

ganglia, are in charge of transmitting information to the brain that allows selective and focalized processing. At the same time, it connects structures of the limbic system -amygdala- that allows the emotional processing to be integrated with the attentional processes (Portellano, 2005).

Cingulate gyrus and heteromodal cortex. Information that arrives from the thalamus and basal ganglia arrives to the cingulate gyrus and heteromodal cortex (mostly parietal, and frontal lobes). These structures have implications in attention control, especially the processes of activation, localization, the regulation of the different levels of alertness, and the establishment of the importance of the stimulus received (Portellano, 2005).

Parietal lobe. The parietal lobe is responsible for preparing the sensorial maps of the brain to control attention. Attention has an asymmetry in the parietal lobes, considering that when attention is directed to the left visual camp, the right parietal lobe is activated, but when the stimulus is on the right visual camp, both hemispheres are activated. This gives a greater importance to the right hemisphere, making it asymmetrical (Portellano, 2005).

Pre-frontal lobe. This is the last place where all the information arrives. This lobe develops several functions strongly related to attention control. It regulates the attention needed in activities that require certain planning since it takes place in the pre-frontal executive system. At the same time, it controls the sustained and focused attention, and controls de ocular movements through the visual camps (Portellano, 2005).

ATTENTION DIFFICULTIES

There are quite a number of brain structures implicit in the complex process of attention. Scientists have studied several disorders that start to be noticeable during the early years of an individual, and affect attention among other processes. These neurodevelopmental disorders are a group of circumstances that take place in the developmental period of a human being. They are commonly manifested during the early years,

generally before the child starts school, and they constitute a developmental deficit that generates impairment in several areas including the personal, social, academic, or professional. These developmental disorders vary from learning limitations or executive functions to overall limitations in social skills or intelligence (American Psychiatric Association, 2013).

ATTENTION DEFICIT DISORDER

The American Psychiatric Association constructed an official diagnosis of Attention Deficit Disorder (ADD) in 1980. It is considered a syndrome because it illustrates the group of symptoms that usually take place together (Brown, 2005). ADHD is defined by the American Psychiatric Association (2013) as the following:

> Impairing levels of inattention, disorganization, and/or hyperactivity-impulsivity. Inattention and disorganization entail inability to stay on task, seeming not to listen, and losing materials, at levels that are inconsistent with age or developmental level. Hyperactivity-impulsivity entails over activity, fidgeting, inability to stay seated, intruding into other people`s activities, and inability to wait- symptoms that are excessive for age or developmental level. (p. 32)

There is usually a distinction made by neuropsychologists and psychiatrists regarding attention deficit disorder. When the individual presents attention deficit disorder with hyperactivity, professionals in this case will refer to it as ADHD. However, if the hyperactivity symptom is not present, it is referred as ADD. Children diagnosed with ADHD are usually also diagnosed with other disorders, such as oppositional defiant disorder and conduct disorder (American Psychiatric Association, 2013). ADD is a disorder related with a chemical problem that takes place in the brain, where the management of attention and other processes are not handled in the correct way (Brown, 2005).

The American Psychiatric Association (2013) came up with criteria that include certain symptoms that need to be present

in the child, adolescent or adult, in order to be diagnosed with this disorder:

Diagnostic criteria. A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and/or (2):

1. Inattention: Six (or more) of the following symptoms have persisted for at least six months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities. For older adolescents and adults (age 17 and older), at least five symptoms are required:
    a. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during 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.
    e. Often has difficulty organizing tasks and activities.
    f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort.
    g. Often loses things necessary for tasks or activities.
    h. Is often easily distracted by extraneous.
    i. Is often forgetful in daily activities. (p. 59)
2. Hyperactivity and impulsivity: Six (or more) of the following symptoms have persisted for at least six months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities. For older adolescents and adults (age 17 and older), at least five symptoms are required:
    a. Often fidgets with or taps hands or feet or squirms in seat.
    b. Often leaves seat in situations when remaining seated is expected.

c. Often runs about or climbs in situations where it is inappropriate.

d. Often unable to play or engage in leisure activities quietly.

e. Is often "on the go," acting as if "driven by a motor" being still for extended time, may be experienced by others as being restless or difficult to keep up with.

f. Often talks excessively.

g. Often blurts out an answer before a question has been completed.

h. Often has difficulty waiting his or her turn.

i. Often interrupts or intrudes on others.

When considering the criteria, it is clear that inattention is the main characteristic of the ADD syndrome. It has a variety of chronic cognitive impairments that need to take place in more than one area of the subject, and have to arise together in order to be considered symptoms of this specific disorder. However, these impairments do not have to be constant at all times (Brown, 2005).

Other symptoms in people with ADD are strongly related to impairments in the executive functions (Brown, 2005; Howard, n.d.). Neuropsychologists have studied the executive functions and refer to them as "brain circuits that prioritize, integrate, and regulate other cognitive functions" (Brown, 2005, p. 10). Executive functions, as attention, are not localized in a specific area of the brain, but are mainly assisted by a complex network that takes place in the pre-frontal lobe. One of the important characteristics of the executive functions is that people usually perform them unconsciously (Brown, 2005).

Executive functions and attention. Attention then, involves the integration of the executive functions which Brown (2005) organizes in six groups or clusters of cognitive functions that are harmed in persons with ADD syndrome. Each cluster is strongly related, and interacts with each other.

Activation: Organizing, prioritizing, and activating for tasks. People diagnosed with ADD often procrastinate.

These individual have difficulties getting started with any tasks, especially when the tasks they need to complete are not intrinsically motivated to them. They are aware of the importance of getting ready to begin the task, but are unable to take the first step and start the task. If they manage to start and complete it, it is as a result if facing a deadline and feeling the pressure of turning the task at a specific time (Brown, 2005).

Individuals with this syndrome often manifest their struggle when setting priorities at work, school, and/or in their life in general. Frequently, they have trouble estimating time accurately, and in many cases, have difficulties estimating the number of activities they are able to accomplish during a period of time (Brown, 2005).

Focus: Focusing, sustaining, and shifting attention to tasks. Individuals with ADD have issues with sustained attention. For this reason, they are not able to focus on the same stimulus for long period of time. They find it very difficult to focus on activities like reading, especially if the material is not of their own choosing. Another task people diagnosed with ADD struggle with is excessive distractibility, consequently seen as driving their attention away from the task as a result of attending to different stimuli at the same time. In these cases, people are not able to ignore background sounds, side conversations, or anything close to their environment (Brown, 2005).

Additionally, people with this disorder have difficulties shifting their attention to another stimulus. It is often harder when what they are focusing on interests them more than what they have to pay attention to at the present time. When this happens, people with ADD tend to shut down any stimulus except the one they are interested in (Brown, 2005). People with ADD sometimes persevere in one topic that catches their attention and will keep talking about it even when the conversation has moved already to another topic. During written assignments, many individuals with ADD report that they tend to work on specific sentences over and over again in an attempt to end up with a perfect end product. When this happens, they spend a lot of time trying to make it look flawless, and forget the fact that they have a due date or a specific moment to turn in the written assignment (Brown, 2005).

Effort: Regulating alertness, sustaining effort and processing speed. Alertness and vigilance are also affected in people with this syndrome. One of the symptoms is related to the fact that they are unable to fall asleep, or on the other hand, cannot wake up easily. Additionally, people diagnosed with this disorder have difficulties sustaining attention on a specific task where they do not get an immediate reward, and quickly feel like they run out of energy. Patients with ADD often find themselves somnolent, especially when they are listening to a lecture, or in a meeting that is not of their interest (Brown, 2005). These symptoms are also present when they have to compose a text that is not of their interest, or when they are driving long distances with no additional stimuli for them to look at (Brown, 2005).

In terms of sleepiness, however, research has shown that sleepiness has nothing to do with being overtired. This can happen when people have rested enough and the symptoms can rapidly disappear once they get involved in an engaging activity. Another reason for drowsiness may be the inability to settle down and fall asleep even when the subjects are tired. Because of the lack of sleep, these individuals experience sleepiness during the day (Brown, 2005).

Finally, people with this diagnosis regularly include slow processing speed symptoms in some tasks. The time it takes for them to react to certain cognitive activities tends to be slower than usual in a number of situations, while in other cases they experience a hard time slowing down in order to perform well (Brown, 2005).

Emotion: Managing frustration and modulating emotions. The American Psychiatric Association does not include any emotional symptoms or items in the ADHD criteria. Nevertheless, some clinicians have found that their patients experience difficulty regulating their emotions. Wender (as cited in Brown, 2005) states that his patients tend to encounter angry outbursts, experience irritability, complain frequently, and feel bored most of the time. At the same time, Brown (2005) has found that his patients with ADD/ADHD report problems related with emotions, including a "very low threshold for frustration, and chronic difficulty in regulating subjective emotional experience and expression" (p. 40). Individuals with

this condition have a tendency to express their frustration with verbal outbursts. Others react by throwing or hitting objects, driving dangerously, or hitting people. However, anger is not the only emotion that is hard to control or regulate; anxiety, sadness, discouragement, or hurt are emotions that seem to be difficult for them to modulate (Brown, 2005).

Memory: Utilizing working memory, and accessing recall. Another symptom related with executive functions has to do with the working memory. Individuals with ADD usually do well with long-term memory tasks, but have difficulties holding information in their minds while at the same time doing something else. Working memory is a complex process in charge of processing the information actively while connecting it with other information stored in the long-term memory. This recovery process often is impaired (Brown, 2005). For this reason, reading comprehension might be an issue for those diagnosed with ADD. It involves retaining everything that happened, and what is going on, while at the same time sustaining attention on the task. Mathematical processes are also affected by the working memory. For this process to be successful, individuals need to take into account the sequence of operations, making algebra and geometry just to mention some, a challenge for this population. Even though there is little research regarding writing assignments, preliminary studies illustrate that there might be a high incidence in people diagnosed with ADD (Brown, 2005).

Action: Monitoring and self-regulating action. One of the characteristics of those diagnosed with ADHD are hyperactive and impulsive behaviors. They often seem to have more energy than those around them, and look like they will never run out of fuel. Most of the time, these individuals have difficulties controlling their actions adequately (Brown, 2005). At the same time, they are unable to interact successfully in social environments since people with ADD/ADHD find it challenging to successfully analyze the context in which they are involved, and quickly assess what others' perceptions, emotions, and expectations are so they can behave accordingly (Brown, 2005).

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FINDINGS IN BRAIN DIFFERENCES

Several studies of the brain and brain structures on individuals diagnosed with ADD have shown differences between their brains and the brain of those with no ADD. The size of the brain in teenagers with ADD is three to four percent smaller than their classmates. In addition, there have been findings in brain differences in structures such as the basal ganglia -related with thinking and emotion-, and in the frontal lobe -associated with decision-making -. In both cases, studies have shown a lower activity in patients with ADHD, affecting the capacity to pay attention and be successful at controlling emotions (Sousa, 2011).

Other studies of brain images have shown differences in the brain between people diagnosed with ADD and those who have not. Monique and others (as cited in Brown, 2005) studied brains of children diagnosed with ADHD and those who did not have this diagnosis. The images showed that the processing of the dopamine -a neurotransmitter- was abnormal in the regions of the midbrain. Ernst and others (as cited in Brown, 2005) found differences in the brain of adult patients with ADHD and those without. The study established that when asked to make decisions related to short-term gains and long-term losses in both subjects, the prefrontal lobe of the brain was active; however, it was less active in adults with ADHD. The results of these studies might suggest that there are differences between the brain´s circuits needed for the executive functions to work properly. Although the executive functions do not depend only on the neurotransmitters of dopamine and norepinephrine, there is evidence that they depend primarily on them (Brown, 2005).

Neurons in the brain are connected to each other by dendrites and an axon. The information passed from one neuron to the other is a chemical reaction of a substance called neurotransmitter (Howard, n.d.). Dopamine plays an important role in people with ADD. This neurotransmitter travels to the frontal lobes, where the selection of how to act takes place, and to other parts of the brain that helps the person to reflect and provide information to the brain as when to act when an

important stimulus is seen (Brown, 2005). At the same time, the dopamine provides the signs for the individuals to feel reward situations. When it is not released, people usually feel unmotivated at work or at school. Research has shown that the dopamine release is blocked in some areas of the brain with people with ADD and this may cause people to be unable to deal with emotional reactions, -including anxiety- successfully. Norepinephrine is the most important neurotransmitter in the reticular system and locus coeruleus, -in charge of activating the body for any task and regulating alertness- which is distributed through this area of the brain. The absence of this neurotransmitter is associated with inattention and sleepiness since the norepinephrine is in charge of initiating vigilance and sustained alertness (Brown, 2005).

TREATMENT

More than 200 controlled studies have shown that stimulant medications are affective in mitigating the ADHD symptoms. Even though the medications are not effective for all individuals diagnosed, they work to reduce the symptoms for 70 to 80 percent of patients under its treatment (Brown, 2005). The drug used in the treatment of ADHD is called methylphenidate, known in the market as Ritalin (Howard, n.d.). This drug helps in the release of both dopamine and norepinephrine in the synapses of the neurons, and at the same time stops the retake of them. The idea is to hold these neurotransmitters for an adequate time, to allow the message to pass along one neuron to the other. Improvement in the symptoms are seen usually after 30-60 minutes after taking the stimulants. When the effect is finished, symptoms re-appear. It is vital to underline that with the use of this medication symptoms do not disappear; they are just alleviated. However, activation symptoms are often improved with the correct medication (Brown, 2005). Even though the use of Ritalin might seem like a good solution to many families, concerns have risen about the long term effects in the developing brain of a child and adolescence (Howard, n.d.).

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Intervention. Although methylphenidate is a treatment that have given good results in most patients once their doctors are able to identify the doses, it is not the only one. There is evidence that illustrates that in the case of students diagnosed with ADD and ADHD, teachers serve as a support, and with informed strategies, are definitely a huge help in the improvement of the academic performance of children. Some interventions include cognitive and instructional approaches in order to supervise the student`s behavior (Howard, n.d.). Instructional strategies inside the classroom include reducing distractions -seating the students in front of the classroom, and making sure their desks are clean at all times. Also, allowing the student to participate frequently -actively is best-, using planners and teaching them explicitly study skills, and decrease the behavioral expectations of the teachers towards the students, keeping in mind the impulsive and disruptive behaviors children with ADHD present as symptoms. Additionally, using technology as a tool to enhance their understandings is a great way to intervene since these devices draw the students` attention (Sousa, 2011). Finally, training those diagnosed with this disorder in self-managements is also another way in which symptoms can be decreased and it could be a way to support the drug treatment (Howard, n.d.).

LITERATURE REVIEW

There are extensive studies on diagnosis of attention deficit disorders as well as interventions to support students with this condition. Literature reviewed for this study focused on school-based and computer-based interventions, the role that medication has on the student's symptoms, and how teachers' knowledge of ADHD is crucial in order to implement certain interventions inside the classroom.

SCHOOL-BASED INTERVENTIONS

The research on behavioral interventions notes two kinds of school-based interventions. One intervention targets the

management of pre-existing conditions so that behavioral and academic outcomes can be improved. The second, classroom behavior management, is aimed towards engaging students in the task and intervening in disruptive behavior. Studies have shown that the best interventions involve applying behavior modification strategies (Chronis, Jones, & Raggi, 2006). Purdie, Hattie, and Carroll (2002) analyzed 74 studies in which students diagnosed with ADHD and ADD were treated with several interventions for 58 days. Results showed that school-based interventions had the greatest effect on cognitive outcomes.

Behavioral. In general, findings indicate that behavioral interventions result in psychoeducation about the symptoms of attention deficit disorder, its ethology and treatment -just to name some- for parents and teachers who deal with the child`s behavior the most and play a crucial part in the intervention. In one study, DuPaul, Eckert, and Vilardo (2012) explored the effect of school-based interventions on academic and behavioral outcomes. Results showed that these interventions had effects on both behavioral and academic outcomes. The behavioral treatments included behavioral techniques applied inside the classroom by teachers, and at home by students' parents. Such techniques involved praise, planned ignoring, effective commands, time outs when the behavior was not acceptable, and daily report cards. Results also exposed that contingency management interventions were effective by improving the students' behavior inside the classroom and engaging them with instructional activities.

At the same time, in literature review conducted by DuPaul, (2007), behavior-based interventions, especially token reinforcement and response cost, are two consequence-based interventions that seem to have the strongest empirical support. These are used to decrease the disruptive off-task behavior and to increase assignment engagement. This worked best if the intervention was frequent, and the positive reinforcement occurred immediately.

In a study in which verbal and non-verbal strategies were used for managing ADHD behavior inside the classroom, it was shown that verbal instruction helps children to attend better and at the same time helped the other students to communicate

better with their peers that were diagnosed with ADHD. Despite this, effects were found to be momentary. Positive effects were found with non-verbal strategies that seem to be more useful in classroom management. However, better results were found with combined interventions (Gen, 2011).

Cognitive. Overall, cognitive interventions are strongly related with behavioral ones. In this case, the goal is to teach children self-control by using verbal self-instructions and self-reinforcement such as problem solving, and motivational strategies to control the ADHD symptoms. Purdie, Hattie, & Carroll, (2002) analyze 74 studies and conclude that cognitive behavioral interventions combined with behavioral contingencies are more effective if they take place at the exact time and place where the behavior occurs –in the classroom and at home with parents.

In the same way, Richardson et al. (2015) reviewed both quantitative and qualitative research that involved self-management interventions with children between four and 18 years old. Richardson, M. et al, found that when researchers asked teachers about the ADHD symptoms in children who received these interventions, their attitude was positive since the interventions improved the ADHD symptoms and social skills in students.

On the other hand, Miranda, Jarque, & Josel, (2006) looked at 50 students with a combined ADHD diagnosis with a mean of 8 years old, and compared a psycho-educational program with a medication management. The researchers asked parents and teachers about both interventions, and teaches observed that hyperactivity symptoms improved with the psycho-educational treatment. Parents agreed and reported that the inattention symptoms also decreased.

Daily report card. Taking into account strategies applied in the behavioral treatments, daily report cards are used in schools to improve students' behavior. Teachers select a specific behavioral goal the child will work on, and give feedback frequently to the student about his/her behavior. As a result, children become motivated to reach the goals since they need to travel with the daily report from school to their home, and eventually are rewarded for their improved behavior (Mautone, et al., 2012).

A six-month intervention was carried out with 61 kindergartens and first grade students with ADHD and their parents. It involved daily report cards and family sessions that worked on parenting skills and family involvement in the child's education. Results showed evidence of the usefulness of this intervention. At the same time, it exhibited improvement in parenting practices, students' behavior at school, and teacher-student relationships (Mautone, et al., 2012). Similar to this study, the review made by Richardson M, et al., (2015) where the authors analyzed quantitative and qualitative research, illustrated that the ADHD symptoms in children between four and 18 years old decreased when a daily report card was used. Teachers' attitude towards daily report cards was also positive.

In a similar study, with 33 children between six to 12 years old from first to sixth grade with an IEP (Individualized Education Program), the use of a daily report card was beneficial. The report card was based on the student's educational goals, and its aim was to analyze the effect on academic achievement and classroom behavior. The findings argued positive effects in classroom functioning, the child's productivity academically, and a decrease in disruptive behavior (Fabiano, et al., 2010).

Therapeutic balls. A study was conducted to find out if 24 fourth graders from an inclusive classroom in a public school under medical treatments had positive outcomes in classroom behavioral management and legible word productivity by using a classroom seating treatment with special therapeutic balls. All students, including those with ADHD, were seated on the therapeutic balls during language class. Results revealed that legible word productivity increased as well as in-seat behavior (Schilling, Washington, Billingsley, & Deits, 2003).

COMPUTER-BASED INTERVENTIONS

As with academic intervention, where the goal is to manipulate the instructions or materials used inside the classroom to improve behavioral and academic, outcomes, computer-assisted instruction and programs are being used more often by certain schools. VanderDonk, Hiemstra-Beernink,

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Tjeenk-Kalff, Van Der Leij, & Lindauer, (2015) performed a controlled trial in order to simulate studies done in the past with the Cogmed Working Memory Training (CWMT) and the Working Memory and Executive Function Compensatory Training. The study included 102 children between eight and 12 years old in order to find out the effect of these trainings on neurocognitive functioning and academic performance. They also observed the effect of these programs on behavior in class, behavior problems, and quality of life. Researchers report that the only treatment replicated was on visual spatial memory on the CWMT. Parents and teachers found effects over time for broad neurocognitive measures. Nevertheless, no treatment effects were found on academic performance, behavior in class, nor quality of life.

In a related study in which 104 children between second and fourth grade were assigned different treatments, including neurofeedback training, researchers concluded that this treatment's effect on attention and executive functioning improved (Steiner, Frenette, Rene, Brennan, & Perrin, 2014). Similarly, students from eight to eleven years old received training with three different working memory programs. The main goal was to look for the effect of these programs in their working memory, and the ability to increase academic attainment. Results suggest that it had a positive effect on working memory in areas such as Visio-spatial and sequencing skills. However, it was not clear if it was as a result of the effect of practice, or the intervention alone (Atkins, T. n.d.).

PHARMACOLOGICAL INTERVENTIONS

One of the first pharmacological treatments used was stimulants. Studies in relation to medication have found that it reduces ADHD symptoms such as classroom disruption and increases academic productivity and on-task behavior. At the same time, medications seem to decrease negative social behaviors as well as parent-child relationships that were observed as negative (Richardson, et al., 2015). Studies administered by pharmacological interventions showed greater effects on behavioral outcomes and hyperactivity symptoms

than multi-modal treatments (Purdie, Hattie, & Carroll, 2002).

In the same way, Miranda, Jarque, & Josel, (2006) found in a study with 50 children in which 17 received a medication treatment, students showed an improvement on inattention and school problems. In another study, DuPaul (2007) found that students on a psychotropic medication -metalphenidate- improved their attention in classroom, behavior control, and their interaction between classmates; showing that medication works better than behavioral treatments in reducing these ADHD symptoms. On the other hand, long-term effects on academic achievement have been small or have not existed in some cases.

COMBINED INTERVENTIONS

In studies reviewed by DuPaul, Eckert, and Vilardo, (2012) school-based interventions including behavioral and cognitive interventions were administered to students diagnosed with ADHD as a combined intervention. Results showed more ADHD symptoms were addressed, showing moderate to large effects on behavioral and academic outcomes. Chronis, Jones, and Raggi (2006), analyzed a number of studies in which a combination of behavioral and pharmacological interventions was taken. The main goal was to observe the effects on the reduction of ADHD symptoms at home and at school, as well as social skills and behavior. Results discussed in the literature review show that behavioral parent training, and classroom behavioral interventions combined with stimulant medication are efficient in reducing ADHD symptoms. This finding allowed for a lower dose in the medication, resulting in an increased satisfaction with the combined treatment chosen. In addition, combined treatments worked better than medication itself on specific targets, including social skills and parent-child relationships.

Finally, Abikoff, et al. (2001) found that in a study in which 579 children were chosen randomly and assigned to medication, combined treatment and intensive behavioral treatment, those children with a combined intervention had substantially

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superior effects on ADHD symptoms than the other two interventions alone. At the same time, the study showed that for social skills, oppositional behavior, and academics, combination treatments had a slight advantage over single treatments.

THE ROLE OF TEACHERS' KNOWLEDGE

Researchers have studied how well the known treatments work in children diagnosed with ADHD. However, professionals have noticed that whether interventions are applied accurately in classroom settings depends on the resources needed to apply the interventions, the steps taken, and the number of them, feedback provided by the teachers on the proper implementation, the teacher`s beliefs regarding the effectiveness of these interventions, and teachers' motivation to intervene, among others (DuPaul, 2007). Taking this into account, a number of studies have explored the effect on students' ADHD symptoms if teachers are sufficiently trained and know how to act in situations in which they encounter students with this diagnosis. A study was made with 142 teachers of elementary schools who received training on identification and diagnosis, evidence based-treatment in ADHD symptoms, a number of strategies regarding classroom management, and were involved in activities where the teacher understood the given material. Results showed that teachers that were trained and had the opportunity to apply this to real life situations reported significantly increased knowledge. However, behavior modifications were observed only with special education teachers (Jones, 2006).

In another study by Perold, Louw, and Kleynhans, (2010) in primary school teachers about knowledge and misconceptions regarding ADHD, data suggests that teachers must be educated in epidemiology and causes of ADHD since it could help them understand the disorder better, and as a result change the way they intervene with students that have this diagnosis. Breuer, Doepfner, and Amonn (2012) studied teachers from an elementary school that were trained with intensive information about ADHD. They describe how teachers improved their

abilities to address attentional and disruptive behaviors after the training program.

At the same time, a survey applied in 151 schools in relation with ADHD, students' symptoms and interventions came up with interesting suggestions. The results showed that teachers should be trained with classroom strategies and suitable interventions to use with children diagnosed with ADHD (Wheeler, Pumfrey, Wakefield, & Quill, 2008). In the same way, Miranda, Jarque, and Josel, (2006) highlight the importance of teachers being trained so that they can manage the behavior and instruction of children with ADHD. (Mautone, et al., 2012) suggested the need to provide families with a more systematic training to promote their children`s education. This shows how teacher and parent involvement in certain interventions is crucial in order for the symptoms to decrease and for goals to be met.

METHODOLOGY

RESEARCH DESIGN

This study was based on a qualitative methodology with features of naturalistic, ethnographic and snapshot inquiries. The goals for this research were to find out if the support team or teachers carried out any interventions for students diagnosed with attention deficit disorder in a primary school. For this purpose, the conditions of teachers and students were not manipulated, as in qualitative, naturalistic research "the situations of the research occur naturally" (Cohen, Manion & Morrison, 2007, p. 138). On the other hand, this research was only an analysis of a specific situation in a certain time; therefore, it gave a snapshot feature with some phenomenological approaches, taking into account that the researcher wanted to analyze the information taken, established the meaning of the data found, and a possible explanation of it.

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CONTEXT

The context for this study was a private bilingual primary school in Bogotá, Colombia. The school is based upon the British educational system that offers the International Baccalaureate diploma in high school -IBDP-, the Primary Years in pre-school and primary -PYP-, and Middle Years Program -MYP-, in middle school, accredited by the CIS since 1998. The language of instruction is English; however, students receive Spanish classes four times a cycle. The school has an Educational Support Department that aims to provide support in line with the International Baccalaureate Organization -IBO- philosophy to support the programs within the school -IBDP, PYP, MYP. This department applies different strategies to identify students who have Special Educational and Learning Needs in order to have a multidisciplinary assessment and establish an Individual Education Plan (IEP), when the students need it, a design an intervention program.

PARTICIPANTS

The people involved in the research were classroom teachers from the primary year's program, from first to fourth grade. Teachers were both Colombians and foreigners or "Ex-Pats." Taking into account that one of the research questions was related to the Educational Support department, the head of the department was interviewed in order to have the information needed to understand how the department works.

DATA COLLECTION INSTRUMENTS

In this study, questionnaires, semi-structured interviews, and document analysis were used to collect data.

Questionnaire. A questionnaire was given to classroom teachers, and support teachers to find out if they implement any teaching strategies, accommodations or any differentiation with ADHD students, and why. The questionnaires had

open-ended questions useful to collect information, provide structured data, and enable the researcher to analyze the data (Cohen, et al., 2007).

Semi-structured interview. A semi-structured interview was required in order to explore what the Educational support department does, what were the different approaches given to students diagnosed with ADHD, and if there was a program established so that the support teachers could apply it with these students. This interview was conducted to the Educational Support Coordinator.

Classroom Observations. As a complement, observations took place since they helped collect data from the teachers' strategies taken into action in a classroom, the effects of the interventions on ADHD students, and the possible relationships between the strategies used by teachers, and the students' response to it. Also, observations were better than surveys in the sense that the researcher was able to observe non-verbal behavior on the population been studied (Cohen, et al., 2007). At the same time, Morrison (as cited in Cohen, et. al 2007) indicates the importance of these observations since it helps the researcher collect data from the physical environment, the way the group is set, and the interactions that take place between the subjects.

Data triangulation. Finally, the last instrument that was used, was a triangular technique, as it pursues to explain thoroughly "the richness and complexity of human behavior by studying it from more than one standpoint" (Cohen, et al., 2007, p. 141). In fact, if the researcher uses more than one method to compare with each other, there is a higher chance that the researcher might feel more confident on their results (Cohen, et al., 2007). The intention is to contrast the outcomes of the questionnaires given to the primary teachers, with the classroom observations, and the interview conducted to the support coordinator, in order to find out if the results correspond between the three data collection instruments.

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DATA ANALYSIS AND INTERPRETATION

In order to analyze and interpret the data gathered from the different instruments applied to collect data –questionnaires, classroom observations, and interview-, content analysis was used. Content analysis is "the process of summarizing and reporting written data-the main contents of data and their message" (Cohen, et al., 2007, p. 475). A key element to content analysis is data reduction, where the researcher aims to reduce the data in several ways. For this project the use of categories was crucial a coding exercise was conducted in which different categories were constructed that were common and repetitive in each instruments. Afterwards, the creation categories from emergent themes had to be done, in order to compare them, and make links between each other. (Cohen, et. al 2007).

Questionnaires. Two different questionnaires were given, one to classroom teachers and another one to the support team. The differentiation was done to explore of there were any discrepancies between what classroom teachers know about ADD and ADHD, perceive, and apply to students with this condition, in relation with the support teachers. The questionnaires were written in English and Spanish, taking into account participants' mother tongue. The questionnaires were created with open questions to verify teachers' knowledge of ADD, strategies they have applied to students with this condition, if they had received any training on the matter, and where. The answers were typed in a Word document, and analyzed such that categories of common themes emerged. The categories were named and transcripts color-coded.

A similar questionnaire was designed for the support team, with open questions to explore what the support teachers knew about ADD and ADHD, what are the strategies applied with students that have this diagnose by the support team, and what is the aid they give classroom teachers to help them with these students in their classrooms.

At the same time, another part of the questionnaires was designed with Likert scale questions, in order for the researcher to inquire if teachers have had any students with ADD or ADHD in their classrooms, if they think it is important for teachers

to implement different teaching, and learning strategies for these students, if they think the teachers from the primary staff have received training on classroom accommodations, and strategies for them to implement inside the classroom, and finally if they thought teachers had a wide knowledge on these interventions. Their answers were tabulated in an Excel document, and graphs were made to show the results and later analyze them.

Educational Support Coordinator interview. An interview was conducted with the Educational Support Coordinator of the three sections –pre-school, primary, and high school-. This interview was recorded and transcribed in Spanish, the coordinator's native language.

Teacher interviews. Interviews were recorded and transcribed in teachers' native language. The data collected helped triangulate the questionnaire, and afterwards the classroom observations. When analyzed, some categories emerged, which were compared later on with the classroom observations.

Classroom observation. Three teachers were observed, and field notes were transcribed and then analyzed. The placement of the classroom as a whole, and specifically of the students with ADD or ADHD was sketched. These class observations attempted to identify teachers' in-class interventions, and the classroom realities. After analyzing the transcripts, categories from emergent themes were created. The main category was intervention, which refers to a set of actions done by the teacher or teaching assistant to help students improve academically, and/or behaviorally in the classroom.

RESULTS

Overall, it is possible to identify several findings regarding school procedures and interventions for students with attention difficulties, especially in the Educational Support Department. By analyzing the data collected, there is some resemblance in the knowledge that classroom teachers and support teachers have about ADD.

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The Educational Support Department carries out a specific procedure for cases suspected of having attention problems. The support coordinator and the section's psychologists are in charge of an internal evaluation prior to referring the case to an external professional to diagnose if the student has ADD or ADHD. In the primary section, the support teachers applied some strategies with students diagnosed with ADD and ADHD, mostly outside the classroom, and on a one-to-one basis. Interviews with the coordinator revealed a new tool that has been used for the 2015-2016 year called *provision maps* to support ADD and ADHD students. Nevertheless, neither classroom nor support teachers mentioned this tool. On the other hand, classroom teachers intervened and applied the strategies they believed helpful for students with this diagnosis. Nevertheless, for the most part, teachers failed to differentiate or made clear accommodations to students with ADD or ADHD.

As teachers do not seem to possess accurate knowledge of ADD or ADHD, they lacked knowledge about the reasons behind some of the interventions they applied. In general, teachers are told to try different strategies by the support team; however, in the questionnaires, almost all of them reported that they felt they did not receive enough assistance from the support teachers, and expressed the need to be trained on the subject. At the same time, it was found that the support teachers have not received any training specifically on ADD or ADHD from the school. Those that have received training on special needs education have done so by looking for postgraduate degrees outside the school, and paying for them themselves.

KNOWLEDGE OF ADD OR ADHD

The questionnaires revealed that classroom teachers manage a general definition of attention deficit. Most of them enumerated the symptoms of the condition by expressing that it is a problem in which students are not able to focus for long periods of time, are inattentive, hyperactive, and fail to follow directions. Yet, almost all of them failed to make a differentiation between ADD and ADHD, and they appear to group students with this

diagnosis in one group, the ADHD group. Only one teacher explained, "It is a disorder characterized by having difficulties to sustain attention. It could be combined with hyperactivity and impulsivity."[5] Three out of nineteen classroom teachers mentioned that the disorder affects executive functions, but did not elaborate.

On the other hand, support teachers were more concrete with their answers, and expressed that it is a condition that affects attention, and named hyperactivity as a symptom. Only one of them mentioned that the disorder is related with a dysfunction in the brain. Likewise, only one of them mentioned, "There are different types, therefore it could be accompanied of hyperactivity. It affects the executive functions as well."

It seems that there is a general understanding of the concept; nevertheless, the responses given by the support team were very simple even though, according to their coordinator, they are "…people with a wide experience in teaching, and that have worked with special needs (…) The important thing is that they have experience in learning difficulties."

IDENTIFICATION OF STUDENTS WITH ATTENTION PROBLEMS

The interview with the school's Educational Support Coordinator revealed the existence of school procedures to identify students with attention difficulties. The first action taken into account is when "teachers socialize their concern. Initially differentiated strategies should be applied." Then, there are lesson observations by the support team, and discussions with the classroom teacher. Afterwards, "There is a probationary period given to students and their teachers, and if the issue does not work, it could go through internal assessments."

In general, all students suspected of having special needs are evaluated by the Educational Support Coordinator with the WISC[6] , which she describes as "a learning profile (….) and

[5] All Spanish transcripts translated into English.
[6] Wechsler Intelligence Scale for Children.

the psychologists in the school also perform their assessments." Specifically, in the case of students suspected of having attention problems, the support team has also "an attention protocol to apply. If the suspicion is of executive functions, there are protocols of executive functions that are applied to teachers and parents." At the same time, the coordinator affirms: "There is a 'pre-testing'. According to the results, we refer [the student] or not to external evaluations." The school itself is not allowed to diagnose, which is why they refer those students to specialists such as occupational therapists, language therapists, psychologists, neuropsychologists, neurologists, and psychiatrists. These referrals must be endorsed by the section head, and the support coordinator.

INTERVENTIONS BY SUPPORT TEAM

Intervention was understood by the researcher as a set of actions by school staff to help students improve academically and behaviorally in the classroom. In some of the interventions, the support team and teachers came up with strategies to differentiate instruction, material to work with during the lesson, and accommodations when evaluating students, among others.

As soon as students are diagnosed by external professionals, the students that are part of the educational support program receive the aid they need, according to their needs. The support team, with the help of those professionals who diagnosed the students, creates this intervention plan. In cases where students need external support, the educational support department does follows ups with the external professionals, and asks them for strategies that teachers might be able to apply in the classroom.

Depending on the students and their needs, the support team works with them once every six days, -in this school, they work by cycles of six days, instead of the five days of the week-, during a lesson of the day, for the most part outside the classroom. The coordinator explained, "There are attention clubs in primary, where the support teachers work twice a week on core skills

exercises to focalize attention, organization exercises, and with the children that need it, executive functions exercises." When teachers work with these students outside the classroom, it is usually to increase the time for students to finish a task, and to guide them on how to start a task, mainly aspects related with executive functions.

During the analysis of the support teachers' questionnaire, the category "divided and simple instructions" emerged. These teachers expressed that one of the strategies they use when working with the support students is to divide the task given by the classroom teacher in stages or segments and give students step-by-step instructions. However, the coordinator strongly believes that "it is much more effective to work with children inside the classroom, than taking them out. (…) The attention should be managed inside the classrooms, and the most effective way of doing it is with the classroom teacher and the assistant."

The support teachers gave similar answers in the questionnaire when asked about the type of interventions or strategies they usually apply with ADD and ADHD students. All of them reported that they center their intervention on developing executive functions and organizational skills by applying attentional exercises with students. Two of them reported other strategies including dividing instructions and projects into segments, and differentiating by accommodating with worksheets and assessments.

During the interview with the support coordinator, she was asked if students with ADD or ADHD had Individual Educational Plans (IEP). In this matter, she replied that the school has implemented a document called *provision maps* that has resulted to be very effective. This was a document brought by the head of primary, implemented first in the primary section, and now, across the whole school. In this document, the child's problem is recorded, the strategies teacher will apply, the supports team's responsibility towards the child, whether there is help by an external professional, and the possible barriers to this process.

Provision mapping is used by schools as a self-evaluation process. This tool takes a look at the different stages, and

kinds of special educational needs of students. Then it plans an intervention with resources for those students that need additional support. The staff involved in the design of these maps, identify the student's specific needs, the support needed in a weekly basis, and finally, which staff members will support the child in the process (Wallace, 2015, p. 242). Additionally, provision mapping can include the classroom teachers, and the rest of the staff to help teachers, and staff to oversee the students` interventions, and at the same time, they help to supervise staff's progress throughout the interventions -teachers, classroom assistants, and other teachers involved- (Massey, 2016).

> …in a primary school the class teacher should be responsible for the class Provision Map and it should be they who draft, maintain and evaluate it. The aim of this (in line with Teachers´ Standards and de SEND Code of Practice of 2015) is to increase the responsibility of the class teachers for all pupils in their class (including those with SEN) at all times (Massey, 2016, p. 70).

According to the coordinator, the *provision maps* "correspond to a public policy in education for children with special needs in the United Kingdom, and must be a team work." In addition, the support team is more involved with the classroom teacher. The coordinator stated, "When we took the children and worked on the support rooms, there was no communication or team work, working inside the classroom and communicating frequently, ensures the success in the interventions." In spite of this development, none the classroom teachers or support teachers reported anything related with the *provision maps* in the questionnaire.

Taking this into account, it seems that the provision mapping system has not been delivered clearly to the primary staff. Teachers expressed this when asked about it later during evaluation committees, spaces where the concerns for special needs students are voiced, where the support teacher, coordinator psychologist, primary head, classroom teacher, and in some cases the CA discuss what accommodations, or modifications might work for certain students.

INTERVENTIONS BY CLASSROOM TEACHERS

Based on classroom teachers' responses in the questionnaire about strategies applied with students in the classroom, lesson observations were carried out in order to triangulate this data. The categories that emerged during the content analysis of the observations revealed that teachers applied some of those strategies mentioned in the questionnaire. At the same time, it was observed that teachers applied even more strategies than the ones they named in the questionnaire.

Information regarding the interventions applied in three classrooms of third grade was extracted from three lesson observations conducted by the researcher. Intervention was understood by the researcher in this section as a set of actions by classroom teachers or classroom assistants to help students improve academically and behaviorally in the classroom. Some of the interventions included teachers applying differentiated instructions, material for students to work with during the lesson, and a differentiated way of evaluating students, among others. From the categories that emerged during the data analysis, two main interventions were found: *instructional interventions,* and *behavioral interventions.*

It is important to note that while almost all teachers reported working with students with ADD and ADHD on a one-on-one basis, this was not evident during the observations, nor was there any evidence of teachers giving them constant feedback, as they reported. For the most part, teachers did not mention the strategies they applied in the classroom in the questionnaires. Findings reveal that teachers applied more behavioral than instructional strategies. The strategies most used by classroom teachers were subcategories from the behavioral intervention: 1) *discipline strategies*, or actions in which the teacher referred students to the rules of the classroom, called attention to students' discipline behavior, when the student was not following either the rules or the instruction; 2) *praise strategy,* or immediate feedback used by the teachers when they saw good behavior or quality work; 3) *small breaks*, when the classroom teacher gave students breaks

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to re-engage with the activity; 4) *attention,* when the teacher or teaching assistant focused the student`s attention or asked them to pay attention; and 5) *warnings,* when the classroom teacher or classroom assistant let students know when their behavior was not as expected, and gave them the opportunity to change it. Nevertheless, these strategies did not seem to be applied consistently in the three classrooms observed.

Instructional strategies. This category refers to a set of actions used by the teacher and/or teaching assistant inside the classroom to reduce distractions.

Organized instructions. Most teachers provided organized, step-by-step instructions of what they wanted students to do during the lesson, and what students needed to accomplish by the end of the lesson. Despite this, teachers did not apply short, simple instructions with the students diagnosed with ADD and ADHD, a strategy that most of the teachers reported using. This strategy was also mentioned by the support teachers.

During the observation, there was evidence that the teachers gave organized instructions by providing students a step-by-step instruction on what he or she wanted students to do during the lesson, and what students needed to have at the end. It was also possible to observe teachers sharing their expectations with students. However, there was no evidence that teachers sat with students, or gave them shorter instructions or a short-term goal. Similarly, on the questionnaire teachers reported that they asked students to work on short-term activities, and gave them short-term goals, but this was not observed.

Formative assessment of ADD/ADHD students. There was some evidence found related to formative assessment, which refers to a set of actions where the goal was to monitor student learning and provide ongoing feedback to improve teaching and learning. Examples include teachers' evaluating student comprehension, learning needs, and academic progress during a lesson. During one observation, the classroom assistant let the student know that he was now allowed to go to the toilet. Once he came back, she went through the instructions again while the classroom teacher worked with another table. After a while, the teacher applied formative assessment by going to the student and asking, "Ok, [student's name], so…could you

tell me where you stand right now on your work?" After ten minutes of observing that the student was not working on his worksheet, the teacher sat with him to check what he had done so far.

During the mathematics lesson there was evidence of formative assessment with a student with ADHD; however, the student was the one asking the teacher for feedback first:

> [Teacher's name], come and see! I finished the grid, look at the box thingy, I came up with it on my own, and [Assistant´s name] didn't help me at all! Is it a creative one?

Seating arrangements. Additional strategies observed included special seating arrangements for students with ADD or ADHD. Almost all teachers mentioned seating arrangements as a strategy they used to keep students focused and close by so they can monitor them. This strategy was applied in all three classes although this strategy did not always work as expected, as in all three classroom teachers arranged the student's place close to their desk, but also close to a window. One of the classroom teachers placed a white board over the window, so there were no distractions. However, in other lessons the window was an important distraction. Both the coordinator and the support teachers expressed the importance of seating students either away from windows, or at the back of the class, where they can have more movement, and at the same time decrease the disruptions.

Assistive technology. The use of assistive technology was observed in one lesson; however, it was a tool used by all the students at some point during the lesson, but there was no clear evidence that the classroom teacher used it as an assistive tool specifically for the student with ADD.

Differentiation. Even though this was not a category stated during the data analysis, it emerged when analyzing the lesson observations, and the answers of the support teachers on the questionnaire. Most teachers expressed the importance of breaking down the instructions for students with ADD or ADHD, and helping students with visual aids. However, in the

classrooms observed, there was no evidence of either. Teachers constantly walked around the room and helped all students throughout the process. However, it was hard to identify any differentiation by the teacher for the ADD or ADHD student on the instructions, the task, visual aids, or any assistive technology.

Behavioral strategies. Behavioral strategies were used by all three teachers. This refers to a set of actions used by the teacher and/or classroom assistant (CA) to cause certain behaviors to stop. For example, during one lesson, the teacher applied a discipline strategy when she explicitly referred the student to the class rules. "[Student's name], remember that when we talk, we raise our hand."

Warnings. Warnings were given to the students to let them know when their behavior was not what was expected, and to give them the opportunity to change it. These warnings were not mentioned as a strategy in the questionnaires, but was observed in all the lessons. All teachers were consistent with the number of times students should get a warning –three-, and by the third, students knew there would be consequences. Even though just one reached that point, all students did change their behavior although some of them rolled their eyes in response to the warnings.

Several warnings were given to the student during the Spanish lesson. The first one was given by the classroom assistant:

> Enough, we have finished the round, everyone is going to seat in a circle, I have the results, and we are going to wait silently until [Spanish teacher's name] calls you. [Student's name], first warning.

Later on, the same student was given a second warning, and was reminded of the class rules by the teacher since he was not working with his partner. The student observed received a third warning by the teacher in charge, in which the teacher asked the student to go outside, and spoke with him. Once he came back, his classmates asked him what had happened. The student answered, "The same as always, that I need to learn to behave, and that I should pay more attention in class….

hahaha." In this case, there was no evidence that the warnings were effective for the student, for him to consider his behavior, or change it.

In the mathematics lesson, the teacher was discussing with the students about previous concepts learned regarding bar graphs. The student was given a first warning after she shouted an answer impulsively to the teacher:

> [Teacher]: Someone else that would like to tell me why are bar graphs so helpful? Why do they make our lives easier?
>
> [Student]: Me, me, me! I know [Teacher's name] I remember this! I know!
>
> [Teacher]: [Student's name], you know I will only give the chance to speak to those who quietly are raising their hands.

Later the classroom teacher gives them a hint:

> So it first provides us with a visual aid, and allows us to what…. what is the word I am looking for that helps us know information about the different…?
>
> [Student] interrupts: Compare! The word is compare! Compare the numbers of the options we asked other people in the survey.
>
> [Teacher]: [Student´s name] make sure you are raising your hand though. First warning.

After a while, the student finds herself in a challenging situation. She was not able to figure out the scale she needed to use on the graph, and decided to go around other students' tables to ask. One student finally went to the teacher to let her know the student was making them uncomfortable. The teacher replied to this with an attention call and a warning:

> [Teacher]: [Student´s name], second warning…
>
> [Student] What??? I am not doing nothing!!!

> [Teacher]: Exactly sweetie, you need to start working on your bar graph. This is you second warning.

During another lesson, this strategy was also observed when the student took too long to go to the toilet, and got behind in his work. Although the student only got one warning, the classroom assistant reminded him of the consequences he could have if he did not concentrate, stopped looking at the window, and wondered around: [Assistant]: "[Student´s name] go back to work please, focus your energy on your work please. Remember that you can get a second warning that will go home".

Discipline strategies. These strategies refer to a set of actions where the teacher explicitly referred students to the rules of the classroom, or pointed out a student's behavior when the student was not following either the rules or the instruction. These strategies were applied several times. This strategy was used by the classroom assistant during one lesson, when students were working in the blue area –a common area- outside the classroom. At the same time, the classroom assistant included warnings –instructional strategies-, in order for the student to have the opportunity to change his behavior. "Enough, (…) we are going to wait silently until [Teacher's name] calls you. These actions do not apply to the behavior we should have in the common areas."

During the mathematics lesson, one student was reminded twice of the class rules, such as raising her hand when answering a question. She was given a warning for this behavior. Also, at the beginning of the class she was reminded of a class rule -putting away the food when going inside the classroom-. In another lesson, the classroom assistant let the student know that he was allowed to go to the toilet, only when the teacher was done with the instruction. Later on, the teacher reminded him of the agreements they had established since he was not working on the assignment. These agreements included the student being able to take breaks as long as he worked efficiently after, and worked hard to accomplish the lesson objective.

Attention. This strategy was used by all three teachers, and refers to the times were the teacher or CA focused the students` attention or asked them to pay attention. During the Spanish lesson, both the classroom teacher, and CA called the student`s attention. First, when he was outside running around the other students, disrupting the activity, and later when the child made a joke, and the whole group got off track. It was observed when the teacher explained to him: "[Student's name], you need to concentrate more on your task, and do not distract others around you." Another call for attention was given by the CA: [Assistant:]: [Student´s name] go back to work please, focus your energy on your work please.

Praise strategies. On the other hand, teachers used praise when they saw good behavior or quality work, and gave students immediate feedback about it. For example, during the Spanish lesson, the teacher used it. "[Student's name], you are on the right path." A few minutes later, she praised the student again. "I love your level of analysis!" When the teacher saw that the student was helping his partner, she gave him an oral praise: "It appears that the effort of you guys as a couple is working [Student's name], I see a lot of points! I love to see that motivation on you!"

During the mathematics lesson there was evidence of praise on a student with ADHD.

> [Student] [Teacher's name] come and see! I finished the grid, look at the box thingy, I came up with it on my own, and [Assistant's name] didn't help me at all! Is it a creative one?
>
> [Teacher]: I have been watching, you are doing great [Student´s name]. You are investing a lot of effort on that project, fantastic!

Breaks. Also, classroom teachers gave students rest breaks during the lesson so that they were able to rest, and then continue their work. This strategy was expressed by classroom teachers in the questionnaire, and was found in the classroom observations as well. However, some students were observed wondering around during these breaks. In fact, one classroom

teacher gave a warning to the student, "[Student's name], remember we have an arrangement, you are able to take breaks as long as you work efficiently in class. I am letting you know, this is your first one." Classroom teachers usually gave students with ADD or ADHD diagnose the opportunity to leave the classroom and go to the toilet, or to drink water once in a while.

Planned ignoring. Finally, this strategy was only found in the Spanish lesson, when the teacher ignored the student's inappropriate behavior: -Some students began to shout the answers:

> [Classroom teacher] raised her hand, and waits for the students to be quiet.
>
> [The student] found out, and shouted: Be quiet!
>
> [Teacher's name] is waiting for us to be quiet! I want to start already, shhhhhh!

The classroom teacher ignored her and kept waiting for the whole class to silent.

Staff Training

Being trained is crucial when teachers need to support and apply strategies with children diagnosed with ADD/ADHD. Results showed that most teachers in this project have not been trained on ADD/ADHD by the school. Four of them have received training years ago, and one is currently taking a course on inclusion, and learning difficulties with an outside organization.

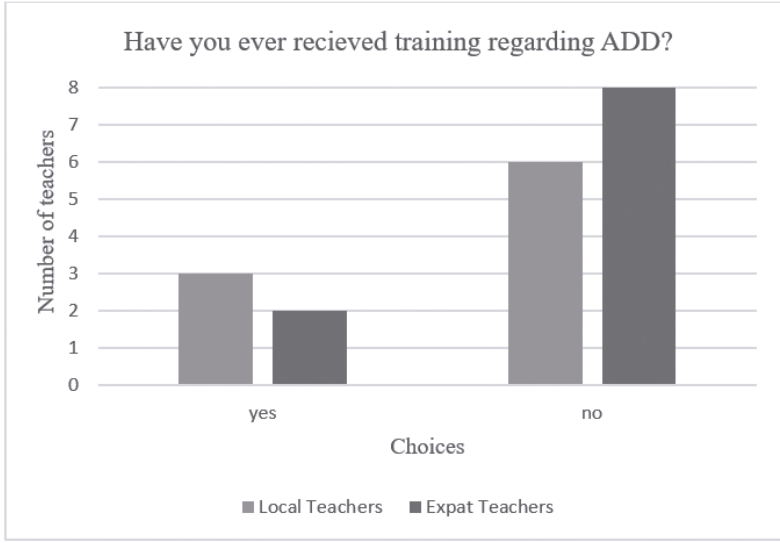

Figure 1. Training on ADD

Support teachers have not received any training on attention deficit provided by the school either. One of them is currently taking a master Degree in Educational Neuropsychology, but is not coming back for the 2016-2017 year. Even though the support team has not received any training from the school, when asked if they have received any training, the other two support teachers answered they have investigated, and researched on their own when they have encountered a child with this need. All of them believe that the training they have received at the school has not been enough to implement with their students. Only one of them stated that she is in constant communication with classroom teachers, supporting them in anything they need. They all agree that they help the classroom teachers that have students with ADD by giving them strategies on how to deal with students in the classroom, and modify them when needed.

When teachers were asked if the training received in the school on attention deficit disorder was sufficient, most of them disagreed.

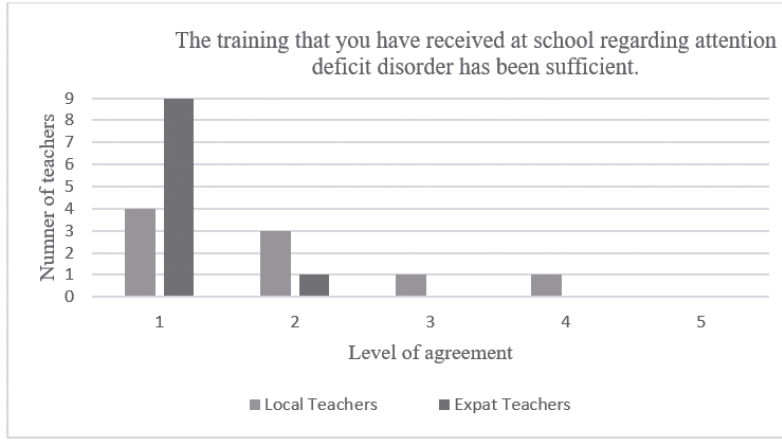

Figure 2. Sufficient training

As far as their level of agreement regarding them receiving training on classroom accommodations for students with ADHD have been enough to implement inside their classrooms, most "expat" teachers disagree. However, locals feel it has not, but do not strongly agree on it. Taking into account some evidence from the interview with the support department, this could be explained by the priorities the primary section had for this academic year 2015-2016 and will have for the 2016-2017, which is more related to the mathematics program and the improvement of students in literacy skills.

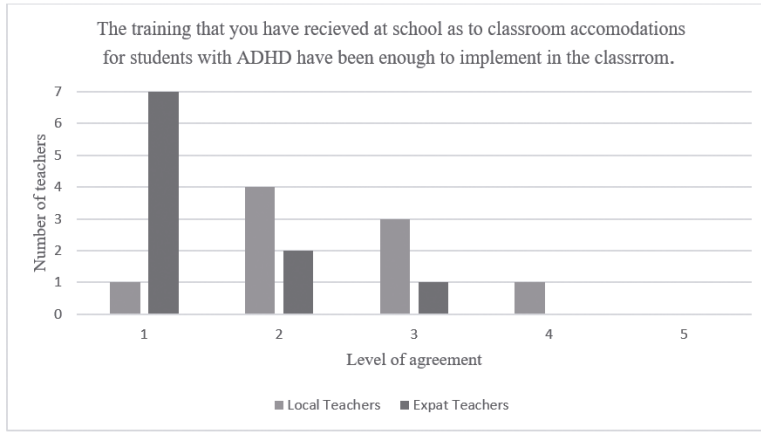

Figure 3. Training leads to implementation

Although some of them reported that they have not received training, they do report receiving some information given to them on classroom accommodations from the support team. For the most part, local teachers are undecided about teachers having knowledge on strategies that should take place inside the classroom. Half of the expat teachers strongly disagree with this fact, and the others disagree for the most part.

PEDAGOGICAL RESOURCE

During the classroom observations, it was identified that some classroom assistants are more proactive, and work as a team with the classroom teachers. For example during the Mathematics and unit of inquiry lessons, the assistants were seen working one on one with the students. In all three observations, classroom assistants used discipline, and behavioral strategies with students diagnosed with ADD or ADHD. However, it was revealed by the educational support coordinator that classroom assistants in the primary section were perceived more as an administrative and decorative role, than what they are perceived today, as a pedagogical resource. According to her, the support department lacks the training of classroom assistants not only on ADD or ADHD, but in other special needs.

> On this matter she states the following:
>
> In pre-school, the mentality has changed a lot, (…) there is a programmed that started on motor skills, a plan were classroom assistants are trained as well (…) the programs are already made, and we need people that is trained and can execute the program. In my personal experience with assistants has always been impeccable, they are given responsibility and there is a professional respect projected towards them.

Some classroom assistants where seeing practicing a more educational accompaniment than other, this might be because they have more years of experience observing what classroom teachers apply in an everyday basis, yet they could become a

valuable asset for the school, and a positive educational support to classroom teachers.

CONCLUSIONS

This research project sought to determine what actions are taken by the primary section of the school to identify children with attention problems, the procedures applied, and the actions carried out to assist these students. At the same time, the project's desire was to investigate if the learning support department and classroom teachers conducted any interventions on students diagnosed as having attention deficit disorder. Results report that the educational support department, specifically the department's coordinator and psychologist, apply different batteries, tests, and classroom observations on students with attention problems in order to find out of there is the need to refer them to external professionals in charge of diagnosing in this case attention deficit disorder.

Once the students are diagnosed by an external professional, an intervention takes place. Research shows that alternatives treatment to medication for children with ADHD include teachers serving as support with informed strategies helps improve the academic performance of these children (Howard, n.d.). The educational support team is responsible of working with these children, according to their needs, on attention and executive functions activities. These help them work and develop organizational skills, learn how to be focused inside the classroom, improve academically, and make some changes in their behavior. Classroom teachers were found to apply several strategies to support students as well. Strategies used by them were instructional as well as behavioral.

An instructional strategy used commonly within all lesson observations was to alter the seating arrangement. These findings are supported by Howard, (n.d.), who states that seating students in front of the classroom reduced distractions. Purdie, Hattie, & Carroll (2002) also showed that school based interventions had the greatest effect on the cognitive outcomes of children studied.

From the three data collection inputs, it was concluded that teachers identify and apply several strategies on students diagnosed with ADHD in their classrooms. Research also suggest that school based interventions like the ones observed in the lessons help reduce symptoms of ADHD in students. Classroom behavioral management is aimed at engaging students in the task, and intervening in disruptive behavior (Chronis, Jones, & Raggi, 2006). Behavioral strategies such as praise, planned ignoring, and calls of attention –warnings- when a behavior was not acceptable were found in all three classrooms observations. Teachers employed verbal strategies at all times, which seemed to work temporarily on students' behavior, but in most cases was not successful long term. This is supported by Gen (2011), whose studies revealed that verbal strategies were found to be momentary.

Even though there was evidence of classroom and support teachers identifying and applying several school based strategies, it was found that the staff have not been trained to apply any strategies, accommodation or differentiation on their students. As a result, most of the classroom teachers do not feel prepared, and feel they have not been given enough support from the educational support department. However, there are some teachers that have had more experience dealing with students with this diagnosis, and feel more confident handling their students even though they are not trained on it.

Chronis, Jones, & Raggi (2006) explored the effect on combined interventions, -medical and behavioral parent and classroom behavioral in training in behavioral interventions- and concluded that there was an increased satisfaction on specific targets such as social skills and parent-child relationships. DuPaul (2007) found that teachers' knowledge of this interventions plays a vital role on the treatment of this disorder. Its success depends on the proper implementation, teachers' beliefs in the effectiveness of this interventions, and their motivation to intervene.

The results found in this project show that teachers have been told to implement several strategies, but are not aware of the reasons why they could improve their students' symptoms since they have not received any training. Perold, Louw, and

Kleynhans' (2010) study shows that teachers must be educated in epidemiology as well as causes of ADHD to help them understand the disorder better and as a result change the way they apply intervention strategies with students. Breuer, Doepfner, & Amonn (2012) studied teachers who were trained with intensive information on ADHS and stated that teachers improved their abilities to address attentional and disruptive behaviors after the training program.

On the other hand, in spite on the conclusions of this research, there were some limitations to this project that might have affected the results and final conclusions. The interview with the school's learning support coordinator revealed the existence of some procedures to identify students with attention difficulties. However it would have been important to inquire if these procedures are formal or documented by the learning support department. It would have been helpful to interview the support teachers in order to have more evidence as to whether these procedures are taken into actions and to observe some lessons conducted by them in order to triangulate the information given by them and the educational support coordinator.

The time of the year chosen to conduct the classroom observations was possibly not the best as it was done in the last weeks of the school year. At the same time, it would have been better to observe the interventions across an entire grade, requiring a lesson observation of each of the six classes. This would have broadened the perspective even more, and provided interesting and important information on the matter.

Finally, another limitation found for this project was related to the follow up interviews, which could not be carried out at the end of the school year. Therefore, there was valuable information that could have been taken from the staff regarding the *provision maps* strategy mentioned by the education support coordinator since none the classroom or support teachers reported using them.

ACTION PLAN

- The school should support their primary staff with attention deficit disorder training on its etiology, symptoms, and strategies supported by the research behind.
- Teachers should collaborate more often with educational support teachers.
- Teachers should plan their lessons bearing in mind the *provision maps* created by the student evaluation committee.
- The importance of strategies for ADHD should be shown on teachers so they feel the need to apply them on their daily practices.
- Teaching assistants should receive training on attention difficulties so they can become more involved in the intervention of students with ADHD inside the classroom.

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A BASELINE STUDY OF ATTENTION DIFFICULTIES IN TEENAGERS

UN ESTUDIO SOBRE DIFICULTADES DE ATENCIÓN EN ADOLESCENTES

Elizabeth Cristina Gil Corrales

Many teachers can identify students with attention difficulties in their classes, some who have been formally diagnosed, and others who have not, but who still struggle focusing in class and completing tasks. Cristina Gil asked herself what factors affect students' ability to concentrate in class, the role that teachers might play in helping or hindering this.

ABSTRACT

Attention is one of the most studied aspects in education today. For this reason, this project focused on identifying the factors that affect attention in teenagers of the *Fundación Ana Restrepo del Corral.* The study reviewed the strategies that some teachers use in order to manage classroom difficulties as well as their beliefs and role in the academic process. Data collection included class observations, interviews, and surveys. It was found that there are many factors that affect attention in students. These include internal and external factors, including less motivation, disengagement, and personal difficulties. However, the teacher's role is also relevant in the difficulties students can show. It was possible to identify that students can be supported and oriented when their needs are identified by teachers, and when teachers use different strategies to maintain attention, reinforce information, motivate participation and engage students through their attitude and activities.

Key words: Attention, Attention difficulties, ADD, ADHD, Adolescents, Motivation, Engagement, Teacher's role.

RESUMEN

Actualmente, la atención es uno de los aspectos más estudiados en la educación. Por esta razón, este proyecto se enfoca en identificar los factores que afectan la atención en adolescentes de la Fundación Ana Restrepo del Corral. Este estudio también hace una revisión de las estrategias que algunos docentes emplean para el manejo de las dificultades en el aula, así como sus creencias y su rol en el proceso académico. Las técnicas de recolección de datos incluyeron observaciones de clase, entrevistas y encuestas. En este proceso se encontró que hay varios factores que afectan la atención en los estudiantes. Estos incluyen factores internos y externos, tales como la motivación, la falta de compromiso, y las dificultades personales. Por otro lado, el rol del docente también es relevante en las dificultades que los estudiantes pueden presentar. Es posible

Palabras clave: Atención, dificultades de atención, DDA, DDAH, Adolescentes, Motivación, Compromiso, Rol del Docente.

que los estudiantes pueden ser apoyados y orientados cuando los profesores identifican sus necesidades y cuando los docentes usan diferentes estrategias para que mantengan la atención, reforzar la información, motivar la participación y comprometer a los estudiantes a través de su buena actitud y las actividades.

INTRODUCTION

Attention is a set of processes that interact in the performance of perceptual, cognitive and motor tasks. In learning, it is necessary for recalling of information, attending and perceiving stimuli, developing skills, making decisions and producing outputs. Maintaining attention allows us select, organize and prioritize our tasks, and is essential in working memory. The process of attention is also influenced by motivation and emotion.

Many studies have demonstrated that attention can be affected by external factors such as the environment, and internal factors such as motivation. Attention deficit disorder is a condition that involves difficulty in focusing attention, controlling movements, behaviors and emotions. Most of the studies on attention are focused on the treatment of attention deficit disorders (ADD), and recommend medical and behavioral treatments.

It is necessary to go further into the design and implementation of techniques that help students to develop strategies to maintain attention for long periods of time, even when they do not have attention disabilities. For this reason, it was thought interesting to identify and analyze the factors that affect attention in the classroom and explore how to develop strategies in order to develop attention in specific situations.

This study aimed at identifying the attention difficulties in ninth graders, identifying the factors that may affect it and the situations in which students can hold their attention for long periods of time. In the case of teenagers, this study focused on

determining the kind of attention difficulties they have, what factors affect their attention and in which situations, and finally, to identify situations in which they can hold attention longer and more intensely. It was found that elements as motivation, engagement, and distractions can influence and affect attention, making teachers an important agent that support students' academic achievement.

THEORETICAL FRAMEWORK

Posner (as cited in Conte, 1991) defines attention as the alertness or receptivity to external signs, and this can vary according to the external stimuli and internal factors such as health or emotions. In addition, Conte points out that external circumstances, such as tedious or exciting activities, can have different effects on our attention making it easier or more difficult to maintain. Parasuraman (2000) characterizes attention this way:

[It is] the central thesis is that attention is not a single entity but the name given to a finite set of brain processes that can interact, mutually and with other brain processes, in the performance of different perceptual, cognitive, and motor tasks. (p. 4)

Parasuramen also argues for the need to continue the study of attention because there are still several theories and information to confirm.

For learning, it is necessary to attend and perceive, and for voluntary recalling of information, the attentive brain is needed. In addition, attention is basic for activities such as perception, voluntary recall, and development of skills. When the brain has to carry out these activities or others at the same time, attention is used for minimizing interferences (Parasuraman, 2000).

CHARACTERISTICS OF ATTENTION

Part of the attention system is anatomically separate from the processing system, which controls incoming stimuli, making decisions, and producing outputs. There are also networks of

anatomical areas that attention uses, with different cognitive functions (Petersen & Posner, 2012). Workload is also necessary in the process of attention, that is, the amount of work a person has to do in a period of time, classified in quality and quantity (Wickens & McCarley, 2008).

According Petersen & Posner (2012), attention is characterized by the alerting network, which is divided into tonic and phasic alertness. Tonic alertness is the readiness to respond over long time intervals (minutes to hours); this is controlled by the right hemisphere. Phasic alertness is momentary rapidly occurring readiness to respond, controlled by the left hemisphere. Further, the orienting network works with prioritizing sensory and movements controlling the visual selection and involving the eye field. Finally, the executive network is the most complex because it involves the focal attention and monitor targets.

Some studies describe attention from other perspectives. For example, Conte (1991) affirms that attention has specific roles divided into selective and sustained attention tasks. Selective attention is the capacity to maintain attention in a specific target when there are distractors, and sustained attention is the capacity to direct cognitive activity on a specific stimulus. Wickens and McCarley (2008) describe a similar division in which focused attention makes us eliminate distractions or non-relevant events when a task is developed. Switch attention helps us to move from one task to another; divided attention is the parallel process of stimuli, it is to say, the capacity of developing tasks in the presence of different stimuli. Selective attention is used to choose one task among different options, and finally, sustained attention helps us concentrate on a specific task for a long period of time, and to mobilize a high mental effort.

Parasuraman (2000) explains that attention has a relationship with memory, in the sense that there are different processes that influence the cognitive processes. Many studies have shown that different neural systems of the brain carry many of the attention functions. Attention is essential in working memory and in moving information to long-term memory; this means to learn. Parasuraman (2000) also mentions the importance of selection, vigilance, and control in attention because they

have diverse functional characteristics; additionally, they allow for maintaining goal-directed behavior in the presence of multiple distractors. These goals are determined by an internal and external determination of the subject; then attention is linked to motivation and emotion. The importance of attention goes beyond these elements. Its importance in real life, such as choices and training, is essential in success (Wickens & McCarley, 2008).

ATTENTION DEFICIT DISORDER

An attention disability is a condition that involves a persistent difficulty in focusing attention, controlling movements or behaviors, or even controlling emotions. Attention deficit disorder (ADD) is a chemical problem in the management system of the brain; these attentional difficulties are closed to situational awareness, which is the perception we have of different elements of the environment related to time and space, the comprehension of their meaning, and the projection or prediction of their results (Wickens & McCarley 2008). According to several studies, this disorder is produced by a malfunction in the neurotransmitters dopamine and norepinephrine. They also suggest that the amount the metabolite of these neurotransmitters in the cerebrospinal fluid in patients with ADD is significantly lower. In addition, this disorder has been linked to the frontal lobes and the limbic system, involved motivation and emotions, and the premotor cortex and the superior prefrontal cortex involved controlling of attention and motor activity (Quinn, 1996).

In terms of its symptoms, the inattentive person has difficulty staying focused or concentrated on a task when there are many distractors. People with this disorder have difficulty paying attention to what they have to listen to or look at. Children with attention deficit disorder with hyperactivity (ADHD) often give up easily or cannot follow instructions or finish tedious tasks (Selikowitz, 2004). Selikowitz (2004) also describes impulsivity as the difficulty ADHD children have in controlling their impulses; it is to say, they do not think before doing or acting, and they do not learn from their mistakes.

He also defines hyperactivity or overactivity as the difficulty to remain seated. For example, children with this condition cannot remain seated in one place for a period of time; they feel the need to move around, or when seated, they continue fidgeting (Selikowitz, 2004, p. 9).

In order to diagnose this kind of disability, many physicians use the *Diagnostic and Statistical Manual of Mental Disorders* (DSMD-IV). Brown (2005) explains that the DSM-IV gives the criteria to diagnose this disorder. People diagnosed with ADD show consistent difficulty in some aspects that many people of the same age do not have. In addition, these patients have serious difficulties in social, academic, or occupational functioning; their condition affects schoolwork, employment, and social relationships. This diagnosis is also considered when these symptoms interfere with the patient's life. On the other hand, these symptoms must be present in a group; when one of the attention aspects fails, the others fail. At least six of the symptoms listed in DSM-IV must be present in the diagnosis.

The symptoms described in this condition affect executive functions, which according to Hutchins and Gerson (2003), make it difficult to accomplish tasks such as planning, setting goals, solving problems, following rules, remembering and learning from experiences, and other important social behaviors. People who suffer from ADD can usually pay attention to interesting activities; it is to say, they can exercise attention, keep their alertness and effort, and use their short-term memory. However, they cannot pay attention at the correct moment because this impairment is chronic. The executive functions are the way the brain manages the moment-by-moment demands of life, and generally without conscious awareness. The person with ADD can be very intelligent, but they may not be organized and their executive functions may not work well. If a person has impaired networks for executive functions, then he or she also has impairment in the management of a range of cognitive functions. It has been demonstrated that people correctly diagnosed with ADD suffer impairments in executive functions that are not centralized (Brown, 2005).

From Brown's (2005) perspective, ADD patients must be treated with medication in extreme cases, which helps reduce

the symptoms, but this kind of treatment does not solve the problem. The medications used in ADHD treatment, for example Ritalin, reduce the hyperactivity and impulsivity, improving attention. Authors recommend discussing and analyzing this option carefully. Medication causes several side effects such as appetite problems even though it may help patients to learn academic and social strategies. In many situations, teenagers are not aware of what they are taking, so it is essential that doctors explain in detail the effects of stimulants or amphetamines in this kind of situation. However, many scientists prefer counseling as a complement of treatment. Counseling supports children and teenagers with coping strategies, which may help improve social interaction, as well as other strategies in order to have success in different aspects of life (Hutchins & Gerson, 2003). Moreover, ADD is an impairment that is chronic, but the symptoms can be reduced when the patient is under strict control, is engaged in interesting activities and novel situations, in one-to-one situations, or receive rewards for their good behavior.

LITERATURE REVIEW

ADHD AND SCHOOL ACHIEVEMENT

Studies about ADHD have been developed in order to register differences, similarities and factors that affect children in their academic achievement. Attention difficulties and behavior problems are important risk factors that cause students to have poor academic achievement. Students with ADHD or problems related to behavioral or attentional difficulties are less successful than their peers. Conley, Marchant and Caldarela (2014) suggest the importance of identifying emotional and behavioral disorders (EBD) in order to identify and support students with poor success and behavioral problems in school. In their work, they focus on the perception teachers have of ADHD, showing that teachers find behavior problems related to disrespect and hyperactivity. For this reason, it is important to support teachers with strategies and instruction.

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When children who are diagnosed with ADHD or show symptoms related to this disorder, it is important to find strategies and treatments, as Loe and Feldman (2006) suggest. They affirm that ADHD is associated with poor grades, poor reading and math standardized test scores, and grade retention, and with behavioral difficulties as well that affect rates of high school graduation and postsecondary education. For these reasons, they propose the use of pharmacologic treatment and behavioral management that help to reduce the core symptoms and increase the academic success.

Davies, Woitach, Winter and Cummings (2008) affirm that attention difficulties have an important role in children's insecure representations of the inter-parental relationship and their school adjustment. Some family factors such as inter-parental conflicts affect child development and represent risk factors, including family, economic situations and children's characteristics. On the other hand, inattention causes attention problems and academic achievement difficulties, according Barriga, et al. (2002).

Warner-Rogers, Taylor, Taylor and Sandberg (2000) have found that it is possible to differentiate between pure inattention, overactive impulsive behavior, and those who have both. Further, it is important to identify the needs of students with inattention or over-activity in order to identify symptoms related to ADHD, and the academic implications in general cognitive aspects. Rogers, Hwang, Toplak and Weiss (2011) explain the relationship among inattention, working memory and ADHD as a risk factor. They studied the influence of auditory-verbal and visual-spatial working memory on academic performance in specific subjects and classroom inattention, showing that these difficulties pose are risk factors in students' academic failure.

TEACHERS' ROLE AND PRACTICES

Many researchers agree that teachers have an important role in students' performance, engagement and success in school. In the case of students with ADHD symptoms, the role,

knowledge and experience of teachers is crucial in the academic achievement of these children.

Stallard Glass (2001) affirms that teachers have an important role in students' performance with attention difficulties. She suggests that factors such as experience, age and knowledge about ADHD are relevant in academic processes, and that teachers with more knowledge, patience and strategies to support students with academic problems must mentor younger and less experienced teachers. Sherman, Rasmussen, Baydala (2008) also explain that there are other factors that make teachers influence students' performance. Patience, knowledge of intervention techniques, and the use of gestures and a positive attitude can help students to improve their academic achievement and lead to better outcomes.

ADHD STRATEGIES

Many studies have demonstrated that the use of different strategies can help children with symptoms of ADHD in their academic and behavioral performance in school. Some of the strategies involve medication and behavioral strategies that help students to reduce academic failure and improve academic outcomes. Evans, Serpell, Schultz and Pastor (2007) affirm that the use of Challenging Horizons Program (CHP) has given different results. Results were not evident short-term, but rather in a long-term interventions. CHP-C significantly reduced or delayed the onset of failure experiences according Schultz, Evans and Serpell (2009), who re-examined the program and demonstrated the reduction of risk of students with ADHD. On the other hand, Raggi, Chronis-Tuscano, Fishbein, and Groomes, (2009) have demonstrated that the use of homework intervention and parental training implemented to improve homework accomplishment showed positive results in homework problems and improvement in academic productivity and overall grades.

Langberg et al. (2012) showed the effectiveness of the Homework, Organization, and Planning Skills (HOPS) intervention, in which students demonstrated a significant

improvement across parent-rated organized action, planning, and homework completion behaviors. Also, Langberg, Becker, Epstein, Vaugnh, Girio-Herrera (2012) showed the importance of teaching students with ADHD to use a structured binder organization system for organizing and filing homework and classwork materials and for transferring work to and from school and improve academic achievement.

Accoding to DuPaul (2007), there are important gaps in the school-based intervention literature, and that feasible, effective strategies are needed that can be used in general education settings with any age group. In the same sense, Gureasko-Moore, DuPaul and White (2007) demonstrated that the implementation of the self-management strategies was successful in improving students' organizational skills related to classroom preparation and homework completion, helping them to improve their academic performance. Finally, Axelrod, Zhe, Haugen, Klein (2009) propose the use of self-management homework intervention for adolescents with attention and behavior problems in order to enhance the frequency of completed homework assignment with the use of on-task behavior through 3 – 10 minute intervals.

METHODOLOGY

RESEARCH DESIGN

This research followed the principles of naturalistic, ethnographic and qualitative research. The data collected during the research process was analyzed in order to understand, infer and explain different phenomena presented in the classroom that affects students' attention. As Cohen, Manion & Morrison (2007) explain, to understand a situation it is necessary to understand the context because situations affect behavior and perspectives and vice versa.

The main goal in this research was to identify those factors that affect attention in students in different situations. In this process, ethnographic research helped to make a group study and a description of the academic situations that influence

maintaining attention. Observational techniques allowed for the collection of data and the description and interpretation of the phenomena. LeCompte and Preissle (as cited in Cohen et al. 2007) consider that this research line can address issues of generalizability, interpreted as comparability and translatability. In this sense, data collected in the process was compared with specific situations presented in the group of study and in different subjects.

In order to identify those factors, data collection and analysis of information were focused on the following research questions:

1. What kind of attention difficulties do ninth grade students have that affect learning?
2. What are the most common factors that affect attention in ninth graders? In what situations?
3. What kind of situations catch and hold students' attention longer / more intensely?

CONTEXT

The context for this *research was* Fundacion Educacional Ana Restrepo del Corral, a private school that works with children of nearby neighborhoods. This is a non-profit foundation created in 1970 as a tribute to the values impressed by Ana Restrepo del Corral in the students of the *Gimnasio Femenino.* Many of the students have scholarships supported by benefactors, and other enterprises contribute with pedagogical material or economic resources.

One of the most important characteristics is the relationship that the Foundation has with SENA (*Servicio Nacional de Aprendizaje*), which offers technical education in cooking and accountant administration programs. Other services are supported by the *Gimnasio Femenino*, the Universidad del Bosque, and different organizations that contribute to students' education. This helps the school to have a social impact in the community and important support for different programs, such as the psychology and dental services that benefit nearby neighborhoods.

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PARTICIPANTS

Students. The students of ninth grade are in a range of 14 and 17 years. Most of them have studied at the school since primary grades. The group is characterized by a manageable behavior because most of the students are respectful and participate in the different activities proposed. However, there are some behavioral difficulties as the constant interruptions and jokes during the lessons, making it more difficult to develop the pedagogical activities. In addition, there is a student diagnosed with ADD, who must be in constant treatment.

All the students were observed in the class observations in order to collect information about the environment, behavior and group dynamics. On the other hand, only six students were asked specific questions about attention problems they have.

Teachers. The participants were a group of four teachers, who were informed previously about the purpose of the research and who signed the informed consent forms. The teachers were chosen in order to identify the strengths of students in different classes. For this reason, science, math, language and arts teachers were asked to work in this research.

DATA COLLECTION INSTRUMENTS

Surveys. A survey was designed in order to identify generalities of the students participating and their perceptions about how they feel developing activities. It was hoped that the data collected in the exploratory survey information might shed light on factors that affect students in some situations when concentration is required. The sample group was of 28 students of ninth grade. They answered six questions with only one answer, two questions with multiple answers and two open-ended questions.

Student interviews. This technique was used in order to identify students' perceptions about the way they feel in the classes and how teachers influence their attention. Open questions were used, and the interview was developed as a

conversation. A focus group of six students participated as volunteers, and they were chosen according to their academic performance and classroom behavior. The interview started with a warm-up activity to make students feel comfortable with the interview, and the questions were focused as a conversation where students were encouraged to participate freely.

The questions were addressed to talk about the importance of the class environment, the difficulty of the tasks assigned. It also explored how students pay attention, how they feel when it is difficult to pay attention in an activity, what they need to focus their attention on a task, and their feelings about positive recognition.

Teacher interviews. The interview was designed with open questions that aimed to explore teachers' beliefs. Teachers were interviewed individually, in a personal environment where they felt comfortable and relaxed. This technique let the researcher to analyze teachers' strategies and their perspective of attention. They were asked about the importance of the class organization, instruction and development, factors affecting students' attention, and techniques used to keep students concentrated in class.

Class observation. The non-participant observation technique was used in order to collect information about the behavior and strategies used to develop the classes. The observation was completely recorded and analyzed. Previous to the observation, the researcher held a short meeting with participants, students and teachers, in order to explain the process and clarify any doubts. It was expected that students behave normal during the classes. The classes observed were math, language and science. The objectives of this data technique were:

- To observe the interaction teacher-student.
- To identify the impact of instruction, class protocols and strategies used to maintain students' attention.
- To find out some of the most evident behaviors and factors that affect attention during the classes.

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DATA ANALYSIS AND INTERPRETATION

In order to analyze and interpret data collected after applying the different techniques, the data was analyzed in the following ways:

Survey. In order to obtain a general perception from students, the survey focused on classes and attention. This survey helped to identify specific elements students consider relevant for them in a class, environment, and their feelings when developing and specific task. Students completed the survey individually during class time. The questions also were designed to see the elements they take into account to have a good environment to maintain attention, personal and group aspects. Finally, some questions asked about factors they consider affect in a high-level concentration during the class work and housework. Afterwards, survey results were tabulated using Excel. The information was analyzed using tabulation, where the results were categorized and analyzed according the percentage obtained in the group answers. The aspects analyzed were motivation, distractions, interests and teacher's role in the classes.

Classroom observations. These observations were focused into the environment of the classes and students' behavior. The classes observed were math, language and science, which were completely recorded in order to be transcribed and analyzed. After observing the recordings, a group of categories were extracted to analyze the most important elements related to attention and behavior.

Table 1: Description of the classroom observations codes.

Category	Description
Instructions	Indications given by teachers. These indications are used to specify the activities to develop in class and the steps students must follow in the activities.
Repetition	Moments when teacher repeats any instruction, explanation or information in order to emphasize or when the students repeat information given by the teacher or other students.
Participation	Intervention of students during the lesson, when the teacher asks or when the students have questions.
Engagement	Interest shown by students in activities or explanation, when they ask for more information, give opinions or make questions.
Motivation	The teacher's role when recognizing students' work. It could be shown when teacher congratulates students' answers or interventions and when he/she invite students to participate in the lesson.
Distractions	Moments when students make commentaries about different situations during the lesson or when students do a different activity during the class. Sometimes the teacher has to interrupt the lesson in order to control the group or focus on a specific student's behavior. External events can affect the class, partially or totally, distracting the students.
Consolidation	Moments when teacher clarifies concepts or specific information during the lesson, in order to reinforce the knowledge worked

Interviews. There were two kind of interviews, one was designed for a focus group of students, and another one focused to the teachers observed previously. After the interviews, some categories were detected in order to be analyzed.

Table 2: Description of students' interview codes.

Category	Description
Engagement	Interest shown by students in activities or explanation, when they pay attention because of a personal interest or need recognition.
Environment	Physical space where students develop the classes and elements that make student's work in a properly way.
Abilities	Subject or activities that are easier for students and represent a strength, in academic or behavioral aspects.
Instruction	Indications given by teachers. These indications are used to specify the activities to develop in class and the steps students must follow in the activities.
Strategies	The different ways teachers address the class, including activities, behavior and class management.
Motivation	When the teacher helps students participate and enjoy the classes encouraging them and recognizing their effort.
Teacher role	Relationship established with students through good attitude, patience and positive recognition.
Behavior	How students behave during the classes and their attitude they have with teachers and classmates.

After analyzing the observations, six questions were designed in order to address an interview with each teacher. The interviews were analyzed and some categories were chosen.

Teacher's role. Importance of teacher as a motivating agent, who addresses the class in a good environment, provides security, encourages students and motivate classwork.

Instruction. The use of commands and protocols in the class, and the way as they orient the class and activities in order to clarify the objectives in order to maintain the students' attention.

Classroom management. Teachers' actions to control the elements that affect the class, students' attention and behavior.

RESULTS

Throughout the analysis of the collected data, it was possible to find many elements that can affect students' attention, and in consequence affect their academic achievement and behavior. During all the research process, there were many recurrent elements related to attention difficulties and academic performance that show the importance of teachers' work and support.

In the student interview, it was evident that many students are disengaged with their learning process because they show less interest in activities or academic responsibilities and prefer other kinds of activities. However, many of the students try to focus their intrinsic motivation as a way to improve their academic achievement. On the other hand, the class environment as well as teachers themselves have a high influence in the way students manage their attention.

CLASSROOM ENVIRONMENT, EXTERNAL AND INTERNAL FACTORS

According to the analysis, it was possible to find many factors that affect students' attention in classroom. Distractors and classroom behavior were seen as triggers that produced attention difficulties during the lessons or when developing activities. In these aspects, there were two elements affecting attention span. The first were interruptions. For example, it was evident that there is a great deal of noise outside the classrooms, especially from other students, that easily distract students. Interruptions by other students or teachers (not class members) during class time caused teachers and students to stop the class or pay attention to the situation, and hence forget what they were doing. Sometimes, it was possible to see these external interruptions causing internal distractions. This group in particular tended to use commentaries that continued the distractions, focusing their attention on it.

(T=teacher / S=student)

A student hit the door

S There's nobody

S Laura

S They agreed, What do you want? Ah

The teacher opens the door

(commentaries and laughs)

A student from other course delivers a broom

T Is that broom from here?

S Yes

S Thanks, thanks

Ss Thanks

(commentaries and laughs)

T continues with the activity, takes note

S Teacher wait

(commentaries and laughs)[7]

This behavior was also observed during the lessons, revealing that commentaries are also frequent. One or two students usually start them and the other students continue or laugh. According to students' interviews, these situations make it difficult to hold concentration, especially when an activity is being developed. Although this behavior is manageable, students affirm that these situations make them feel insecure and even uncomfortable, making it difficult for them participate in class or make questions when they have doubts. In this last aspect, students who do not clarify their doubts tend to have more difficulties in academic achievement.

The physical space is also important in the perspective of students. The most of the time, classes are developed in the same place or in the same organization, producing

[7] Translated from Spanish

boredom and distraction. Also, students say that classrooms are uncomfortable because of the weather (hot), the same organization, or even the hour of the day.

Another important factor that affects attention in the classroom and at home is the use of technology. Nowadays, internet and smartphones are more attractive for teenagers, catching their attention easily. Students affirmed that technology causes them not to pay attention to their academic responsibilities, especially at home, where in most of the cases, there is no one to support their learning process. In fact, at school these elements also affect students' attention as they prefer to use cellphones to play, listen to music, or chat in inappropriate moments, making it difficult for them maintain attention in lessons.

Homework is another factor that affected students' performance. In most of the cases, students cannot hold attention at home because they are "lazy" or disengaged and have many distractors that they do not control. According to survey results, many of these students do not have a tutor or adult (parents) to guide their academic work or support appropriate habits.

MOTIVATION AND ENGAGEMENT

After the analysis of collected data through the different techniques, it was evident that motivation and engagement are the most important elements for students to hold attention and obtain a satisfactory performance in school. There are many factors related to these two elements, including in many cases.

First, it is possible to see that students feel more comfortable when they have challenges and interesting activities. During the classes observations and interviews, teachers expressed it is important to think about different kinds of activities that make students use different skills and strategies to solve problems or participate in games. Students also show interest in the way teachers motivate participation through activities that involve organizing the classroom in different ways and the use of different spaces of the school to carry out the activities. This information was collected from teachers' interviews, class observations and survey results.

During the study, it was also found that the understanding of a subject influences attention and academic performance. Students expressed that the subjects they understand more easily engage them, giving them the possibility to maintain concentration in specific task. Additionally, teachers who were observed using collaborative work helped in some cases to support those students with more difficulties and engaging those with more abilities in the subject.

The way activities or tasks are set is also relevant because students can understand what they have to do and can use the knowledge worked on in class. In the observations, it was found that when there are concrete tasks and students know the steps to develop, and when the teacher repeats or emphasizes the instructions, there are better results in the activities proposed. Teachers that establish specific steps in the classwork help students to develop the tasks in a proper way, and students expressed that they feel more secure in what they have to do. The use of material, games, challenges, collaborative work, and other strategies help students feel interested in participating and working on the activities, motivating and engaging them during specific periods of time.

TEACHERS' ROLE AND BELIEFS

According to the results, students and teachers generally have a good relationship in classes. Attitude, experience and instruction are determinant in how students obtain good results. According to the data collected, students consider that a teacher who is strict but friendly at the same time helps them to feel comfortable in class and create a good environment because it increases the affective link and creates confidence in students.

In teacher interviews, it was possible to see that basic elements such as organization, participation, repetition, and reinforcement are essential to start a good class. In the class observations these phases were evident, and students answered in a positive way, that is, they followed the indications quickly because they knew what they had to do. During the beginning

of the class, teachers used repetition to clarify what they were going to do in the class and to review the topics or activities from the previous lesson.

> T Right, ready. The last session we were working the operation of radicals, right?
>
> So, what were the steps we had to have present to solve the operation?
>
> *She writes on the board + 3*
>
> S to simplify
>
> T to simplify?
>
> Ss yes
>
> T Is it called simplify or how it is called?
>
> (commentaries)
>
> T to decompose
>
> What did we decompose?
>
> (Commentaries)
>
> T so, rise the hand
>
> S the two roots
>
> T the two roots
>
> She writes on the board: 343

Behavior also affects attention in classes. Teachers have to control some situations that distract students and interrupt the rhythm of the lessons, and for this reason, they use some strategies to guarantee that students can re-focus their attention to the lesson or activities. During the class observations, it was possible to see that teachers have good classroom management strategies that contribute to diminishing possible distractors, considering that they have strong routines at the beginning of the class and help students have appropriate academic and behavioral habits, showing their experience and preparation.

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STRATEGIES AND INSTRUCTION

In the analysis of data, it was evident that the use of specific strategies to manage behavior and classwork is important to hold students' attention. Elements such as repetition, positive reinforcement, consolidation, and motivation are needed to achieve success in the academic performance. Students expressed that some of the strategies they like the most is the use of games or challenges because they feel they have to make an effort and give the best.

In the classes observed, it was possible to see that the teachers follow similar strategies when working on a topic. First, the organization and disposition of the students at the beginning of the class helps focus their attention to what they are going to work. Then the review of previous lesson shows that students can connect the prior knowledge to the new knowledge or that they know a new part of the topic. This part is usually developed relying on students' participation. Finally, teachers promote collaborative work, showing that this strategy helps students to consolidate information, support others or receive support, and finally, feel confidence and security to clarify doubts.

CONCLUSIONS

This study aimed to understand the way as students' attention is affected by the different factors and how they can hold attention in order to improve their academic achievement. On the other hand, the study inquired as to the role of the teacher in this process, and how elements such as classroom management, instruction and motivation, influence the process of attention.

The findings in this study allow for a number of conclusions. It was found in the survey that students need some conditions to hold attention according to their needs, and that they are conscious of their difficulties and the factors that affect concentration. First, the fact that they have difficulties in some subjects makes them feel insecure, unmotivated and unable to concentrate, either by disinterestedness or by frustration.

Also, students have some problems to control some distractors as the use of technology in inappropriate moments. It is important to use strategies to support self-management as Gureasko-Moore, DuPaul and White (2007) affirm, in order to promote organizational skills, planning, and homework completion and reduce the distractors. It is possible to include in this situation that students feel that the use of music or different spaces can promote self-control and concentration.

Classroom environment and classmates' behaviors are determinant in the process of attention. The way students interact into the classes can affect or promote good relationships. In this sense, it is evident that some students cannot control some attitudes such as inappropriate commentaries, generating distraction or even, insecurity in some students. In this kind of situations, teachers' attitudes are important since they are who orient the class and rule the group. Teachers have to provide security and motivate participation in spite of classmates' attitude.

Students' performance is also affected by teachers' attitude as Sherman, Rasmussen, Baydala (2008) showed, in the sense that the affective relationship can help students obtain a better academic achievement. However, it is not possible to find that teachers try to support students with difficulties. They only focus classwork in general, orienting the students who want to solve doubts or who want to participate.

In the observations, it was possible to see that teachers use clear structure in the way they orient their classes, but the use of strategies or material to challenge students or give support to classes was not observed. It was evident that technological tools such as presentations and photocopies are the most common elements used by teachers to develop activities, but other strategies as the use of other spaces, or didactic material are not common. For this reason, some students expresses that it is important for them in order to make classes more interesting and active.

This study also revealed that students can hold attention in specific activities, especially when they are oriented by the teachers. In this sense, instruction is essential to give support to students in the development of activities. It also guarantees the

understanding of the topics and homework completion since students feel more comfortable and secure of what they know. In addition, closing class with consolidation is also important because it is the way as they clarify the information received and what they have to do for the next lesson.

Finally, according to the results of this study, it is possible to work different strategies to improve students' attention. First, taking in account that the group of study does not present important behavioral difficulties, the control of environment is due to teachers' attitude and instruction and they are the ones who can promote attention spans for specific periods. However, it is necessary include strategies focused on students with more difficulties and support them alternative ways. Also, homework represents a great difficulty because, even if the classwork is positive, most of the students do not complete their homework activities due to laziness, distraction or disengagement; for this reason, it is necessary to give prevalence to classwork.

ACTION PLAN

The proposed plan of action for ninth grade students of the *Fundación Ana Restrepo del Corral* include the following:

- Training sessions for teachers in which attention difficulties and strategies to use in classroom are the main themes to be developed.
- Exploratory surveys in order to know students' background, interests, skills and possible special needs.
- Study and use of accommodation for students with more attention difficulties and use of different strategies that include the use of different places and classroom organization.
- Inclusion of self-management strategies and organizational skills in order to promote homework completion and behavior.
- Strict steps to develop the lessons, in order to control possible distractions.

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APPENDIX

Exploratory Survey (Spanish original)

Fecha _____

Grado _____

A continuación encontrará algunas preguntas sobre los factores que afectan tu nivel de atención. Lee cuidadosamente las preguntas y responde.

1. Puedo concentrarme

   ☐ Siempre ☐ Algunas veces ☐ Raras veces ☐ Nunca

2. Hago actividades de lectura fácilmente

   ☐ Siempre ☐ Algunas veces ☐ Raras veces ☐ Nunca

3. Hago actividades de escritura fácilmente

   ☐ Siempre ☐ Algunas veces ☐ Raras veces ☐ Nunca

4. Hago actividades de matemáticas fácilmente

   ☐ Siempre ☐ Algunas veces ☐ Raras veces ☐ Nunca

5. Hago actividades como dibujar o colorear fácilmente

   ☐ Siempre ☐ Algunas veces ☐ Raras veces ☐ Nunca

6. Me concentro más cuando estoy sol@
7. Me concentro más cuando estoy con mis compañeros (amigos)

8. ¿Cuáles son los factores que más te distraen en tu casa cuando debes realizar alguna tarea o actividad en la que te tengas que concentrar? Escoge las que consideres.
   - Internet
   - Celular
   - Televisión
   - Amigos
   - Hermanos
   - Música
   - Ruido
   - Cansancio físico

9. ¿En qué tipo de actividades te concentras más fácilmente?
   - Cuando juego
   - Cuando leo o escribo
   - Cuando dibujo
   - Cuando trabajo con números
   - Cuando escucho música
   - Cuando hablo con otros

10. ¿Cuál es el ambiente más adecuado para que te concentres en clase cuando debes desarrollar una actividad?

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THE IMPACT OF TEACHERS' INSTRUCTIONAL PRACTICES ON ACHIEVEMENT AND BEHAVIORAL OUTCOMES OF A FOURTH GRADE STUDENT WITH ATTENTIONAL DISORDER

EL IMPACTO DE LAS PRÁCTICAS DOCENTES SOBRE LOS LOGROS Y RESULTADOS CONDUCTUALES EN UN ESTUDIANTE DE CUARTO GRADO CON DESORDEN ATENCIONAL

Norma Constanza Gómez Rubiano

After observing the steady decline in academic achievement and emotional well-being of one of her students with attentional disorder, Norma Gómez decided to devote this case study to discovering the role that teachers may play in the student's learning and behavior.

ABSTRACT

Attention deficit disorder is one of the most common neurodevelopmental disorders of childhood, affecting many children around the world. This project was carried with the aim of determining the influence of teachers' instructional practices on behavioral and achievement outcomes in a fourth grade student with attention deficit disorder. The study examined the case of "Andrés," a fourth grade student, with attention deficit disorder, who has been struggling with his schoolwork and has fallen significantly behind in some subjects since he was in third grade. Some of his teachers were also participants of this study. Data collection techniques for this study included classroom observations, journal, academic records, and interviews with teachers, parents and the student. Main findings suggest that teachers are not aware of the child's individual needs, learning styles or strengths in order to develop strategies that would help him succeed in school. The study also revealed a significant lack of knowledge about ADHD among the teachers, negative attitudes, and low tolerance levels towards disruptive behavior and teaching children with ADHD. Furthermore, there was no evidence of academic interventions done at school in order to help Andres improve his academic performance and classroom behavior.

Key words: attention deficit disorder, educators, ADHD, knowledge, achievement outcomes, behavioral outcomes, attitudes, beliefs, instructional practices, students' needs, interventions.

RESUMEN

El trastorno por déficit de atención es uno de los desórdenes de carácter neurobiológico más comunes de la niñez, que afecta a una cantidad considerable de niños en todo el mundo. Este proyecto se llevó a cabo con el objetivo de determinar la influencia de las prácticas docentes sobre los logros y resultados conductuales en un estudiante de cuarto grado con trastorno por déficit de atención. El estudio examinó el caso de "Andrés", un alumno de cuarto grado diagnosticado con este trastorno que

ha tenido dificultades con el trabajo escolar y bajo rendimiento académico en ciertas áreas del conocimiento desde que estaba en tercer grado. Algunos de sus profesores también participaron en este estudio. Las técnicas de recolección de datos para este estudio incluyeron observaciones en clase, diarios, registros académicos y entrevistas con maestros, padres y el estudiante. Los principales hallazgos sugieren que los maestros no son conscientes de las necesidades individuales del niño, estilos de aprendizaje o fortalezas para desarrollar estrategias que le ayudarían a tener éxito en su vida escolar. El estudio también reveló una significativa falta de conocimiento sobre el TDAH entre los profesores, actitudes negativas y bajos niveles de tolerancia hacia el comportamiento disruptivo y la enseñanza de los niños que padecen este trastorno. Además, no hubo evidencia de intervenciones educativas realizadas en el aula para ayudar al estudiante a mejorar su desempeño académico y el comportamiento en el aula.

Palabras clave: Trastorno por déficit de atención, docentes, TDAH, conocimiento, logros, desorden, resultados conductuales, actitudes, creencias, prácticas docentes, necesidades de los estudiantes, intervenciones

INTRODUCTION

Attention deficit disorder, known as ADHD, is one of the most common neurodevelopmental disorders of childhood, affecting approximately 3–7% of school-age children, with specific subtypes that reveal differences in children that display mainly inattentive behaviors, hyperactive and impulsive behaviors, or a combination of both (Barkley 1990; DSM-IV-TR 2000). This kind of disorder is associated with the brain's inability to take in all of the stimuli around us. It is a neurologically based condition, which causes academic and behavioral difficulties which can be observed in the regular classroom.

Studies have indicated that teacher attitudes, beliefs, perceptions, misperceptions and knowledge of ADHD are determining factors that influence instructional practices, and have an enormous impact on a variety of outcomes among students with ADHD. Loe and Feldman (2007) report that children with ADHD can show significant academic underachievement,

poor academic performance, and educational problems. Researchers have found there is a very close relationship between these outcomes and the way the teacher delivers the classes in a regular classroom with special needs children. The authors also found that the way teachers react to hyperactive, impulsive, or disruptive behavior in the classroom can have a significant effect in the children self and social perceptions.

The present project was carried out with the interest of examining how teachers' instructional practices have an impact on the behavioral and achievement outcomes in a fourth grade student with attentional disorder. The study explored the influence of teacher factors in instructional methodologies and intervention practices that can guarantee student success in the educational process. Data was gathered through the use of different qualitative data collection tools such as a research journal, class observations, academic records and interviews, and was examined through content analysis. Main findings indicate that teachers have played an important role in how Andrés behaves and performs at school. The study suggests that teachers have failed in attending to his academic and behavioral needs, which has led him to have poor academic achievement, and to exhibit different types of disruptive behaviors. These issues are often inappropriately dealt with by teachers, who lack of strategies and knowledge about the main features of the disorder.

THEORETICAL FRAMEWORK

Attention disability is a disorder that affects the attention process, and it refers to the brain's inability to take in all of the stimuli around us, and to immediately classify and organize that information to focus the mind on one thing. This kind of learning disorder is a neurologically based condition, which causes difficulties resulting in some behaviors that can be observed in the classroom such as inattention, hyperactivity, and impulsivity. Students with this kind of disability suffer from a lack of attention, may sit quietly but cannot focus, can become distracted very easily, and struggle getting along with other people. They also show signs of impulsiveness, such

as acting before thinking, being very impatient, exhibiting excessive movement, or fidgeting.

Attention disorders also affect executive functions, which may not be fully developed at birth; they gradually develop as the prefrontal cortex develops through early childhood and adolescence and into young adulthood. For this reason, these disorders are referred to as developmental impairments of the brain's self-management system. Children with ADDs tend to have some particular activities or situations where they do not have difficulties utilizing executive functions, and they can exercise their management systems in the brain very well, especially in activities that are significant to them.

Research has found that the performance of people with ADD is highly sensitive to contextual factors, such as reward, the nature of the task, and internal cognitive and physiological factors (Brown, 2013). Everyone has impairments in executive functions, but those who are significantly and chronically impaired in their executive functions qualify as having these kinds of disorders. The primary difficulties shared by students include chronic problems with disorganization, the inability to complete work, or frequent failure to understand instructions rapidly understood by their classmates. These types of disorders are some of the most common in childhood and can continue through adolescence into adulthood.

Attention is an extremely complex, multidimensional function of the mind (Brown, 2006). It plays an essential role in what we perceive, remember, think, feel, and do, and is not just one isolated activity of the brain. According to the research, selective attention is more related to learning disabilities, and sustained attention to ADDs. Conte (2014) refers to "selective attention as the ability to maintain attention to target stimuli when distractors are present … sustained attention as the ability to maintain attention for extended periods of time" (pp. 62-63). In addition, he describes how some of the theories related to the causes of ADDs argue for a biological cause of attention disabilities. In other words, it is a chemical imbalance in the systems controlling the executive functions of the brain (Brown, 2006). Research has shown that there is high incidence of heritability in ADDs although there is little evidence of the psychological and external factors that could cause them.

The American Psychiatric Association has defined two types of ADHDs: with or without hyperactivity. ADHDs consist of both cognitive and behavioral components since the attention process involves organizing and setting priorities, focusing and shifting focus, regulating alertness, sustaining effort, and regulating the mind's processing speed and output. It also involves managing frustration and other emotions, recalling facts, using short-term memory, and monitoring and self-regulating action (Brown, 2006). According to Brown, ADHD affects all levels of intelligence, and usually children with this kind of disorder are impaired in one aspect of each of the executive functions since they are inter-related and interdependent in managing structures in the brain.

TREATMENT FOR ADDS

There are various methods that have been used for treating ADHDs, including stimulant medication like Ritalin, "which seems to improve the ability to concentrate and enhance task behavior and the acquisition of new material" (Conte, 2014, p. 80). However, there is little evidence that medication improves behavior. Dietary intervention, behavior modification, cognitive behavior modification, and parent training are some other treatments that have been used and have produced short-term results.

ADHDs are life-long disorders that affect all aspects of the individual's life. There are some individuals who have difficulties at school or in the workplace while some others are affected in many different areas (Quinn, 2013). Schools can help in numerous ways in the treatment of children with ADDs. It is important for the school to have the staff or consultants specialized in attention disorders to provide continuity from one year to the next and monitor students for several years. However, this poses a significant challenge in many schools in which students change teachers every year, and it is difficult for these individuals to adapt to new situations due to their distractibility (Conte, 2014).

LITERATURE REVIEW

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BEHAVIORAL AND ACADEMIC ACHIEVEMENT

Many studies have looked at the behavioral and academic achievement of children with attention difficulties. Loe and Feldman (2007) report that children with ADHD show significant academic underachievement, poor academic performance and educational problems. Children with ADHD score significantly lower on standardized reading and math tests. ADHD is also associated with increased use of school-based services, increased rates of detention and expulsion, and ultimately with relatively low rates of high school graduation and postsecondary education. Children in Loe and Feldman's study who showed symptoms of inattention, hyperactivity, and impulsivity with or without formal diagnoses of ADHD also showed poor academic and educational outcomes. Longitudinal studies show that these outcomes are found to be persistent throughout an individual's academic life, and children with ADHD symptoms are more likely to be behind in basic academic readiness skills without proper treatment. Pharmacologic treatment and behavior management are associated with reduction of the core symptoms of ADHD and increased academic productivity, but not with improved standardized test scores or ultimate educational attainment.

Daley and Birchwood (2009) review the relationship between ADHD and academic performance. Their study found that ADHD symptoms affect academic attainment across the lifespan from school readiness to performance at university. Therefore, inattentive symptoms and executive function deficits are linked with academic problems while hyperactivity, impulsivity, and co-morbid conduct problems are not. Research supports that ADHD and poor executive functioning appear to be at the core of ADHD-related academic underperformance. There are many possible classroom-based interventions available to help and support children with ADHD in the classroom, but there is also a need to examine the roles of cognitive dysregulation and motivational style in order to have a better understanding of academic disadvantages and develop effective study strategies and school based interventions for individuals with the disorder.

Research by Sherman, Rasmussen, and Baydala (2008) argue that teacher factors may have an enormous impact on a variety of outcomes among students with ADHD. The study found a relationship between the way teachers react to hyperactive, impulsive, or disruptive behavior in the classroom and children's self and social perceptions. They found that negative responses by teachers towards these symptoms related to children´s poor interpretation of others' intentions or social perception. The authors argue that this relationship may exist because of undesirable reactions, such us punishing children for acting out, which can lead learners to feel embarrassed or socially isolated. The researchers suggest that children with ADHD can benefit from teachers who employ a more preventative outlook with respect to disruptive behaviors. Some important teacher factors appear to be tolerance, teaching style, experience with students who have ADHD, and communication style, especially the use of gestures. Further, specific opinions about treatment options can have an impact on students' behavior. Additionally, teachers who have been trained and demonstrate patience and a positive attitude towards children with ADHD can have a positive impact on students' academic success.

KNOWLEDGE OF ADHD

Many researchers have studied teachers' knowledge as well as misperceptions of ADHD. Perold, Louw, and Kleynhans (2010) found that there is a substantial lack of knowledge among teachers in certain main areas of ADHD. The results revealed that teachers were very knowledgeable about the hallmark symptoms of ADHD, with more than 75% of the respondents correctly identifying the symptoms of distractibility, fidgeting, difficulties with organization, as well as of the primary clusters of ADHD symptoms. However, they revealed a clear lack of knowledge about the epidemiology of ADHD. This is a matter of concern since teachers play an important role in the recognition, referral and treatment of ADHD. Teachers indicated that they had very little or no training in ADHD or the management of it in the classroom, affecting their knowledge base on this disorder. Some of their knowledge was

acquired through what is shown about ADHD in the media, which is often incorrect and not based on scientific research. This can therefore lead teachers to make inaccurate referrals, giving incorrect advice to parents and failing to attend to the needs of the students with ADHD in the classroom.

Kern and Seabi (2008) support the argument that educators consider ADHD mainly as a physiological disorder, with primarily genetic and environmental causes. Additionally, they found that educators preferred medication as the intervention method despite their knowledge of additional intervention methods that could be helpful. The study suggests that it is essential for educators to have increased awareness and more knowledge of the conditions that commonly co-exist with ADHD. In light of the fact that educators are often the primary sources of information regarding ADHD diagnoses in school children, it is very important for teachers to receive adequate training covering ADHD and its associated conditions in order to provide the best education experience to children with the disorder.

PERCEPTIONS AND ATTITUDES OF TEACHERS

Reid, Stanley, Magg, and Wright (1994) determined the different perceptions of ADHD in term of barriers to instruction and confidence in attaining educational goals. Teachers perceived time to administer specialized interventions, lack of training, lack of communication with physicians, class size, and severity of the problem as the most important barriers in terms of instruction. Teachers with prior experience expressed more confidence than those without about their ability to teach students with ADHD in such a way that they can learn. The study points to the need for training to attend the needs of students with ADHD in the classroom.

Gal, Schreur, and Yeger (2010) reported teachers' attitudes towards inclusion of children with disabilities in their classes, and their requirements for accommodation in general according to children's characteristics. In their study, they found overall positive attitudes towards inclusion. Various

teacher characteristics proved to correlate significantly with their attitudes towards inclusion, including teachers' age, years of experience, and work conditions, such as class size and number of working hours. A higher number of teaching hours correlated with negative teacher attitudes. Experienced teachers believed that they could address the needs of children with disabilities, but only in much smaller classes. On the other hand, teachers who had friends with disabilities in their close environment showed a significantly more positive attitude than those without disabled friends. Similarly, teachers with family members with disabilities were more aware of the need for various special accommodations for children with disabilities than teachers without such family members. Results also suggest that children with ADHD or emotional regulation disabilities present bigger challenges for the teachers than children with sensory motor disabilities.

Glass (2001) presents empirical evidence that supports three underlying factors which affect how teachers work with students who display ADHD symptoms. The findings indicate a need for the older experienced teachers to serve as mentors for the younger ones; it also indicates a need for literature addressing the needs of students who display the characteristics of ADHD. Teachers' age was found to be strongly related to the use of new and updated strategies in the classroom. Forty-three percent of the teachers did not believe in the use of non-traditional strategies such as active, cooperative, collaborative, inquiry, or problem-based learning. However, 53% of the teachers believed these were the chance for academic success of children with ADHD. The study also suggested that there is a need for flexible teaching strategies to recognize that children learn in many different ways and that it is the responsibility of the teachers to help each child to reach his or her academic potential.

In their study, Anderson, Watt, Noble, and Shanley (2012) focused on the role of teaching experience. Their findings indicate that teachers' knowledge develops after they gain classroom experience. In addition, teachers have reasonable knowledge of characteristics and causes of ADHD but have limited knowledge of treatments for ADHD. Further, teacher training needs to provide precise and complete information

about ADHD and its treatment. Support from school psychologists should be provided to raise teachers' awareness and maintain favorable attitudes toward teaching children with the disorder.

Glass and Wegar (2000) focused on teachers' perceptions of the incidence, attitudes and management of attention deficit disorder. Their findings showed that the majority of teachers believed ADHD to be a biological abnormality. For many teachers, class size appeared to influence the proportion of students identified with ADHD. The study identified the need for appropriate education for teachers on how to identify the characteristics of ADHD so teachers are more aware of the distinction between ADHD and normal childhood behavior. A high percentage of the teachers indicated a desire to help students focus and be happy in the classroom, but classroom size, lack of assistants, increased academic demands and often inadequate funding hindered teachers from meeting the needs of every student in the classroom.

INTERVENTIONS

Many researchers have focused their studies in different intervention techniques to effectively address the needs of students with ADHD. Reiber and McLaughlin (2004) found that students with ADHD are a heterogeneous group. Each student comes with his or her own skills and behavior. Intervention strategies must be adjusted according to particular behaviors, the grade level of the student, and the structural limitations of the classroom. Intervention strategies that are useful for the academic achievement of one student with ADHD may be completely different for another. The paper identified classroom structure, teaching modifications, peer interventions, token economies and self-management as strategies that improved academic scores and decreased inappropriate classroom behaviors. The study suggests that providing teachers with these evidence-based procedures appears to be effective to assist children with ADHD in the classroom.

Harris, Friedlander, Saddler, Frizzelle and Graham (2005) discuss several intervention strategies that might be useful for students with ADHD. They argue that self-monitoring of attention and performance had positive effects on students' on-task and spelling behaviors. While improvement in on-task behavior was comparable across the two interventions, self-monitoring of attention produced substantially higher gains in spelling behavior. Until a richer database exists, the study points out that teachers should consider students' abilities, needs, and goals when deciding to use a particular self-monitoring procedure. Teachers may need to try different self-monitoring procedures with differing tasks and situations to help determine what works best for an individual or a class. They argue, however, that teachers consider the use of self-monitoring procedures with students experiencing on-task or academic difficulties, as sufficient research indicates the efficacy of these approaches.

DuPaul, Weyandt, and Janusis (2011) argue that school-based interventions are a critical component to a comprehensive treatment plan for students with ADHD. Multiple treatment strategies implemented in a consistent way across the academic life can optimize the school success of students with ADHD.

Martinussen and Major (2011) show that ADHD students with working memory difficulties may have difficulties with some academic tasks that place substantial demand on working memory. Researchers point out the importance for teachers to adjust instructional practices to prevent working memory overload, and provide several instructional supports. These instructional supports, in combination with interventions aimed at self-regulation skills (e.g., self monitoring) and academic skills (e.g., written expression), can be used to encourage academic achievement in students with ADHD.

Levine and Anshel (2011) analyzed the case of a child with ADHD through the use of a cognitive behavioral intervention or treatment plan that helped him to decrease severity indicators of the disorder. After the use of this strategy, teachers reported decreased depressive symptoms, and improvement in behavioral control and performance. The strategy reduced classroom disruptions and demonstrated more engagement

due to the different classroom management strategies. The study indicates that cognitive-behavioral interventions (CBT) can address treatment obstacles through emphasizing psychoeducation, the development of a collaborative treatment context, and the identification of thoughts and assumptions that maintain maladaptive behavior patterns.

Purdie, Hattie and Carroll (2002) reviewed different types of intervention that can be effective in children with ADHD. Most ADHD has been conducted within a medical framework and has focused on the pharmacological treatments on behaviors. The meta-analysis supports the claim that more boys than girls are diagnosed with ADHD. It also reveals the negative and positive effects on medication reported in many of the studies. To conclude, the analysis reports the effects of the various interventions on behavioral and educational outcomes in children with ADHD.

METHODOLOGY

RESEARCH DESIGN

The proposed methodology for this research was case study. The project aimed to determine underlying factors influencing teachers' instructional practices and their impact on behavioral and achievement outcomes in a fourth grade student with attention deficit disorder. According to Cohen, Manion & Morrison (2007), "Case studies can establish cause and effect, indeed one of their strengths is that they observe effects in real contexts, recognizing that context is a powerful determinant of both causes and effects" (p. 272). Case studies explore and report the complex dynamic and unfolding interactions of events, human relationships, and other factors in a unique instance. This project focused on a fourth grade student with an attentional disorder and his teachers' instructional practices. The case study methodology allowed the researcher for the identification of teacher factors that influence instructional practices and how these affect the academic life and well-being of the student.

CONTEXT

The context of this study was a private school that educates students to be bilingual in English and Spanish and proficient in a third language (French). The school is located in Bogotá, Colombia. It has four sections: preschool, primary, middle school and high school; there are about 20 students per class. The school has a pedagogical model centered on constructing identity through recognizing differences, maximizing talents, and integrating the curriculum in order to develop creativity and analytical abilities.

The school features a Center for Holistic Development, which is an interdisciplinary group made up of professionals from the areas of Education, Speech Therapy, Psychology and Occupational Therapy. The Center aims to strengthen students' socio-emotional development and learning processes, with strategies based on stimulation of skills to improve their lives, now and in the future. In terms of inclusion, the school does not have a specific program; however, the school is rigorous in its follow-ups of students in general. When students with special needs are identified, the school makes a referral to external professionals for evaluations and diagnostic tests. With the results of these evaluations, students begin receiving different types of external support including speech, occupational, and psychology therapy. Additionally, academic support is suggested after school if that is the case.

PARTICIPANT

The participant of this study was a ten-year-old student from fourth grade, given the name "Andrés" for the purposes of this study. Andrés has been in the school since first grade, and was recently diagnosed with attention deficit disorder. Teacher participants included teachers from social studies, music, physical education and computer class. Andrés was selected because he was failing some of the subjects. Most of his teachers described him as disruptive and oppositional in class and affirmed that he had difficulty paying attention during structured

and unstructured activities. The teachers that participated in the study were chosen from subjects that Andrés seemed to have difficulties with. At the time of the study, Andrés was not taking nor had taken any form of medication for attention disorder. The researcher obtained informed consent from both Andres and his parents to participate in the study.

DATA COLLECTION INSTRUMENTS

In order to gather the necessary information of this study and to answer the research question, it was necessary to use different qualitative techniques, including journal, academic records, class observations, and interviews.

Journal. The researcher recorded Andrés' daily activities and experiences in the classroom regularly. This research tool was used in some particular activities or events expected to change over time, where contextual information such as the circumstances leading up to undesired behaviors or academic outcomes were believed important.

Academic records. The researcher obtained permission to view Andrés' academic records in order to analyze academic performance over time. During the study, the student's academic and behavioral follow-ups were also available in order to establish Andrés' academic performance, and possible reasons of associated behavior. Finally, the researcher had access to some of Andres' work in the specific academic areas in order to examine evidence of different factors related to academic underachievement and behavioral outcomes.

Class observations. Class observations took place in the music, social studies, and computer classes, additionally in the sports field for the physical education class. These classes were chosen because they were some of the classes in which Andrés demonstrated low academic performance. The observations were done during a period of two weeks according to Andrés' schedule, and notes were taken during each observation. The idea was to obtain information about the way the teacher delivers the class and the attitudes and belief towards disruptive behavior in the classroom.

Interviews. The interviews took place with fourth grade teachers of social studies, music, physical education, and computer class. The idea was to look for new information about their knowledge on ADHD, attitudes, beliefs, learning needs, learning styles and demographic information believed to be important for the data analysis. Additionally, the interviews determined whether teachers had received any training or had any experience in teaching children with ADHD. Some informal conversations with the student and his parents took place as well in order to obtain further information about their feelings and perceptions of teachers' role in the educational process.

DATA ANALYSIS AND INTERPRETATION

In order to analyze and interpret the data gathered in this case study, content analysis was carried out after all class observations and interviews. These were conducted and transcribed. The content analysis was completed using a coding exercise in which different categories were created and these were somehow common and recurring in the data collected.

Journal and academic records. The data gathered with these tools was analyzed along with class observations and follow up interview in order to determine recurring themes and support the results of this study.

Class Observations. Each class observation was transcribed and analyzed for recurring themes. These themes were grouped into the following categories.

Table 1. Categories resulting from content analysis of classroom observations

Category	Code	Description
Classroom Organization	**CLORG**	This refers to the physical environment, how the classroom and students are organized to provide a safe environment in order to optimize student learning and reduce distractions. Example: "Students are organized in 5 groups around the classroom, some of the students are close to the teacher and the board"
Lesson Structure and Sequencing	**LES**	This refers to how the teacher delivers information about expectations, objectives, sequence of activities, materials to be used in the class and assessment. Example: "the teacher writes the agenda on the board, and explains to the students the objective and class expectations and activities of the day"
Positive Reinforcement/ Praise	**PREI**	This refers to any event that follows a behavior and increases the likelihood that the behavior will be repeated. Example: "very good, you are doing a great job"
Verbal Reprimand	**VREP**	This refers to any event where the teacher points out and criticizes some fault or error of the student. Example: "Andrés as always you are not wearing the sports uniform, hand me your agenda, you are going home with a note to your parents"
Emotional	**EML**	This refers to social and emotional interactions in the classroom between and among students and teachers Example "Teacher: [Student's name] where is your homework? It is at home Teacher: Umm at home is ok (sarcastic). Teacher: tell me because I can't read your mind!!
Accommodations	**ACO**	This refers to adaptations made by teachers to the curriculum or methodology, accommodations or modifications.
Clear Instructions	**CLINS**	This refers to the way the teacher delivers information to the students step by step- in class activities Example: "the teacher tells students step by step what they are going to do"
Interaction Patterns	**INPA**	This refers the different ways learners and the teacher can interact in the class. Example: "[Student's name] tell me what did we do last class? Student: we created a table to compare two cities.
Flexibility Of The Teacher	**FLXTE**	This refers to anticipating, and responding to, the ever-changing needs and expectations of learners. " Ok [Student's name] open your notebook and pay attention"
Continuous Feedback	**CFB**	This refers to any information given by the teacher that informs the student about how he/she is doing in his or her efforts to reach a goal.

Teacher interviews. After analyzing the classroom observations, semi-structured and open-ended questions were designed for the follow-up interviews with the teachers from the classes observed. In general, the interviews sought to obtain additional information and clarify evidence from the observations. These were also intended to determine teachers' demographic information, attitudes, beliefs, teaching strategies, use of technology, and knowledge about ADHD. Teacher interviews were conducted, notes were taken and transcribed. The data gathered was also analyzed using content analysis to identify recurring categories, as in the following table.

Table 2. Description of the codes for the interviews

Category	Codes	Description
Demographic Information	**DI**	This refers to the characteristics of the population such as age, years of teaching experience, sex, and education level.
Learning Needs	**LN**	This refers to any information that indicates the teacher is attending the need of the students.
Learning Styles	**LS**	This refers to any information that indicates the teacher is addressing different learning styles in the classroom.
ADHD Attitudes And Beliefs	**ADHD-AB**	This refers to all the attitudes and beliefs teachers may have about the disorder.
ADHD Knowledge	**ADHD-K**	This refers to any knowledge or training the teacher may have about the attention deficit disorder.
Lack Of Knowledge	**LK**	This refers to the lack of knowledge about attention deficit disorder.
Teaching Strategies	**TS**	This refers to any strategies used by the teacher to attend students with special needs.
Lack of Teaching Strategies	**LOTS**	This refers to the lack of teaching strategies to attend students with special needs.
Technology	**TECH**	This refers to any kind of information about the use of technological devices to support students learning.

RESULTS

Through the analysis of the data gathered, it was possible to observe and document that most of the teachers who participated in the study do not evaluate Andres' individual needs, learning styles, or strengths in order to develop strategies that would help him succeed in school. During the class observations, journal, and follow up interviews, strong evidence of a significant lack of knowledge about ADHD, accommodations, and instruction or intervention methods to support him was found. Teachers' instructional practices were mainly influenced by strong beliefs and misperceptions about the disorder. In fact, teachers were found to exhibit negative attitudes as well as low tolerance levels, especially towards disruptive behavior and teaching children with ADHD like Andrés. Furthermore, there was no evidence of any academic interventions done at school in order to help him improve his academic performance and classroom behavior even though the school has a Center for Holistic Development with different specialists, which is believed to strengthen students' socio-emotional development and learning processes.

THE ROLE OF THE TEACHER AND THE INSTRUCTIONAL PRACTICES

The content analysis from class observations and interviews revealed that only one of the teachers participating in the study assessed the child's individual needs, learning style, or strengths in order to develop strategies for class delivery that could help Andrés succeed in school. The teacher reported the activities in this way:

> I always plan my classes having in mind the needs of my students in terms of their likes, dislikes, the way they work and some specific characteristics to a better learning process. However, I recognized that I started doing this a few years ago. I have been trying to plan according to the different learning styles, thanks to different discussions and conversations in spaces the school has provided about the process of differentiation"[8]

[8] All quotations and excerpts translated from the Spanish.

Afterwards, the teacher shared some of the evidence, but also stated that it was hard work. Moreover, she affirmed that most of the teachers still do not have a clear understanding about how to do this process. The other teachers from music, physical education, and computer class reported in the interview that they do have in mind needs, learning styles, and strengths, without further explanation or comments concerning it. However, a negative correlation was found between what participants responded in the interviews, with what was observed in the classroom and what Andrés replied during the conversations.

In the conversations with parents, they stated that they consider that Andrés' homeroom teachers, and in fact, few educators have been committed to work according to his own learning style. Parents can perceive that some teachers have no idea about the strategies or many other aspects Andres has been working on in the external support he receives according to the school's referral.

For Andres, these findings had implications for him in his self-steam and well-being. In one of the interviews, Andres reported that only a few educators would help him, especially his homeroom teacher, and that the social studies teacher was kind of rude when he asked for more information or further explanations in the classes. He affirmed that she would tell him things like, "I don't know, I have already explained. It is your problem so figured out a way to do it," or she would use sarcastic language as the one recorded on the class observations:

> T: Yes, Andrés...
>
> S. Maybe in Bogota there are not many thieves, but there are many robberies.
>
> T: I don't understand your idea because you are not explaining it to me!
>
> S: In Bogotá there are many cops and…
>
> T: I can´t read your mind! (Sarcastic)

According to the data gathered in this study, it is possible to identify that some of the teachers that participated in the

study did not seem to be aware their crucial role in Andrés' life. According to the evidence found and parents perceptions, Andrés' behaviors and achievement outcomes were influenced by teachers' instructional practices and the school settings throughout the years, especially in third and fourth grade when he displayed most of the symptoms related to the attentional disorder. His parents explained in one of the interviews:

> Andrés has had a few dedicated teachers, capable of helping him throughout the process; however, there are some exceptions and moments where we feel that teachers don't follow processes with homeroom teachers and specialists, because we don't see any improvements and they don't seem to care.

It can be seen from the journal as well that Andrés experienced many difficulties at school because he was not able to maintain sustained attention for long periods of time. This made it difficult for him to follow instructions properly, focus on tasks, or complete them. Additionally he started misbehaving in class; these behavioral outcomes determined different academic outcomes. In the specific case of Andrés, his behaviors in the classroom ended up being disruptive for some of his teachers and classmates, and some classmates considered him the class clown. Andrés did not seem interested or motivated in these classes; moreover, he was always-losing track of his personal items and materials.

Data gathered from the class observations, interviews and journal revealed that Andrés' teachers did not seem to be flexible in terms of anticipating or responding to his ever-changing needs and expectations. This finding is based on evidence of teachers responding to his behaviors using verbal reprimands in which they would point out or criticize his faults or errors in front of the class. For example, in one of the physical education classes, at the beginning of the class the teacher said, "Andrés as always you are not wearing the sports uniform. Hand me your agenda. You are going home with a note to your parents."

Findings also suggest low interaction patterns between Andrés and his teachers in terms of academic aspects. This means there was no evidence of significant positive relationships between the teachers and the student, leading teachers to use

more disapproving rather than positive feedback in the classes. Therefore, Andrés was more susceptible to exhibit disruptive behavior in the classroom as defense mechanism when he felt ignored, according to a report given by his psychologist.

Teachers stated in the interviews that they used technology in order to provide different interactive activities for the children, bearing in mind the different learning styles to support their learning. In the class observations, however, technology was only used to present information on the smart board, yet no evidence was found of use of technology devices that would support Andrés' learning.

The school psychologist also reported that little positive reinforcement was found in the classroom. Andrés confirmed this statement saying

> Some teachers understand me, except the music teacher, who is new. She knows I get easily distracted but she doesn't seem to care. Also, I play the violin and she never asks me to play something on a special event at school. She would always choose the same students. The only thing she does is to tell me, "Andrés you are not doing anything, you are not working, you are not contributing to the class and you are not paying attention," so then I really lose interest in that class.

The teacher's criticism in from of his classmates, and these situations made Andres feel uncomfortable and not motivated in the class even though he loved music and has been practicing for many years with private tutors, according to the information shared by his parents.

KNOWLEDGE OF ADHD

The interviews, class observations, and journal indicate that there is a significant lack of knowledge about ADHD, accommodations, or instruction and intervention methods to support students with the disorder in the classroom. According to the responses from the interview, the majority of

the participants felt that they do not have a clear understanding about the main features of ADHD. Andrés' parents reported in formal conversations that unfortunately they consider educators do not have enough knowledge about Attention Deficit Disorder. They also said some teachers do not understand that it is a long life disorder, and that the short periods of attention are not intentional.

The computer teacher affirmed that she was aware of many students having attentional difficulties like Andrés, and had heard about many things that can be done differently in the classroom in order to attend the needs of these students. However, she also stated that she would like receive suggestions from the professionals in this type of cases, in order to help these children be successful in the school. Many negative correlations were found between what was observed in the classroom and what the teachers responded during the interviews; for example, the same teacher stated it this way:

> I do accommodations in the classroom because I know the groups and students are different, also questions and needs vary according to the moment, if I have to do accommodations, I do them in order to accomplish the goal of the class.

Nevertheless, no evidence of this was visible during the class observation in order to determine which accommodations meet the academic and behavioral needs identified for Andrés.

The social studies teacher declared, "I have limited knowledge about ADHD but I considers it is a field that must be explored in order to improve my instructional practices." The physical education teacher affirmed she does many accommodations in her class, but according to what was observed, she does not seem clearly to comprehend what accommodations mean in terms of ADHD. Additionally, she stated that she does have knowledge about ADHD; however, she made no further comments in order to determine what kind of information and knowledge she has.

During the interview, when asked about the knowledge of ADHD and its management in the classroom, the music teacher responded this way:

Yes, it means to maintain the attention for longer periods of time and perform different activities avoiding disruptions, the attention deficit disorder does not imply a total disability. These children can be class monitors and have great skills for the different arts.

In general, the results show teachers' lack of adequate and sufficient knowledge about the disorder or methodologies to manage the behavior of ADHD students like Andrés.

ATTITUDES AND BELIEFS TOWARDS ADHD

Data gathered revealed that most of the teachers were found to have negative attitudes and low tolerance levels towards teaching children with ADHD like Andrés. Andrés perceives that some of his teachers are not flexible with him and do not have a positive attitude towards answering his questions, specifically. Furthermore, he stated those attitudes made him less motivated in some specific areas. In most of the classes, verbal reprimands were very common. These findings suggest that teachers have low acceptance towards disruptive behaviors and do not know how to handle them in the classroom. For Andrés' parents, this is a sign that teachers do not quite understand that these behaviors appear due to ADHD as a neurological and life-long condition. Teachers tended to believe Andrés behaved that way because he decided to do it; for this reason, they tended to criticize and point out negative aspects in front of the class, affecting his well-being and academic life, and causing classmates to build wrong perceptions about him. Teachers' strong beliefs and perceptions have most likely made it difficult for them to be more flexible, have a positive attitude, or offer a successful and caring learning environment for Andrés.

INTERVENTIONS

The data shows that there is no evidence of academic interventions at school in order to improve Andrés' academic

performance and classroom behavior. Even though the school has a Center for Holistic Development, the school did not do any interventions with him. Further, teachers reported that they did not receive any information regarding the disorder, special training, or material about the variety of interventions that could be helpful to support the external treatment, and help Andrés in the classroom.

CONCLUSIONS

The purpose of the present research was to determine the influence of teachers' instructional practices on behavioral and achievement outcomes in a fourth grade student with Attention Deficit Disorder, to acknowledge the importance of teacher factors, knowledge, appropriate instructional methodologies, and intervention practices on student success.

The study has shown that most of the teachers do not evaluate the child's individual needs, learning styles, or strengths in order to develop strategies to help Andrés succeed in school. This finding suggests that some of the participants in this investigation were not aware of the importance of identifying the academic and behavioral needs of the student in order to provide effective instructional practices with more emphasis on individual growth, or creating appropriate and caring environments that work successfully for everyone in the regular classroom. This finding is consistent with the findings of Glass (2001), who presents empirical evidence of factors affecting the way teachers work with ADHD students. Staller's study reveals the need for information about how to address the needs of students, use flexible teaching strategies, and recognize that children learn in numerous ways, bearing in mind that it is the responsibility of the educators to help each child to reach his or her academic potential. Therefore it can be said that teachers' instructional practices had an enormous impact on Andrés' academic and behavioral outcomes because they were unable to identify his special needs, learning styles, or strengths. Subsequently, he was not taught or approached in the way he needed, and this led him to be more susceptible to exhibit disruptive behaviors in the classroom.

Strong evidence also reveals that there is a significant lack of knowledge about Attention Deficit Disorder, accommodations, instruction, or intervention methods to support Andrés in the regular classroom. This finding suggests that teachers' instructional practices were mainly influenced by strong beliefs, attitudes, and misperceptions about the disorder. This research confirms previous findings by Perold, Louw, and Kleynhans (2010), who found that there is a substantial lack of knowledge among teachers in the main aspects of ADHD. The authors also indicated that teachers had very little or no training in ADHD or the management of it in the classroom, affecting their knowledge of the disorder. This finding has a number of important implications for students like Andrés because this lack of knowledge can lead teachers to fail in attending the needs of students with ADHD in the classroom and affect their academic life and well-being. Evidently, there is a need for the school to provide teachers with adequate and sufficient knowledge about the disorder and methodologies to manage the behavior of ADHD students like Andrés, and to realize the importance of the different accommodations and strategies that can be done in the classroom to help children with special needs.

Lastly, a significant issue emerging from these findings that suggests that some of the teachers were found to exhibit negative attitudes as well as low tolerance levels towards disruptive behavior and teaching children with ADHD like Andrés. It can be argued that this is due to lack of knowledge about how to handle these types of behaviors. This lack of knowledge then leads teachers to become frustrated and to respond negatively to these behaviors. This argument can be correlated to a previous finding by West, Taylor, Houghton, and Hudyma (2005), who found that teachers' attitudes and beliefs can influence instructional practices which in turn influence the performance of students with ADHD. Further, no evidence of any academic or behavioral interventions at school was found. This finding has significant implications for the institution that already has a Center for Holistic Development with specialists in different areas, which is believed to have programs in order to strengthen the students' socio-emotional development and learning processes. In this case, it is important to keep in mind

research by DuPaul, Weyandt, and Janusis (2011), who argue that school-based interventions are a critical component to a comprehensive treatment plan for students with ADHD and that multiple treatment strategies should be implemented in a consistent way across one's academic life in order to enhance and provide for students with ADHD like Andrés.

Although the findings are unequivocal, the research presented here is subject to at least two limitations that need to be acknowledged. One of these limitations was time. The research was based on only one student therefore a small population of teachers participated in the study; consequently, it is not precise to generalize the results to all teachers or all students. The other limitation is associated with some of the teachers who contributed in the research. At first, they were enthusiastic and helpful in the class observations; however, in the interviews there were somewhat reluctant to answer the different questions, which made it difficult to collect more data to analyze.

Future research should concentrate on studying more than one student to find out if there are any variations in different cases, or if similar findings are found with a larger group of individuals at the school. It is also critical to include pre- and post- studies related to the knowledge of ADHD, for example prior and after teacher training.

ACTION PLAN

The proposed action plan based on this study for the school includes the following:

- There is a need for the school to realize the actual population of students with special needs in the regular classroom and establish a formal inclusion program to attend to the needs of these students.
- It is essential for the school to reformulate the objective of the Center for Holistic Development in order to provide an inclusive education to the students.
- The school should provide teachers with special training

sessions about learning disabilities and different strategies in order to make teachers aware of the importance of addressing the needs of the students and the special accommodations needed in the regular classroom for students with special needs.

- It is imperative to establish good communication between parents, teachers, support staff and administrators in order to help special needs children to be successful in school.

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STRATEGIES FOR TEACHING INCLUSION STUDENTS IN A PRIMARY EFL CLASSROOM: A CASE STUDY

ESTRATEGIAS PARA LA ENSEÑANZA DE INGLÉS COMO LENGUA EXTRANJERA A ESTUDIANTES DE INCLUSIÓN EN UNA CLASE DE PRIMARIA: ESTUDIO DE CASO

Nubia Milena Castillo Celeita

Many times, inclusion students receive accommodation and support in classes taught in their mother tongue, but not in the second language. In some schools, in fact, special needs students do not take English classes, assuming that their disabilities prevent them from acquiring a second language successfully. Nubia Castillo implemented a battery of instructional strategies with one special needs student in the Colegio Fundación Nueva Granada. *She reports the effectiveness of these strategies in the English as a foreign language class.*

ABSTRACT

Education has been changing in order to fulfill students' needs. As children with learning difficulties deserve an optimum educational environment, schools and teachers are in charge of providing it. The purpose of this case study was to determine the best strategies to support a third grade student with learning disabilities in the academic process of learning a foreign language. Certain teaching strategies were implemented in English class, taking into account the therapist's report and the student's opinion. It was found that using reminders for a period of time, lesson activities with movement, visual resources, time flexibility, and repetition enhanced the student's academic achievement in specific skills.

Key words: Inclusion, Interventions, Learning disabilities, Teaching strategies, Foreign language, Academic achievement

RESUMEN

La educación ha ido cambiando para satisfacer las necesidades de los estudiantes. Dado que los niños con dificultades de aprendizaje merecen un entorno educativo óptimo, las escuelas y los profesores son los encargados de proporcionarlo. El propósito de este estudio de caso fue determinar las mejores estrategias para apoyar a una estudiante con dificultades de aprendizaje, en el proceso académico de adquisición de una lengua extranjera en grado tercero de primaria. Ciertas estrategias de enseñanza se implementaron en la clase de inglés, teniendo en cuenta el informe del terapeuta y la opinión del estudiante. Se encontró que el uso de recordatorios durante un cierto período de tiempo, la lección con actividades que involucran movimiento, uso de recursos visuales, flexibilidad de tiempo en las actividades de la clase y repetición, mejoró el rendimiento académico de la estudiante en habilidades específicas.

Palabras clave: Inclusión, intervenciones, dificultades de aprendizaje, estrategias de enseñanza, lengua extranjera, logros académicos

INTRODUCTION

Today, people are looking not only for learning and teaching methods, but also equity in education. People with learning disabilities have been demanding to be part of the education system without exclusion. Thus, many organizations have been working on laws that permit these students to interact in educational environments in the same way as students without learning difficulties. Governments have also created laws to protect people with learning difficulties, but there has been a lack of control to verify the compliance of these laws. Schools are the main institutions in charge of fulfilling the right to education for students with learning difficulties.

There have also been inclusion programs led by teachers. However, studies have shown that most of the teachers are not well trained or not trained at all to support students with the best learning environment in inclusion programs. The role of the community is relevant, and students in inclusion programs need to become involved as well in the community to ensure academic success.

Studies have shown that students with special educational needs enrolled in second language programs can successfully achieve the standards with the support of teachers, peers, and teaching and learning methods. Researchers have found that strategies relating to instruction, content, time management, real contexts, interaction, and cooperative learning enhance the academic process of students with learning disabilities to acquire a second language. However, awareness about how to treat students with learning disabilities is missing. Most of the strategies applied to support students are given in the first language, and the use of a second language becomes difficult for students with learning difficulties.

This study sought to identify strategies to support the learning process of children with learning disabilities in English as a foreign language. Some of the suitable strategies included placing the student near the whiteboard, working in small groups, using reminders, ensuring repetition during the lesson, creating real contexts and activities that involve movement, and using resources such as videos.

THEORETICAL FRAMEWORK

INCLUSION

Inclusion is an educational approach that provides support to children with learning difficulties to be part of the general education classroom and to accomplish each task in a normal routine (Smith, 2010). Society, schools, and teachers assist with individualized support to all students in order to fulfill the learning needs of each child. Students with special requirements have access to preschool, schools, childcare, and recreational programs. In the same way, students and their families are valued, accepted, and supported by the community. Children with disabilities have increased gradually over the past thirty years (Allen & Cowdery, 2015).

Loreman, Deppeler and Harvey (2005) emphasize that inclusion is about building communities where all the people are not only valued but also involved. Thus, children live and work together in a fair environment as part of the school system. From the beginning of a child's school life, schools need to be ready to adapt the school setting to children's needs. If a student can meet the necessary entry requirements of a school, that student must have the same benefits as anyone else to study, benefits such as a positive atmosphere for learning, camps, counselling services, and choices of courses.

Everyone wins when inclusion is implemented appropriately. Everyone refers to children with and without disabilities or giftedness, teachers, and the wider school community. However, there are some beliefs that children with diverse abilities will disrupt classes and affect the learning of other children, teachers will be unable to deal with extra tasks expected of them, and students with diverse abilities will receive an inferior education and possibly will damage their self- esteem (Loreman, et al., 2005).

It is common to find that educators have misconceptions and misinformation about inclusion. Educators must not make assumptions about what a student can or cannot do based

on their disability. Thus, it is relevant to change not only the school setting but also the mindsets of those teachers who view their job as educating only a certain type of child. Inclusion demands high levels of teaching competence, administrative changes, coordination, and management of instruction and resources aimed at promoting effective learning (Loreman, et al., 2005).

Teachers' skills are a key component to help children in the process of effective learning. Indeed, teachers need to modify curriculum for children with diverse abilities. Some inclusion barriers are inadequate teacher training, lack of resources, school and classroom organization. Studies have found that teachers are often unable to meet the demands of modifying and delivering an appropriate curriculum to children with disabilities. For instance, one study regarding teachers in the United States shows that only 29 per cent of educators had enough expertise or training in inclusion (Loreman, et al., 2005).

In the past, students with learning disabilities were taught in separate classrooms, but today it is known that students learn better together in a regular classroom. In inclusion, there are appropriate strategies, special materials, place accommodations, or technology, which help in the children's learning process. Inclusive education is about identifying and removing certain barriers that exclude learners with a specific condition, in which the entire school community (students, teachers, parents, and administration) participate and support the students learning process (Nevada PIE, n.d.). "Research evidence suggests that inclusion, even of children with the most severe disabilities, can work if schools have a culture of shared values and committed to improving their practice" (p. 3). Schools and classrooms need a natural proportion of students with diverse abilities, where students are placed according to age and grade. Inclusion of children with diverse abilities means zero rejection and heterogeneous grouping (Loreman, et al., 2005).

Inclusive settings benefit students with disabilities in different ways. Children with diverse abilities improve social competence and communication skills. They have opportunities for social

interaction with non-disabled peers who act as models. Classroom group work enriches social acceptance of children with disabilities. In addition, children with disabilities have a strict educational program with high standards which can help them to improve academic skills (Loreman, et al., 2005).

INCLUSION AROUND THE WORLD

Smith (2010) describes the challenge and differences of understanding the nature of disability as a social phenomenon and of impairment as a physical reality. For instance, in developing countries, marginalization of children with disabilities means that students' needs are not considered in the development of basic mainstream services such as education and health (UNESCO, 2009). Children with severe and moderate disabilities are recognized, but children with mild or hidden disabilities are ignored. UNESCO (2009) finds "students with 'hidden' disabilities may have extreme difficulty with learning in one or more areas and may include those with intellectual disabilities, mental health problems and students with unidentified disabilities" (p. 7). Many of these children drop out and do not complete primary education.

The Organization for Economic Co-operation and Development (OECD, 2003) mentions three different categories to refer to students in inclusive programs: disabilities, difficulties and disadvantages. Students in the "disabilities" category have biological bases for their difficulties. Students in the "difficulties" category struggle with learning and behavior in a way that does not appear to relate to a biological basis or social drawback. Students in the "disadvantages" category receive additional educational resources due to characteristics of their social and/or language background.

There has been slow progress to gain equal access to quality education for students with disabilities. UNESCO (2009) emphasizes that some governments have been resistant to recognize the equal rights of education of children with disabilities, and have not met international policies for inclusion. Furthermore, the terminology narrows the possibility of

providing the best attention to children with inclusion needs, so education services for students with learning disabilities have not been a priority for governments. According to the United Nations International standards of 1993, students with disabilities must have the same educational opportunities as others (Loreman, et al., 2005).

Based on UNICEF (2011), preschools, schools and education systems should be inclusive of all children, particularly children with disabilities and children with disadvantaged social backgrounds. Schools need to offer quality teaching and learning processes with appropriate individual education, abilities and learning capacities; the curriculum and education content are relevant to the needs of the society. In the same way, schools must provide a safe, healthy and protective school environment in which children are protected from violence, abuse and harm and in which essential life skills and values of respect, tolerance and democracy are promoted.

INCLUSION IN COLOMBIA

In the case of Colombia, laws related to inclusion are recent, and the government is working in the implementation process. According to The National Ministry of Education (2009), the Decree 366 mentions in Article Two, that students with a disability have a deficit reflected in the limitations of their performance in the school context, which would represent a clear disadvantage compared to others when we talk about physical, environmental, cultural, communication barriers, linguistic, and social features. Disability can be sensorial, such as deafness, hearing loss, blindness, low vision, deaf blindness, and motor or physical. Also, disability can be cognitive such as Down's syndrome. There are other disabilities characterized by major limitations in intellectual development and adaptive behavior, or characteristics that affect children's ability to communicate and interact such as Asperger syndrome, autism and multiple disabilities.

Equally important, The Colombian General Education Law of 1994 provides for appropriate support to the child with

a learning disability, as well as his or her family. Article 46 states that education is an essential part of public education services for people with physical, sensory, mental, cognitive, emotional, or intellectual abilities. Educational and therapeutic services support the process of academic and social integration of these students at educational institutions directly organized by the government or through institutional agreements with enterprises that provide the service. Article 47 provides for the implementation of programs to help people with disabilities. The government should develop national and regional programs, and the State will support and promote programs and institutions aimed at making educational care available for those people mentioned in Article 46. Likewise, the government promotes programs and practices for training qualified teachers to support children with any disability. The regulations may define mechanisms to subsidize people with limitations, when they are from low-income families (El Congreso de la República de Colombia, 1994).

Regarding access to services, the Law 1618 (El Congreso de la República de Colombia, 2013) recognizes that people with disabilities are those with physical, mental, intellectual, or sensory medium and long-term deficiencies who have barriers to interaction, including attitudinal deficiencies, which may hinder their full and effective participation in society on an equal basis with others. The law also mentions the conditions and appropriate measures to be met by facilities and information services, adaptation of the environment, products and services, as well as objects, tools and utensils, in order to ensure access for people with disabilities. In the same way, people with disabilities require changes in the physical environment, transportation, information and communications, including systems and information technology and communications, both in urban and rural areas. Assistive technology may be appropriate considering height, size, weight and need of the individual. The Congress of the Republic of Colombia (2013) emphasizes the integration of people with disabilities, their families, and their community in all fields of human activity, especially low-income families, and those people at risk of exclusion by their degree of disability. The purpose of Article 11 is to create and promote a culture of respect for diversity from

the perspective of children and youth with special educational needs as rights, focusing on its recognition and integration in public and private educational establishments.

LITERATURE REVIEW

Many studies address inclusion in different ways, bearing in mind students' needs. Some studies look at common disabilities; others examine students' academic achievement. Several studies consider appropriate teaching strategies as well as the relationship between teachers and students.

LEARNING DISABILITIES

Research has shown that students with special educational needs have different disorders and impairments. Some studies about inclusion focus on students' learning disabilities that are repetitive in the classroom. For instance, Kofi, Sugden, and Pearson (2009) studied primary students with mild to moderate intellectual difficulties, emotional and behavioral difficulties, and low vision and speech language impairments. These children were part of an inclusion program in mainstream classes in Ghana. In a separate study, Fierro-Treviño (2003) described children with hearing, visual, and speech impairments enrolled in Language Other Than English (LOTE) classes at a school in the United States. Students were in a program of individualized education. The conclusions of the two studies coincide that it was common to find students of inclusion with impairments such as visual and speech.

ACADEMIC ACHIEVEMENT

Inclusion is an approach that guarantees students' learning success. When inclusion is suitably implemented, students with learning disabilities have a chance to achieve academic goals. For example, in the research conducted by Haager and

Windmueller (2001), the results showed that by applying certain inclusion techniques at an urban primary school, ELL students with learning disabilities not only improved reading skills, but also decreased their chances of falling into the risk range. In a similar study, Rock, Gregg, Ellis, and Gable (2008) found that when students were active participants, they were able to progress in the general curriculum, and achieve their educational outcomes. This study focused on the use of the REACH method (Reflect, Evaluate, Analyze, Craft, and Hone). Another study showed that specific lesson components helped children with special educational needs (SEN) to progress in communication ability, participation, and engagement in a French as a second-language class (Joy & Murphy, 2012).

TEACHING STRATEGIES

Many studies show that teachers can effectively implement inclusion classrooms. In spite of lacking training and preparation, teachers have carried out useful strategies for students of inclusion. For instance, Kofi, et al. (2009) pointed that teachers were generally positive towards the inclusion of children with different types of SEN in mainstream education. In a different study, Fox (2009) explained how a successful elementary class featured a variety of meaningful activities and materials focusing on oral language. It is relevant to make emphasis on problem solving and cooperative learning as well as encourage students to take the lead. In subsequent research, Wiebe (2006) reported that small groups provide an essential opportunity to learn: "Small-group work allows students to explore new task requirements with the collaborative support of their peers" (p. 521). Wiebe (2006) also mentions useful strategies such as challenging prior conceptions, providing direct and explicit instruction, and preparing students for what is expected in social interactions. Wight (2015) supports the strategy of small class sizes, as well as positive classroom culture, providing students with extra time, reducing the quantity of content, reviewing and repeating constantly, ensuring pretest preparation and using organizers and mnemonics.

Another study conducted by Engelbrecht, M. Nel, N. Nel, and Tlale (2015) in South Africa found that teachers focused on deficits and individual difficulties to learn. Besides that, the results made emphasis on the initial training for teachers based on authentic cases, so they better understand the diversity of learning needs. Haager and Windmueller (2001) state that "professional development should be grounded in the reality of classroom experience" (p. 235). In the same way, Fierro-Treviño (2003) argues that teachers in LOTE needed special training in recognizing appropriate accommodations and modifications for students with learning disabilities. To support this idea and based on research, Arnett (2010) states that teachers' ability to build an inclusive classroom environment is associated with their understanding of effective strategies for second language education, as these practices appear to naturally scaffold many of the needs of the students who are in inclusion programs. In another study, Rock et al. (2008) describe an effective step-by-step approach that introduces strategies and procedures for teachers: REACH, which stands for (a) reflect on will and skill, (b) evaluate the curriculum, (c) analyze the learners, (d) craft research based lessons, and (e) hone in on the data.

RELATIONSHIPS

In inclusive education, all community members need to be involved to support the students' learning process. Research suggests that relationships between students with learning disabilities and their teachers affect academic development as well as relationships among classmates. As an example, Joy and Murphy (2012) found that students with learning disabilities have positive behavior changes and heightened self-esteem when they feel supported by teachers. Arnett (2010) also concludes that the teacher's beliefs about supporting a student with special needs is a key influence in the student's learning process.

METHODOLOGY

RESEARCH DESIGN

The main support students obtain in the inclusion program at the Colegio Fundación Nueva Granada is in Spanish. As such, this study explored how to support students in English as a foreign language class. A case study methodology was used in order to determine the effects of different strategies on one student with learning disabilities in English class. A case study describes events or conditions of real situations, it portrays, analyses and interprets specific situation of individuals (Cohen, Manion & Morrison's, 2007). In the same way, a case study contributes to action and intervention in a real context as it makes available detailed data from participant observation

CONTEXT

The Colegio Fundación Nueva Granada is a private school and foundation located in the north of Bogota. It was founded by the North American immersion school, the Colegio Nueva Granada. As a foundation, the main purpose of the institution is to help the local community that suffers from low income, malnutrition, and a lack of basic health services. The school provides regular classes; besides that, students are given two meals a day, medical support, psychological support, and two main academic programs: the learning and emotional program, and the inclusion program. According to the Colombian General Education Law 115 of 1994, students in the inclusion program are cognitively diagnosed. They are provided with extra learning lessons, curriculum modifications, and speech therapy. Students in the inclusion program have an IQ between 70 and 89, or mild learning disability, and all the support is given in Spanish, as it is their first language.

Each grade in the school has forty students, but there are only twenty students in the English as a foreign language class as the whole group is divided into two. English is taught four hours per week, and the curriculum follows the standards of the Colombian National Ministry of Education. In each English

class there are between two and four students with learning disabilities.

PARTICIPANTS

This case study was focused on one third grade student who was 8 years old. For the purpose of this study, she was given the pseudonym "Ana." Informed consent was gained from both Ana and her parents to participate in the study. Institutional support was also obtained from the school. Ana belonged to the school's inclusion program. According to the Wechsler Adult Intelligence Scale - IQ test, Ana had a borderline cognitive disability of 78. She had reasoning, comprehension, and literacy difficulties in her native language, Spanish. Those difficulties were transferred to and affected the learning process of a second language.

DATA COLLECTION INSTRUMENTS

Diagnosis / profile. A profile of the student was compiled based on the report given by the therapists in the inclusion program at the school. The previous English teacher also gave a report about Ana's academic process in class.

Intervention. An intervention process with the student was conducted. This process consisted of strategies that according to studies, teachers of second language have provided to students with special needs. Based on Kofi et al (2009), it was relevant for the English teacher to have a positive attitude towards the student with learning disabilities. Fox (2009) mentions that meaningful activities and materials, cooperative learning, and small-group work benefit the learning process of the student. In the same way, Wiebe (2006) argues for the importance of using small groups, challenging prior conceptions, providing direct and explicit instruction, and preparing students regarding what is expected in social interactions.

Haager and Windmueller (2001) report that the students who are in inclusion programs have positive behavior changes and

heightened self-esteem when they feel supported by teachers. Finally, Wight (2015) supports strategies including smaller class size, positive classroom culture, providing students with extra time and reduced quantity of content, constant review and repetition, pretest preparation, and organizers and mnemonics, all as ways to support student academic achievement.

Interview/self-evaluation. The student herself described her experience in English class answering the following questions:[9]

1. *Do you like English? Do you like English classes?*
2. *What tasks do you like?*
3. *What do you dislike in English class?*
4. *Do you understand teacher's explanation?*
5. *Do you like when your classmates help you?*
6. *Do you like all your classmates' help?*
7. *Do you think, you have improved in English?*
8. *Do you believe the teacher helps you to understand?*
9. *What do you mean by more or less?*
10. *Why does not the teacher explain you?*
11. *When the teacher explains you, how does she do it?*
12. *Do you ask doubts to the teacher?*
13. *How does the teacher explain you?*
14. *What is the most difficult to learn English?*

Reflective teaching journal. The teacher kept a record of inclusion strategies implemented in English classes and reflected how effective the strategies were to support Ana's academic achievement.

Post-diagnosis/profile. There was a final diagnosis and final profile from the therapist about Ana's learning process and academic achievement, making emphasis on English as a foreign language.

[9] Translated from Spanish, as the interview was carried out in the student's first language.

DATA ANALYSIS AND INTERPRETATION

Diagnosis/profile. In order to have a starting concept, the therapist described Ana's profile in the inclusion program and the previous English teacher gave a report about Ana's academic process in class. According to this diagnosis, Ana's learning needs were identified. The diagnosis was given before any of the teacher/researcher's intervention, and later it was compared with a posterior report.

Intervention. Based on the studies, the teacher/researcher used different strategies to help Ana with her learning process. She applied the strategies according to the topics of the class. She kept these observations in the reflective teaching journal, and analyzed and contrasted them with Ana's diagnosis and profile report.

Interview/self-evaluation. The student explained her understanding of each concept of the class and feelings towards lessons, classmates and teacher. The interview was taped and later transcribed to enable content analysis. After revising the transcriptions recurring themes were categorized and coded.

Table 1. Description of categories resulting from student interview

CATEGORY	CODE	DESCRIPTION
FEELINGS	F	This category refers to any time the student talks about her emotions and mood, e.g. likes, dislikes, comfort, happiness.
OPINION	O	This category refers to any time the student expresses her thoughts on any topic, e.g. ideas, judgement, agreement, and disagreement.
PERFORMANCE	P	It refers to actions the student does during the lesson, e.g. pay attention to class activities, interaction, work on tasks, follow instructions.
RELATIONSHIPS	R	This category refers to any time the student treats others with empathy, e.g. nice words, help, be kind and friendly.

Reflective teaching journal. The teacher/researcher carried out a process of self-observation and class evaluation. She recorded the impact of each strategy and analyzed the reaction Ana had towards English tasks. To support the results of this study, recurring factors of the data were categorized and coded.

Table 2. Description of categories resulting from teaching journal

CATEGORY	CODE	DESCRIPTION
FEELINGS	F	This category refers to any time the student talks about her emotions and mood, e.g. likes, dislikes, comfort, happiness.
OPINION	O	This category refers to any time the student expresses her thoughts on any topic, e.g. ideas, judgement, agreement, and disagreement.
PERFORMANCE	P	It refers to actions the student does during the lesson, e.g. pay attention to class activities, interaction, work on tasks, follow instructions.
LESSON DELIVERY	L	This category refers to any strategy applied by the teacher, e.g. managing of time, feedback, grouping, teaching aids.
DIFFICULTY	D	It refers to any time the student struggles on any task related to language skills, e.g. when reading, writing, speaking, and listening.
ATTITUD	AT	This category refers to any time the student shows positive or negative actions toward the class, e.g. eagerness, motivation, gestures.
ACHIEVEMENTS	AC	It refers to any time the student develops a task as it is expected based in the lesson goals, e.g. presentation, copy or complete words, answer to questions.
RELATIONSHIPS	R	This category refers to any time the student treats others with empathy, e.g. nice words, help, be kind and friendly.

Post-diagnosis/profile. There was a final therapist report that described the academic achievement of the Ana. The teacher/researcher contrasted the previous diagnosis report and post-diagnosis report with the purpose of identifying any learning improvement or any way in which Ana's learning needs were fulfilled.

RESULTS

This study observed and documented the process of Ana, a student with learning difficulties, in English as a foreign language class. Based on the data collection and analysis, some findings emerged related to the proposed questions. The starting point to understand Ana's cognitive abilities and difficulties were the therapist reports. Then, the teacher/researcher put the strategies into practice for students with learning difficulties found in the literature review. Some of the strategies were successfully applied, but others did not have positive effects. Ana had a positive attitude towards the class; however, her relationship with her classmates affected her performance. Finally, she was able to achieve listening and speaking skills, but struggled with writing and reading skills.

EFFECTIVENESS OF STRATEGIES

According to the topics of the lesson plans, the teacher/researcher implemented strategies with Ana such as reminders and working in small-groups. She also provided direct and explicit instruction and explained what was expected in social interactions as well. The teacher enhanced classmates' feedback about their performance on activities, and the student with learning difficulties was placed near the teacher and the whiteboard.

Ineffective strategies. The teacher-researcher implemented the strategies mentioned above, but not all of them produced the positive results expected. Based on the observation journal, for instance, when Ana was near the teacher's desk, it was

observed that she started to look curiously at the teacher's activities, causing her to be focused on tasks other than learning. The journal also reports instances when Ana finished the class activities quickly and offered to help the teacher, but those academic tasks were wrong or incomplete. The teacher was not successful when applying time flexibility because Ana wanted to finish her tasks at the same time as her classmates. For this reason, the teacher needed to insist that Ana take extra time for class tasks.

Helpful strategies. Some strategies and lesson aids helped Ana in English class. The teacher used visual aids, and each task was explained step-by-step with clear and comprehensible language. According to the interview, Ana reported that she likes videos and movement activities. It was also observed that Ana was able to work with classmates who could help her accomplish different tasks and give her feedback about the activities. Further, Ana was given time flexibility and positive feedback by the teacher. The teacher also reminded her each class to be ready with the school supplies she needed. Ana wrote using the handwriting she felt comfortable with; for instance, she used cursive. Most of the time, Ana's desk was near the whiteboard. Ana also enjoyed constant instruction although she mentioned that she did not like it when the teacher did not have time to answer her questions. In the observation journal, learning aids were reported, including visual and listening resources such as flashcards, videos, songs, and conversations. There were activities that involved movement, and the topics were about daily life to create real context, for example, the family. Although she was not able to give the whole information that was asked in the standards, Ana was able to express and practice some vocabulary. She was given a written test along with an oral test, and a wide opportunity to participate and express her thoughts and opinion in English class.

ENGLISH PROFICIENCY

In terms of English proficiency, it was possible to observe that Ana improved her listening and speaking skills during the period of the research. When referring to English and taking

into account the journal observation, the performance of the student in class was positive. Ana was able to speak in English using short expressions and vocabulary taught during the lesson period. When she listened to a song or video, she could identify the main vocabulary. Besides, the student mentioned that she liked to do hands-on activities related to the topics, and she believed she had improved a little bit in English.

Even though she improved in her communicative ability, Ana had trouble accomplishing the written standards. Most of the standards are aimed to develop and perform writing skills. There were certain activities involving copying from the board that Ana struggled with. She wrote according to what she heard, for example she wrote fader instead of father. In the same way, there was evidence that she was not able to read appropriately; it was difficult for her to identify the phoneme and grapheme.

ACADEMIC AND COGNITIVE ISSUES

Taking into account the diagnosis report, Ana struggled in the development of thinking processes, literacy, and establishing academic habits and routines. She also needed support to strengthen her logical mathematical thinking, higher mental processes, and progression of literacy and understanding. It was necessary to strengthen her study habits as well.

Therapist report. According to therapist report, Ana did have academic improvement in the first semester of the year. Ana presented a positive and proactive attitude, characterized by her effort and dedication to completion of the proposed tasks. Sometimes, however, she showed herself to be highly dependent. Although Ana improved in Spanish classes, she had some difficulties that were transferred to English learning.

The final diagnosis and profile reported that Ana demonstrated her knowledge in the alphabetic principle, in which each grapheme has a single phoneme correspond. She also had the ability to take dictation of words or phrases in Spanish which could be transferred to English although she usually omitted some letters. Her written texts also evidenced poor segmentation of graph-phonics as she could not separate the

syllables properly. For her, it was difficult to produce texts creatively and consistently, and she had trouble understanding all the facts when reading texts because she was easily distracted. Ana did, however, ask questions when she did not understand. As in English, the corresponding grapheme-single phoneme did not happen; Ana became confused writing in English, and she was not able to understand texts either. According to the report, during the tasks, Ana showed herself very receptive and participatory of proposed activities although she was often distracted by the tools or objects that were around her, and the teacher needed to call her attention to resume activities. It was also necessary to repeat instructions more than twice for her to internalize and assume the purpose of the tasks. Her work was then often slowed, and she required more time to complete the activities. Her work was more fruitful when she had support of an adult when working guidelines.

School support. The school provided special support to Ana in order to develop cognitive skills. The therapist report highlighted the support given to the student in the inclusion program. Ana had meetings with the school psychologist, therapist, phono audiology, and school tutoring that helped her to develop social and cognitive skills, establish positive relationships, and express her opinions and emotions, as well as reinforce values, attention, memory, and reasoning. The support was given only in Spanish, which means that there is no support in the English language outside the English class.

EMOTIONAL AND AFFECTIVE ISSUES

At the beginning, it was difficult to pair Ana up with the right partner so she could take advantage of classmates' skills and feedback. However, Ana had a positive attitude towards the class when she felt supported by the teacher. She explained her understanding of each concept of the class and feelings towards lessons, classmates and teacher. Ana also shared her opinion about visual aids, resources and activities in English class.

Empathy towards the teacher. In the interview, Ana said that she felt comfortable asking questions when there was empathy

towards the teacher, but she also felt the teacher was busy and did not pay enough attention to her. Sometimes Ana felt comfortable to ask questions even outside the class schedule. She said she asked question in Spanish because she did not understand when the teacher spoke in English.

Relationships among students. When other students looked at the flexibility given to Ana, some of them felt disappointed and made negative comments. For example, she believed her partners did not give her a correct explanation. Based on the observation, Ana worked with classmates who could help her to accomplish different tasks and could give her feedback about the activities, but she had trouble sharing with some classmates. In the interview, she pointed out that she did not like to share with some classmates because they explained things incorrectly, such as vocabulary or lesson tasks. However, she said that she did feel comfortable to share with certain classmates. Still, she believed her classmates bothered her and interrupted the class lesson.

CONCLUSIONS

This case study sought to determine the best strategies to support the learning process of a third grade student with learning disabilities in English class at the Colegio Fundación Nueva Granada, and to understand how these strategies benefit the student to achieve academic goals. During the research period, the teacher used reminders and created small working groups. The student with learning disabilities, Ana, was placed near the teacher's desk, but it was observed that she started to look curiously at the teacher's activities, causing her to be focused on tasks different from learning. Nevertheless, it was helpful to place the student close to the whiteboard in order to retain and focus her attention.

The study reported that visual and listening resources such as flashcards, videos, songs, and conversations helped Ana to understand the lessons, as well as activities that involved movement. Also, topics about daily life helped Ana to create real context; in this way, she improved in her communicative ability,

but she had trouble accomplishing the written standards. The findings suggest that it was also necessary to repeat instructions more than twice for Ana to internalize and assume the purpose of the tasks. She required more time to complete the activities, and her work was more productive when she had support of an adult. However, it was difficult for the teacher to give extra time to Ana because she wanted to accomplish the task with the same pace as her classmates. Concerning relationships, some students felt disappointed and made negative comments when they looked at the flexibility given to Ana. The student with learning disabilities mentioned that she did feel comfortable to share with and have help from certain classmates. However, she believed her classmates bothered her and interrupted the class lesson.

For Ana's condition, visual and listening sources, movement and real contexts were essential to improve her communicative skills, as mentioned by Fox (2009), who explained that meaningful activities and materials focusing on oral language as well as cooperative learning encourage students to take the lead. It is also related to Wiebe's study (2013) about providing direct and explicit instruction as a useful strategy.

In terms of group work, Ana's cooperative learning and sharing with some classmates created a negative opinion. She was able to stay on tasks and share, but with certain classmates. This supports Wiebe (2006) in terms of small groups working as a way to support peers. Also, the findings in this study are consistent with the findings stated by Wight (2015), who argues the strategy of small class sizes, as well as positive classroom culture, providing students with extra time, and reviewing and repeating constantly.

One limitation in this study was the time for observation and implementation of strategies. There were few English classes per week, so it was a short period of time to obtain a more substantial amount of data. In the same way there was only one student, she had very specific cognitive and social skills that could affect the implementation of some strategies. It would be important to focus future research to determine strategies on written skills. Due to the difficulties found in Spanish that are transferred into English classes, teachers need strategies to help

students with learning disabilities to achieve written standards in the second language learning process.

ACTION PLAN

The following action plan has been proposed to enhance learning of English as a foreign language for Ana, a third grade student with learning difficulties at the Colegio Fundación Nueva Granada, and other students with similar profiles:

- Based on Ana's profile and performance in class, it is necessary to have tasks that involve movement, which means TPR activities for learning stimulation of any topic.
- Repetition is essential during the class period to improve practices and routines. It is relevant to promote this kind of support at home.
- One method to encourage Ana or other students to learn English is to have them create cards with only vocabulary at the beginning, then expressions, and after that, complete sentences. The cards can be used to reinforce listening, speaking, reading and writing.
- It is relevant to teach one topic at a time and move forward when the student clearly understands. It is better to have few, simple activities, and make accommodation in the lesson plan making emphasis on the written standards which she is not able to accomplish yet.

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THE EFFECTS OF A MUSIC PROGRAM AMONG AT-RISK CHILDREN AND ADOLESCENTS

LOS EFECTOS DE UN PROGRAMA DE MÚSICA EN NIÑOS Y ADOLESCENTES EN SITUACIÓN DE RIESGO

Claudia Gaitán McAllister

The benefits of arts and music education are well documented. Claudia Gaitán explored the effects of a music program at the Fundación Cakike *in Bogotá, which works with at-risk children, especially in terms of the development of protective factors that might positively affect both social and academic development.*

ABSTRACT

Worldwide there has been a growing interest in the possible impact of music and arts programs on children's development, especially on children at-risk. Since no significant research has been done on the subject in Colombia, this study was carried out to identify whether learning music has any effects on a group of children who participate in a music program of the Fundación Cakike, a foundation that works with vulnerable children. Participants of the study included the children, their parents, music and academic teachers, and other community members. The data collection techniques included interviews and questionnaires with all these stakeholders. It was found that a program like the one at the Fundación Cakike positively affects students at personal, family, academic, and community levels.

Key words: Resilience, Music instruction, At-risk youth, Community music programs, Inclusion

RESUMEN

A nivel mundial existe un interés creciente en el posible impacto de los programas de música y artes en el desarrollo de los niños, especialmente niños en situaciones de riesgo. En Colombia no se han desarrollado investigaciones significativas en este tema y es por ello, que este estudio se realizó con el propósito de determinar sí aprender música tiene algún efecto sobre un grupo de niños que participan en un grupo de música de la Fundación Cakike, que trabaja con niños vulnerables. En el estudio participaron los niños, sus padres, los docentes de música y otros miembros de la fundación. Las técnicas de recolección de datos incluyeron entrevistas y cuestionarios con los actores del proceso. Se encontró que un programa como el de la Fundación Cakike afecta positivamente a los estudiantes, a nivel personal, familiar y académico.

Palabras clave: Resiliencia, instrucción musical, jóvenes en riesgo, programas de música, inclusión

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INTRODUCTION

For some time now, there has been a growing interest in the impact that music and arts programs have on children's development, especially on at-risk children. Research has strongly suggested that music may help in the development of protective factors. It has been shown that the arts provide spaces for creative and expressive explorations that allow children to engage and develop multiple skills and abilities, delivering successful and significant learning experiences. These experiences in turn help develop positive ways of adaptation to adverse situations.

Music allows children and adolescents to participate in group activities, where they make decisions, interact with peers and adults, discover themselves, find healthy ways to express emotions, are accountable with peers, feel successful, and develop the ability to enjoy life. All these experiences build pro-social competences that should reflect an increase in resilience. Music teachers develop close relationships with their students, and in the case of many of these children their teachers may prove to be the one reliable and competent adult that values and rewards children's pro-social behavior. The arts also make learning meaningful and real to children. It is interesting to see how the pro-social behavior acquired and the values developed do result in protective factors in the children involved in music programs.

Since the development of resilience involves many systems (self, school, family, culture, society, stress response, etc.), it was important to discover that such music programs help to develop personal strengths and positively affect the development and learning processes in these children. In order to discover what protective factors children may have developed as a result of participating in a music program, it was interesting to learn what all the stakeholders (children, parents, school teachers, school directors, chaperones and community leaders) think about the impact of music in the children and their surrounding environment. This is especially relevant when the setting for the program is an organization whose mission is to educate children in music and values through music.

Most studies on the effect of music programs on at-risk youth have been done in the United States, and some in Europe and Australia, but no significant research has been done on the subject in Colombia. The subjects of this study were at-risk due to poverty, poor housing conditions, violence, neglect, and the fact that they live in resource-deprived communities. The development of resilience skills in these children has been hindered by their surroundings, the experiences in their communities and a very long history of violence in the country.

The study sought to find out if this music program in Bogotá, Colombia helped students developed resilience in the face of adversity. The main inquiries were about whether a music program could have effects on at risk children and adolescents, if it can help develop protective factors, and therefore have an important positive impact on their families and communities. It was found that the program indeed had numerous positive effects on children, at different levels, personally, academically, socially and emotionally. Some of these positive influences can indeed develop protective factors in the children studied.

THEORETICAL FRAMEWORK

Early childhood development refers to the physical, mental and emotional development of human beings during the first years of life. Studies have shown that a strong foundation developed during early childhood results in a better, healthier and more effective development later. The first thing that children need to begin a healthy and strong development is an environment of relationships that start in the family, with the primary caregiver and especially the mother extending out to other adult members of the family and community. Poor attachments and relationships often lead to inadequate social, emotional and behavioral development.

We are social beings in essence and our learning processes generally take place in social settings. Thus, when families and communities face an accumulation of difficult situations or conditions, they may become vulnerable. Children that are at risk for the poorest outcomes in development are those

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that endure a buildup of situations considered as risk factors, such as poverty, criminal behavior within a community, drug abuse, poor housing conditions, physical abuse, mental illness, neglect, and violence (Benoit, Coolbear, & Crawford, 2010; Center on the Developing Child, n.d.). According to Benoit et al., (2010), "The impact of maltreatment on infants and children, particularly early and repeated abuse, is one of the most significant emotional and psychological traumas that a child can endure" (p.2).

When maltreatment is done by a primary caregiver or attachment figure a very deep and significant breach is created. The child loses not only his sense of safety and predictability of the world, but most importantly his natural source of protection, comfort, and security: his primary caregiver (Benoit et al., 2010). These authors define attachment as the tie a child has to a specific attachment figure, which he uses as a secure base for comfort and exploration. An infant seeks this person when frightened, hurt, or distressed. When threat is minimal, the child will engage in exploration of the environment.

The pattern of attachment usually develops within the first year of life (Benoit et al.), and appropriate development of attachment relationships, regulation systems, and emotional stability can be negatively affected by adverse experiences in this period. Denham and Burton (2003) explain that "emotional literacy" is just as important as any other type of learning, and it is vital in the development of children's ability to interact and form relationships with others. Furthermore, the National Research Council and Institute of Medicine (2000) states that healthy development of children depends on relationships, and the effects that previous relationships have on new ones.

In child development, nature and nurture go hand in hand; both determine the developmental pathways and outcomes for health, behavior and even competence (Keating, 2011; National Research Council and Institute of Medicine, 2000). Development is influenced both by biology and experience, which interact and build upon each other. Biologically speaking, neuron networks are shaped by how neurons work and connect, but they are also shaped by the experiences each individual has. Experiences will affect the biological development of neuronal connections, and biological aspects

will influence our vulnerability towards risk factors and the way we experience them. Even though adverse situations can also be protective, stressful experiences tend to deepen rather than minimize preexisting characteristics in individuals (Rutter, 2011). Benoit, et al. (2010) state that the body's stress response systems become impaired, producing stress hormones at harmful levels for the developing brain, when they are over activated for long periods.

Masten and Gewirtz (2011) explain that vulnerability and resilience are terms used to express the different ways in which people adapt and function in their lives, and what might explain unexpectedly poor or good adaptation in development. They define vulnerability as the "susceptibility to a specified negative outcome in the context of risk or adversity" and resilience as the "positive patterns of adaptation in the context of risk and adversity" (p. 1974). An individual is said to be vulnerable or resilient depending on the different ways he adapts to the tests experienced in his life (Masten & Gewirtz, 2011). Human development is formed by sources of vulnerability and sources of resilience that permanently interact (National Research Council and Institute of Medicine, 2000). Change in the individual is brought about when the later experiences are very different from previous ones and when she is able to manage difficult situations successfully, thus developing resilience (Rutter, 2011).

The skills that any child or person requires to deal with adversity are the same needed for healthy development of environments where learning can take place. Benard (1997) defines resilience skills as abilities that allow us to form relationships, solve problems, develop a sense of identity and self, and plan and hope for the future. These abilities include planning, monitoring, delaying gratification, solving problems, working in teams, focusing attention, developing self-regulation and executive functions. These skills start to develop in infancy based on the environment children live in and the experiences they have. Resnick (2000) refers to these as developmental tasks, which include school adjustment to school and academic achievement, developing and maintaining friendships, following rules within school, community and family, and development of a strong sense of self. Poverty, violence and neglect will hinder the

development of these skills, making children more vulnerable and at risk for poor health, behavior and even competence. However, if these skills are not developed in early childhood, they can still be developed since the part of the brain that manages these attributes does not fully mature until ages twenty-five to thirty (Center on the Developing Child, n.d.). In early childhood, effective interventions may help modify the direction of development towards more adaptive outcomes, by strengthening protection factors and lowering risk factors. We remain vulnerable to risk and open to protective influences into adulthood, allowing the individual to build upon what has been learned and experienced (National Research Council and Institute of Medicine, 2000).

What happens during the first months and years of our lives is important because it provides a firm or fragile foundation upon which to build our development. In order for individuals to develop in a healthy and appropriate manner, we need to offer our children healthy environments, both at home and in the community. Environments are best which promote relationships that are close, dependable, sensitive, and care giving, that give our children love, security, nurturance, and the possibility to safely explore their surroundings. These environments allow the process of development, which occurs through continuities and discontinuities, including a number of significant transitions (National Research Council and Institute of Medicine, 2000), to occur under better circumstances. We must also take care of the adults since a child's appropriate development depends on the health and wellbeing of his parents and the adults around him, and because although people stop growing, they continue to respond to their environment and experiences.

Masten, Herbers, Cutuli, and Lafavor (2008) define resilience in relation to competence in developmental tasks and risks to positive development, making reference to roles that are key in promoting and developing protective factors in children. Resnick (2000) states that the impact of connectedness to adults, within family, school, and community, is very important as a protective factor in children and youth. These close relationships to adults increase the opportunities for children to develop social skills and other abilities. Schools and organizations that offer

extracurricular activities are very important in the promotion of positive development and prevention of problems. In these environments children actively participate in processes that give them many positive opportunities to participate in activities that develop fundamental protective systems. The most effective activities are those that build strengths and bolster adaptive systems, develop appropriate attention and executive function abilities, boost language and mathematical skills, keep students engaged with school, teachers and peers, promote pro-social mastery experiences, and enhance pro-social leadership abilities. Deasy (2000) explains that properly designed and executed arts programs generate experiences that produce these types of positive academic and social effects in children. Learning in and through the arts has proven to be key in developing life skills and tools that enable and strengthen resilience. Hodges and O'Connell (2005) explain that the arts and music education have positive impact on academic achievement. But perhaps the most important findings are the ones that tell us that music and the arts have important impact on self-esteem, engagement and decision-making.

Gadsden (2008) states that the arts when studied as a primary area of inquiry draw on a range of conceptual frameworks, which add to students' variety of opportunities to experience thinking, social, and emotional skills. Experiences in the arts are expressive and creative explorations that enrich understanding and the ability to notice and to respond. Furthermore, the arts allow students to have greater dispositions to explore diverse perspectives; to find, pose, and explore problems; to reason and evaluate; and to find and explore analogies. Academic achievement is the collection of experiences to which students are exposed, more than the accumulation of individual learning of skills. Through thoughtful shaping of materials (being these paint, clay, musical sound, written words, or bodies in movement) the arts are an extensive domain of work that teaches ways of doing things, talents, and knowledge. However, the arts give us the freedom to imagine, and to be both observer and observed. The arts allow individuals to see the world from a different point of view by placing themselves in the situation of another, their reality, their culture, their historical time, space, and context.

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LITERATURE REVIEW

RESILIENCE

Many researchers agree that the arts engage multiple skills and abilities and deliver significant learning experiences that completely engage children, helping them develop protective factors that allow them to be resilient.

Masten and Gewirtz (2011) explain that vulnerability and resilience are terms used to express the different ways in which people adapt and function in their lives, and what might explain unexpectedly poor or good adaptation in development. They define vulnerability as the "susceptibility to a specified negative outcome in the context of risk or adversity" and resilience as the "positive patterns of adaptation in the context of risk and adversity" (p. 1974). An individual is said to be vulnerable or resilient depending on the different ways he adapts to the tests experienced in his life (Masten & Gewirtz, 2011).

Zolkoski and Bullock (2012) and Masten and Obradovic (2006) describe resilience and its research as extensive and including many concepts related to positive ways of adapting in situations of adversity. They also explain that when a child is considered as resilient, one has concluded both that the child has positively adapted and that the child's adaptation has suffered an important threat.

Masten and Obradovic (2006) report that all the research on resilience has found that adaptation depends on development and that it has multiple dimensions. Success in certain tasks during important stages of development predicts future success in other major tasks, even in new areas. Further, positive and negative outcomes in developmental tasks can affect other domains of adaptation; activities that promote success in children safeguard children from emotional and behavioral difficulties.

Masten and Obradovic (2006) and Masten, Herbers, Cutuli, and Lafavor (2008) also explain that resilience is common when the adaptive systems are accessible and operating normally in individuals and that the most powerful threats to development

occur when these systems are damaged, destroyed, or develop in abnormal ways as a result of adversity. They caution us that resilience involves multiple characteristics and processes, and that resilience is affected by many other systems, such as: learning system, mastery motivation system, core adaptive systems, stress response system, self-system, school system, religious beliefs and practices; peer system, familial system, and cultural and societal systems. Fergus and Zimmerman, (2005) and Zolkoski and Bullock, (2012) also mention these factors as being protective for youth and children. Furthermore, Resnik (2000) and Fergus and Zimmerman (2005) state that protective factors emanate from the intricate interaction of environmental processes within the family, peer groups, schools, community groups, neighborhood, and community institutions. These adaptive systems are very important since most of them are related to the capacity of the brain to self-regulate as it learns and develops, and to the social regulatory abilities needed for human relationships.

Benard (2004) summarizes the findings of long-term developmental studies of youth in high-risk environments, and concludes that all children have the ability for resilience, for healthy development, and successful learning. Personal strengths will affect this development and learning, and some characteristics of communities, schools and families will affect the development of personal strengths. Further, to begin changing the path of children's lives from risk to resilience, the beliefs of the adults that surround children must change.

Resnik (2000) mentions eight needs of young people that help their positive development: 1) participation as citizens, household members, workers, and responsible members of society; 2) experience in decision making; 3) interaction with peers and development of a sense of belonging; 4) self-discover through self-reflection with respect to others; 5) discussion of contradictory values, forming their own value system; 6) experimentation with their identity, roles, relationships and ideas without compromise; 7) accountability with peers; and 8) ability to enjoy life. "These are experiences that build social competencies, reinforce conventional, prosocial attitudes and values, set high expectations of the individual while providing

pathways to experiences of success, mastery and achievement" (Resnik, 2000, p.161).

Benard (2004) reports that studies on resilience and children in vulnerable situations including resource deprived communities, highly stressed families, involvement in delinquency, involvement in religious cults, sexual abuse, gang participation, substance abuse and growing up in poverty, performed over the last two decades, show that more children than not make it. Zolkoski and Bullock (2012) inform about the Isle of Wight Studies conducted by Michael Rutter, which began in 1964. These were a series of epidemiological studies covering educational, psychiatric, and physical disorders in children. All the participants had a background of "parental marital conflict, low socioeconomic status, large family size, parental delinquency, maternal psychiatric disorder, or placement in government care" (Zolkoski and Bullock, 2012, p. 2297). Rutter concluded that minimizing or eliminating stressors increased the probability of positive outcomes for children.

In a longitudinal study on resiliency and risk Werner and Smith (as cited in Zolkoski and Bullock, 2012) followed-up on individuals who as adolescents had problems. Their findings show that at-risk adolescents were able to change their lives in astonishing ways, making wise choices and profiting from opportunities, such as continuing their education, learning new skills, joining positive organizations, taking action to end negative relationships, choosing healthy partners and friends.

Masten (2001) reports results from variable-focused studies of resilience. These results indicate that qualities of parents and parenting, intellectual functioning, social economic status (SES), and positive self-perceptions correlate with various areas of adaptive behavior. Significant effects were found for results in academic success, IQ scores, peer acceptance, pro-social and antisocial behavior, and psychopathology ratings.

Benard (2004) shows that resilience is the product of four wide schemes of strengths: social competence, problem solving, autonomy, and sense of purpose. Research shows that an essential survival motivation is present in the development of resilience. This is a process of self-correction through "active,

ongoing adaptation to environments" (Benard, p. 11). Resiliency occurs in the milieu of family, school, and community.

Longitudinal studies found that resilient youth look for control in their lives; therefore, they look for and accept help, set goals, and are persistent. Zolkoski and Bullock (2012) explain that the presence in children's lives of an influential adult who believes in them is very important. Fergus and Zimmerman (2005) also speak of the importance of developing "close relationships, with at least one caring, competent, reliable adult, who recognizes values and rewards pro-social behavior" (p.158).

Therefore, it is the responsibility of adults to nurture the protective factors, which will allow resilience to develop. Benard describes strategies for developing resiliency strengths, such as improving the quality of the surroundings, having the presence of people with whom caring relations are developed, having high expectations, and opportunities for meaningful contributions and participation. She also states that strengths can be fostered in communities, schools, and homes, where the power of the "single relationship" (Benard, p. 109) can develop. Benard (2004) speaks of "turnaround relationships" to refer to those adults that while effectively mentoring the youth, facilitate positive change. Resnik (2000), and Fergus and Zimmerman (2005), also argue the importance of connectedness to adults, as a prominent protective factor, which enhances the opportunities to develop social skills and abilities to promote self-confidence and a sense of wellbeing, like those developed by extracurricular activities.

Meichenbaum, (2005) describes the neurobiological consequences in children exposed to victimization experiences and the trauma they suffer. These situations can influence early development, brain activity levels, regulation of emotions, sympathetic nervous system (increased heart rate and blood pressure), development of self-regulatory functions and social monitoring, development of language and memory abilities, attention, strategic planning, regulation of goal-directed behaviors, abstract reasoning, interpersonal functioning, physiology, attachment behavior, development of adaptive coping strategies and positive handling of strong emotions, and low expectations of others being able to help. He also states that

in order to counterbalance the effects of multiple victimization experiences and to support resilience in children and youth, special efforts are needed to reinforce self-regulatory systems and to provide tools that can help in their development, for example "metacognitive supports of planning, monitoring, language, memory, as well as social supports" (p. 10).

"The resilient child is one who 'works well, plays well, loves well and expects well" (Bernard, as cited in Meichenbaum, 2005, p.13). According to Meichenbaum (2005), the characteristics of children that have sustained resilience and a high adaptability to stress include: easy going temperament, problem-solving skills, social competence, autonomy, sense of purpose and a future orientation, optimism, problem-focused coping strategies, academic and social successes, and having talents valued by themselves and others in society. Masten and Reed (as cited in Meichenbaum, 2005) argue the following:

> The best-documented asset of resilience is a strong bond to a competent and caring adult, which need not be a parent. For children who do not have such an adult involved in their life, it is the first order of business ... Children also need opportunities to experience success at all ages. (p.14)

Masten (2001) tells us that the anecdotes that appear in longitudinal studies suggest that opportunities taken and choices made in critical moments have an important effect in the lives of individuals: leaving a gang, finding mentors, entering the military, finding a deeper faith, marrying sound partners, or taking any action that has positive consequences. Masten also states that the studies of adopted Romanian children, with extreme deprivation, show us some of the best evidence of resilience as to recovery to normal developmental paths once normative rearing conditions are restored. Many of these children showed evidence of physical and cognitive recovery. According to Rutter et al., "The degree of cognitive catch-up by the age of 4 years was spectacular" (Rutter et al. as cited in Masten, 2001, p. 233).

After reviewing many studies on resilience, Masten (2001) concludes that in human adaptive processes resilience is a frequent event, and that the biggest threats to human

development are those that compromise the systems underlying the adaptive processes: brain development, cognition, relationships, regulation of emotions and behavior, as well as motivation and engagement in learning. In this same publication she insists on the fact that studies continue to support the importance of a set of global factors associated with resilience include "connections to competent and caring adults in the family and community, cognitive and self-regulation skills, positive views of self, and motivation to be effective in the environment" (p.234).

ARTS EDUCATION

Many researchers have studied the impact of the arts on children and youth. Their findings show that involvement in the arts positively affect protective factors that help children to be resilient. Catterall, Chapleau, and Iwanaga (as cited in Fiske, 1999) analyzed data on more than 25,000 students from middle and high school who were followed for ten years. Part of the research focused on comparing high and low participants in the arts from the lowest socioeconomic segments. This made it possible to determine the relationship between student engagement in the arts and student performance and attitude. They made three important findings: 1) involvement in the arts and academic success are highly related and when the involvement persists in time the benefits increase and are more notable; 2) involvement in music mathematical proficiency is higher and the results are even more relevant over time; and 3) participating in theater related arts increases reading proficiency, self-concept, motivation, and empathy and tolerance for others.

Brice and Roach (as cited in Fiske, 1999) studied after-school programs for youth in poor communities for ten years. They analyzed the qualities that made extracurricular programs in the arts, sports, and community service effective for learning and development, and found that students involved in the art programs performed better than the rest. They then determined

that involvement with the arts is the most powerful agent for success in and out of school, since the arts make learning real and meaningful, involving children's' minds, hearts, and bodies. An adequate development requires multiple skills and aptitudes that foster the development of cognitive, social and personal abilities. The arts serve this purpose connecting students to themselves and to others; transforming learning environments into places of discovery, and improving learning both in school and non-school settings; encouraging self-directed learning and discovery; motivating to learn, while providing spaces for creation; giving opportunities for success; and increasing the sense of accomplishment and wellbeing in children and youth.

Gasman and Anderson-Thompkins (2003) conducted a study on self-esteem or self-image, relationships with adults, ability to cope with anger, and ability to respond to peer pressure, in an economically depressed area, where most families lived at or below the poverty level. They determined that community arts programs can help children develop protective factors that will allow them to be resilient. They found that a common characteristic of successful arts programs is that they help young people build social competence and effective problem-solving skills like cooperation and assertive communication. Likewise, children who participate in community-based arts initiatives seem to have greater tolerance and respect for difference, and seem to develop coping strategies that enable them to handle conflict, anger and frustration in better ways. Effective community-based programs also foster positive self-esteem and self-identity in youth (Fiske, 1999). Heath and Roach (1999) found that participation in the arts improved students' perceptions of self.

Brice and Roach (as cited in Fiske, 1999) studied young people and professional artists in vulnerable communities in order to understand how they develop language and learning, and how organizations dedicated to the arts enrich these processes. They found that by including young people in responsible roles, challenging them, and allowing moments of practice, trial and error, gives them skills for life. Their conclusions show that young people crave experience and productivity, and expect to play many different roles, help make rules, and take

risks doing new things. They also observed that participants in art programs exhibit more attitudes and behaviors, which combine ways of thinking, saying, and doing important things while being aware of themselves as individuals and as a group. Through planning and preparation of group projects, each person has multiple opportunities to express ideas, and to fail as well as to succeed. Planning in these organizations comes from and with young people rather than for them. This means that young people are able to practice developing future scenarios, explaining ideas, arguing for a particular idea and articulating strategies. In arts organizations, the frequency of what if questions, the complexity of hypothetical proposals, and the amount of practice give children the opportunity to practice thinking and talking like adults. This abundance and intensity of this type of language is rarely present in other settings. Working with peers and adults allows children to talk over, develop and test ideas, explain processes, build future scenarios, plan strategically, and develop thoughtful listening. These linguistic skills enable children and youth to plan, prepare, and practice, preparing them for their lives as adults. Gasman and Anderson-Thompkins (2003) also state that the arts allow for important connections between students, home, and school and contribute to personal growth and development. They conclude that community-based arts programs foster protective factors such as the development of caring relationships with adults and peers, resisting negative peer pressure, and developing self-esteem while supporting resilience. Art programs offer students opportunities to experience success and recognition for their accomplishments, and provide young people with occasions for active learning and direct participation in skill-building activities.

Oreck, Baum, and McCartney (as cited in Fiske, 1999) followed students and former students of a performing arts program in New York City public schools over 20 years. They found that arts education has an incredibly important role in helping students succeed despite the obstacles they face. Their observations show that arts programs help students achieve academic and personal potential, promoting development of the participant's identity, work habits, attitudes, and even the choices they make.

Baum and Owen (as cited in Deasy, 2002) observed children in New York City schools participating in an arts program for three years. They wanted to see if artistically talented students, in classes that integrate the arts, use more self-regulation strategies (such as paying attention and persevering) then when they are in traditional classes. They found that children in arts programs use significantly more self-regulation strategies then children not involved in the arts. Posner, Rothbart, Sheese, and Kieras (as cited in Asbury and Rich, 2008) found that executive attention is important in the control of behavior, thoughts, and feelings, and that being motivated helps to maintain attention.

Caterall (as cited in Deasy, 2002) in a longitudinal study analyzed 25,000 students in middle and high school to determine if children at-risk who were highly involved in the arts, did better on several academic indicators than those with low involvement in the arts. They found that student highly involved in the arts get better grades and do better on standardized tests. They also participate more in community service, watch less television and are more engaged in school and have more positive self-concept. Harland et al. (as cited in Deasy, 2002) studied students in five secondary schools to find out if involvement in the arts boosts general academic performance. They concluded that a wide range of positive effects derive from arts education, including personal and social development, and encouraging a positive and cohesive atmosphere in school culture. Hetland (as cited in Deasy, 2002) analyzed fifteen studies to find out if active Instruction in music enhance students' performance on spatial tasks, what the effect of music is on general inteligence, and its effect on spatial-temporal reasoning. They conclude that active music instruction leads to important improvements in spatial-temporal reasoning and other spatial tasks as well.

Kennedy (as cited in Deasy, 2002) studied children ages eight to nineteen living in residential homes and juvenile detention centers to determine if performing songs on guitar and singing increase self-esteem and self-efficacy in at-risk youth. The conclusion is that performing music is a powerful tool for improving the well-being of these children. Neville, Andersson, Bagdade, Bell, Currin, Fanning, Klein, Lauinger, Pakulak, Paulsen, Sabourin, Stevens, Sundborg, and Yamada

(as cited in Asbury and Rich, 2008) studied preschoolers from low socio-economic status (SES) families and to determine if music training improves cognition by improving attention. They conclude that learning music requires focused attention, abstract and relational thinking, and fluid intelligence also called executive control. There is ample research showing that processes of attention are key to every aspect of cognition and school performance.

METHODOLOGY

RESEARCH DESIGN

This research project hoped to uncover the effects of music and a music education program on at-risk children and adolescents in Colombia in their daily lives, and to identify how these effects were perceived both by the children and the adults in their lives, such as parents, school teachers, school directors, community leaders, chaperones and music teachers. The project intended to understand certain complex realities of human development, behaviors, and interactions. As such, the methodology used was based on the fundamentals of qualitative research. Several data collection techniques were used in order to analyze the same data from different perspectives, allowing for a methodological triangulation, and allowing for certainty in the findings. Cohen, Manion and Morrison (2007) affirm that the more the methods contrast with each other, the greater the researcher's confidence about the findings. The data collection proposed looked to explore not only the children's perception of their own development but also the perception of the adults in their lives and their beliefs with regards to the importance of music in children's lives.

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CONTEXT

The context for this research was the Fundación Cakike, a private foundation located in La Candelaria, Bogotá, Colombia. The Foundation had several projects, the largest one being AmiMusik. In this project, children in a situation of poverty and vulnerability from different areas of the city of Bogotá learn music while developing values for life. The Foundation was created in order to bring the benefits of learning music and the values that can be developed through music to children in at-risk situations. The main objectives of the program were: 1) to keep children out of the streets during their leisure time; 2) give children the opportunity to spend this time in a musical learning activity; 3) to develop strong values in them.

PARTICIPANTS

The participants in this project were children and youth in at risk situations, who were permanently exposed to poverty, vulnerability, violence, lack of opportunities, and malnutrition. Some of them were internally displaced persons (IPD), due to the conflict that the country has been suffering for many decades. The neighborhoods where they lived and went to school, were located in different parts of the city and were all areas where poverty and risk were a common denominator.

The institution had been working for four years with children ages five through eighteen. At the time of the study, the Foundation had around 280 students in Bogotá. The students attending the program had been with the institution for one, two and three years. The complete program lasts four years. Students come from other foundations or institutions that worked with vulnerable communities, with which the foundation had cooperation agreements. Students that attended school in the morning went to the Foundation in the afternoon and vice versa, allowing for a positive use of their leisure time, and keeping them out of the streets. Each group of students arrived by bus accompanied by a community leader to and from the institution. At the foundation children participated in

musical activities such as movement, rhythmic exercises, and instrumental practice. All the teachers were musicians with and interest in social change. The music program looked to teach not only music, but also to help develop values through music and the arts.

DATA COLLECTION INSTRUMENTS AND TECHNIQUES

The following data collection instruments were used:

Student questionnaire. The purpose of this questionnaire was to find out the following: a) if, before being part of the music program, children and adolescents were interested in music; b) if there was any evidence that their interest in music varied as they spent more time in the program; and, c) if there was any evidence of music having had effects in any other aspect of their lives; and to gain entry to the participants to allow for follow-up interviews.

Questions 1 and 2 were intended to obtain general information and make participants feel comfortable. Questions 3 through 5 aimed at obtaining information on the subjects' interest in music pervious to their participation in the music program. Questions 6 through 8 looked into the possible change in interests and habits of the participants. Question 9 explored self-esteem of the participants and any possible change. Question 10 delved on the participants' taste in music and hoped to detect if through the program it expanded to include different types of music. Question 11 inquired into the possibility of music having other effects in the participants as perceived by them (self reflection). Question 12 ass designed to gain access to the participants for more in depth focus groups.

During five minutes of class, at the Foundation, the researcher gave the students a short introduction about the research, then asked them if they would be willing to answer some questions. Thirty-four individuals volunteered, who then that went in groups of 6 to 10 to an area were they would feel comfortable, in order to answer the questionnaire. Each person answered one questionnaire. The researcher was present in order to clarify questions and answer any doubts on the part of the participants.

Adult questionnaire. The purpose of this questionnaire was to find out the following: a) if from the perspective of the parents or adult in the child's life, before being part of the music program, children were interested in music; b) if there was any evidence that the children's interest in music varied as they spent more time in the program; c) if there was any evidence of music having had effects in any other aspect of the children's lives; and, d) to gain entry to the participants to allow for follow-up focus groups or interviews.

Questions 1 and 2 were intended to obtain general information and make the participants feel comfortable. Question 3 looked to obtain information on the subjects' interest in a music program pervious to their children's participation in the Foundations program. Questions 4 and 5 were designed to learn about the adults' perceptions of the children's interests in music. Question 6 examined what adults' observed as possible changes in interests and habits in their children. Question 7 explored the adults' understanding of other possible effects of music in the children. Question 8 was designed to gain access to the participants for more in depth focus groups or interviews.

During meetings organized at the Foundation for adults the researcher gave them a short introduction about the research, then asked if they would be willing to answer some questions for me. Eleven individuals volunteered. Each person answered a questionnaire. The researcher was present in order to clarify questions and answer any doubts on the part of the participants.

Adult interviews. The purpose of the interviews with adults present in the children's lives was to further examine the perception that adults had as to how music affected, if at all, the children's attitudes and their daily lives, academically, attitudinally, socially at school, at home, and in their community. A total of eight adults were interviewed: two parents, two community leaders, two academic content teachers, one music teacher, and one school principal. All interviews were done one on one, at the location that best suited the person being interviewed. Some volunteers conducted the interview on the same day they answered the questionnaire, at the foundation. Others were interviewed in their neighborhoods or in their place of work, depending on the availability of time of each person.

The questions for the interviews were:

- ¿Los niños han cambiado en alguna manera desde que ingresaron al programa de música?
- ¿Qué sucedió cuando los niños ingresaron al programa de música?
- ¿Qué ocurrió en la fundación con los niños a medida que aprendían música?
- ¿Cuál es su experiencia con el aprendizaje de la música en los niños?
- ¿Hay algo que usted considere que la música haya ayudado a cambiar en los niños?
- ¿Cómo o en que le ha habido cambios?
- ¿Qué ventajas o desventajas ve en aprender música?

DATA ANALYSIS AND INTERPRETATION

Coding, graphing and quantification exercises were conducted in order to analyze and interpret the data gathered. Categories were constructed that were common and repetitive.

Student questionnaire. The information in every questionnaire was classified, quantified, charted, and graphed in order to see how the children responded to each question. Questions 4 through 10 were quantified to see where the children were before entering the music program and how they were after participating in the music program. Question 11 was coded to and different categories were constructed that were common and repetitive in this instrument.

Table 1. Categories resulting from content analysis of question 11 on the Student's questionnaire.

Category	Code	Description
Collaborative Work	CollWork	This refers to any time an interviewee mentions the issue of a student's ability to work together to obtain a common goal.
Commitment to Learning	CommitLearn	This refers to any time an interviewee mentions the issue of a student's ability to learn in a group or individually by practicing, listening, and asking and therefore improve.
Communication Skills	ComSk	This refers to any time an interviewee mentions the ability to express himself in a healthy, positive and assertive manner or to listen to others in the same way.
Feeling of Happiness	Hap	This refers to any time an interviewee mentions feeling good inside, expressed as happiness or joy.
Increased Coordination	Coord	This refers to any time an interviewee mentions development of physical coordination or an increased motor skill due to the experience in the music program.
Positive View of Future	PosVFuture	This refers to any time an interviewee mentions the issue of a student's ability to see the world, its problems and opportunities in a different and more positive light
Recognition by Others	RecbyO	This refers to any time an interviewee mentions the issue of an adult in a students´ life, like a parent or a teacher, recognizing an ability or progress in the child.
Self Esteem	SelfEst	This refers to any time an interviewee mentions the issue of a student's ability to feel good about a newly acquired knowledge or skills.
Self Accomplishment	SelfAcc	This refers to any time an interviewee mentions satisfaction or feeling good about his learning accomplishments or being able to show what they have learned.

Adult questionnaire. The information in every questionnaire was classified, quantified, charted, and graphed in order to see how the adults responded to each question.

Questions 4 through 7 were quantified to see where, from the adults' perspectives, the children were before entering the

music program and how they were after participating in the music program. Question 8 was coded and different categories were constructed that were common and repetitive in this instrument. These themes were divided into many of the same categories as above, with the addition of leisure time, respect for self and others, self-discipline.

Adult interviews. After analyzing both student and adult questionnaires, a series of possible questions was designed for the follow-up interviews with different adults present in the students' lives, parents, community leaders, academic content teachers, music teachers, and school principals.

In general, the interviews sought to clarify issues or questions that arose form the observations. They were also intended to further examine the perception that adults had as to how music affected, if at all, the children's attitudes and their daily lives, academically, attitudinally, socially at school, at home, and in their communities.

When conducting the interviews, notes were taken and transcribed. These notes were also analyzed using content analysis to identify recurring themes. These themes were divided into many of the same categories as above, with the addition of academic progress and opening up to others' views.

RESULTS

In general, it was documented that specific skills that allow children to flourish and be resilient in the face of difficulties are greatly developed through the process of learning music. Students learn how to be respectful when listening and communicating both with adults and peers. They become interested in their learning and therefore, becoming committed to their learning processes, which is reflected in the development of self-discipline, persistent practice, and teamwork. Being aware that they are learning, and that what they are learning is special allows them to develop further self-esteem. Self-esteem boosts the ability for students to see the world in a different light, allowing them to see opportunities for their future where none could be seen before. Parents and other adults notice the

new abilities and feel proud of their children. Children then want to learn more and discipline themselves even further to learn more. Students learning music are able to transfer these abilities into other areas of their lives, like family, academic and schoolwork, and neighborhood. This positively affects the child, the family and their community, generating an overall positive effect in the students' life.

COMMUNICATION SKILLS

When learning music, students learn how to be respectful when listening and speaking. Their communication skills improve both with adults and peers, and it has been documented that the children's ability to express themselves in a healthy and positive manner improves their relationships with others. It was documented that, after beginning learning music, parents, community leaders, and teachers noticed that children expressed their emotions and needs in a more respectful and assertive manner and were able to listen respectfully to their counterparts. This affected family life in a positive manner. A mother of two children who participated in the music program said, "Their Communications with friends and adults in their life have gotten better. They are not shy and they are respectful."[10] It was reported that children in the music program who started out very shy became less so and participated more in class. The same was reported of very energetic and restless children, who were calmer and more focused on their learning after participating in the music program. It was also reported that socially children developed better communication with peers, allowing them to make friends.

INTEREST IN THEIR OWN LEARNING

When learning music, students develop interest in their own learning and acquire commitment to their learning processes,

[10] "Su comunicación con sus amigos y los adultos en su vida ha mejorado. No son penosos y son respetuosos"

which is reflected in the development of self-discipline, persistent practice, and teamwork. It was reported that students participate more and become interested in learning more. Both parents and teachers reported that students became commitment towards their learning process. A Spanish, English, and Mathematics teacher at the Fundación Ayuda por Colombia, said, "They are more committed with their homework, with their duties. They are more self- disciplined."[11] Teachers also reported, as did a support teacher for school work for children in preschool through primary at the Fundación Ayuda por Colombia, "Their concentration has gotten better, they follow instructions in a better way, and they are attentive to what will be happening in class."[12]

DEVELOPMENT OF SELF-ESTEEM

When students become aware that they are learning, and that what they are learning is special and important for them, their self-esteem is strengthened. Students reported spending more time at home practicing their instrument. Adults reported seeing their children happy while they learned, and wanting to show their new knowledge or skills to their families and friends. A community leader from the Fundación Internacional María Luisa, who accompanied the children in the program, reported that students "have great interest in being prepared, they sit down to practice. You see their interest in doing things well. On their own, they do what they have learned. They do it expecting to touch other children and adults."[13] A music teacher at the Fundación Ayuda por Colombia reported, "I see

[11] "Están más comprometidos con sus tareas, con sus obligaciones. Son más auto disciplinados."

[12] "La concentración ha mejorado, siguen instrucciones mejor y están más atentos a lo que va a ocurrir en clase."

[13] "Tienen un gran interés en estar preparados, ellos se proponen ensayar. Se ve el interés que tienen en hacer las cosas bien. Ellos mismos hacen lo que han aprendido. Lo hacen con la expectativa de llegarles a otros niños y a los adultos."

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a self-imposed discipline. While I get to class they rehearse, it is their own initiative. That says a lot, they play, repeat what they have in their memory, but together because together is fun. It has happened that they teach each other, they inherit their knowledge to other children: "who will be playing my part? I can teach it to you?" They teach each other things."[14]

Self-esteem boosts the ability for students to see the world in a different light, allowing them to see opportunities for their future where none could be seen before. All participants, parents, teachers and students reported that after being part a of a music program, a positive view of the future was developed. Children stated that they had positive hopes for their future. A Spanish, English, and Mathematics teacher at the Fundación Ayuda por Colombia, said, "Learning music has generated in the children a wish for progress, discipline, and it has awakened in them dreams for the future, they want to become something different from what they see in their community everyday."[15] It was reported that children acquired a larger view of the world, that they were looking at things happening beyond their families and neighborhood, allowing them to see a very different and much more positive world. This allowed children to think about their future in a positive way, allowing them to dream about a great future.

THE IMPORTANCE OF BEING RECOGNIZED

When parents and other adults present in students lives notice the new abilities and feel proud of their children, students discipline themselves even further in order to learn more.

[14] "Veo una disciplina autoimpuesta. Mientras yo llego ellos van ensayando, por iniciativa propia. Eso dice mucho, están tocando, repitiendo lo que tienen en la memoria, pero juntos porque juntos es rico. Por iniciativa propia ha sucedido que entre ellos se enseñan, se "heredan" el conocimiento: "quien va a tocar mi parte? Yo se la puedo enseñar". Ellos se enseñan cosas."

[15] "El aprender música ha generado en los niños un deseo de progreso, disciplina y ha despertado en ellos sueños para el futuro, quieren llegar a ser algo diferente a lo que ven en su comunidad todos los días."

It was reported that parents feel good seeing their children learn skills that help them see the future in a positive manner. Children also expressed feeling joyful when they performed. The joy came from being able to show their talent and skills. With children who had been catalogued by teachers as problematic, it was interesting to see that being in a music program allowed academic subject matter teachers to see their students in a different light. Seeing them perform, being organized and successful in another context allowed children to show a different type student. The Director of the Fundación Hogar Nueva Granada said that "If a teacher sees a student in a different way, the student will feel different."[16]

TRANSFERABLE SKILLS

Students learning music were reported to have transferred the skills and abilities attained through the music program into other areas of their lives, like family, academic and schoolwork, and neighborhood. A mother to two children in the program stated that students "Started to have positive changes, they became more responsible and disciplined, especially with their school things. They began to get better at the different subject-matters, making more effort, on their own."[17] Parents reported seeing their children make friends in an easier manner. When children and families begin to have hope in a better future it positively affects the child, the family and its immediate community.

[16] "Si un profesor ve a un estudiante de una manera diferente, el estudiante se siente distinto."

[17] "Empezaron a tener cambios positivos, se volvieron más responsables y disciplinados, especialmente con sus cosas del colegio. Comenzaron a mejorar en diferentes asignaturas, haciendo más esfuerzo, ellos solitos."

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CONCLUSIONS

This study sought to find out whether or not a music program at the Fundación Cakike could have any effects on the at risk children and adolescents who participated in it, and what the effects of such a program could be. It also looked to find out if such a music program developed protective factors for resilience and if the children and adolescents in the program could become agents of change in their homes and communities.

Based on the findings of this study, it was possible to draw a number of important conclusions. It was found that the children participating in a music program developed a series of skills and abilities that allowed them to feel successful and proud about their achievements, and develop self-esteem. This feeling of accomplishment affects many systems, like the learning system, mastery motivation system, stress response system, self-system, school system, peer system, familial system, and cultural and societal systems. This corroborates the findings Masten and Obradovic (2006) and Masten, Herbers, Cutuli, and Lafavor (2008), that state that when these systems are positively affected, protective factors arise and resilience is generated.

When students in the program showed their knowledge and skills to others, they connected to themselves, their learning, to parents, and to other peers, therefore improving learning, encouraging self-discipline, and their academic performance. This corroborated what Catterall, Chapleau, and Iwanaga (as cited in Fiske, 1999) found in a longitudinal study that found that involvement in the arts and academic success were highly related. They concluded that the arts are the most powerful agent for success in and out of school, since the arts make learning real and meaningful. They found that showing their knowledge and skills to parents and other peers and adults connected students to themselves and to others improving learning, encouraging self-directed learning and discovery; motivating to learn, while providing spaces for creation; giving opportunities for success; and increasing the sense of accomplishment and wellbeing in children and youth.

Children in the music program developed social skills like assertive communication, and teamwork, which

positively affected the mechanics within the families and communities. This coincides with the findings of Gasman and Anderson-Thompkins (2003) where they identified a common characteristic of successful arts programs as being that they help young people build social competence and effective problem-solving skills like cooperation and assertive communication. It offers students opportunities to experience success and recognition for their accomplishments, and provide young people with occasions for active learning and direct participation in skill-building activities.

It was found that the students in the music program transferred the social and learning skills they acquired while learning music, into the academic realm. This corroborates finding in several studies. Oreck, Baum, and McCartney (as cited in Fiske, 1999) observed that arts programs help students achieve academic and personal potential, promoting development of identity, work habits, attitudes, and even affect the choices they make. Brice and Roach (as cited in Fiske, 1999) found, that by including young people in responsible roles, challenging them, and allowing moments of practice, trial and error, gives them skills for life. Caterall (as cited in Deasy, 2002) found, that student highly involved in the arts get better grades and do better on standardized tests. They also participate more in community service, watch less television and are more engaged in school and have more positive self-concept. Harland et al. (as cited in Deasy, 2002) found that involvement in the arts boost general academic performance, since a wide range of positive effects derive from arts education, including personal and social development, and it encourages a positive and cohesive atmosphere in school culture.

All the findings show that the process of learning music, and playing music in groups develop in children social skills and pro-social attitudes and values like team work, accountability, and assertive communication. This corroborates what Resnik (2000) mentions as the eight needs of young people to have positive development: 1) participation as members of a social group, in this case, members of a musical program; 2) experience in decision making, in learning music they must decide how to play, when to play and how to participate; 3) interaction with

peers and development of a sense of belonging, being part of a musical ensemble; 4) self-discovery through self-reflection with respect to others, while learning music children have the opportunity reflect upon their tastes and roles; 5) forming their own value system; 6) experimentation with their identity, roles, relationships and ideas without compromise within the ensemble; 7) accountability with peers, everyone in the group must work in order to produce quality music; and 8) ability to enjoy life, both students and adults reported children feeling happy.

However, despite this study having answered all the proposed research questions, there were certain limitations in the research process that did not allow further findings. It was not possible to observe the music classes, academic classes, or community activities and relationships. This would have been helpful to identify which elements learned were effectively being transferred into community and academic relations, and whether certain academic subject matters are positively affected more than others. It is suggested for later studies, more observation is dedicated to music teaching experiences with the objective of finding specific traits, skills and abilities acquired in musical learning that students transfer into the different areas of their life; to identify which areas of learning are more positively affected; and to determine how students develop resilience in their daily lives.

ACTION PLAN

The proposed plan of action based on this study on the effects of music programs on children and adolescents in at risk situation could include the following:

- Establish similar programs to cater to other children in at risk situations in different communities.
- Develop a framework defining elements of a high impact musical program.

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THE HANDWRITING WITHOUT TEARS AND ZOO PHONICS PROGRAMS AS INTERVENTIONS FOR PRESCHOOL CHILDREN WITH DIFFICULTIES IN EARLY LITERACY SKILLS

EL IMPACTO DEL PROGRAMA HANDWRITING WITHOUT TEARS AND ZOO PHONICS EN ESTUDIANTES DE PRESCOLAR CON DIFICULTADES DE LECTOESCRITURA

Luisa Fernanda Castellanos

Luisa Fernanda Castellanos explored the issue of dyslexia and the importance of early literacy skills in identifying and possibly rectifying childhood reading difficulties. Her exploration led her to document and describe two school-based programs for supporting early literacy skills in preschool and primary grades.

ABSTRACT

The purpose of the research project was to describe interventions with the *Handwriting without Tears* and *Zoo Phonics* programs used to support children's early literacy skills by studying the components of these programs and analyzing teachers' perspectives on the effect of these programs on students from a very early age. A questionnaire was given to K4 teachers and specialists from a private international school in Bogotá, and later a follow up interview was conducted with five K4 teachers. The results showed that teachers recommend and use both the *HWT* and *Zoo Phonics* programs daily as part of their curriculum and as support for the identification and intervention of struggling students in K4. They believe that both programs are crucial for identification and intervention of struggling students in early literacy. They also report some environmental and emotional factors, as well as difficulties that children have in early literacy skills. Furthermore, teachers report that differentiation is also crucial to help students achieve their desired level, and that support from parents is necessary in order to guarantee success in school.

Key words:

Dyslexia, Handwriting, Literacy, Early literacy, Emergent literacy, Phonics instruction

RESUMEN

El propósito de este estudio fue describir las intervenciones respecto al uso de los programas *Handwriting without Tears* y *Zoo Phonics* para apoyar la adquisición temprana de habilidades de lectoescritura en los estudiantes mediante el estudio de los componentes de ambos programas y el análisis de las perspectivas de los docentes sobre el efecto de dichos programas en niños desde edad muy temprana. Se entregó un cuestionario a los docentes de K4 del colegio y posteriormente se entrevistó individualmente a cada docente para profundizar en sus respuestas. Los resultados mostraron que los docentes recomiendan el uso diario de programas como *HWT* y *Zoo*

Phonics como parte de su currículo, además de proporcionar el apoyo necesario para la identificación y tratamiento de niños con dificultades en K4. Los docentes consideran que ambos programas son cruciales para identificar e intervenir a niños con dificultades en lectoescritura. Adicionalmente, reportan algunos factores emocionales del entorno, además de las dificultades que los niños tienen durante la adquisición de habilidades de lectoescritura. Igualmente, los docentes manifiestan que la diferenciación es también importante para ayudar a los estudiantes a lograr el nivel deseado, y que el apoyo de los padres es necesario para poder garantizar el éxito en el colegio.

Palabras clave:

Dislexia, escritura, lectura, lectoescritura temprana, lectoescritura emergente, instrucción de fónica.

INTRODUCTION

Reading difficulties have been a growing issue in schools during the past 20 years. Today, more and more children are being identified as struggling readers, but only a small number of these are identified during the preschool years. Many students reach primary, elementary, middle, or even high school without their teachers or parents ever realizing that they were struggling, and thus without getting help. For these unidentified students, school is a constant struggle between paying attention, trying to understand, and trying to keep up with their classmates.

Conventionally, teachers focus on the disruptive student and not on the quiet, introverted one. In this way, some students are not identified and their needs thus ignored. Moreover, studies have usually focused on analyzing older students' reading ability and on later interventions to help them. In recent years, researchers have begun to study younger children. Instead of focusing solely on literacy skills, they have begun to analyze early and pre-literacy skills to identify the struggling reader from a very early age. Within these skills, they have studied a child's phonological awareness, print awareness, vocabulary, working memory, as well as behavioral issues, in order to help identify the child's issues when reading.

Research has also focused on finding interventions that can help these students, and how these interventions can be applied during the course of many years, not only in one specific group or grade level. These studies have used a myriad of techniques such as Tier 2 interventions, behavioral interventions, and phonological awareness interventions, among others. None of these studies have focused on the *Handwriting without Tears* or on the *Zoo Phonics* programs or their impact on preschool early literacy skills. Moreover, there are no studies that specifically study dual language learners in Colombian schools who are expected to acquire literacy skills in both English and Spanish. For this reason, the present research aimed to study all of these variables.

The research was focused on studying how programs like *HWT* and *Zoo Phonics* impact students' early literacy skills and how teachers can use them as early detection and intervention tools to help struggling students. The study determined that teachers can use these programs as detection and intervention tools for students as well as help struggling students acquire literacy skills from a very early age.

THEORETICAL FRAMEWORK

DYSLEXIA

One of the most common learning disabilities in the classroom is dyslexia, a language-based impairment in which the child has difficulty receiving, storing, processing, retrieving, or communicating the written word. Dyslexia is a learning impairment that affects neurological processes but not intelligence. According to Sousa (2007), it is a disorder of varying severity. While in some cases, according to Nevills & Wolfe (2009), it stems from a neurological basis that affects word analysis and decoding, and can also be caused by environmental factors. In the case of *developmental dyslexia,* the child exhibits difficulties in reading and speaking from a very early age, even when their intelligence, environment, and senses are intact. This may be due to *linguistic* and *nonlinguistic* causes. Sousa (2007) further lists some indicators of dyslexia:

> Difficulty recognizing written words, difficulty rhyming or sequencing syllables, difficulty determining the meaning or main idea of a simple sentence, difficulty encoding words—spelling, poor sequencing of letters or numbers, delayed spoken language, difficulty separating the sounds in spoken words, difficulty in expressing thoughts verbally, confusion about right- or left-handedness, difficulty with handwriting, possible family history of dyslexia. (loc. 2164-2176)

People with reading difficulties may some have trouble in any or more of these areas, but not all struggling readers have dyslexia. Due to the memory and attention abilities required for reading comprehension, many children with ADD (formerly ADHD), may have reading difficulties such as dyslexia. This deficit in reading abilities can be caused by many things, environmental and biological, or in some cases both (Nevills & Wolfe 2009; Sousa 2007). Sousa (2007) describes the effect of environmental factors, and social and cultural circumstances, such as little language exposure in preschool, language differences between school and home environments, letter formation and sound, vocabulary, and reading comprehension. Physical or biological factors include sensory impairments in one or more areas, as well as intellectual capabilities.

Reading difficulties that are environmental in nature occur when reading ability is affected by external factors, with no relation to a biological cause. According to Nevills & Wolfe (2009), instructional, socioeconomic, ethnic and second language factors, as well as early language development can affect reading difficulties. Instructional factors include poor school resources, such as little teacher preparation and training, large classes; or constant absences due to unstable homes, illness, or neglect of the child's academic and basic needs. These affect children's performance on expected standardized goals that do not reflect or meet their individual needs. Socioeconomic, ethnic, and second-language factors affect children with limited resources and of more modest schools who tend to have low expectations for the future; as a result, their grades and school accomplishments are equally deficient. Furthermore, minority groups and ESL (English as

a Second Language) students tend to find reading hard and boring due to their inability to understand or even relate to the story being read (Sousa, 2007). Moreover, Nevills & Wolfe (2009) believe that criminal records and substance abuse are also consequences of reading difficulties in school.

Early exposure to language and constant reinforcement from an early age can make a difference in a child's reading abilities. If a child is not exposed to the language before reading, then he or she will have difficulties understanding phonemic rules and structure. Bennett and Shaywitz (as cited in Nevills & Wolfe, 2009) found that reading difficulties may not be purely biological in nature, but may involve an accommodation of certain neural pathways that rely on the memory part of the right hemisphere to read. This means that reading is not a mechanical language based act, but rather an act of memory and retrieval. Moreover, the right hemisphere seems to be involved also in the emotional significance and production of language, which means that while reading, every emotional response triggered by it has a direct correlation to memory as well.

When speaking languages like Spanish, it is more difficult to detect reading disabilities than when the language spoken is English. This is because Spanish has accurate letter to sound correspondence, or *shallow orthography*. In English, the opposite is true, in which there is *deep orthography.* For an ELL learner, having trouble reading in English is very common due to *deep orthography.* As teachers, we must review the child's reading abilities in both English and Spanish in order to truly identify reading difficulties, as opposed to a process of second language mastery. Sousa (2007) also believes that culture plays an important role in identifying reading difficulties as certain languages do not use the tradition alphabet but instead use their own symbols, such as Chinese. Even the directionality of the reading such as in Arabic, where reading is from right to left. These factors can also be accountable for many difficulties in second language learners that need to be taken as such and not as evidence of a reading difficulty.

In terms of brain biology, there is no unique structure that is in charge of reading, language or memory. It is within many locations in the brain that the ability to receive, store, process,

retrieve or communicate information occurs. Nevills and Wolfe (2009) summarize it in the following statement:

> Within the cortex lie the abilities that make us uniquely human—the abilities to take in and process sensory data, communicate using language, be aware of what we are thinking (consciousness), recall the past and plan for the future, be aware of our emotions, create theories, move our body parts, and perform a myriad of other functions, including our ability to read. (p. 19)

People's ability to read and process language may be affected if injuries or deficits occur in the cortex.

In developmental dyslexia there are linguistic causes, such as the inability to reproduce word and letter sounds, known as *phonological deficits.* The difference in the visual and auditory processing speeds refers to the brain's inability to have both systems working at the same time; These structural differences in the brain, such as less gray matter lead to deficits in working memory, including the inability to retain long sentences or to retrieve letter sounds in the moment one reads a word. This causes the person to lose focus on the task at hand and have to repeat the process many times.

Genetics and gender are also related to severe reading disability, involving a missing link in the DCDC2 gene (Kaminen, et al.,; Schumacher, et al.; as cited in Sousa, 2007) Furthermore, studies show that often the loud and troublesome behavior of boys causes them to be overly misdiagnosed with reading disorders while the quiet and stable behavior of girls causes them to be underdiagnosed in many cases.

Lesions in the word form area include damage in the "left occipito-temporal area of the brain," which in good readers is used to decode written text (Sousa, 2007, loc. 2113). Lastly, word blindness is the inability to read words even when eyesight is not impaired. It can also be congenital, meaning that the defect was from birth or acquired due to a stroke or trauma. Research also shows that the disorder may be caused by a disruption in the neural regions in charge of language and phonological processing, or in some cases, in other nonlinguistic areas of the brain (Sousa 2007).

Nonlinguistic causes for reading difficulties include deficits in the perception of sequential sounds, which are the brain's inability to detect and discriminate sounds presented in rapid succession" (loc. 2128). Sound frequency discrimination refers to the person's inability to differentiate between different frequencies. Detection of target sounds in noise is caused by an impediment in detecting tones. Visual magnocellular-deficit hypothesis is the inability to detect motion or to discriminate between it. Motor coordination includes deficits in reading, writing and spelling due to problems within the cerebellum.

Aphasia is a type of neurological injury that affects speech and language comprehension. There are three types of *aphasia. Wernicke's aphasia* is when a person can speak fluently but cannot understand what is being said so their answers do not make any sense. Conduction aphasia occurs when the pathway to Wernicke's area is disrupted so the person cannot repeat what they are being told. Lastly, Broca's aphasia is a neurological difficulty in speech production in which the person can understand what is being said but cannot produce coherent words or sentences when speaking.

Another biological factor includes injuries or damage to the Angular Gyrus. This is where the visual processing and the language systems connect to recognize, process, and reproduce language, and is necessary for phonemic awareness in written form. The angular gyrus is crucial in multi-sensorial integration between auditory and visual processing, which means that damage to this area has serious consequences in the reading and writing processes.

Subsequently, the visual processing system is where the eyes receive light from objects and turn this information into electrical impulses that are then sent to the thalamus, from there to the visual cortex, where it is turned into a visual pattern that the brain recognizes as words and thus begins the reading process. People with reading difficulties show little to no activity in the V5/MT region of the brain, where motion detection occurs, while people without no difficulties show a great amount of activity. As a consequence, Eden et al. (as cited in Nevills & Wolfe, 2009) propose that dyslexia is a "discrete brain disorder" that may be caused by a visual processing deficit and not a language deficit (p. 30).

The auditory processing system is also involved in reading. Deficits to this area of the brain include those in which some consonants may be mixed with others, changing words and their meanings (Sousa 2007). For people with unimpaired reading skills, these consonants can be easily changed, thus creating the right phonemes and then the right words. When reading, both frontal and posterior regions in the left hemisphere of the brain are activated. However, when a person has dyslexia or any reading difficulty, the functions of Wernicke's area and the Angular Gyrus are diminished. In addition, the frontal areas must compensate for their inactivity (Nevills & Wolfe 2009; Sousa 2007). When people read aloud, this activates certain parts of the brain, while reading silently activates others. In this way, when reading, the first thing that occurs in the brain is for it to recognize something as a sound. After further processing, the brain decodes these sounds and turns them into words and speech. Bookheimer explains this further:

> Educators are often surprised to learn that in an fMRI or PET scan (which depicts activity levels in the brain) the auditory cortex is active even when a person is reading silently. This occurs because the brain is busy processing all the "sounds" associated with reading through an activity called *subvocalization,* just as it would be if the person were listening to someone speak. (as cited in Nevills & Wolfe, 2009, p. 3)

When speaking of the language /reading pathway, it is important to view it as a hierarchy or skill varying from semantics, syntax, and discourse on the higher level, and decoding on the lower level. According to Nevills & Wolfe (2009) and Sousa (2007), while oral language is innate, reading is something for which the brain has to train and learn arbitrarily. Sousa (2007) also agrees on how the brain is not naturally ready for reading. This means that it is not an innate but acquired skill. Neuroplasticity theory can account for the brain's ability to learn how to read, by adapting other pathways and mechanisms to this task. For it to become something automatic, it needs to rely on implicit memory in order to make it more natural for the brain to process it.

LITERATURE REVIEW

Literacy skills are a fundamental part of a child's learning process. It is at these stages that the child acquires phonological awareness, print awareness, letter knowledge and vocabulary, among others. Any difficulties that may surface during these processes can be a sign of some learning delay in the future. The following review examines studies that focus on the predictors of learning difficulties in preschool, the environmental and emotional factors that influence early literacy skills, and some interventions similar to the *Handwriting without Tears* program.

EARLY PREDICTORS OF LITERACY DIFFICULTIES AND ABILITIES IN PRESCHOOL

Studies reveal that there are many predictors of emergent literacy skills and difficulties that can be detected from a very early age. Girard (2013) states that when a child practices letter sound and formation at home, his literacy skills improve at school. This means that the more the child is exposed to phonemes, the easier it will be to identify and manipulate them to create words or sentences. The influence of letter knowledge during the development of phonological awareness is examined and extended to include earlier emerging units of sound. It is also discovered that by examining this influence in depth, the development of phonological awareness occurs much earlier than what was originally thought (Lerner & Lonigan, 2016). Furthermore, according to Verhoeven, van Leeuwe, Irausquin, and Segers (2016), lexical accessibility is also a strong predictor of successful literacy skills by enabling the child to retrieve the lexical information to understand content. This along with phonological awareness are fundamental skills in the reading process (Verhoeven, et al., 2016). In addition, another factor, according to Girard (2013), is peer rejection, which is a predictor of phonological awareness difficulties that enables solitary behaviors in the child, and impairs his ability to cope with his difficulties and in time may worsen them. Furthermore, Câmara Costa, et al. (2013) describe how reading success in later school years can be predicted by how a child in preschool excels in phonological awareness and letter knowledge.

ENVIRONMENTAL FACTORS INFLUENCING EARLY LITERACY SKILLS

In addition to vocabulary and letter knowledge, there is significant research on the role of books and family reading time in the improvement of early literacy skills. According to Davidse, de Jong, Bus, Huijbregts & Swaab (2011), storybooks were a tool to determine how literacy skills improve with a good home literacy environment. Moreover, Geske & Ozola (2008) believe that for the only child or the child with one sibling, literacy achievements are more evident due to the fact that they have more books to themselves and their parents have better educational backgrounds. This is also due to constant reinforcement of reading habits from both parents and teachers, which in turn is paramount to improving literacy skills from a very early age. Swan (2009) also believes that children with a large number of books available to read at home have better chances of improving their emergent literacy skills than those where books are limited or parents are not involved as much with the child's reading progress. Moreover, according to Geske & Ozola (2008), socioeconomic standing influences a students' learning and reading abilities. Swan (2009) also believes that emergent literacy skills are directly affected by socioeconomic status. This means that children that live in moderate to high income households have better chances to succeed than those who live below the poverty level. Similarly, another study by Byrne, et al. (2006) revealed that print awareness, vocabulary and grammar morphology were the most affected traits in twins within a shared environment.

Geske & Onzola (2008) state that when starting the preschool years, parental support and collaboration is crucial. As they grow, this necessity lessens. Other environmental factors, denominated as comorbid by Muter & Snowling (2009), include ADHD, depression and bullying. These are strong predictors of future reading difficulties. If the protective factors exist, such as good verbal skills, and the timing of interventions given is adequate, it can help improve literacy skills in children.

EMOTIONAL FACTORS INFLUENCING EARLY LITERACY SKILLS

As mentioned above, ADHD is one of the environmental factors affecting a child's literacy skills. Along with the others mentioned by Muter & Snowling (2009), attention problems are also strongly associated with emergent literacy skills, especially for middle-income students (Lonigan, et al., 1999). Reading skills and ADHD are strongly related, especially when exploring the effects of the former over the latter in preschool (Lonigan, et all., 1999). Inattentive children in the class struggle with reading skills and word recognition. A child whose family has a history of reading difficulties is at a higher risk of struggling in school or of having attention difficulties (Câmara Costa, et al., 2013).

Other influences that may affect emotional factors include the teachers' ability to manage behavior in the class and to detect when children are struggling. Gage, MacSuga-Gage, Prykanowski, Coyne & Scott (2015) state that teachers with good behavior management skills can help students improve their early literacy skills and their grades, whereas for poor behavior managers, the opposite is true.

Lastly, familial conflict can also be a strong emotional factor that affects the child's literacy skills. According to Froyen, Skibbe, Bowles, Blow and Gerde (2013), high emotional expressivity in mothers enables more successful home learning environment opportunities. In turn, a child's level of exposure to home learning environment activities enables him to improve his literacy achievement and literacy skills. Other familial factors such as disruptive family dynamics, detachment and negligence are, according to Muter & Snowling (2009), strong predictors of future reading difficulties.

INTERVENTIONS WITH PRE-K STUDENTS

Different interventions have been proposed to help students improve their phonological and print awareness, among other traits developed in early literacy skills. One of these interventions is the *Handwriting without Tears* program created

by Occupational Therapist Jan Olsen. She discovered that like her son, many students were struggling with literacy skills and having trouble learning and recognizing letter sound and formation. Shen developed a program that uses multisensory tools to teach phonological awareness and to master print awareness.[18]

The following studies developed different interventions that are similar to the *HWT* program and seek to improve literacy skills in children from preschool to 4th grade. The first study aimed to examine the effects of an intervention designed to improve the reading ability of students at risk for reading delays in preschool. The study revealed that the Tier 2 intervention designed to enhance literacy skills in preschool children succeeded in improving children's skills and also lowered the risk of future difficulties (DeLucca, Bailet, Zettler-Greele & Murphy, 2015). Bailet, Repper, Piasta and Murphy (2009) developed a multiyear study in preschool designed to test the improvements in early literacy skills of students who were also at risk of reading delays. In the first year of the intervention, the study demonstrated successful results for students and showed improvement in their reading abilities. In years two and three of the study, according to Bailet, Repper, Murphy, Piasta & Zettler-Greeley (2011), intervention demonstrated considerable improvement in the following years of the study. Student reading abilities showed significant reduction of risk in reading delays and showed improvement in those children already struggling.

Another factor that needs to be taken into account is the dual language literacy skills of the students in the setting of this study. According to Pendergast, Bingham, and Patton-Terry (2015), the study revealed that students have similar literacy skills in both English and Spanish. It also revealed that students' code related abilities in one of the languages enabled their literacy skills in the other language. Moreover, Noe, Spencer, Kruse & Goldstein (2014) state that first sound identification for children is crucial in the development of phonological

[18] http://www.*HWT*ears.com/*HWT*/why-it-works/teaching-strategies

awareness. Thus, children in a dual language environment need to understand letter sounds in both languages in order to master phonological awareness in English and Spanish. Additionally, Lonigan, Purpura, Wilson, Walker & Clancy-Menchetti (2013) believe that only interventions that focus on code-related abilities can really make a difference in a child's difficulties with letter knowledge and phonological awareness.

METHODOLOGY

RESEARCH DESIGN

The methodology for this research was based on what Cohen, Manion & Morrison (2007) consider as an *exploratory research.* This is due to the fact that in exploratory research, the aim is to explore a certain topic without intervening or proposing an intervention. During the study, the use of programs such as *HWT* and *Zoo Phonics* in preschool were analyzed by asking teachers to answer a questionnaire in which they answered multiple questions regarding their perceptions of student's academic success, as well as emotional and environmental factors that may affect the child's learning process. The questionnaire was also used to explore the impact of the afore mentioned programs on students early literacy skills.

CONTEXT

The study took place in a private international school located in Bogotá. The school is an English immersion school with only a few classes in Spanish. Its student body consists of about 1900 students and the preschool level alone has about 110 students divided into five classrooms. Each classroom has a homeroom teacher and a teaching assistant in charge of the 22 students in their class, in addition to a variety of specialist classes such as library, sensory motor, Spanish and affective education. The school also has a learning center and various programs that aim at lessening the impact of certain learning difficulties for

students. As part of the curriculum, *HWT* and Zoo Phonics' goal, as explained above, is to facilitate early literacy skills and to lessen the burden for students who are struggling from a very early age.

PARTICIPANTS

The participants in this study were five K4 Homeroom teachers, four K4 Teacher Assistants, one inclusion teacher, two Spanish teachers, one library teacher and one library assistant, one primary school counselor, and one sensory motor teacher (*HWT* Coordinator).

DATA COLLECTION INSTRUMENTS

For this research, a **questionnaire** was given to teachers in preschool, regarding acquisition of literacy skills, development and improvement, as well as the emotional and environmental factor that may affect a child's learning process.

Documentary analysis. To assess the impact of such programs in early literacy skills acquisition, the programs themselves were analyzed and results from a teacher's perspective were evaluated to measure the perceived success these have in K4 students.

Follow up interviews. Semi-structured interviews with all the participants to clarify certain data points for the questionnaire were conducted.

DATA ANALYSIS AND INTERPRETATION

The data collection method for this research resulted in a questionnaire and a follow up interview with K4 teachers. In order to analyze the data from the interviews, the method described by Cohen, et al. (2007) as *content analysis* was used. This method is defined as "the process of summarizing and reporting written data" (pp. 475). By putting sentences or short

pieces of information into categories, the whole text can be analyzed and summarized into different subsections and thus the results will be clearer and easier to assess.

Questionnaire. In order to analyze the questionnaire data, pie charts and percentages were visually studied to determine the frequency in which the different options per answer were selected. Afterwards, the open questions were analyzed by counting the amount of times each answer was repeated among participants and then summarized according to frequency order.

Follow-up interviews. In order to analyze the data from the interviews, the answers were assigned a color that represented a category and then the content was analyzed based on repetition of words or terms within each category.

RESULTS

After analyzing all the data, various conclusions were drawn: First, teachers recommend and use both the *HWT* and *Zoo Phonics* programs daily as part of their curriculum and as support for the identification and interventions of struggling students in K4. They believe that both programs are crucial for identification and intervention of struggling students in early literacy. They report some environmental and emotional factors, as well as difficulties that children have in early literacy skills. Furthermore, teachers report that differentiation is also crucial to help students achieve their desired level, and they also report that support from parents is necessary in order to guarantee success in school.

HWT AND ZOO PHONICS: FACTORS AND DIFFICULTIES

In order to answer the first part of the research questions, a study of the components of both the *HWT* and *Zoo Phonics* programs was conducted. The *Handwriting without Tears* program, created by Jan Olsen, includes a variety of tools such as wood pieces (big line, little line, big curve, little curve), playdough slates with letters and numbers; chalkboard,

magnetic board with magnetic stampers and a workbook with the alphabet.[19]

The other program that is used for literacy skills in K4 is Zoo Phonics. This program includes an alphabet with animals, movement and sounds that help the child remember letter sounds and names. Every letter has a character whose name starts with that letter, a sound and some movements that correspond to the character and to the sound (e.g. e.i. Bubba Bear stands for letter B, the sound is "buh,buh" and the movement is that of a bear reaching for honey and eating it.[20]

Within the programs, children are not only taught letter sound and formation, but also the proper posture, pencil grip, and human figure drawing. The different tools are used to reinforce the child's understanding of each letter and are accompanied by verbal commands. For example, in the *HWT* program, the wood pieces are used to build each letter on the mat (B= big line down, frog jump, little curve to the middle and little curve to the bottom). Every week the children learn a new letter, the sound, name, and formation with the use of the *Zoo Phonics* characters and with the different tools that the HWT program has to practice letter formation. Teachers use both programs along with reading aloud to teach reading to students, as well as asking that students read with parents at home regularly.

The *HWT* program has two evaluations: one at the beginning and another at the end of the school year to determine students' level. Furthermore, struggling students are given formative assessments throughout the year to determine their improvement and the areas that need work. Teachers attribute the changes between both evaluations to their ability as teacher, the abilities of each student, and the success of the programs. They also mention support from specialists, differentiation techniques and developing motivation in students

The results of the questionnaire and follow up interviews showed that some environmental factors that may affect a child's pre-literacy skills and overall performance include the ability

[19] http://www.*hwt*ears.com

[20] http://zoo-phonics.com

as teacher, the abilities of each student, and the success of the programs. Other factors that were considered but not strongly relevant were parental support, the child´s emotional state in school, support from specialists, differentiation techniques and motivation in students. Furthermore, the study showed that emotional factors can affect a child's pre-literacy skills and overall performance without evidence of biological factors, if the child lives with any or all of the following: overprotective parents, uninvolved parents, emotional maturity, demanding parents, absent parents, family conflict. Lastly, during the follow up interviews, teachers went further into their answers and shared that most students who struggle with literacy skills have low muscle tone, attention problems, visual perception, memory, and emotional maturity. Moreover, they believe that both programs are excellent tools to teach literacy skills and to assess difficulties from a very early age. Also, the believe that support from parents and from themselves is crucial for student success in the development, assessment and intervention of early literacy skills.

SUPPORT

In the homeroom classes, students are constantly helped individually or in small groups in addition to adapting materials or accommodating the curriculum to their individual needs. Specialists tend not to differentiate. Teachers believe that both programs are excellent tools to teach literacy skills and to assess difficulties from a very early age because they help students develop letter formation, letter sound and identification easily. Teachers also believe that reading aloud and high frequency word recognition are also crucial for students' reading ability development. Moreover, teachers believe that support from parents and from themselves is crucial for student success in the development, assessment, and intervention of early literacy skills. Teachers can also help by making small focused groups to help children struggling in similar areas. Lastly, teachers believe that by sending information and preparing parents to work the skills at home, these students can practice even more and acquire the skills easier. They also think that if parents

help students mature and give them more independence, these students can be more prepared to learn and succeed in early literacy skills. When parents promote reading at home and help students learn new words they can enable students to read more proficiently.

CONCLUSIONS

During this study, the aim was to answer three major questions: What are the *HWT* and *Zoo Phonics* programs used with pre-K students struggling with pre-literacy skills? What environmental factors can affect a child's pre-literacy skills and overall performance without evidence of socioeconomic hardship or vulnerability? And what is the extent to which emotional factors can affect a child's pre-literacy skills and overall performance without evidence of biological factors? Furthermore, the purpose of the study was to analyze the components of both, the *HWT* and *Zoo Phonics* programs, as well as compare teachers' perspectives on the effect these programs can have on early literacy skills of students from a very early age.

The results of this research yielded that in order to identify and intervene with students struggling with literacy skills in K4, teachers do use the *HWT* and *Zoo Phonics* programs. Secondly, teachers have identified certain environmental and emotional factors as well as some common difficulties their students may present during the acquisition of early literacy skills. Lastly, they report that by differentiating students and engaging parents at home, children can improve their skills before difficulties may arise.

After analyzing the literature review and the results of the research, some conclusions were drawn. First, interventions similar to *HWT* and *Zoo Phonics* do help teachers identify and intervene with students who are struggling during the acquisition of early literacy skills. They help children learn phonemic and phonological awareness easily and allow teachers to carry out ongoing formative assessment to check a child's strengths and difficulties on time. One of the studies

aimed to examine the effects of an intervention designed to improve the reading ability of students at risk of reading delays in preschool. The study revealed that the Tier 2 intervention designed to enhance literacy skills in preschool children succeeded in improving the children's skills and lowered the risk of future difficulties (DeLucca, Bailet, Zettler-Greele & Murphy, 2015). Moreover, Noe, Spencer, Kruse & Goldstein (2014) state that first sound identification for children is crucial in the development of phonological awareness. Similarly, the success of the *HWT* and *Zoo Phonics* programs in the classroom will also determine the level of understanding and the early warning signs of the struggling student.

Furthermore, during the interviews with teachers and the questionnaire, it became clear that if the teacher does not work with the child during the early stages of literacy acquisition or take into account the child's own abilities during the process, then the child will certainly be affected and struggle. Other influences that may affect students include the teachers' ability to manage behavior in the class and to detect when children are struggling. Gage, MacSuga-Gage, Prykanowski, Coyne & Scott (2015) state that teachers with good behavior management skills can help students improve their early literacy skills and their grades, whereas for poor behavior managers, the opposite is true.

Moreover, the emotional factors that were confirmed during the research include emotional immaturity, and absent parents or overprotective parents, whose level of involvement in their child's learning process affects children in many ways. Some of the examples given by teachers mentioned parents who do not promote reading or are not involved in the practice of literacy skills at home. In addition to vocabulary and letter knowledge, there is significant research on the role of books and family reading time in the improvement of early literacy skills. According to Davidse, de Jong, Bus, Huijbregts & Swaab (2011), storybooks were a tool to determine how literacy skills improve with a good home literacy environment. Swan (2009) also believes that children with a large number of books available to read at home have better chances of improving their emergent literacy skills than those where books are limited or parents are not involved as much with the child's reading progress.

During the early stages of the research, after compiling the literarature review and the theoretical framework, the idea was to conduct a case study of four students in the school who were currently in K4, and who showed signs of struggling with the acquisition of early literacy skills. The authorization from the principal was granted and the parent consent form was sent to the parents of these students. The answer from one of the parents was very negative, and so the other parents started to question the research and how it would affect their child. For this reason and after such limitation, it was decided that the research would change to only include a questionnaire and a follow up interview with teachers.

For this reason, the recommendation for further research is to include a case study of children who are struggling and children who are apparently thriving in order to have a better understanding of how early literacy skills can be affected and how these difficulties may turn into other learning disorders later in life. Furthermore, in order to have a better scope of how parental involvement may affect a child's early learning process, is would be a good idea to interview parents and to compare how their involvement in their child's education may affect the students in school.

ACTION PLAN

- Teachers should evaluate struggling students several times throughout the year to determine their level of difficulty and how to differentiate on time.
- Parents should be given a course on the programs in order for them to work the skills at home in order to enable students to practice more.
- Parents should help students mature and give them more independence, to ensure that these students are more prepared to learn and succeed in early literacy skills.
- Parents should promote reading at home and help students learn new words so they can enable students to read more proficiently

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DEVELOPING TRAINING ON AUTISM: A NEEDS ASSESSMENT OF TEACHER COMPETENCE, KNOWLEDGE AND ATTITUDES

DESARROLLO DE UN PROGRAMA DE CAPACITACIÓN DOCENTE EN TRANSTORNO DEL ESPECTRO AUTISTA: EVALUACIÓN DE LAS NECESIDADES DE COMPETENCIA, CONOCIMIENTO Y ACTITUD DE LOS DOCENTES

Natalia Ortiz Gutiérrez

The research on serving students with special needs is unequivocal. Teachers play a pivotal role in ensuring successful inclusion of students. Teachers with more knowledge and experience about disabilities have a more positive attitude, which greatly influences their ability to tailor instruction to students' needs. For this reason, Natalia Ortiz designed a training scheme for teachers on Autism Spectrum Disorder, based on a needs analysis of teachers' attitudes, knowledge and competence about the disorder.

ABSTRACT

This study was carried out to identify teachers' knowledge, attitudes, and competence teaching students with Autism Spectrum Disorder in order to create a training program to strengthen the needs identified. It was conducted through a questionnaire answered by seventeen teachers, most of them with the experience of teaching children with this disorder. It was found that teachers in general give a definition of the disorder but do not establish the connection between all the affected areas and the students' learning needs. There is a meaningful attitude of the teachers describing their experiences and they are willing to participate in a training program. Negative attitudes that appeared were connected to the lack of training and preparedness.

Key words:

Autism Spectrum Disorder, Teacher attitudes, Inclusion, Inclusion teaching strategies, Teacher training

RESUMEN

Este estudio se realizó con el objetivo de identificar el nivel de conocimiento, las actitudes y las competencias de los docentes que enseñan a estudiantes con trastorno de espectro autista (TEA), con el fin de crear un programa de capacitación para fortalecer las necesidades identificadas. Se aplicó un cuestionario, el cual fue respondido por diecisiete docentes que en su mayoría cuentan enseñan a estudiantes con este tipo de trastorno. Se encontró que los profesores en general definen el trastorno de espectro autista (TEA) apropiadamente, sin embargo, no establecen la conexión entre todas las áreas afectadas y las necesidades de aprendizaje del estudiante. El estudio refleja una actitud positiva de los docentes al compartir sus experiencias y deseo de participar en un programa de capacitación sobre el tema. Las actitudes negativas aparecieron son resultado de la falta de capacitación y preparación.

Palabras clave:

Trastorno del Espectro Autista (TEA), actitudes de los docentes, Inclusión, Estrategias de enseñanza inclusiva, capacitación docente

INTRODUCTION

Among the new ideas and perspectives on inclusion, different studies reflect its importance and research the implementation of strategies in order to have an effective inclusion program for students with Autism Spectrum Disorder. However, the importance of seeing teachers as the most vital root of inclusion and their training as a strategy needs to be presented and analyzed in real contexts of teachers presenting their perspectives about ASD and possible training scenarios.

Recently, important strategies and components like peer mediation, peer interaction, teachers' attitudes, and social components have being applied and analyzed to provide safe environments to include students with ASD and a positive experience of inclusion for all students, school staff, and teachers. Nevertheless, the response of teachers towards training has a direct and significant influence on their attitude, knowledge, and competence while having students with ASD in their classrooms. Clearly, successful strategies will flow better and the inclusion process will be received with great willingness.

Research on inclusion shows the importance and impact of teachers' attitudes towards the inclusion of children with ASD in their classrooms, and presents the roles that are unconsciously assumed by people around the student. Additionally, research takes into account these perspectives and analyzes the results of implementing some strategies. The aim of this study was to create a training program based on successful inclusion strategies, in which the components of teacher attitude, knowledge, and competency were analyzed.

THEORETICAL FRAMEWORK

AUTISM SPECTRUM DISORDER

Autism Spectrum Disorder (ASP) is a set of neurodevelopmental disorders. People with this condition are affected in the functioning of three main areas, most of them related to social contact and communication. As it is defined as a spectrum, the characteristics and symptoms vary depending on the case and the person's needed support. The core areas affected are social relationships, language and communication, and behavior (repetitive or restricted) (Fuentes, et al., 2012). However, Wing and Gould came to define an affected area in autism as "social understanding and theory of mind" (Hampshire Country Council. Children's Services Department. 2010).

There are different causes that scientists have proven to cause this disorder. Some of the factors are hereditary elements, brain structure (Lewis, 2001), environmental risks, and according to Baron-Cohen, testosterone levels in the mother's utero, which affect social relationships and behavior (Hampshire Country Council. Children's Services Department, 2010). Some of the risk factors established by the National Institute for Health and Care Excellence include the following:

- A sibling with autism
- A sibling with another ASD
- Parental history of schizophrenia-like psychosis
- Parental history of affective disorder
- Parental history of another mental or behavioral disorder
- Maternal age older than 40 years
- Paternal age between 40 and 49 (ASD)
- Paternal age older than 40 years (autism)
- Prematurity
- Admission to a neonatal intensive care unit
- Male gender
- Threatened abortion at less than 20 weeks. (Fuentes, et al., p.10).

Early diagnosis is one of the most important aspects to provide prompt attention to the child. In general, children can be diagnosed after the age of three; however, there are some countries where children are diagnosed later or even when they are adolescents. Diagnosis and treatment depend on the county's' social condition (Fuentes, et al., 2012). Early detection has to do with different aspects, for example parents' anxiety, the preparedness of the social environment that the child is going to face, and the school and curriculum for the child's education. Incidence among siblings is a fact that has been helping scientists to detect the disorder even earlier (some cases are detected at the age of two) (Fuentes, et al., 2012).

Impaired social interaction, communication and language, repetitive patterns of behavior are known as the main features that characterize the ASD. Impaired social interaction depends on the severity of the cases. Social interaction in children with the disorder goes from no social contact, to the showing of few interests (not establishing a dynamic relationship, just the momentary attention depending on the child's object or topic of interests.) However, it has being proved that some of this features change or vary depending on the person's stage of life. Communication and language are also conditions that depend on the severity of the case. The development of these abilities goes from mutism to the use peculiar language, but there is a constant difficult to establish fluent conversations. Their literacy and use of concrete language cause difficulties understanding speech according to the context. About the repetitive patterns of behavior, although it is an affected area within the spectrum, it varies depending on the severity but, tens to improve (to be less evident) when the child grows or in cases of high functioning (Lewis, 2001).

There are three main cognitive theories that explain the core areas affected causing ASD: Theory of the Mind, a weak central coherence, and executive functions. The affected areas, explained through these theories, are not related with social behavior, but theorists have come to explain how the effects of its deficit are mainly on the social behavior (Lewis, 2001).

Theory of the mind establishes how children, through the ability of understanding others' perspectives, predicting their actions

and creating empathy, learn imitation. Baron-Cohen talks about how at the age of two, children start showing attention and awareness with specific behaviors involving others and objects of children's interest. However, these are behaviors and signs of awareness that seem to be absent in children with autism (Lewis, 2001). Theory of the mind impairments is a symptom that is not only presented in people with ASD, but also in mental disorders (Fuentes, et al., 2012). Finally, Theory of Mind is the ability to identify mental states that make us act, and is the reflection about our own and other's' mind (Baron-Cohen, 2000).

Frith defines central coherence as the ability of understanding the context based on the relation of the received information and experiences. Based on the production created by that relation, people respond and act (Hampshire Country Council Children's Services Department. 2010). People with autism have difficulties (a weak central coherence), with the processing of this information provided by the context because they pay attention to specific details and their own interest topics.

Executive functions refer to the self-regulation of behavior, the complete control of our actions and the adaptation of the behavior depending on the context and situation. (Hampshire Country Council. Children's Services Department. 2010). Executive Functions are related to the process of planning and reaching specific objective. It is the ability to avoid information and distraction from the environment to follow a plan reaching the objective and, therefore, behave according on this process (Hughes, Russell, Robbins, Ozono and Strayer, as cited in Lewis, 2001).

Added to these theories, Social Learning theory is considered as the source that could be added to the sources of knowledge presented by Piaget (innate knowledge, experience, and reasoning). This theory explains that knowledge, behavior, and skills are acquired from the group of people that a child is exposed since the birth. It enforces that symptoms of autism are evident in children at the age of two. This theory also supports the influence of social conditions and culture on autism, but from the perspective that cultures' features and the exposure of children to certain situations shape the social learning. Due to

the perspective presented in Social Learning by Lewis, autism is defined as "the manifestation of defective social learning" (p. 56) and, as well as in other theories, the cause vary significantly from one person to another (Lewis, 2001).

An important ability in the social Learning process is imitation (Also mentioned by Baron in the Theory of Mind), which plays a key role helping us to understand the social interaction deficit in children with autism. Social relationship and empathy (Theory of mind) have being recognized to be areas affected in children with autism. Imitation is presented as a skill that impacts two areas, according to Uzgiris, the learning function and the social function. Social function is mostly related to autism's social deficit and lack of empathy because the use of imitation in the early social contact gives us the communication skills (Ingersoll, 2008).

These theories make us understand the core areas affected for children with autism. However, it is also useful to know that by understanding the condition, there are several features in these children that can lead them to have exceptional abilities. For example, the auditory and tactile hypersensitivities are the conditions that could take children with autism either into a stressful situation or lead them to be brilliant in some areas. It is also connected to their ability of paying special attention to certain details provided by the context (Fuentes, et al., 2012).

Understanding Autism as a disorder within a wide spectrum that has is no cure, but there may be a change in the people's affected behaviors with the pass of time, so therapy and education are the target areas for a successful management. By strengthening child's developmental processes, a decrease on the child dependency, a better quality of life for him and his family, and a reduction on the behaviors resulted of the affected areas can be reached. In fact, educational environments in particular are the places for students with autism to acquire academic skills, knowledge and visualize social skills that probably will impact their behavior in order to improve their socialization and communication processes. (American Academy of Pediatrics, 2016).

LITERATURE REVIEW

Significant research has being done about inclusion focused on students within the Autism Spectrum Disorders and the strategies that should be applied with them. The research for this literature review was based on strategies to support the teaching process of school students with autism. The product of the research allowed for the organization of the information in two categories: inclusion of students with autism and strategies carried out with such students.

INCLUSION

In inclusion there are some components that appear to be significant for meaningful and effective inclusion programs and processes: students with disabilities, peer without disability and teachers' attitude in front of the process.

McDonnell, et al. (2003) carried out research on inclusion programs that shows the relationship between two of these components, evaluating the impact of inclusive programs on students with and without developmental disabilities. The impact for students without disabilities was evaluated in terms of academic development while the evaluation for those with developmental disabilities was in terms of the adaptive behavior. The study compared the academic achievement of students without disabilities enrolled in inclusive classes with students with developmental disabilities with students without disabilities whose classes did not include students with developmental disabilities. Researchers point out that students with disabilities improved their adaptive behavior though peers without developmental disabilities did not show significant impact being included in an inclusive program. (McDonnell, et al., 2003).

Teachers' attitudes towards special education is another meaningful component in terms of inclusion. Avramidis, Bayliss, and Burden (2000) studied the student teacher's attitude through a survey into the attitudes of student teachers toward the inclusion of children with special needs in the

ordinary school. Researchers found a generally positive attitude regarding inclusion. However, when they went into more depth, analyzing student teachers' attitudes towards particular needs (students with emotional and behavioral difficulties), they found a change in teachers' attitude. It appears that these students cause "more concern and stress to the student teachers than pupils with other types of special needs" (Avramidis et al., 2000, p. 285).

Added to these components, the fact of listening to the students' voices is one of the most important aspects to promote inclusion recognizing strategies and practices to promote inclusion of students with ASD even more. This is proposed by Saggers, Hwang, and Mercer (2011) in the study that "explored the lived-experience of students with ASD in a mainstream high school." (Saggers, et al., 2011, p.3). The results reflect six categories that seem to be crucial for the students in the inclusive process and that show a different perspective from the one that research has about inclusion. The categories are "teacher characteristics (positive and negative), curriculum related issues (workload, demand for handwriting, solutions to difficulties), support mechanisms (attitudes to specialist support, types of support, ways of receiving support, friendships (perceptions towards friends and friendships, attitudes towards socializing and solitude) environmental considerations, teasing and bullying." (Saggers et al., 2011, p. 6).

STRATEGIES

Studies have also shown that success in inclusion is the process of including students with special education in mainstreamed schools, but it also includes different components, including the people involved and a range of strategies that should most likely be applied differently to each student, understanding the idea of Autism as a huge spectrum.

Peer interaction can facilitate strategies to reach a successful inclusion of students with ASD. Humphrey and Symes 2011 studied peer interaction patterns by observing a group of adolescents with ASD from mainstream secondary schools

compared with adolescents with dyslexia, and others with no identified special educational needs (Humphrey & Symes, 2011). Results of this study show that students with ASD "spent more time engaged in solitary behaviors, less time engaged in co-operative interaction with peers, and more time engaging in reactive aggression towards peers than either comparison group. In terms of frequency, similar patterns emerged, but additionally participants with ASD engaged in less instances of rough/vigorous play, and were subject to more instances of social initiation and instrumental verbal aggression by peers than either comparison group." (Humphrey & Symes, p. 397)

Peer mediation is a strategy studied by Kamps, et al. (2002), which is understood as a way of improving social interaction skills. The objective of the study was to investigate "the role of peer training embedded within interventions to maximize participation for students with autism and the social benefits for all participants." (Kamps, et al., 2002, p. 174). In general, the findings of this study demonstrate through peer mediation and peer training an improvement in terms of social skills and interaction.

The social component appears to be crucial while studying strategies to apply to students with ASD because it is one of the affected areas of the disorder. Stichter, et al. (2011) present a research where the Social Competence Intervention was adapted to meet the specific needs faced by students with ASD. Findings in the study reveal "significant improvements on direct assessments measuring theory of mind and problem solving, and parent perceptions of overall social abilities and executive functioning." (Humphrey & Symes, 2011, p. 364)

Problem behavior is another category that needs to be considered as an important part in research due to the ASD conditions in terms of behavior. Strain, Wilson and Dunlap (2011) present an evaluation of the Prevent–Teach–Reinforce (PTR) model through its implementation with elementary school students with autism spectrum disorders and serious problem behaviors. Findings in this study suggest that behavior and engagement improved in evaluated students.

Strategies about structuring the classroom have also being carried out, adapting visuals in the classroom for students with

ASD. The strategies of "classroom structuring methods, visual schedules, and visually based organizational strategies" are studied and reviewed by Ganz (2007) in order to reflect and suggest its correct use.

METHODOLOGY

RESEARCH DESIGN

The methodology used on this study is based on naturalistic and ethnographic research because it is looking for understand teachers as a social group facing a particular situation of including students with ASD. According to Cohen, Manion and Morrison (2007), the aim of ethnograpic reaserch is to give an interpretation and explanation of groups and situations in everyday contexts (Cohen, et al., 2007). In this study, conclusions about those contexts were created through the understanding of knowledge, competence and attitude of teachers on autism.

CONTEXT

The context for this study were schools from Bogota, all of them private schools from primary and secondary. Most of the schools where participants work have specific programs of inclusion or a learning center. However, all the schools have students with autism or other kind of special need. The proposed training is intended to be applied at private schools, particularly in primary school.

PARTICIPANTS

Participants in this project were a group of seventeen teachers, fourteen with the experience of teaching children with Autism Spectrum Disorder. Eleven of them work at schools where they have established a program of inclusion of students with

ASD. Eleven of the teachers have received information about ASD. Twelve of the teachers are current primary school teacher while five high school teachers.

DATA COLLECTION INSTRUMENTS

As this research aimed to understand the knowledge, feelings, attitudes and dynamics around teaching students with ASD and inclusion, the instrument sought to collect authentic information regarding teachers' attitudes, knowledge and competence on including students with autism. This instrument provided key information to identify the needs to be prepared while teaching these students.

Questionnaire. The introductory questionnaire was applied to obtain needed information to create the teacher training program. It was structured with questions related to experience with ASD students, knowledge about strategies, perspectives toward teaching these students, training experiences on the disability and expectations about the topic. Results of this questionnaire were used as a basis for structuring the training program (See Appendix).

DATA ANALYSIS AND INTERPRETATION

Data was collected from a questionnaire which allowed for a qualitative interpretation of the information. This instrument allowed the identification of teachers knowledge about ASD, experiences, attitudes, and expectations in order to identify training needs for their preparednesss while teaching children with ASD. In this way, "the meanings in texts may be personal and are located in specific contexts, discourses, and purposes, and, hence, meanings have to be drawn in context" (Cohen, et al., 2007, p. 476).

Data from the questionnaire was collected through Google forms, that provided graphs and tabulated the information. Once seventeen teachers fill the questionnaire, three main categories were established based on the analysis of open-ened

questions to analyze and organize the information and results. These categories included the following: Knowledge of Autism, Attitudes towards Students with Autism, and Training Needs.

TRAINING SCHEME

Once the information was collected and main aspects were identified of the analyzed areas (knowledge, feelings and attitude) a training program was designed. Its aim was to cover some of the gaps, needs, and aspects regarding knowledge and attitude to promote and ensure teachers' well preparedness. It also proposed an opportunity for teachers to share their experiences.

RESULTS

The analysis of the information collected from the questionnaire applied allowed for the answering of research questions related to teachers' competence, knowledge and attitudes about having students with ASD in the classroom. In addition, this information provided the basis for creating the structure of teacher training on Autism Spectrum Disorder.

The information collected provided facts to talk about training in terms of teachers' perspectives on ASD and also how a possible training can be directed to cover some of the identified needs. To begin with, most of the participants report not having received formal training to work with their students with ASD; however, most of them report knowledge of strategies to work with autistic students even if these are not formal strategies. Those who talked about strategies are teachers that have or have had students with this condition; therefore, the definition of the condition and the possible strategies are based on their experience.

When participants were asked to define the disorder there were three main findings. First, teachers reflect little awareness about how wide the spectrum is, how it determines students' behavior, or the characteristics of the affected areas. Second,

when defining the disorder, teachers do not report knowledge and concepts from specific theories. Third, there is little evidence of the relationship between the disorder and the exceptional abilities these children may have.

The questionnaire yielded the factors for understanding teachers' attitudes toward students with ASD based on their experience and knowledge. One of the most fundamental facts is the sense and feeling of readiness. Teachers describe the experience as a gratifying and meaningful experience. When faced with the possibility of receiving students with ASD, for those teacher without experience, most of the teachers expressed this in positive terms, but they mentioned being prepared as one of the most important aspects that would give them confidence to face the scenario.

KNOWLEDGE OF AUTISM

The definitions of the disorder provide a perspective for teachers on how to approach students with ASK, but this knowledge also clearly impacts their experience in the classroom. Teachers tend to define the disorder exclusively in terms of its difficulties in communication and socialization. For example, one teacher defined it as "a difficulty to establish communication with other people."

In the results, just two out of seventeen teachers demonstrated awareness of how wide the spectrum is, or how it varies the affected areas and children's behavior in certain environments. One teacher wrote, "This condition affects in varying degrees the child's ability to interact effectively with the environment, especially peer relationships and game development, as well as the development of executive functions."

> In addition, most of the teachers described the disorder in terms of its difficulties and did not mention that people with this condition may also have exceptional abilities. For example a teachers' definition of the disorder in this way:

It is a neurological condition that is detected in childhood, this disorder mainly affects the areas of communication and socialization, generating a slower development in language learning and development. It is characterized by a wide spectrum of limitations in fundamental aspects of development such as: imaginative capacity, behavior, communication and reciprocal social interaction.

In terms of strategies for working with students with autism, teachers' answers reveal that they understand students' way of learning, for example, the need to provide a safe environment, anticipate the student in face of coming changes and differentiated instruction and curriculum.

ATTITUDES TOWARDS STUDENTS WITH AUTISM

When inclusion is considered a main goal for education it has to be done under clear, fair, and well-prepared conditions. Different studies have shown how teachers' attitudes toward students with special needs is a factor that determines inclusion as a successful experience or not. One of the most significant findings that are reflected through the analysis of the information is that teachers' feelings fluctuate between a positive and a negative description of either the experience or the idea of possibly receiving students with ASD.

Since some of the questions were elaborated to understand teachers' attitudes towards students under this condition, it is interesting how their attitude and way of expressing themselves is mostly positive and expressed as a good experience. For example, one teacher wrote, "It was a beautiful challenge that gave way to many learning." The experiences of having students with ASD is described as a grateful and meaningful experience for the teachers. They use words *like love, beautiful, great, gratefulness, learning*, and *challenge* to describe the experience.

However, throughout the applied questionnaire, recurring topics such as facing unknowing situations, not being prepared, not having the knowledge are facts that determine teachers' description of the experience.

The experience with autistic spectrum students has been difficult and challenging for me. By not having knowledge about how to address this situation or what strategies to use I felt insecure and without tools to work.

Through the participants' responses, there are feelings that reflect that, despite being an experience full of compassion, love, and commitment, it makes them feel insecure, anxious, and worried mainly because of the lack of understanding and lack of training.

Under the idea of possible receiving students with ASD, for participants without this experience, most of the teachers express themselves in positive terms but they mention being prepared as one of the most important aspects that would give them confidence to face the scenario. Some teachers express how difficult the experience would be using concepts like *anxiety, insecurity, anguish* and *concern.*

TRAINING NEEDS

One of the most important goals of the questionnaire was to analyze participants' current situation and experience about training on ASD in order to understand and project possible teachers' needs. The basis of this analysis is the fact that even if most of the teachers report not having received specific training to work with their students with ASD, most of them (65%) reporting knowledge of strategies to work with autistic students.

Through the questionnaire comes up a significant aspect, which is the understanding of teacher's experience as a vital fact for them in terms of knowledge, ideas, strategies and attitude. Their knowledge about the disorders comes mostly from their experiences and own interests. However, even with this experience they refer continually to preparation as a factor that would improve their situation with these students. Therefore, an important source of the information and knowledge should be a formal training.

Teachers' definitions also suggest that there is not a frequent or formal approach to the definition referring the theories around the disorder. Due to this, is vital to understand importance of the exposure to the different theories of the disorder. In this way, they would understand the spectrum from different perspectives.

In terms of knowledge and its relation with teachers' attitude, a significant aspect is that despite giving a definition of what ASD is, they need to better understand this condition, students' behavior, and tools and strategies to apply in the classroom. The possibility of being prepared to handle this condition in their classrooms would give them confidence and security and would provide a safe environment for everyone.

Additionally, knowledge comes from different sources like workshops, self-approach to articles about the topic, and experience in the classroom. This shows how dynamics in teaching environments could be considered as empirical learning spaces, the product of the daily experience with the students or teachers' own interest to understand their behavior and find strategies to create better environments for themselves and the whole group. This is a fact that shows the possibility of creating a training scenario where teachers are allowed to share their experiences depending on the student's condition, but not limiting the training to specific or unique strategies (In the training structure: Sharing Cases and Experiences).

One of the most important resources to create the training structure is the definition of Autism Spectrum Structure that teachers provided. The consciousness of the breadth of the spectrum has to be important while thinking about training, for example with the creation of case studies based on teachers' experiences to produce activities for the students. It would also be interesting to train teachers about autism in terms of improvement of the condition, depending on the student's social and academic conditions.

Involving teachers with the different theories about the spectrum is another need identified to create the structures of the training. Teachers could benefit from a better understanding of communication as an affected area, but in terms not only of holding conversations and belonging to groups, but in terms

of difficulties understanding and reading social contexts and others' behavior, related to self-regulation.

Even if a negative attitude is not presented as a core area to strengthen in the training, it is a core fact to make teachers' role and inclusion a better experience. One important strategy could be to make teachers aware of the exceptional abilities that these children may have because just few teachers mentioned this. It is necessary to show teachers how to turn these students' exceptional abilities into a tool in favor of their teaching experience. Therefore, giving teachers the bases for understanding the condition will have an impact on their attitude. Here it is also quite important to include in the training the experience of students with ASD and their classmates as meaningful step for strengthen this understanding and teachers' attitude.

TRAINING SCHEME

"The Share Point" structure. This training structure is the product of the analysis of the applied questionnaire. The questionnaire reflected the path of some teachers in the field of including students with ASD. The analysis was focused to understand teachers' needs, and their attitudes and feelings toward their students and possible expectations of the training. The questionnaire reflects how teachers' knowledge and experiences form a meaningful basis that needs to be reshaped and reoriented to give them confidence.

This is called "The Share Point" because seems teachers need to receive the information from their colleagues' experiences, plus some of the teachers express their knowledge as a result of the experience and self-interest to know about the disorder.

What is the Autism Spectrum Disorder? This is a section of the training where teachers will come to a conclusion of what autism spectrum is based on their knowledge and experience. They will be in charge of doing this as the questionnaire reflected that teachers have a good approach to the definition of the disorder. Theories of the disorder will be addressed in the section of Affected Areas and Learning because they need

to understand them to transfer theses ideas to students' way of learning.

Affected areas and learning. Through an approach to some of the theories to explain ASD, this is a section for teachers to understand the three main affected areas and how this determines behavior and ways of learning. Topics addressed include approach to theories, including theory of mind, central coherence, and executive functions.

Sharing cases and experiences (strategies). The emphasis here will be about the breadth of the spectrum since there is not frequent reference to it when teachers refer mention their understanding of the disorder. This emphasis can be presented to the teachers through a case analysis where new strategies (formal or informal) will be shared. Teachers will think about students, and following a form or a set of questions, they will describe his or her characteristics. They will also reflect on how these experiences affect or benefit their teaching experience. This activity may help to understand how huge the spectrum is therefore the strategies to be applied.

Teachers will create a specific activity, to propose or produce material and resources to make their knowledge and understanding a product of the training.

Sensitizing. Even if the questionnaire reflects that most of the teachers are positive and talk about their experiences as something grateful, there are feelings that need to be healed and faced for teachers to have a better experience and connection with their autistic students. Using the experience of some students with Autism Spectrum Disorders (based on Australian study of including the students' opinion – listening their voices) teachers will reflect about some quotes.

CONCLUSIONS

This study aimed to create a training program for teachers of students with ASD by identifying teachers' needs in the experience of teaching children with ASD. These needs were recognized through a set of questions regarding knowledge defining the disorder and knowledge about strategies to apply within the classroom. In addition, as a valuable base for adequate inclusion programs, teachers' attitudes needed to be identified through the study as a fact that determined the structure of the training, but also reflected teachers' condition and perspective while having these students with ASD.

There is a general understanding of the disorder reflected in teachers' definition of the disorder, and they mentioned strategies they use with autistic students. However, there is a gap since teachers do not show a connection of these basic definitions with main aspects like theories about the disorder or students' exceptional abilities. The language used does not reflect an understanding of the theories about the disorder. In addition, when teachers mention strategies they do not show awareness of students' exceptional abilities.

About the strategies, an interesting finding is that strategies do not depend specifically on teachers' training but seem to be a product of teachers' self-approach to the topic, experience in the classroom, and experience with particular students' cases. However, at the same time these are not formal strategies for ASD.

In terms of teachers' attitudes, this was evaluated based on teachers' responses about their willingness to participate in a training program and through questions about their feelings. First, there is an interesting willingness to participate in training since most of them reported not being well prepared. In addition, training would be, according to them, a way of understanding students' behavior and needs. They would expect to have case studies and learn about tools and strategies projected to manage students' behavior.

Added to this, there are a variety of positive and negative feelings regarding either the experience or the possibility of

teaching students with ASD. However, those teachers who expressed themselves negatively reported that they do not feel prepared, and therefore feel uncomfortable, afraid, or anxious.

One of the main subjects included in research about the topic is inclusion. Research shows that when talking about inclusion it is necessary to observe teachers' attitude as a factor in successful inclusion. Studies present how there is in general a positive attitude of teachers toward including students with ASD. Avramidis, et al., (2000) report that most of the teachers stand on being positive through their experience. Added to this, negative feelings expressed on this study are connected to the fact of not being well prepared or have strategies and tools.

There are two main components of the research that are presented as strategies through the research on autism. The first is peer mediation and peer interaction which are not mentioned as strategies in this study or a tool to face the social and communicative difficulties that is the affected areas mentioned by teachers. According to Kamps, et al., "the role of peer training embedded within interventions to maximize participation for students with autism and the social benefits for all participants." (Kamps et al., 2002, p. 174). Second, the factor of listening students' voices, proposed by Saggers, et al. (2011), that is not presented in this study by teachers as an option to understand the disorder, or as strategy to include them in the classroom.

Some of the limitations for this study include first not having enough participants because some of the teachers that received the questionnaire did not answer it, and, second, not having included teachers from other contexts, for example public schools. Finally, the main limitation included not having the opportunity to apply the proposed training.

For future research it would be interesting to apply the training proposal, receive teachers' feedback and / or allow them to participate in the creation or the improvement of a training program looking for covering their own needs based on their experience. It would also be interesting to think about the strategies to improve teachers' preparedness as a fact that will determine the transfer of this knowledge to the classrooms with students from programs of inclusion.

ACTION PLAN

- Ensure teacher training and preparation for appropriate instruction to their students with ASD.
- Lead meetings of teachers in which there is an effective socialization of possible successful and non-formal strategies.
- Include teachers in the creation of their own training to understand their needs in the classrooms.
- Promote the participation of peers (students without disabilities) in the process of creating strategies with teachers.
- Support teachers not to face unknowing teaching environments.

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APPENDIX

Questionnaire

Dear teacher, first of all I would like to thank you for your valuable participation in this research project on teacher training in autism. The survey is anonymous, your identity and the information you provide will be confidential.

1. Does your school have a inclusion program for students with Autism?

   ☐ yes ☐ No

2. Have you or have you had students with Autism in your classroom?

   ☐ yes ☐ No

3. How do you define the Autism Spectrum Disorder?

   _____

   _____

   _____

   _____

   _____

4. If you have had students with Autism in your class please describe in a sentence your experience.

   _____

   _____

   _____

   _____

   _____

5. If you have not had students with Autism in your class please decribe what is the impression that it would cause you

_____

_____

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_____

_____

6. What feelings do you get from the idea of receiving in your class students with some type of disability, disorder or learning difficulty?

_____

_____

_____

_____

_____

7. Do you know any specific strategies for working with students within the autistic spectrum?

_____

_____

_____

_____

_____

8. Have you received training or training on Autism Spectrum Disorder?

☐ yes ☐ No

Specify what type of training you have receive

9. How do you think you would benefit from receiving training on Autism Spectrum Disorder?

10. Which would be your expectation about being trained on ASD?

11. Would you be interested in receiving training on ASD?

12. If you are interested in participating in a brief follow-up interview on the subject please add your email

_____

_____

_____

_____

_____

Buenas noches...

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