



Implicaciones educativas y mejora de las funciones ejecutivas en trastornos por déficit de atención e hiperactividad

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ABSTRACT

Las funciones ejecutivas son indispensables en nuestra vida diaria para realizar con éxito multitud de tareas (fijar objetivos, planificar y ejecutar tareas, autorregular nuestro comportamiento, anticiparnos, etc.). En los déficits de atención y los trastornos hiperactivos estas funciones se alteran de forma particular, lo que provoca importantes déficits en las capacidades mentales y en las conductas de estas personas.

Debido a las características de los centros educativos y las tareas que en ellos se desarrollan, estas dificultades en las funciones ejecutivas son muy significativas, y si no se tratan adecuadamente, pueden producir importantes problemas académicos, sociales y personales en los estudiantes con TDAH.

Sin embargo, las escuelas también pueden ser lugares muy valiosos donde mejorar las funciones ejecutivas. Por ello, este proyecto de intervención se centra en estos espacios y en brindar a sus profesionales, una diversidad de estrategias, actividades, recursos y consejos prácticos, que pueden aplicar a sus alumnos/as con TDAH, con el fin de mejorar sus capacidades, no solo en el ámbito académico, sino también en otros igualmente importantes.

PALABRAS CLAVE

TDAH; Funciones Ejecutivas; Formación y Educación.

ABSTRACT

The executive functions are indispensable in our daily life for doing successfully multitude of tasks (setting goals, planning and carry through tasks, self-regulate our behaviour, anticipate etc.). In attention deficits and hyperactive disorders these functions are altered in a particular way, which provoke important deficits in mental capacities and in the behaviours of this persons.

Due to the characteristics of schools and the tasks that are developed in them, these difficulties in the executive functions are very highlighted, and if they aren't treated properly can produce important academic, social and personal problems for persons with ADHD.

However, schools also can be very valuable places where improve the executive functions. For that reason, this intervention project are focus in these spaces and in give to their professionals, a diversity of strategies, activities, resources and practical advices, they can apply to their students with ADHD, with the purpose of improve their capacities, not only in the academic area but others equally important.

KEY WORDS

ADHD; Executive Functions; Training and Education.

INTRODUCTION

The university periods of external practices are a key source of knowledge for develop our abilities and competences, both technical and professionals, as a future pedagogy experts.

Was in my first external practices in the EOEP 2 of Murcia, when i could check that in most cases of students diagnosed with Attention Deficit and Hyperactive Disorder (ADHD), the support classes for students with special education needs were focused, almost exclusively, in review what they had been learning in class, in do homework sended by the teacher, or in relax exercises. These practices aren't negatives, but they aren't analysing the real origin of ADHD and aren't helping to improve the problematic behaviours that define these persons. Teachers, in other side, neither know how to drive or how to adapt their classes with this kind of students, reason why they go to the educational counselor with a high grade of anxiety.

In front the needs that arise from this reality, we believe convenient design a intervention project that try to resolve this situation, through fomenting knowledge about how intervene in a positive way in front of the ADHD executive functions difficulties. For this, we want provide teachers and therapeutic pedagogy specialists, a range of activities, strategies and advices for work the real root of the deficits and difficulties against the affected children and educative professionals have to deal every day.

Also, this kind of disorders affects very significantly to areas like the educational and social ones. Therefore, and after a positive academic, social, professional and personal present and future, is indispensable that since very early ages the therapeutic and educational efforts be routed to improve the diminished executive brain capacities in ADHD.

Finally, we would like stand out that, as LOE (2006) says, for children and young people "the education is the most appropriate way to build their personalities, to fully develop their capacities, conforms their own personal identity and to configure their compression of reality, integrating the cognoscitive, the affective and the axiological dimensions" (translated by Miralles, H.). For this we believe vital acting in these contexts to optimize the conditions around persons affected by ADHD and which indirectly benefit society as a whole.

JUSTIFICATION

With the LOGSE we started to give a greater importance to the diversity attention, that is, we started to show more interest in offer support and adapt education to these students with specific characteristics that, in a way or in another, can negatively affect their academic trajectory.

Since the LOGSE until LOE and with the actual LOMCE, the resources, measures and systems for diversity attention have evolved greatly. Also, relevance given by the educative administration has increased, generally, both quantitatively and qualitatively. Without consider the multiples critical made to the LOMCE (2013), we want highlight that the 71.2 article of this law expressly says that the educative administration is responsible of ensuring the required resources for students who need different educative attention, because their educative especial necessities, learning difficulties, ADHD, high capacities, their late incorporation to school or other personal conditions (translated by Miralles, H.).

Following this legal framework, we believe vital create and make available, to the education professionals, resources and means through which they can properly attend the students with educative special necessities, as the educative laws says.

The current Project is aimed at children between 7 and 11 years old, already diagnosed with attention deficit and hyperactive disorder. The election of this age range is because, nowadays, although there may be symptoms of ADHD in children before age 7, is still considered problematic and controversial to do a diagnostic of ADHD before this age. Also, this disorder manifests a 50% less between 0 and 6 years old than in school period (CADAH, n.d.). Additionally, the FEAADAH (2014) consider that ADHD can't be diagnosed with enough reliability before 5 years old, and the expert Isabel Orjales (2009) asserts that the symptoms of this disorder are more evident after 6 years old.

In other side, the activities and recommendations proposed in this project for improve the executive functions as a way of improve, at the same time, ADHD, are addressed to all clinical presentation of this disorder recognized at DSM-V (hyperactive-impulsive, inattentive and combined).

It is also important to explain that this project is designed to be applied in two primary school centres in which i detected, during my first external practices, deficits when teachers and therapists try to confront the different problems that students with ADHD have it. These schools are the public school *Virgen de Guadalupe* and the public private partnership school of *Nuestra Señora de la Fuensanta-Jesús María*. However, could be applied in other school with similar characteristics.

The FEAADAH or *Federación Española de Asociaciones de Ayuda al Déficit de Atención e Hiperactividad* (2014) asserts that Attention Deficit Hyperactivity Disorder (ADHD) is a psychiatric pathology suffered by between 2% and 5% of the infant population. This federation says too that ADHD tend to be under-diagnosed and under-treated, and ensures in the countries where treatments for ADHD are more frequently applied, rates of medical prescriptions of ADHD only represents between 3% and 7% of the total children with this disorder, and even less of 4% of the adults suffer it.

Other data provided by FEAADAH (2014) say that the hyperactive child has a quadruple more possibilities of suffer accidents and serious injuries than a child without ADHD, because of the impulsivity and the presence of motor coordination disorders. The delinquent conduct and antisocial personality are seen in 25-40% of adolescents and adults with ADHD. Also, between a 10-25% of teenagers with this disorder develop a drug abuse, have more possibilities of get pregnant unwillingly (40%), suffer from sexually transmitted diseases (16%), car accidents due to drive fast or because a lack of attention, frequently depressions (20-30%) and personality disorders (18-25%).

Furthermore, the prevalence of the school failure among people with ADHD is significantly high, the poor school performance affects 40% of students with ADHD (Barkley, 1998). Besides, information given in June 2014 by the newspaper *El Mundo* says "the 20% of school failure in Spain is related with ADHD patients that don't receive special attention (translated by Miralles, H.)".

All this information evidences the importance of a early and right diagnosis and a successful treatment, because through these we can get that ADHD children and ADHD young people not only achieve better learning and higher academic results, but also a better social and familiar context, we will reduce accidents, problematic behaviours, depressions and other problems associated with this disorder.

For a proper approach to ADHD is necessary collaboration and coordination between parents, children with the disorder, mental health services and the school (through this project we will focus in the school area only), so the treatment of this disorder must be focused from a multimodal and multidisciplinary perspective, because as Jensen, Pelham y Spenser (as cited in *Fundación Adana*, n.d) said "the council's report of the *National Institute of Mental Health* published in February 2000 not only insists on the proven effectiveness of

pharmacological treatment in ADHD, but also assigns an important role to behavioural therapies and combination therapies in the therapeutic management of ADHD (translated by Miralles, H.). In other hand, for over 100 years, ADHD has been seen as essentially a behaviour disorder. Recent scientific research has developed a new paradigm which recognizes ADHD as a developmental disorder of the cognitive management system of the brain, its executive functions (Brown, 2013, p. 2).

For understand better this new explicative paradigm about the origin of the ADHD and how thanks to it we focus this project, is necessary explain what are the executive functions (EF) and how today EF models are applied to ADHD.

According to Servera (2005), we can clearly distinguish two strategies for understand and explain ADHD: etiological studies and the theoretic models. The publication in 1997 of the book *ADHD and the nature of self-control* of Russell A. Barkley, was a significant change in this situation; not because he gives a final solution to the issue, which is very difficult, but because he makes a clear effort to integrate the two strategies mentioned above and get a global framework where the conceptualization, explanation, assessment and treatment of ADHD are together. Of course, this new paradigm also has generated some controversy and has left many aspects to develop, but nowadays is a fundamental framework for any ADHD expert.

For Barkley (2012) the executive functions are neuropsychologically interconnected and he defines them as “the use of self-directed actions so as to choose goals and to select, and sustain actions across time toward those goals usually in the context of others often relying on social and cultural means for the maximization of one’s long-term welfare as the person defines that to be” (p.171). Furthermore, this same author differentiates a pre- executive level and 4 executive levels in which we find executive functions:

- Pre-executive Level: This level arises from non-prefrontal brain structures and included functions as attention, alertness, visual-spatial performance, autonomic- emotional actions, memory, sensory-perceptual functions, language, and motor abilities. This level can be fruitfully regarded as the “automatic” level of human activity.
- The Instrumental-Self-Directed Level: Executive functions arise from this level that included six self-directed actions in which humans engage at this level: attention, inhibition, sensory-motor action, speech, appraisal (emotion and motivation), and play. Each of this EF components arise via the same development sequence and process (self-direction and internalization) and are largely covert, or private.
- The Methodical-Self-Reliant Level: This next level is concerned with human behaviour; that is, observable every day goal-directed actions. They are sustained, monitored, revised, and reprioritized by the lower or cognitive level of EF.

This level includes assuming responsibility for sleeping, clothing and dressing, bathing, nourishment, personal safety and self-defence from elements and from other humans.

- The Tactical-Reciprocal Level: This level is the extension of the previous levels. At this one, the individual incorporates the use of others and social interaction with them as tools or means for attainment one’s own goals. However, the use of other is symbiotic, for mutual benefit through social reciprocity.
- The Strategic-Cooperative Level: At this level the individual’s capacity to take a longer-term view concerning goals and consequences expands even further than at the previous EF level and as a consequence, individuals find that they are interacting

more often in mutually beneficial ways with many others. Also, the individual finds that EF tactics being employed for a goal can become a submeans to attain larger, longer-term ones (p.75-162).

Starting from the cognitive levels mentioned before and following the Barkley model, Orjales (2000) considers ADHD is “a develop disorder of conductual inhibition, whose deficit generates, secondarily, a deficit in executive functions that depend on inhibition and that are reflected as a deficit in the regulation (translated by Miralles, H.)”. This incapacity of the ADHD persons for inhibit behaviours, provoke, according to Barkley (as cited in Orjales, 2007), problems in next the executive functions:

1. The working memory action (or nonverbal working memory) allow retain the information once the stimulus that caused it have disappeared. Also permit us the retrospective perception, the capacity of prevision, the conscience, the time domain and the capacity of imitate a new and complex behaviours through observing other persons.

In the educative area we can work through the observation and the description of images, understand and complete images sequences or words, compressive readings of tales, histories and comics, the auditive memory (rhyme games, follow sequences of sounds) card games etc.

2. Internal speech (or verbal working memory) allow us, in an automatic way, regulate the behaviour, follow rules and instructions and questioning the resolution of a problem.

In the educative area we can work through the schemes for self-instructions that we can apply in a practical way, both in prefixed situations as in more spontaneous and daily situations.

3. The motivation control, the emotions and the alert state allow us understand and stop emotional reactions, change them if are a distraction for get our goals or generate new emotions and motivations (self-regulation of impulses and emotions).

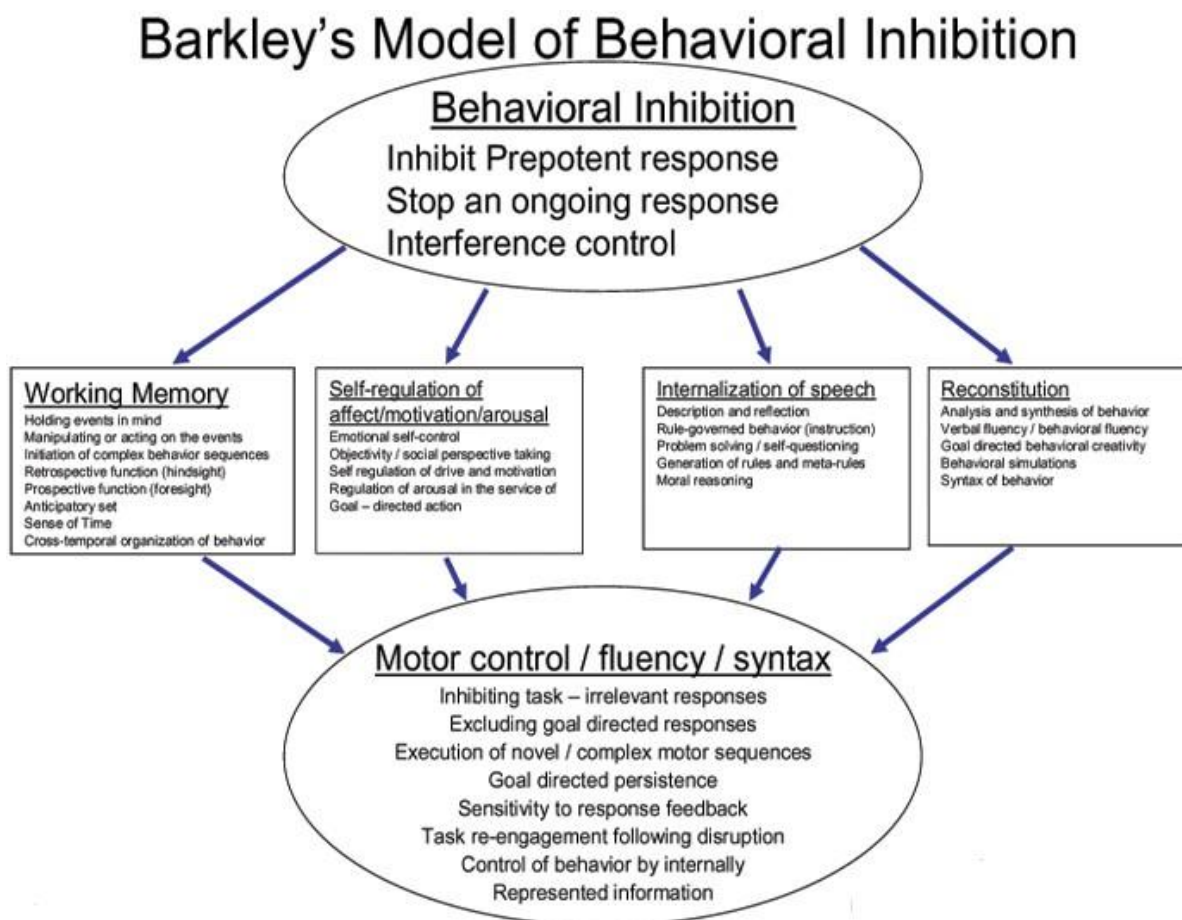
In the educative area we can work through tecnicas for improve the motivation, strategies of self-control and self-emotional regulation, activities for improve the attention, advices for adapt the daily class life of the students with ADHD.

4. The reconstitution process (cognitive flexibility), is constituted by the fragmentation of observed behaviours and the recombination of their parts for design new actions. Also is necessary for generate new behaviours and resolve problems.

In the educative area we can work starting from the mistakes comets by the ADHD students in their daily life, through self-evaluation, reflexion, creation of alternatives and the help of the teachers and the educative specialist in all long the process.

The *Instituto Nacional de Tecnologías Educativas y Formación del Profesorado*, run by the MECD, also starts with all of this for explain the executive functions depleted in ADHD.

Figure 1: Hybrid model of executive functions (Barkley, 1997)



Through the different activities proposed in this project we want that teachers and educative specialist be able to apply adaptations and training resources, for improve the executive functions of their students with ADHD and therefore get better the consequences of the malfunction of them. Teachers will train the EF through the normal activities and class dynamics related with reading, writing, mathematics and socialisation abilities, while the educative specialists will train and improve the executive functions with a more direct strategies and activities (games, dynamics, written sheets etc.).

We believe psicopedagogy intervention should to be focused in the ADHD child and him executive function, and for that, a fundamental part of this intervention must be done through the training of the executive functions with the aim of, step by step, the child reaches a higher functionality of the immature or altered processes. Before working with other difficulties, is very recommendable achieve a performance of the executive functions in line with the general levels (RedCenit, 2014).

OBJECTIVES

<ul style="list-style-type: none"> • General Objective
<ul style="list-style-type: none"> - Train teachers and specialists in therapeutic pedagogy about how to work, considering their professional competences, in the executive functions affected in attention deficit and hyperactive disorders, in the order to improve the educative, social and personal conditions of the students with this disorder.
<ul style="list-style-type: none"> • Specific Objectives
<ul style="list-style-type: none"> - Raising awareness of the importance of training the executive functions affected in ADHD in order to improve the difficulties that children affected face. - Provide teachers a number of both theoretical and practical resources to adequately address cases of ADHD. - Provide school therapists a number of both theoretical and practical resources to adequately address cases of ADHD.

LOCALIZATION

This project will be carried out in two schools in the city of Murcia, the *CEIP Virgen de Guadalupe* and the public private partnership school of *Nuestra Señora de la Fuensanta-Jesús María*, located at Avenida de la Constitución N° 0 and at the street Senda Enmedio N°1 respectively, as we can see in the figures below.

The election of these centres is because during the period of my first external practices we observed deficiencies in the educative and therapeutic abordage of the students with ADHD in these schools.

The activities of this project will take place at the school installations (class rooms, multipurpose rooms, meeting rooms...) provided by them.

Figure 2: Map CEIP Virgen de Guadalupe **Figure 3: Map Nª Señora de la Fuensanta**
(Google Maps, 2014) (Google Maps, 2014)



PLANNING AND METHODOLOGY

The methodology used along this project will be an active methodology, participative and linked with the reality of the assistants. Through it we will start from the previous knowledge of the assistants and we will try they “build” the knowledge and develop the necessary procedures and strategies to prevent and address the problematic situation that students with ADHD often face in the classroom.

Our main aim is that through this methodology the assistants get link the theory and the daily professional practice, either in the classroom (in the case of teachers) or in therapeutic pedagogy sessions (in the case of specialists), and improve, on this way, the attention given to ADHD students.

Although there are more expository kind activities (seminars by experts from EOEP, from other associations etc.), we will always try that the assistants express their previous ideas and life experiences related with the contents of the seminaries, well as their expectations and worries.

Therefore, we not only pretend offer theoretical information, advice or prescriptive activities for apply to ADHD students etc. but in the process of give all of this information to the audience, we want create an atmosphere of reflexion and debate of how act in these situations, share experiences, answer questions from everyone and get in direct contact with actual cases of students with ADHD.

Through this methodology we will do 8 activities divided in two different sessions for different kind of professionals, as we explain below.

SESION 1: THEACHERS	ACTIVITY N° 1: Seminar
DURATION: 2 hours	
TITLE: "ADHD and writing"	
<p>This activity aimed at teachers, will consist of a seminar given by Ms. Concha Martinez Miralles, a professional of the EOEP of learning difficulties in Murcia.</p> <p>To begin, the seminar will be presented (the main theme of the seminar, the intervention project to which it belongs and the main objectives of this project).</p> <p>As an introduction, at the start of this talk we will explain briefly:</p> <ul style="list-style-type: none"> - What are executive functions (EF). - The relationship between ADHD and dysfunction of the EF. - The relationship between writing problems in ADHD and EF. - Principal writing difficulties in children with ADHD (annex 1). <p>After that introduction two practical cases of students with ADHD and writing problems will be presented.</p> <p>After this, we will talk about:</p> <ul style="list-style-type: none"> - Motivation techniques for writing. - ICT (information and communication technologies) and the improve of writing (applications for tablets, mobile phones, computers, whiteboards...) (annex 9). - Exercises for improve the fine motor skills. - Specific exercise of orthography, calligraphy and grammar. - Strategies for adapt exercises, exams and other activities of class (annex 2). - Resources for work the writing and reading skills and organize ideas in class. (annex 3). - Behavior modification techniques (annex 4). 	
TASKS	
<ol style="list-style-type: none"> 1. Prepare the audiovisual presentation to be used as support. 2. Distribute 2 folios and pens to each attendee. 3. Explain the purpose of the project and the seminar. 4. Define and explain what are executive functions (EF) and give examples. 5. Ask if there is any doubt. 6. Explain how affects malfunction of EF to ADHD. 7. Ask if there is any doubt. 8. Explain how the writing is affected by ADHD and present practical cases. 9. Ask if there is any question and encourage share the real examples that these teachers have lived in class. 10. Explain the motivational techniques for writing. 11. Ask if there is any doubt. 12. Introduce different (free and / or paid) digital applications available to work on writing in this type of disorder. 13. Ask if there is any doubt. 14. Explain exercises to improve fine motor skills. 15. Ask if there is any doubt. 16. Explain specific exercises in spelling, handwriting and grammar. 17. Ask if there is any doubt. 	

18. Explain different strategies to adapt exercises, tests and other classroom activities.
19. Ask if there is any doubt.
20. Present resources for work reading and writing skills and for organise ideas.
21. Ask if there is any doubt.
22. Explain the different behaviour modification techniques.
23. Recall the main ideas of the seminar and encourage teachers to apply what they have learned to their students with ADHD.

SESION 1: THEACHERS	ACTIVITY N° 2: Seminar
DURATION: 2 hours	
TITLE: "ADHD and reading"	
<p>This activity aimed at teachers, will consist of a seminar given by Ms. Concha Martinez Miralles, a professional of the EOEP of learning difficulties in Murcia.</p> <p>To begin, the seminar will be presented (the main theme of the seminar, the intervention project to which it belongs and the main objectives of this project).</p> <p>As an introduction at the start of this talk, we will explain briefly:</p> <ul style="list-style-type: none"> - What are executive functions (EF). - The relationship between ADHD and dysfunction of the EF. - The relationship between reading problems in ADHD and EF. - Principal reading difficulties in children with ADHD (comprehension and organization of ideas). <p>After that introduction, two practical cases of students with ADHD and reading problems will be presented (annex 5).</p> <p>After this, we will talk about:</p> <ul style="list-style-type: none"> - Motivation techniques for reading. - Readings and specific books for children with reading problems (annex 6). - ICT (information and communication technologies) and the improve of writing (applications for tablets, mobile phones, computers, whiteboards...) (annex 9). Advices for cope and adapt the class readings to ADHD students. - Exercises for improve the attention and concentration in reading. - Resources for work the reading and writing skills and the organization of ideas, starting from class readings and class activities (annex 3). - Behavior modification techniques (annex 4). 	
TASKS	
<ol style="list-style-type: none"> 1. Prepare the audiovisual presentation to be used as support. 2. Distribute 2 folios and pens to each attendee. 3. Explain the purpose of the project and the seminar. 4. Define and explain what are executive functions (EF) and give examples. 5. Ask if there is any doubt. 6. Explain how affects malfunction of EF to ADHD. 7. Ask if there is any doubt. 8. Explain how reading is affected by ADHD and present practical cases. 9. Ask if there is any question and encourage share the real examples that these teachers have lived in class. 10. Explain specific techniques for reading motivation. 11. Ask if there is any doubt. 12. Introduce different (free and / or paid) digital applications available for work reading in this type of disorder. 13. Ask if there is any doubt. 14. Explain advices for child cope better the reading in class. 15. Ask if there is any doubt. 16. Explain the exercises to improve attention and concentration when the child reads. 	

17. Ask if there is any doubt.
18. Explain specific resources for work reading, writing and the organization of ideas starting from readings and class activities.
19. Ask if there is any doubt.
20. Explain specific techniques for behaviour modification.
21. Recall the main ideas of the seminar and encourage teachers to apply what they have learned to their students with ADHD.

SESION 1: THEACHERS	ACTIVITY N° 3: Seminar
DURATION: 2 hours	
TITLE: "ADHD and maths"	
<p>This activity aimed at teachers, will consist of a seminar given by Mr. Lorenzo Antonio Hernández Pallarés, a professional of the EOEP of learning difficulties in Murcia.</p> <p>To begin, the seminar will be presented (the main theme of the seminar, the intervention project to which it belongs and the main objectives of this project).</p> <p>As an introduction, at the start of this talk WE will explain briefly:</p> <ul style="list-style-type: none"> - What are executive functions (EF). - The relationship between ADHD and dysfunction of the EF. - The relationship between mathematic problems in ADHD and EF. - Principal mathematic difficulties in children with ADHD (annex 7). <p>After this, we will talk about:</p> <ul style="list-style-type: none"> - Motivation techniques for maths. - ICT and improvement of mathematical thinking (apps for tablets, phones, computers, whiteboards ...) (annex 9). - Resources and strategies to adapt the exercises and exams (annex 2). - Principles to improve increase the math performance (annex 6). - Behavior modification techniques (annex 4). 	
TASKS	
<ol style="list-style-type: none"> 1. Prepare the audiovisual presentation to be used as support. 2. Distribute 2 folios and pens to each attendee. 3. Explain the purpose of the project and the seminar. 4. Define and explain what are executive functions (EF) and give examples. 5. Ask if there is any doubt. 6. Explain how affects malfunction of EF to ADHD. 7. Ask if there is any doubt. 8. Explain the relationship between mathematical problems in ADHD and EF. 9. Ask if there is any doubt. 10. Explain the major math problems in ADHD. 11. Ask if there is any question and encourage share the real examples that these teachers have lived in class. 12. Explain specific techniques for mathematical motivation. 13. Ask if there is any doubt. 14. Introduce different (free and / or paid) digital applications available for work maths in this type of disorder. 15. Ask if there is any doubt. 16. Explain the resources and strategies to adapt the class exercises and exams. 17. Ask if there is any doubt. 18. Explain the principles to improve the math performance. 19. Ask if there is any doubt. 20. Explain specific behaviour modification techniques. 21. Recall the main ideas of the seminar and encourage teachers to apply what they have learned to their students with ADHD. 	

SESION 1: THEACHERS	ACTIVITY N° 4: Seminar
DURATION: 2 hours	
TITLE: "ADHD, emotional regulation and socialization"	
<p>This activity aimed at teachers, will consist of a seminar given by Mr. Lorenzo Antonio Hernández Pallarés, the headmaster of the learning difficulties EOEP in Murcia.</p> <p>To begin the seminar will be presented (the main theme of the seminar, the intervention project to which it belongs and the main objectives of this project).</p> <p>As an introduction at the start of this talk we will explain briefly:</p> <ul style="list-style-type: none"> - What are executive functions (EF). - The relationship between ADHD and dysfunction of the EF. - The relationship between emotional and social problems in ADHD and EF. - Principal emotional and social problems in children with ADHD. <p>After this, we will talk about:</p> <ul style="list-style-type: none"> - Strategies for improving socialization in the classroom: cooperative work, student-tutor, group dynamics for work emotional intelligence, emotional expression and social skills (save the turn, making and receiving compliments, conflict resolution ...) etc. - Techniques for the child emotional self control: semaphore technique, relaxation techniques, emotional diary... (annex 9). - Behavior modification techniques (annex 4). 	
TASKS	
<ol style="list-style-type: none"> 1. Prepare the audiovisual presentation to be used as support. 2. Distribute 2 folios and pens to each attendee. 3. Explain the purpose of the project and the seminar. 4. Define and explain what are executive functions (EF) and give examples. 5. Ask if there is any doubt. 6. Explain how affects the malfunction of EF to ADHD. 7. Ask if there is any doubt. 8. Explain the relationship between emotional and social problems in ADHD and EF. 9. Ask if there is any doubt. 10. Explain the major emotional and social problems in ADHD. 11. Ask if there are any questions and encourage share the real examples that these teachers have lived in class. 12. Explain specific techniques for emotional self control. 13. Ask if there is any doubt. 14. Explain behavioural control techniques. 15. Ask if there is any doubt. 16. Recall the main ideas of the seminar and encourage teachers to apply what they have learned to their students with ADHD. 	

SESION 2: THERAPISTS	ACTIVITY N° 1: Seminar
DURATION: 2 hours	
TITLE: "Improving the working memory"	
<p>This activity directed to therapists of the educative centers, consist of a seminar given by Mr. Luis Abad Mas, director of the cognitive development center Red Cenit in Valencia.</p> <p>To begin the seminar will be presented (the main theme of the seminar, the intervention project to which it belongs and the main objectives of this project).</p> <p>At the beginning of the seminar, we will ask to the audience what they understand by working memory and if they usually work to improve this executive function in the ADHD cases of their school centres and how they do it. As they go giving definitions or words that fit the definition we will write them on the blackboard. What we want with this is starts the seminar with a definition of "working memory" for explain why is important work on it and which resources we can use for do it.</p> <p>Once completed this we will explain, as introduction, the points below:</p> <ul style="list-style-type: none"> - What are the executive functions according to autor Barkley. - How these functions are affected in the ADHD cases, and what the consequences are. <p>Later, we will explain the resources below for work during therapeutic sessions, applicable in individual way or in groups:</p> <ul style="list-style-type: none"> - Activities of observation and description of images (annex 8). - Activities to work the reading comprehension (annex 3). - Activities of make rhymes with words, spelling, think in words of the same semantic field ... - Apps and online resources for work the working memory. - Board games, programs and software (annexes 10 and 11). 	
TASKS	
<ol style="list-style-type: none"> 1. Prepare the audiovisual presentation to be used as support. 2. Distribute 2 folios and pens to each attendee. 3. Explain the purpose of the project and the seminar. 4. Ask for definitions of "working memory" and go writing them on the board. 5. Create a definition of "working memory". 6. Asking if they work in the working memory of their students and how. 7. Explain what the executive functions are (Barkley model). 8. Ask if there is any doubt. 9. Explain how ADHD affects the working memory. 10. Ask if there is any doubt. 11. Explain the various resources proposed to work at the therapeutic sessions (observation activities, reading comprehension activities, applications, games and specific software etc.). 12. Ask if there are questions and encourage them to share the techniques they usually use in their sessions. 13. Recall the main ideas of the seminar and encourage them to implement the proposed techniques and resources. 	

SESION 2: THERAPISTS	ACTIVITY N° 2: Seminar
DURATION: 2 hours	
TITLE: "Improving the self-directed speech"	
<p>This activity directed to therapists of the educative centers, consist of a seminar given by Ms. Herenia Miralles Liborio, designer of the project and final year student of pedagogy at the University of Murcia.</p> <p>To begin the seminar will be presented (the main theme of the seminar, the intervention project to which it belongs and the main objectives of this project).</p> <p>At the beginning of the seminar, we will ask to the audience what they understand by self-directed speech and if they usually work to improve this executive function in the ADHD cases of their centres and how they do it. As they go giving definitions or words that fit the definition we will write them on the blackboard. What we want with this is starts the seminar with a definition of "self-directed speech" for explain why is important work on it and which resources we can use for do it.</p> <p>Once completed this we will explain, as introduction, the points below:</p> <ul style="list-style-type: none"> - What are the executive functions according to Barkley. - How these functions are affected in the ADHD cases, and what are the consequences. <p>Later, we will explain the resources below for work during therapeutic sessions, applicable in individual way or in groups:</p> <ul style="list-style-type: none"> - Scheme to develop the self-directed speech or self-instructions (annex 12). - Practical Activities to work the scheme. 	
TASKS	
<ol style="list-style-type: none"> 1. Prepare the audiovisual presentation to be used as support. 2. Distribute 2 folios and pens to each attendee. 3. Explain the purpose of the project and the seminar. 4. Ask for definitions of "self-directed speech" and go writing them on the board. 5. Create a definition of "self-directed speech". 6. Asking if they working in the self-directed speech of their students and how. 7. Explain what the executive functions are (Barkley model). 8. Ask if there is any doubt. 9. Explain how ADHD affect self-directed speech. 10. Ask if there is any doubt. 11. Explain the various resources proposed to work at the therapeutic sessions (development scheme of the self-directed speech, and practical activities to train it). 12. Ask if there are questions and encourage them to share the techniques they use in their sessions. 13. Recall the main ideas of the seminar and encourage them to implement the proposed techniques and resources. 	

SESION 2: THERAPISTS	ACTIVITY N° 3: Seminar
DURATION: 2 hours	
TITLE: "Improving the motivation control, emotions and the alert state"	
<p>This activity directed to therapists of the educative centers, consist of a seminar given by Mr. Luis Abad Mas, director of the cognitive development center Red Cenit in Valencia.</p> <p>To begin, the seminar will be presented (the main theme of the seminar, the intervention project to which it belongs and the main objectives of this project).</p> <p>At the beginning of the seminar, we will ask to the audience what they understand by motivation and alert state, and if they usually work to improve these executive functions in the ADHD cases of their centres and how they do it. As they go giving definitions or words that fit the definitions, we will write them on the blackboard. What we want with this is starts the seminar with a definition of "motivation" and "alert state" for explain why is important work on them and which resources we can use for do it.</p> <p>Once completed this we will explain, as introduction, the points below:</p> <ul style="list-style-type: none"> - What are the executive functions according to autor Barkley. - How these functions are affected in the ADHD cases, and what are the consequences. <p>Later, we will explain the resources below for work during sessions, applicable in individual way or in groups:</p> <ul style="list-style-type: none"> - Strategies to improve motivation and emotional control. - Selective attention: What is it and activities to work it (annex 13). - Divided Attention: What is it and activities to work it (annex 14). - Hold / Sustained attention: What is it and activities to work it (annex 15). - Board games and specific software programs (annexes 10 and 11). 	
TASKS	
<ol style="list-style-type: none"> 1. Prepare the audiovisual presentation to be used as support. 2. Distribute 2 folios and pens to each attendee. 3. Explain the purpose of the project and the seminar. 4. Ask for definitions of "motivation" and "alert state" and go writing them on the board. 5. Create a definition of "motivation" and "alert state". 6. Asking if they working in the motivation and the alert state of their students and how. 7. Explain what are the executive functions (Barkley model). 8. Ask if there is any doubt. 9. Explain how ADHD affects motivation and alert state. 10. Ask if there is any doubt. 11. Explain the various resources proposed to work at the therapeutic sessions (strategies to improve motivation and alertness, activities to work the different types of alerts, games and specific software etc). 12. Ask if there are questions and encourage them to share the techniques they use in their sessions. 13. Recall the main ideas of the seminar and encourage them to implement the proposed techniques and resources. 	

SESION 2: THERAPISTS	ACTIVITY N° 4: Seminar
DURATION: 2 hours	
TITLE: "Improving the cognitive flexibility"	
<p>This activity directed to therapists of the educative centers, consist of a seminar given by Ms. Herenia Miralles Liborio, designer of the project and a final year student of pedagogy at the University of Murcia.</p> <p>To begin the seminar will be presented (the main theme of the seminar, the intervention project to which it belongs and the main objectives of this project).</p> <p>At the beginning of the seminar, we will ask to the audience what they understand by cognitive flexibility and if they usually work to improve this executive function in the ADHD cases of their centres and how they do it. As they go giving definitions or words that fit the definition, we will write them on the blackboard. What we want with this is starts the seminar with a definition of "cognitive flexibility" for explain why is important work on it and which resources we can use for do it.</p> <p>Once completed this, we will explain, as introduction, the points below:</p> <ul style="list-style-type: none"> - What are the executive functions according to autor Barkley. - How this function is affected in the ADHD cases, and what the consequences are. <p>Later, we will explain the resources below for work during sessions, applicable in individual way or in groups:</p> <ul style="list-style-type: none"> - Worksheets to develop cognitive flexibility. - Board games and computer software programs (annexes 10 and 11). 	
TASKS	
<ol style="list-style-type: none"> 1. Prepare the audiovisual presentation to be used as support. 2. Distribute 2 folios and pens to each attendee. 3. Explain the purpose of the project and the seminar. 4. Ask for definitions of "cognitive flexibility" and go pointing them on the board. 5. Create a definition of "cognitive flexibility". 6. Asking if they working in the cognitive flexibility of their students and how. 7. Explain what are the executive functions (Barkley model) are. 8. Ask if there is any doubt. 9. Explain how ADHD affects the cognitive flexibility 10. Ask if there is any doubt. 11. Explain the various resources proposed to work in the sessions (worksheets, board games and specific software programs etc.). 12. Ask if there are any questions and encourage them to share the techniques they use in their sessions. 13. Recall the main ideas of the seminar and encourage them to implement the proposed techniques and resources. 	

TEMPORALIZATION❖ **CEIP Virgen de Guadalupe:**

Sesion 1: Theachers	Date of realization	Duration
Activity 1: "ADHD and writting"	Monday, September 21st, 2015 Since 17.30h to 19.30h	2h
Activity 2: "ADHD and reading"	Tuesday, September 22nd, 2015 Since 17.30h to 19.30h	2h
Activity 3: "ADHD and maths"	Wednesday, September 23rd, 2015 Since 17.30h to 19.30h	2h
Activity 4: "ADHD and emotional and social regulation"	Thursday, September 24th, 2015 Since 17.30h to 19.30h	2h

Sesion 2: Therapists	Date of realization	Duration
Activity 1: "Improving the working memory"	Monday, September 28th, 2015 Since 17.30h to 19.30h	2h
Activity 2: "Improving the self-directed speech"	Tuesday, September 29th, 2015 Since 17.30h to 19.30h	2h
Activity 3: "Improving the motivational control, emotions and the state of alert"	Wednesday, September 30th, 2015 Since 17.30h to 19.30h	2h
Activity 4: "Improving the cognitive flexibility"	Thursday, October 1st, 2015 Since 17.30h to 19.30h	2h

❖ **School of Nuestra Señora de la Fuensanta:**

Sesion 1: Theachers	Date of realization	Duration
Activity 1: "ADHD and writting"	Monday, October 5th, 2015 Since 17.30h to 19.30h	2h
Activity 2: "ADHD and reading"	Tuesday, October 6th, 2015 Since 17.30h to 19.30h	2h
Activity 3: "ADHD and maths"	Wednesday, October 7th, 2015 Since 17.30h to 19.30h	2h
Activity 4: "ADHD and emotional and social regulation"	Thursday, October 8th, 2015 Since 17.30h to 19.30h	2h

Sesion 2: Therapists	Date of realization	Duration
Activity 1: "Improving the working memory"	Monday, October 12nd, 2015 Since 17.30h to 19.30h	2h
Activity 2: "Improving the inner speaking"	Tuesday, October 13rd, 2015 Since 17.30h to 19.30h	2h
Activity 3: "Improving the motivational control, emotions and the state of alert"	Wednesday, October 14th, 2015 Since 17.30h to 19.30h	2h
Activity 4: "Improving the cognitive flexibility"	Thursday, October 15th, 2015 Since 17.30h to 19.30h	2h

RESOURCES NEEDED

Human resources:

- One designer and project coordinator Ms. Herenia Miralles Liborio, who also will impart some of the seminars.
- 3 speakers for the different seminars: Mr. Lorenzo Antonio Hernández Pallares, Ms. Concha Martinez Miralles and Mr. Luis Abad Mas.

Material resources:

- 1 multi-purpose classroom with chairs and tables for a minimum of 20 people (these facilities will be provided by the schools).
- 1 packet of 500 white sheets.
- 40 pens.
- Projector and screen (these facilities will be provided by the schools).
- Computer (this facility will be provided by the schools).

Financial Resources:

Fungible materials	Price
Pens (x 40)	$0,20 \times 40 = 8\text{€}$
White sheets (x1 packet of 500 sheets)	$2,30\text{€} \times 1 = 2,30\text{€}$
Rents and other current expenses*	
None	x
Staff costs	
1 designer and 3 speakers	$100\text{€} \times 4 = 400\text{€}$
TOTAL: 410.30€	

* The schools lend us their installations and facilities (multipurpose rooms, whiteboards, furniture, computers etc.) so there are no currents or rent expenses.

EVALUATION

With this project we want to achieve, as we stated in the objectives of the project, that ADHD students from the both choosed schools, improve their executive abilities impaired by this disorder. To do this we want teachers and therapists understand the importance of understanding how the brain of these children works and how train the executive functions affected. The short-term expected results are, an improvement of the comprehension of the ADHD and the work strategies in this disorder, and at medium-long term, the progress of the capacities of the affected students.

It is also important consider external factors that favour or hinder the project scope, or not, the objectives. Some of the most important external factors to take into account when we make the assessment, are: the center interest to develop the project, predisposition and previous training of the professional workers of the schools, the time available for teachers

and therapists to apply what they have learned in their classes and material and financial resources available to the center and/or the educational administration grant.

To improve the project since its beginnings and for measuring the objectives compliance, we will do, through Likert scales ([annex 16](#)), the following evaluations:

- **Initial evaluation:** This evaluation is addressed for the designer and the executors evaluate the starting point of the project before its implementation.
- **Process evaluation:** This evaluation is focused to all participants and assistants of the project (designer, implementers, teachers and therapists) evaluate the project during its implementation, allowing constant feedback for improving it.
- **Final / summative evaluation:** This evaluation is focused for all project participants and attendees evaluate the different aspects of the project when we finish with its development. The main objective is to know the extent to which the project achieved the goals we pursued.
- **Final / summative evaluation (2-3 months after the implementing):** This evaluation is focused for the teachers and therapists assess the effectiveness and usefulness of the project, once the tips, strategies, activities etc. have been applied to students with ADHD for a while.

FINAL REPORT

Finally, we are going to establish a number of strengths and weaknesses that a priori may characterize this project:

Strengths

- The theoretical framework is based on the theory Barkley, a specialist in ADHD and a worldwide renowned and supported author.
- This project operates in key areas of the primary school children: reading, writing, mathematics and social and emotional skills.
- Train the executive functions more negatively affected in ADHD, which give rise to most of difficulties with this type of students.
- Work through a variety of materials and activities (cards, board games, computer programs ...).
- Not prescribe but it offers various possibilities and solutions among which the teacher can choose and adapt to their needs and those of their students.
- The strategies work in the classroom and adaptation measures for students with ADHD may be beneficial for other children too.
- Promotes equity, social inclusion and the individualization of learning.

- Promotes learning and continuing professional development of educational professionals.

Weaknesses

- Undertake activities, strategies and proposed adjustments in this project requires time and effort that not all educational professionals have or are willing to invest.
- Some proposals require an economic cost that not all schools can afford.
- This project should be undertaken outside working hours and is not officially recognized by the education authorities.

In conclusion, we would like to add that the fact that nowadays attention deficit and hyperactivity disorder is actually large and very influential in our classrooms, makes it especially important that educational professionals have the right tools and strategies to address the difficulties that the disorder produces or can produce in the child and the rest of the classroom. For this reason, and through this project, we want to provide resources to both teachers and therapists, so that they can cope with the educational, social and psychological reality of ADHD students and do it in the best way possible.

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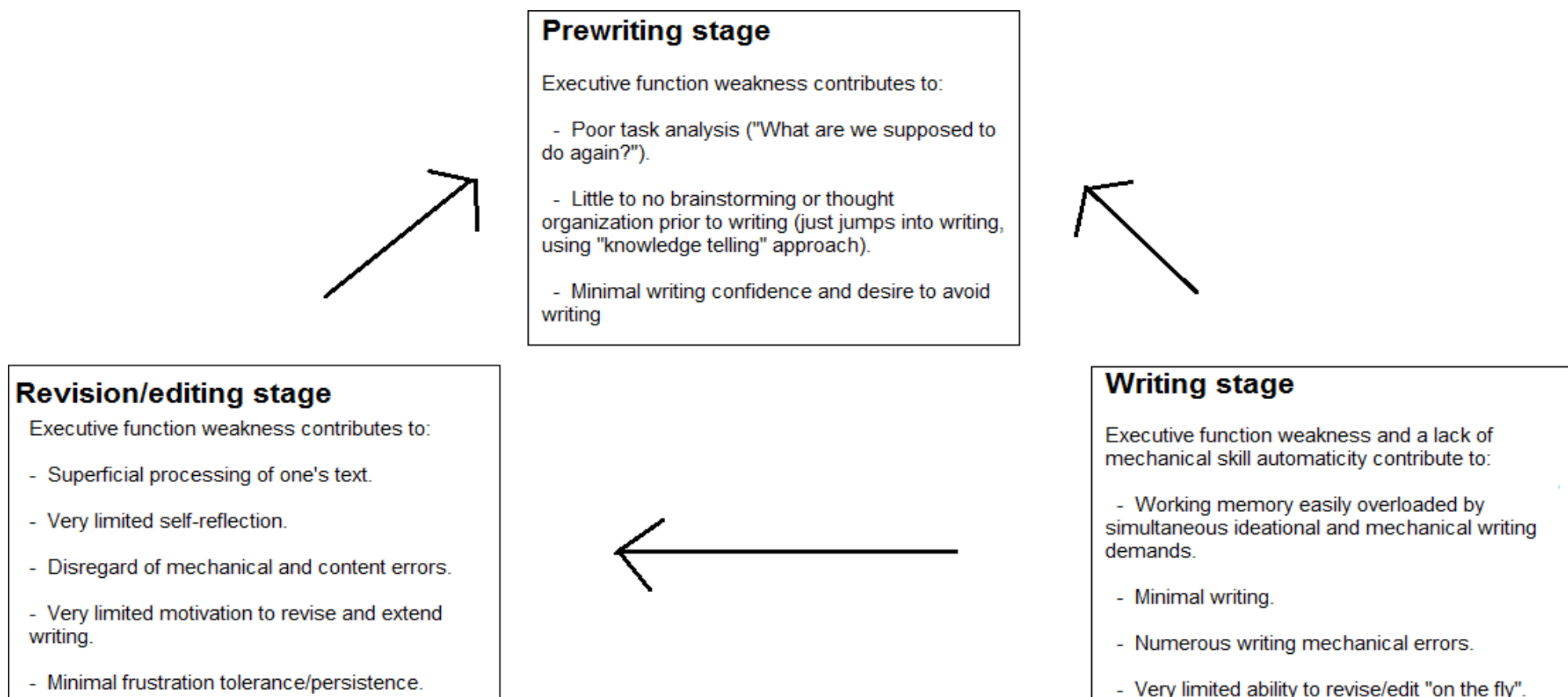
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ANNEX 1: COMMON PROBLEMS IN WRITING FOR ADHD CHILDREN (Kaufman, 2010)



ANNEX 2: STRATEGIES TO ADAPT THE SCHOOL TO ADHD CHILD (Soto, n.d)

- IN THE CLASSROOM:

- Sit him in the right place, away from windows and other distracting stimuli.
- Give simple and short orders. Establish eye contact with the child.
- Structuring the physical space.
- Structuring the environment with visual signals about what is expected of him.
- Avoid grouping tables for work in groups because this way the distractions increase.
- It is recommended that the teacher place his table near students with ADHD.
- For students with attention deficit is better not change him places (desk) over a long period.
- Be sure that at classrooms are only the necessary materials for the work to be done.
- Reduce irrelevant stimuli present in class.

- WORK MATERIALS:

- Teach and force him to keep order at him table.
- Choose workbooks with simple format.
- Teach organization skills.
- Give five minutes to the whole class to organize the material as part of the daily routine.
- Check tasks when he writes them in the notebook.
- Provide activities which are not monotonous or boring and present tasks with a more attractive material.
- Help him in the evaluation of his activities through a self-registration.

- TIME:

- Usually they not be aware of the time so we can help them with time markers.
- Turn it into something real, with clocks, timers, hourglasses, etc.
- Teach children to planning tasks and to use an agenda as a way of support.
- Program the tasks that require sustained mental effort after periods of intense motor activity as recess, gym classes...

- To help him get organized we must set clear and concretely the study objectives.
- Prepare jointly with the child, a realistic schedule that the child can be met.
- Program, always, a little break.

- **DURING THE CLASS EXPLICATIONS:**

- Provide students before explaining a scheme of what will be explained.
- Expose with an eye contact as often as possible.
- Set up questions during the explanation.
- Promote active participation.
- Never explain slowly in presentation, because it can distract a lot. Use non-verbal signals (gestures, intonation changes ...) to attract attention.

- **DURING THE DEVELOPMENT OF THE TASK:**

- Adjust the difficulty level of the task.
- Ask him to think aloud to enable the production of inner speech.
- Divide activities and contents in short parts.
- Alternate different activities to eliminate fatigue (concentration activities/ motor activities as painting, cutting, collecting, sorting, give messages, go to the toilet ...).

- **HOMEWORK:**

- Limit as much as possible homework.
- Allow time for child copy the homework he has to do in home and check if he has done it well.
- A responsible partner can be used to help him understand the tasks.
- Use the child agenda as a way to inform parents of what he has to do.

- **ASSESSMENT AND EXAMS:**

- If is necessary, we evaluate him individually.
- Promote the use of self-instructions.
- Do short and frequent evaluations.
- Check that the student note well into his agenda dates of exams and homework.

- It is better not to do more than one exam at day.
- Whenever possible, reduce the exam content to one or two questions per sheet.
- Mark the time available to do the exam with markers of time if is necessary.
- They have less difficulty with choice questions.
- Give clear, short and simply instructions.
- Highlight the key words of the exam sentences.

Modified “Sandwich” Organizer for Paragraph Construction

The purpose of my paragraph is to: _____

Topic Sentence

Idea, Reason, or Fact

(Possible transitions: “First of all . . .” “First . . .” “The first thing that happened . . .”)

Example

Idea, Reason, or Fact

Possible transitions: “Second of all . . .” “Another reason why . . .” “The next thing that happened was . . .”

Example

Concluding Sentence

(Possible transitions: “In conclusion . . .” “So, this is why . . .” “All in all . . .”)

BOTEC Example

Brainstorm Organize Topic Sentence Examples Conclusion

Assignment (*what you're supposed to write about*): _____

Brainstorming (*list some possible ideas for your writing here—use only a few words for each and don't worry about the order for now*):

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Organize and Order (*Pick at least 3 of the ideas you've just listed and then write them on the lines below in the order that would make the most sense. Which should come 1st, 2nd, 3rd, and so forth?*)

1. _____
2. _____
3. _____
4. _____

Topic Sentence (*Get the ball rolling! Write a topic sentence that introduces your whole essay or story*):

Examples and Details (*List all of your chosen ideas and add at least one detail or fact for each*):

Idea #1: _____

Detail: _____

Detail: _____

Idea #2: _____

Detail: _____

Detail: _____

Idea #3: _____

Detail: _____

Detail: _____

Conclusion (*Write one sentence that summarizes all the major points in your essay/story*):

Linear/Sequential Story Map Example

The diagram illustrates a Linear/Sequential Story Map. It begins with three ovals at the top: 'Main characters:', 'My title:', and 'Settings:'. Lines from these ovals converge at a central point above a series of six rectangular boxes. The first box is labeled 'Main problem of the story:'. The subsequent four boxes are each labeled 'Next thing that happens:'. The final box is labeled 'How the story ends (and moral, if any):'. Arrows indicate a sequential flow from the first box down to the last.

My title:

Main characters:

Settings:

Main problem of the story:

How the story starts:

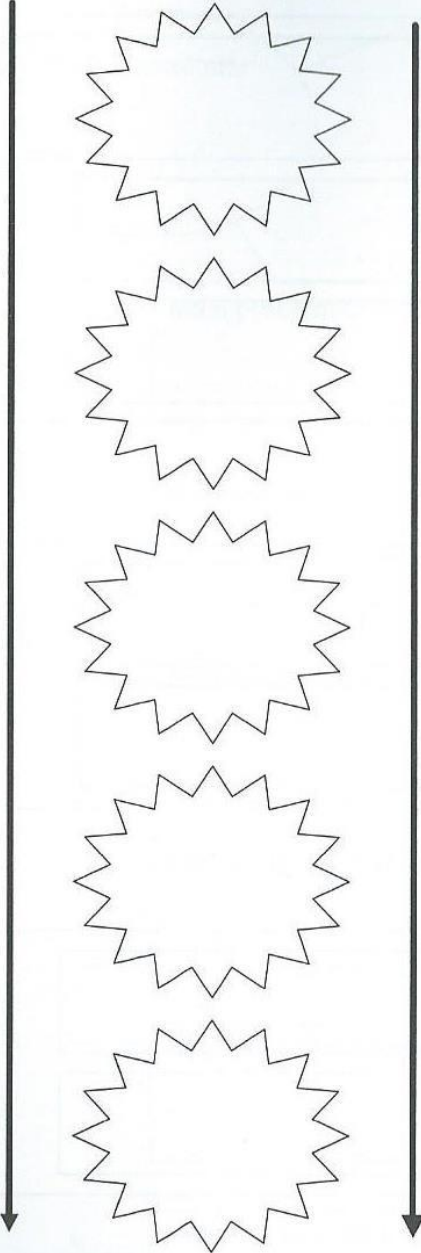
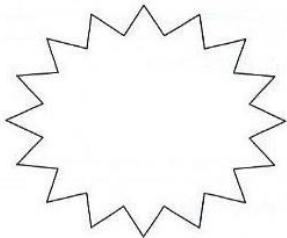
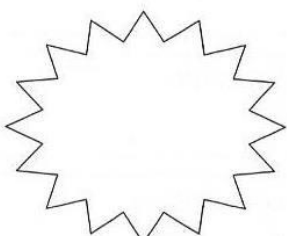
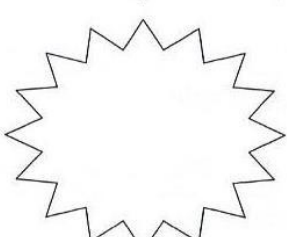
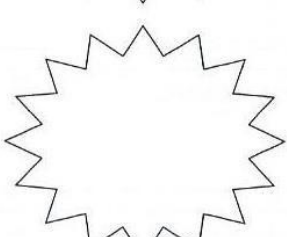
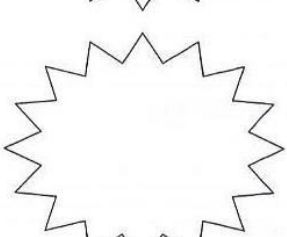
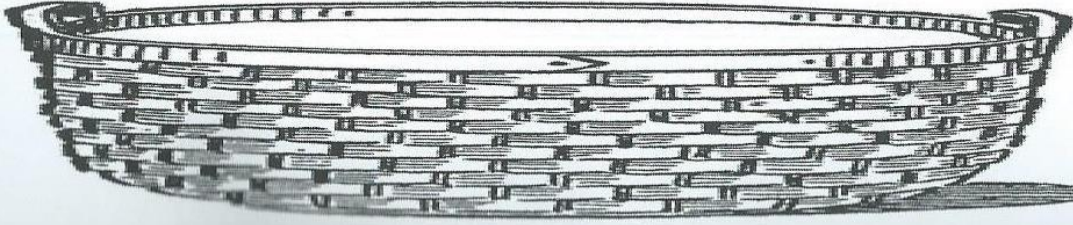
Next thing that happens:

Next thing that happens:

Next thing that happens:

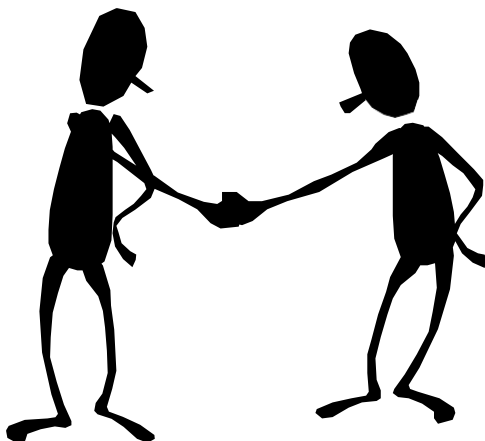
How the story ends (and moral, if any):

Thought-Gathering Template

<i>Into the Basket</i> (MY IDEAS)	<i>Out of the Basket</i> (MY IDEAS IN ORDER)
	<div data-bbox="944 526 1013 593">1</div>  <div data-bbox="944 772 1013 840">2</div>  <div data-bbox="944 1019 1013 1086">3</div>  <div data-bbox="944 1265 1013 1332">4</div>  <div data-bbox="944 1512 1013 1579">5</div> 
	

- **READING COMPREHENSION** (Peterson, 2012).

- **Vocabulary**



mediator	clarification
exchanged	event
angry	heart
address	peers
dispute	structure
accident	framework

Conflict Resolution

By: Sue Peterson

Conflict resolution is a peaceful way of trying to solve a conflict with resolution. Both sides in the conflict explain what they feel happened to cause the conflict. The person who listens to both sides is called the mediator.

After both sides state what they feel happened to cause the conflict, they discuss ways to solve the conflict. They try to come up with a “resolution” that both sides agree to.

Communication throughout the entire conflict resolution process is always exchanged in a calm manner without anger. Everyone attempts to use good listening and attending skills while people are talking. If voices get too loud or it appears that someone is angry, the mediator’s role is to address this and have the people treat each other with respect.

After various suggestions are shared in how to mediate the conflict, discussion centers on the best solution. Conflict resolution can also be called dispute resolution. It is used in many environments to help solve disagreements in a peaceful way.

This is an example of how conflict resolution works in a school playground setting:

- Someone says that a student pushed them on the soccer field.
- The person accused as the “pusher” claims it was an accident.
- The person pushed gets the mediator.
- The mediator takes the two people who are upset somewhere in a quieter spot and away from others to talk.
- The mediator calms everyone down and lets them know that he understands their feelings.
- Each person describes what happened.
- The mediator asks for clarification if something is not clear.
- The mediator repeats what he heard so it is clear to everyone and /she identifies with those involved.
- The mediator asks for ideas to solve the problem.
- The two individuals offer ideas and solutions to the problem.
- The individuals discuss the ideas and solutions and come to some agreement on the solution.
- The mediator makes sure the individuals follow- through on the solution whether it is to say they are sorry, to shake hands or to play nicely together, etc.
- The mediator offers praise for solving the problem.

Conflict resolution can work in many settings and it can work with several individuals at once. In any event, it is worth trying to get at the heart of the matter by involving the peers themselves who have a concern. It encourages them to analyze what really happened, to share their feelings about the conflict, and to work together peacefully to solve the problem. Conflict resolution gives those involved a structure to use with a mediator to help reach an agreement. It allows onlookers to see a workable framework.

• Practice

Language Work

A. Write the words.

Exchang

ed Angry

Dispute

Accident _____

Clarificati

on

B. Use each word in a sentence. Underline the word used.

Mediator

Event

Structure

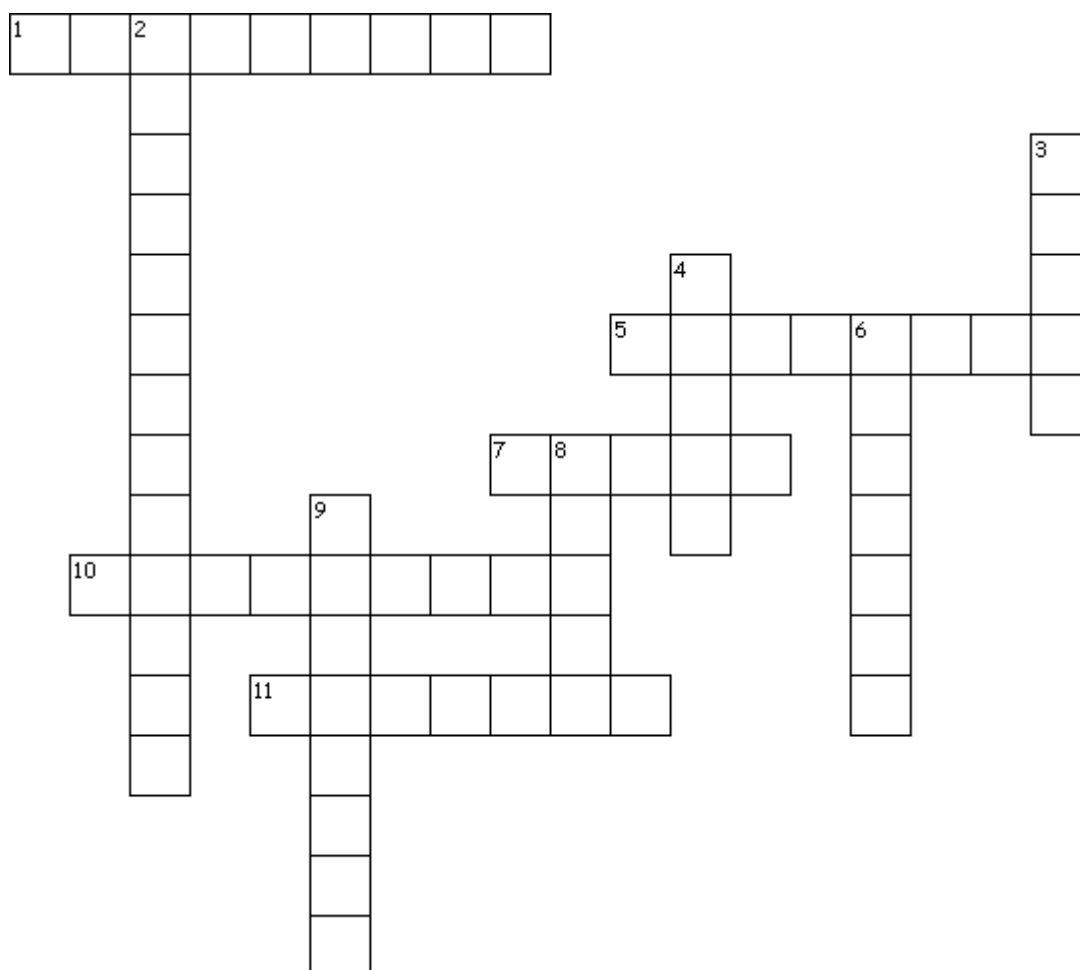
Framework

C. Matching. Fill in the missing blanks with the multi-meaning words: address, heart and peers.

1. The President will give the _____ to the public.

2. My uncle almost had a _____ attack when he saw the snake curl up in his tent.

3. Mother said for my 9th birthday, I could invite all of my _____ from school to my birthday party.
 4. Which _____ should I use on the envelope to mail the letter to Grandma?
 5. The child _____ out the window to see if Dad is coming home from work.
 6. The teacher told the students in math class that they should get to the “_____ of _____ the matter”; you know the important stuff about how to multiply those larger numbers.
- D. Phonics work. When you add the “or” suffix to a verb like in the example “mediate” to “mediator”, the “e” is dropped before you add the suffix “or”. The suffix added to a verb makes the word a noun (a person, place or thing). For example, an actor acts; a dictator dictates; just like a mediator mediates. Think of another word with the “or” suffix that changes the verb to a noun. Circle the “or” suffix.
- E. Crossword. Figure out the clues that talk about conflict resolution.



Multiple-Choice Questions (Put an X in front of the correct answer.)

1. What is the vocabulary word in the text that means “a solution to the conflict”?

- ☐ a. Resolution
- ☐ b. Disagreement
- ☐ c. Angry
- ☐ d. Address

2. Why do you think the author included the bullet points in this particular text about conflict resolution?

- ☐ a. The author likes to use the bullet points.
- ☐ b. There is no reason to include his.
- ☐ c. So you could more easily see the steps in conflict resolution.
- ☐ d. So you could more easily see the steps in being angry.

3. According to the text, what is the **most likely** reason to use conflict resolution?

- ☐ a. So you can talk.
- ☐ b. So you can have a mediator.
- ☐ c. So you can take your time.
- ☐ d. So you can have a framework to solve problems.

Definitions (Write the meaning of each word as it is used in the text.)

1. Address

2. Heart

3. Peers

Extended Response (Answer in complete sentences.)

1. Summarize the role of the mediator in conflict resolution.

2. Explain the ideal communication in the steps to solve a conflict. How should a person talk, etc.?

3. Give an example of when you used one or more steps of conflict resolution to work on a problem, even if you may not have known what the step was called. Explain the people involved, the problem, and the outcome. Did you solve the problem?

ANNEX 4: BEHAVIOR MODIFICATION TECHNIQUES (Consejería de Educación de la Junta de Andalucía, n.d)

- **BEHAVIOR CONTRACT AGREEMENT**

The technique consists in a written agreement between the parties concerned (parent - child, teacher - student etc ...). The contract must be established around a prior negotiation.

The behavioral contract is a way to regulate the conduct of the student and establish consequences.

- **TOKEN ECONOMY SISTEM**

Choose, more or less, three or four behaviors to address at one time. It can be helpful to pick a behavior that your child is already doing well, one behavior that needs a little improvement, and two behaviors that the ADHD student is struggling with. Reward the child with a chip or token whenever you see the desired behavior. Allow the child to exchange the tokens for rewards.

- **EXTINCTION**

Extinction refers to a procedure of discontinue the reinforcement (often unintentionally) of undesirable conducts or problem behavior in order to decrease or eliminate these negative occurrences.

- **POSITIVE REINFORCEMENT**

It is a technique for modifying behaviors that consist of reinforce desired behavior through give immediately something pleasant for the student. This immediacy of reinforcement makes the more probably that the good conduct appears in the future.

- **TIME OUT**

Is to deprive the subject of the opportunity to obtain a reinforcer, through isolate him for a period of one minute for each year of life of the child, not to exceed 10 minutes (to prevent find alternative reinforcers). Should be applied immediately after completion of the conduct we want to remove.

ANNEX 5: PRACTICAL CASES OF ADHD READING PROBLEMS (Kaufman, 2010).

Meet Griffin

Griffin is a first grader with several of the hallmark signs of phonological dyslexia. He struggled greatly with rhyming activities and other elements of phonological processing in preschool and had lots of difficulty grasping letter-sound linkages across his first two elementary school years. Although his ability to recall the visual aspects of words (orthographic memory) is intact, he remains largely unable to sound out even very basic words on his own. Griffin's teachers and parents have also expressed concern about his marked distractibility across all academic contexts and the related difficulties he has focusing on remedial services. For example, his Reading-Recovery teacher reported that she needs to remove him from the small-group program in which he started the year and provide him instead with individual instruction. Griffin's first-grade year is nearing completion and he has made very little literacy progress.

Meet Megan

A bright, happy, and highly social third grader, Megan showed no obvious phonological processing problems in her early childhood years. She also had no difficulties mastering letter-sound correspondences in kindergarten and first grade. She continues to display strong phonetic word attack and spelling skills in single-word contexts, but makes numerous errors when reading aloud from books. Teacher reports and running record data reflect Megan's tendency to guess impulsively at multiple-syllable words based upon the first letter sound, omit or add words that are not in the text, and leave off the suffixes of words. She also frequently skips several words at a time and even entire lines of text without seeming to notice that she has done so. Overall, Megan is describes as reading in a rather rushed and impulsive manner and as often failing to read for meaning.

Each of these vignettes helps to illustrate the manner in which executive dysfunctions can impede the acquisition of reading skills. In Griffin's case, difficulties with sustained attention compound the impact of his phonological processing weakness by inhibiting his ability to initiate and maintain focus on remedial activities. Megan has not difficulties with individual word reading, but exhibits highly problematic oral reading fluency patterns because of her distractibility, impulsivity, and self-monitoring difficulties. Thus, even though she is able to decode words as well as most peers, her ability to derive meaning from text is impaired. She essentially just rushes headlong along the "orthographic surface" making numerous errors that impede comprehension.

Every school district has plenty of students like Griffin and Megan, students whose language-based learning disabilities are either amplified by executive functions weakness or whose reading struggles stem primarily from executive dysfunction. Research on children with ADHD has clearly shown the relationship between executive function weakness and difficulties with literacy skill acquisition. A substantial number of students struggle to such an extent with reading that they meet diagnostic criteria for a reading disorder. This chapter takes a closer look at the impact of executive skills on the acquisition of the core elements of reading (decoding, fluency and comprehension), with particular emphasis given to strategies that are most likely to improve the reading of children with executive dysfunction.

ANNEX 6: READINGS AND SPECIFIC BOOKS FOR ADHD CHILDREN (LDonline, n.d).

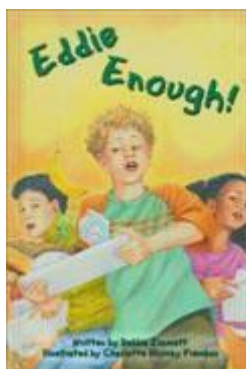


Eagle Eyes©

By: Jeanne Gehret

Age Level: 9-12

An ADHD boy helps rescue his dad because he pays so much attention to what is going on around him. He is the one who knows where to go get help.



Eddie Enough!©

By: Debbie Zimmett

Age Level: 7-9

Meet Eddie Minetti, human whirlwind and third-grader. He thinks, moves, and speaks quickly and it often gets him into trouble. One day at school, Eddie arrives late because he forgot his lunch, misses part of his spelling test, is accused of cheating, knocks over things, and loses the classroom's pet rat and that's only part of the morning! His exasperated teacher, Mrs. Pinck, says, "I've had enough, Eddie, enough!" That's all it takes, and soon the

entire class is taunting Eddie with his new nickname, Eddie Enough.

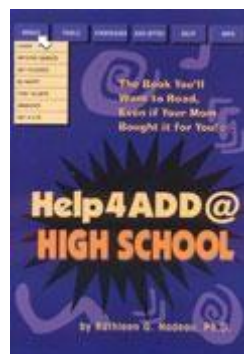


First Star I See©

By: Jaye Andras Caffrey

Age Level: 9-12

Paige, an imaginative, witty young girl with ADHD plans to earn an interview with astronaut, Kelsey Strongheart.



Help4ADD@High School©

By: Kathleen G. Nadeau, Ph.D.

Age Level: 10

Designed like a Web site, this book provides straight talk on high school drugs, sex, friends, driving, parents, college and much, much more. It can help make your High School years a time that you can feel good about, instead of one long struggle. Help4ADD@HighSchool includes tips on how to study smarter, not harder; information about your rights in school,

and the ways that your high school can help you succeed; tips on getting along better at home; on dating; sex; getting enough sleep, the importance of exercise; and much more. It's a survival guide for high school students with ADD!



**Pay Attention,
Slosh!© By: Mark
Smith
Age Level: 9-12**

When Josh's friends call him "Slosh," it's particularly painful. Although he's smart when it comes to computers and math, Josh also has a Attention Deficit with Hyperactivity Disorder. After talking to his teacher, Josh's parents decide to take him to a doctor, and things start looking up. Best of all, over time, Josh's classmates come to appreciate him as just another one of the guys.



**Phoebe Flower's
Adventures© By: Barbara
Roberts
Age Level: 7-9**

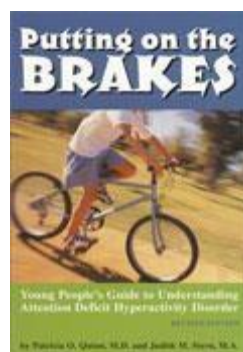
Phoebe Flower's is having some friendship troubles. Plus, her impulsivity and distractibility have landed her in trouble at school again. Her parents and the school principal decide that Phoebe needs a little help to get back on track. At first, Phoebe is worried when she hears her parents talking about something called ADD. But then her mother confides to Phoebe that she had similar problems as a girl. With Mom's encouragement, Phoebe struggles with a writing assignment. Completing it at last, Phoebe is proud of her accomplishment, and excited that, through her writing; she's discovered the true meaning of best friend.

Putting on the Brakes©

By: Patricia O. Quinn, M.D. & Judith M. Stern

Age Level: 9-12

So you have attention deficit hyperactivity disorder (ADHD). I bet that means you also have a lot of questions, doubts, and fears. This book provides some answers as well as advice on how to deal with ADHD.



ANNEX 7: PRINCIPLES FOR IMPROVING THE MATH SKILLS (Kaufman, 2010).

- **Minimize the number of algorithms taught and scaffold the strategy selection process until students become confident in self-directing their own strategic problem solving.**

Among the complaints most frequently voiced by teachers and students about the new constructionist math curriculums is that they require the teaching of too many (and sometimes inefficient) problem-solving options and place inordinate responsibility for strategy selection on students. For children with executive functions weaknesses, the presentation of numerous strategic algorithms for a particular problem type puts them at risk for strategy processing overload. Because they struggle with self-directed problem solving relative to peer norms, students may shut down or experience fairly high levels of stress if they must sort through a diverse range of applicable algorithms on their own before computing. In light of the difficulties this population has with such executive skills as decision making and strategy selection, it may be important to keep the number of strategies they are taught for the various math problem types to a relative minimum and to scaffold strategy identification by providing explicit cues regarding the specific algorithms that should be used to solve specific problems.

- **Minimize demands on working memory by building math fact retrieval fluency and by explicitly embedding strategic algorithms into worksheet materials.**

Few things defeat strategic problems solving quite as effectively as overloaded working memory. When students must devote a substantial portion of their cognitive workspace to the rediscovery of basic facts the effortful recall of algorithm steps, they have precious little working memory capacity left for higher order elements of math problems solving. For this reason, fluent knowledge of math facts and algorithm steps or, failing that, ready access to math facts and algorithm steps, is essential for many students with limited working memory capacity and attention deficits. Subsequent sections of this chapter address methods of building math fact fluency in students with executive function weaknesses, as well as scaffolding the algorithm learning/application function weaknesses, as well as scaffolding the algorithm learning/application process by embedding algorithm steps (in visual and/or verbal form) right into teacher-constructed worksheet materials.

- **Children with executive functions weakness need to be encouraged to approach the solving of math problems in a careful, methodical manner.**

The math-error patterns often associated with executive dysfunction relate to an overly hurried work tempo and an impulsive/superficial processing of information on the page. To become more successful math students, these individuals need to be shown how to talk to themselves as they work about the strategies they are using and the accuracy of their responses. Teachers who not only explicitly demonstrate problem-solving strategies, but who also show how they make decisions regarding strategy use and monitor the correctness of their work in real time, are modelling the internal dialogues children with executive weakness need to master to become more methodical math students.

- **Strategies to build math fact fluency.**

- Strategy 1: Build number sense by working with number lines.
- Strategy 2: Less is more (teach only a few facts at time).

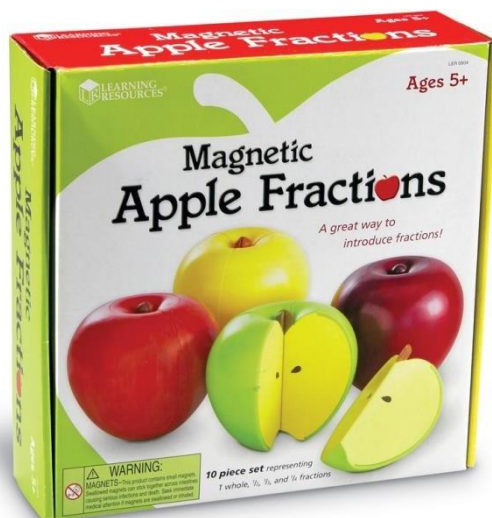
- **Visual cuing strategies.**

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Magnetic Apple Fractions©

Is a toy for learn, in a visual and manipulative way, mathematical fractions.

ANNEX 8: COMMON PROBLEMS IN MATHS FOR ADHD CHILDREN (Kaufman, 2010).

Executive dysfunction	Possible manifestations in math contexts
Purposeful attention deficits	Ignored or misread signs. Misread word problems. Skill gaps associated with failure to adequately attend to instruction. Inconsistent performance. Place value misaligned. Decimals incorrectly placed.
Working memory deficits	Failure to follow multiple steps directions. Incorrect responses to work problems associated with difficulties holding all the elements of the problems online in working memory. Incorrect responses to calculation problems associated with difficulties holding necessary algorithm steps in working memory.
Planning deficits	Failing to approach problems in a planned, strategic manner. Selecting the wrong algorithm and/or problem-solving strategy. Allowing too little space on page in which to problem solve.
Organization deficits	Difficulties setting problems. Inconsistent lining up of columns and equations. Frequent erasers and restarts.
Shifting/cognitive flexibility deficits	Difficulties shifting among algorithm steps and other elements of problem solving. Becoming stuck on one type of algorithm on worksheets or timed tests include a variety of problem types. Difficulties shifting to alternative problem-solving strategies.
Self-monitoring deficits	Failing to check work before submitting. Failing to note “careless” errors and impossible responses while problem solving. Erratic performance. Numerous errors when copying problems from book to paper or from whiteboard to paper.
Sequencing deficits	Performing algorithm/problem solving steps out of order. Lining up elements of problems in incorrect sequences.

Retrieval fluency deficits	Slower retrieval of learned facts. Inconsistent recall of learned facts in problem - solving contexts.
Impulse control deficits	Leaps too quickly into solving word problems before having fully processed all the elements. Calculation errors associated with a failure to pause and process long enough.
Frustration tolerance deficits	Tends to quickly abandon challenging problems. Shows poor coping skills when confronted by challenging problems.

ANNEX 9: APPLICATIONS FOR WORK WRITING, READING AND MATHS (Apple Store, 2014).

- FOR WRITING:

Popplet©

By Notion



Popplet is a productivity app that also works as a mind mapping tool. Use the app to begin structuring the writing process. The app can also be used to create graphic organizers, classroom visuals, organize material according to text structures (list, sequence, compare–contrast, cause–effect), and to practice sentence combining and complex sentence creation by connecting individual "Popples."

Odyssey Writer©

By Time4learning

Odyssey Writer helps teach writing starting with carefully constructed assignments to stimulate students' desire to communicate, to integrated prereading graphic organizers, easy-to-use word processor with simple revising tools to the grading guides (writing rubrics) provided to parents and teachers in the teaching guides and answer keys



- FOR READING:

Question Builder©

By Mobile Education Store LLC



Question Builder is designed to help children learn to answer abstract questions and create responses based on inference. Use of audio clips promotes improved auditory processing for special needs children with autism spectrum disorders or sensory processing disorders. Audio clip reinforcement can be turned on or off for non-special needs children.

Reading Remedies©
By Needleworks Software

Divided for work six areas: rhyming, blending, segmentation, sight words, fluency and word attack.

Suggested follow-up activities to teach specific skills in each area as well as complete lists of sight words, common prefixes, suffixes, and vowel combinations are included.

Created by literacy coaches and reading intervention teachers, Reading Remedies is a tool for both parents and teachers who want a painless yet comprehensive assessment tool and tips for helping any child achieve reading success.



Reading Comprehension Camp©
By Smarty Ears

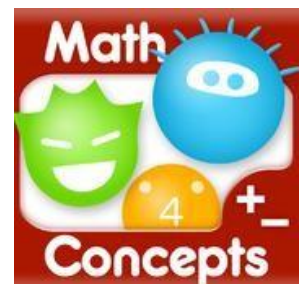


Is a multi-purpose app specifically designed to encourage language growth and reading comprehension. With multiple levels, 50 stories, and the ability to create personal stories this comprehensive app is perfect for students struggling with comprehension.

- **FOR MATHS:**

Dexteria Dots - Get in Touch with Math©
By BinaryLabs, Inc.

Is a good way for kids to build and practice fundamental math skills. Gameplay involves a touch interface, which kids use either to separate or combine dots to produce a particular value. For example, kids may be asked to produce the value 6, and they then have to work with dots of varying sizes to make a 6. Larger dots represent greater values, and smaller dots represent smaller values. There are three main options for gameplay, and each includes four levels.



Jungle Fractions©

By Andrew Short

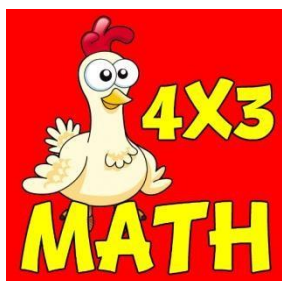
Jungle Fractions is an incredibly easy, fun and interactive app that teaches kids fractions in a visual way, taking full advantage of the iPad's large screen and HD quality.

Usability tested with kids ages 7 and up, Jungle Fractions has proven to be tremendously effective at teaching kids fractions. Kids understand fractions conceptually within minutes of play.



A Math app: Multiplication Simplified©

By Hetal Shah



A great app for students struggling with memorizing the multiplication chart. The app gives students two ways to practice multiplication.

First, students can work with individual numbers to learn their facts.

The second option for students is skip counting.

ANNEX 10: EXAMPLE OF OBSERVATION ACTIVITIES AND DESCRIPTION OF IMAGES

- Look at the picture for 20 seconds. Then try to describe it, as detailed as possible, without looking.



(Untitled photograph of Thanksgiving, n.d)

- Look at the picture for 20 seconds. Then try to describe it, as detailed as possible, without looking.



(Untitled photograph of a children park, n.d)

- Look at the picture for 20 seconds. Then try to describe it, as detailed as possible, without looking.



(Untitled photograph of Simpsons at the beach, n.d)

ANNEX 11: EMOTIONAL CONTROL TECHNIQUES (Garland, 2014).

- THE TRAFFIC LIGHTS TECHNIQUE

Dealing with anger can be difficult for anyone of any age, but it is especially hard for young children. Anger is a complicated and overwhelming emotion, but using a traffic light technique we allow children to visualize their anger and the steps necessary for controlling their reaction to angry emotions.

Traffic lights are useful analogies when teaching anger management to older children. Use traffic light technique helps children become more aware of their angry emotions and learn to control their reactions to triggers in the environment.

The three colours on a traffic light can represent the three stages of emotion of a child that is becoming angry. Green represents calm and relaxation, or the state before anger begins to develop. Yellow symbolizes the build-up of angry emotion that typically occurs when the child first encounters a stressor. Red represents the child's reaction to the angry emotions.

Once the children learn to recognize what stage of anger they are in, they can utilize coping strategies learned in anger management programs to stop the progression of their emotions before they reach red.

RED → STOP

YELLOW → THINK

GREEN → GO

- EMOTIONAL DIARY

It is a technique that helps to improve feelings and emotions communication through sharing and writing it.

The child must have a notebook or a journal in which record his emotions and feelings at the end of the day.

Parents or teachers can dedicate a few minutes a day to help the child to express their behaviour and emotions, seeing the positive and negative aspect of them. We will use this time to help with what has generated discomfort and reinforce what went well. The goal is not to resolve conflicts but create a space for listening and understanding, forwarding the child the message that we are there to listen and help.

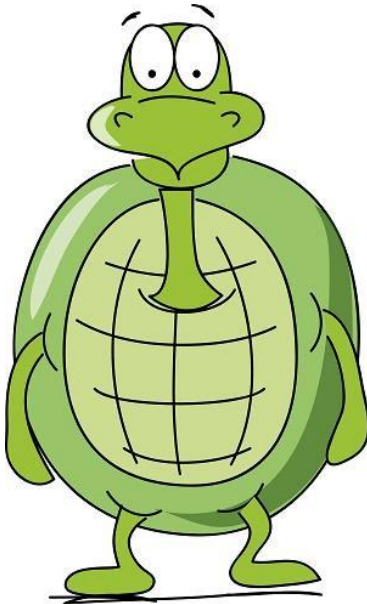
- THE TURTLE TECHNIQUE

The "Turtle Technique" is a method of teaching young children strategies for coping with anger, disappointment, and frustration.

Tale:

“Tucker Turtle Takes Time to Tuck and Think”

Tucker Turtle is a terrific turtle. He likes to play with his friends at Wet Lake School.



But sometimes things happen that can make Tucker really mad.

When Tucker got mad, he used to hit, kick, or yell at his friends. His friends would get mad or upset when he hit, kicked, or yelled at them.

Tucker now knows a new way to “think like a turtle” when he gets mad.

He can stop and keep his hands, body, and yelling to himself!

He can tuck inside his shell and take 3 deep breaths to calm down.

Tucker can then think of a solution or a way to make it better.

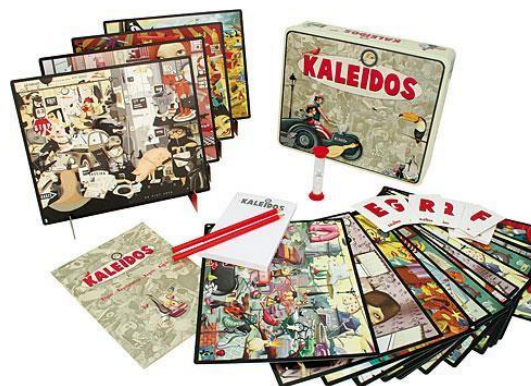
Explanation:

We explain that, like the turtle hid in its shell when he felt rage and anger, we can do the same and get into our imaginary shell to relax until we stop feeling angry and for not react with impulsive behaviours.

ANNEX 12: BOARD GAMES FOR EXECUTIVE FUNCTIONS TRAINING



Jungle Speed©: We work attention, memory, behavioral inhibition and cognitive flexibility.



Kaleidos©: We work attention, verbal fluency, behavioral inhibition and memory.



Mikado©: We work attention, cognitive flexibility, behavioral inhibition and planning.



Tangram©: We work behavioral inhibition, planning and attention.



Dobble©: We work attention, memory and behavioral inhibition.



The Mosquito©: We work attention, memory and inhibition in addition to group work.



Spin and Spell©: We work verbal fluency, memory, attention and planning.



Super Simon©: We work attention, memory, planning and cognitive flexibility.



Memory©: We work attention, memory, cognitive flexibility and planning.



Jenga©: We work attention, cognitive flexibility, planning and behavioral inhibition.



Chess: Working attention, planning, memory, cognitive flexibility and behavioral inhibition.

ANNEX 13: PROGRAMS AND SPECIFIC SOFTWARE PROGRAMS

In order to work the executive functions:

- **PIAAR-R©**

Is an intervention program from TEA editions in order to increase the attention and reflexivity levels. Its objective is to enhance the reflexivity against the impulsivity of the child.

The level 1 consists of 25 sessions. Its objectives are: enhance the temporal delay, improve attention and discrimination; increase the capacity of problem solving, details analysis etc. The Level 2 consists of 30 sessions, and with them is pursued: improve the use of scrutiny strategies, increase latency, enhance the analysis of details, do hypothesizing...

- **PROGRESINT©**

They are a series of work books of CEPE Editorial divided into different levels (depending on age) and into the habilities we want to train. Such skills are different types of attention, reasoning, perception, memory, calculation and problem solving, reading comprehension, motivation and self-regulation.

- **FIJATE MÁS©**

It consists of a CDs serie for computers designed by CEPE editorial.

Evaluates selective and sustained attention, to finally focus on training both through numerous exercises and concrete measures for their improvement.

- **PLAYATTENTION©**

Play Attention is a learning system to improve attention, behaviour, and cognitive function for ADHD children and adults. Is available in several languages and is a kind of videogame controlled by cerebral concentration level of the child (which is registered with a special device at the child's arm) in this moment.

- **PROGRAMA EFE©**

The EFE program is a computer program in which the person is working through cognitively stimulating activities focused on improving skills of attention and working memory, self-regulation of behavior and impulse control, the ability to plan and organize and cognitive flexibility.

- **MEMOTIVA©**

MeMotiva is a computer program designed to increase the capacity of working memory in children and adults with attention and concentration difficulties, all through games. It is particularly suitable for children with ADHD.

* Other interesting software programs are CogniFit© by Shlomo Breznitz and NeuronUp© by TEA Editions.

ANNEX 14: INNER/SELF-DIRECTED SPEECH SCHEME (Banús, 2014).

The entire process has five steps:

1º- The therapist acts as a model and performs a task while talking to himself aloud about what he is doing (cognitive modeling).

2º- The child performs the same task the example proposed by the therapist, but directed by their instructions (External loud Guide).

3º- The child repeat it again but he heads to himself aloud (Self-instructions out loud).

4º- Now the child performs the task again, but only verbalizing in a very low tone (masked self-instructions).

5º- The child guide their own behavior through internal self-instructions, while it develops their task (inner self-instructions).

Example:

Let's see ...what I have to do? I have to paint a rectangle on the board. Very well. How i can do it? I have to go slowly and carefully. First i paint a line down... well...Then i have to go right I'm doing pretty all right. Remember that i should go slowly. Now i have to go up. Do Not! Not so deflected to the right. Well nothing happens...now i delete the line, although i make a mistake i can continue. I delete it and i go slowly. Straight up that's it. I have to be careful to make the two equal sides. Okay. Now i have to join the two sides here. Slowly. Well, I have done. I've done it!

What the model tries to teach the child through these instructions may materialize in:

1º- Define the Problem: What i have to do?

2º- Guide to know the answer: How i have to do it? (slowly draws the line down).

3º- Self-reinforcing: I'm doing pretty well.

4º- Correct itself: In the event that the proposed target is not reached, address the error (if i make a mistake i can continue, i will go slowly).

ANNEX 15: EXAMPLE OF ACTIVITIES TO WORK THE SELECTIVE ATTENTION (K5Learning, n.d)

Definition: Selective attention is purposely focusing your conscious awareness onto a specific stimulus. This means that, for example, if you are in a noisy place with lots of people and you purposely pay attention to the person you are speaking with, you are engaging in selective attention (University of Witwatersrand, n.d).

- **Mark the correct answer for each question at the same time your teacher read the text:**

1. Who writes the note?

- a. Joan's mother.
- b. Joan.
- c. Joan's Aunt.

2. To who is the note?

- a. For Joan's mother.
- b. For Joan.
- c. To the sister of Joan.

3. Why this note was written?

- a. To tell us about Joan.
- b. To remind Joan what to do.
- c. To tell us about Joan and his mom.

Text:

Joan:

When you come back from school, remember that you must:

- Take the dog for a walk.
- Tidy up your room.

Mum



- **Mark the correct answer for each question at the same time your teacher read the text:**

1. What is trapped in the flower?

- a. A fly
- b. A bee
- c. A dog

2. Why was it in the flower?

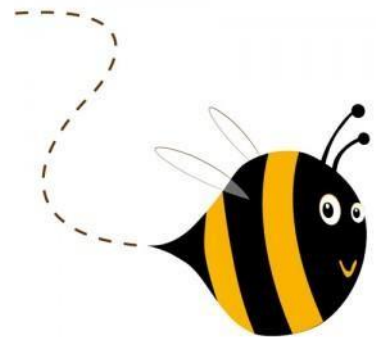
- a. For eat honey
- b. For hide
- c. Because the flower is his house

3. What do Lucy and her mother think about honey?

- a. Like both bees and humans
- b. That honey is not very helthy
- c. Honey only like humans

4. What will it do once it is let out?

- a. Go to other flowers to search honey
- b. Go with another bees
- c. Go to another city



Text:

THE BEE

"Come here, Lucy, and listen! What is in this flower?"

"O Mother! It is a bee. I wonder how it came to be closed in the flower?"

"It went into the flower for some honey, and maybe it went to sleep. Then the flower closed it in."

"The bee likes honey as well as we do, but it does not like to be closed in the flower."

"Shall we let it out, Lucy?"

"Yes; then it can go to other flowers and get honey."

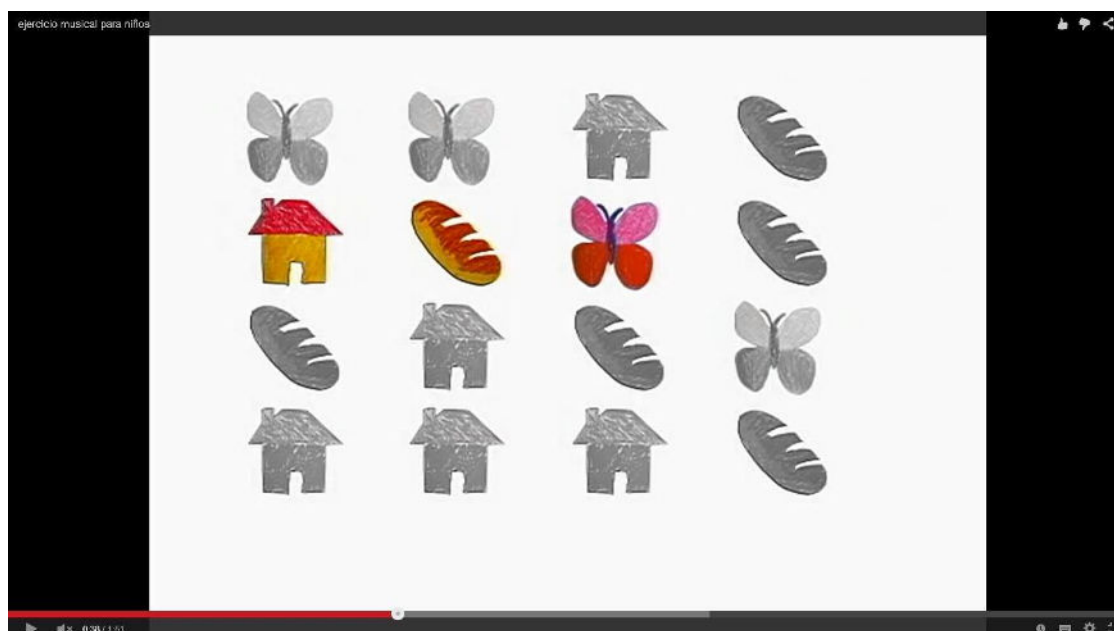
- Watch this video and count how many times the white team players pass the ball:

<https://www.youtube.com/watch?v=A1b9Wk3oOjg> (JOSEANGONAL, 2010)



- Watch this video and count how many butterflies light up:

<https://www.youtube.com/watch?v=KLSf36iPqu8> (Farfan, 2012)



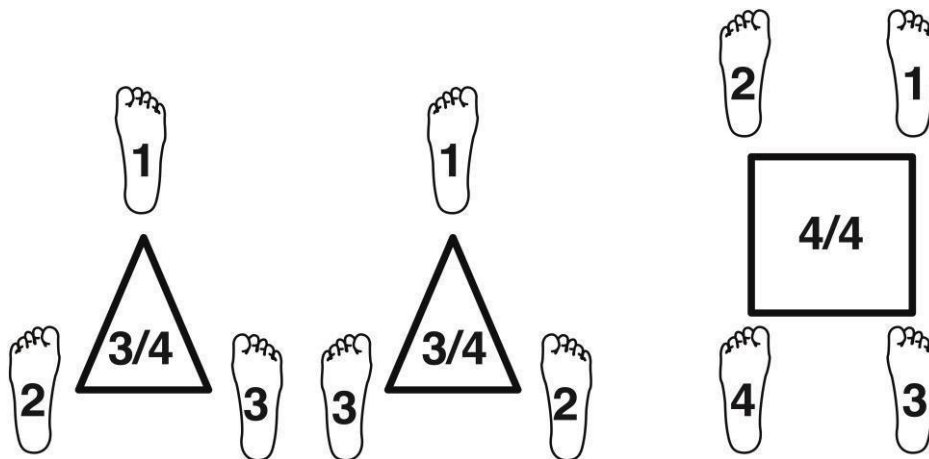
ANNEX 16: EXAMPLE OF ACTIVITIES TO WORK THE DIVIDED ATTENTION (Pons-Terrés, 2014)

Definition: Divided attention occurs when we are required to perform two (or more) tasks at the same time and attention is required for the performance of both (all) the tasks. Examples include driving a car whilst carrying on a conversation with a passenger and eating dinner whilst watching the news (University of Witwatersrand, n.d).

- **Movements in the space**

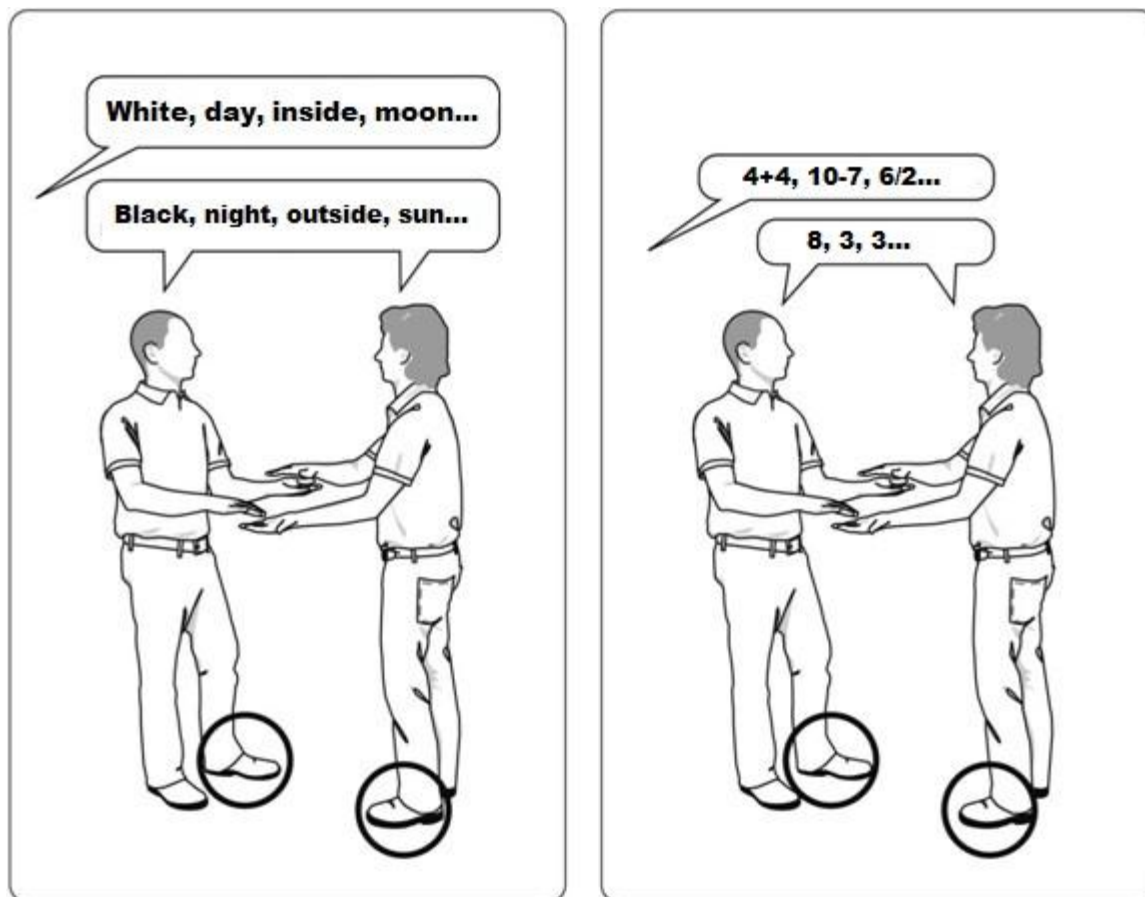
This activity consists in making movements in space to form with your feet the vertices of a geometric figure (square or triangle). When this movement is mechanic, we add slaps in each number that forms the geometrical figure we are doing.

Then, if the child has achieved good control of the previous exercises, we add one more task that consist in intonation of a little song or melody while we are doing the figures.



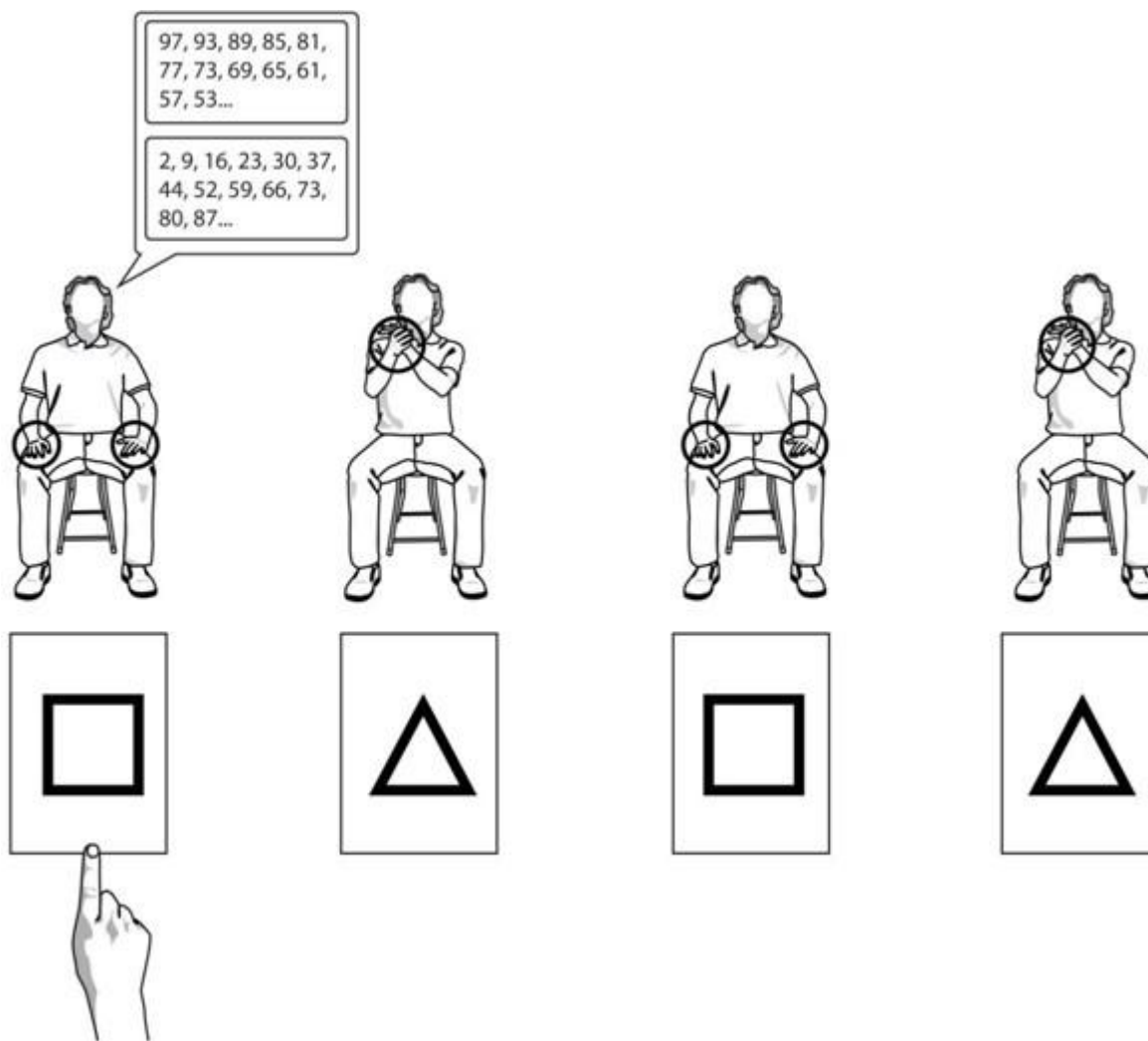
- **Percussive laterality in dual task**

The purpose of this activity is to play with the child to clap. Once this movement is stable we slightly increase the difficulty adding repetitive movements with our feet. The next level is to provide stimuli to which the child must respond (eg .: easy sums words starting with certain letter, synonyms-antonyms ...) at the same time he follow the movements of the hands and feet.



- **Figures and movements**

The activity consist the child associate the drawing of square, triangle, star and circle of each letter with a physical move. Once the child have this under control, we add difficulty by introducing very easy sums that the child must solve, playing music or making noise to distract him.



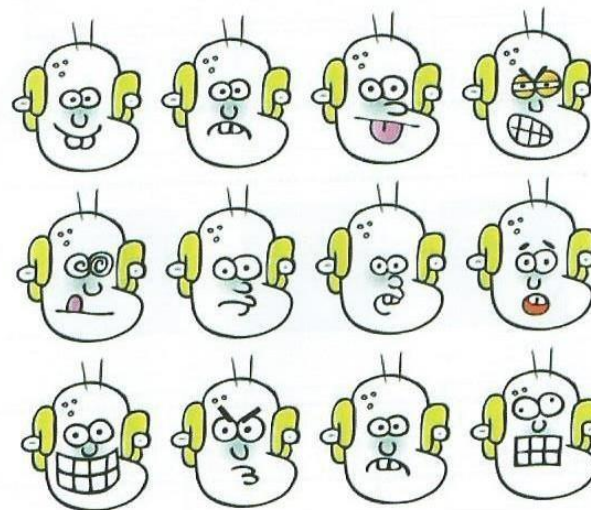
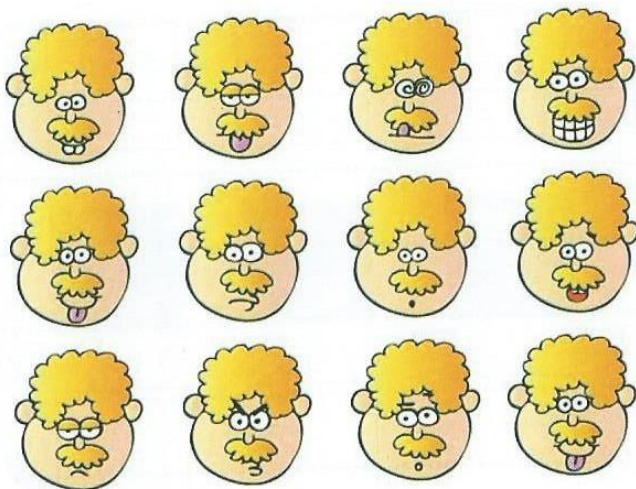
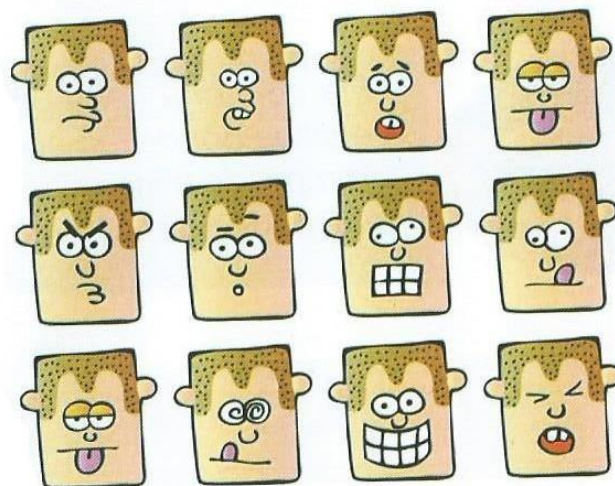
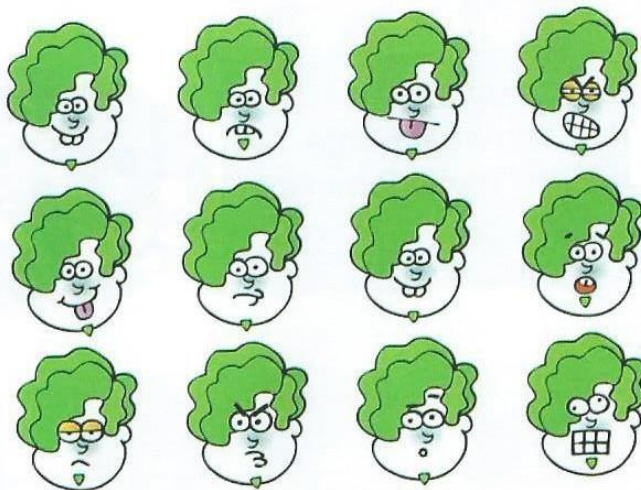
ANNEX 17: EXAMPLE OF ACTIVITIES TO WORK THE SUSTAINED ATTENTION (Vallés, 2012)



With the pencil mark the path from entrance to the exit of the labyrinth. Do it carefully!



In each group there is a repeated face. Locate it.



Are these pictures equal ? Find the differences.



Definition: Sustained attention (also referred to variously in the literature as vigilance or monitoring) involves maintaining attention over a prolonged period of time in order to detect infrequent signals. Examples may include a long distance truck driver, a security officer in a carpark, or a student in a school class. (University of Witwatersrand, n.d).

ANNEX 18: LIKERT SCALES FOR THE PROJECT EVALUATION (García, 2012).**Initial evaluation**

1- Very Little, 2- A Little, 3- Moderate, 4- Quite, 5- Very Much

For the designer and the project executors

OBJECTIVES	INDICATORS	1	2	3	4	5
Verify the adequacy of the start-up process of the project implementation	○ The project is based on identified needs.					
	○ Relevant literature has been used.					
	○ There has been consensus between the designer and the executors about how to start the project.					
	○ The project begins combining individual and group work between the designer and implementers.					
	○ All professionals were satisfied during the start of project implementation.					
Analyze the documentary composition of the project	○ Includes the needs that seek to redress.					
	○ The project contains general and specific objectives.					
	○ The project includes activities that will be carried out during implementation.					
	○ The project shows the intervention methodology that will be followed in its development.					
	○ The project includes the resources that will be needed.					
	○ The project includes the chronology.					
	○ The project includes a section of clear and comprehensive assessment.					
	○ The project is presented with good writing, without spelling errors and exposition clarity.					
	○ The project can solve the necessity of information of the therapists and teachers.					
	○ The project can help to understand the importance of executive functions in ADHD cases.					
	○ The project can help to understand how to train the affected					

Verify the potential utility of the project	executive functions in ADHD.					
	○ The project can cover the lack of formation about executive functions training.					
	○ The project is aimed at providing teachers and therapists techniques, strategies and methods for understanding and training the executive functions in ADHD.					
	○ The project is adapted to the particular situation of teachers and therapists of the centers.					
	○ The project promotes the involvement and participation of the attendees.					
	○ The elements of the project are presented with flexibility in their approaches.					
Verify the viability of the project	○ Sufficient staff is available to implement the program.					
	○ There are a sufficient number of participants to realize the project.					
	○ Sufficient equipment is available to implement the project.					
	○ Sufficient technological resources are available.					
	○ A physical location where develop the project is available.					
	○ Sufficient financial resources are available to carry out the project.					
	○ The educative centers actively support the implementation of the project.					
	○ Professionals have time to run the project as planned in the timeline.					
	○ Exists interest from the public administration for the project develops.					
Demonstrate the consistency of the intervention project	○ The specific objectives are consistent with the generals.					
	○ The contents of the project are related to the objectives.					
	○ The methodology is coherent with the objectives to develop.					
	○ The project considers the social, cultural, political and economic conditions of the locality and the area in which it is develop.					
	○ The project complies with the national and local legislation.					
	○ The professionals responsible for implementing the project have sufficient training and experience in ADHD.					

Evidence the previous education of the project implementers and the recipients	○ The professionals responsible for implementing the project are competent to work in teams.					
	○ Teachers and therapists possess the previous basic skills and capabilities for follow the guidelines of the project.					
	○ The recipients show a positive attitude to undertake the project.					

SUGGESTIONS:

Process evaluation

1- Very Little, 2- A Little, 3- Moderate, 4- Quite, 5- Very Much

For the designer and the project executors

OBJECTIVES	INDICATORS	1	2	3	4	5
Analyze the partial achievements of the program	○ Teachers are acquiring the necessary skills to address in class the case of children with ADHD.					
	○ The therapists are acquiring the necessary skills to address the ADHD from the perspective of improving the executive functions.					
	○ Teachers and therapists are acquiring the necessary skills to a better understand of children with ADHD.					
Confirm the pertinence of content development	○ The contents of the program are adapted to the characteristics of each group.					
	○ The contents are being easily assimilated by the audience.					
	○ The assimilation of contents is allowing the achievement of the objectives.					
	○ The contents included are related.					
Verify the utility of the activities	○ The attendees are actively participating in the development of the activities.					
	○ The activities have a degree of difficulty adapted to different audiences.					
	○ The difficulties that arise during the implementation of activities are being resolved well.					
	○ The attendees are motivated and interested.					
	○ The activities are being enough for the assimilation of the contents and the development of the objectives.					
Check the setting of the resources	○ The professionals who implement the program prove be formed in ADHD.					
	○ The material resources are resulting adequate.					
	○ The human resources are resulting adequate.					
	○ The time required to the activities fits to the time planned					
	○ The installations where the activities take place are appropriate					
	○ There is good coordination between the designer and the project implementers.					

Demonstrate the adequacy of the methodology applied	○ The communication and the relationship between the responsible of implementing the project and attendees is favorable.					
	○ There is good communication between the designer and project implementers.					
	○ The conflicts and tensions that can arise are resolved easily.					
	○ The motivation and interest can be observed by the attendees.					
	○ The teachers and therapists are enriching to the implementation of this program.					
	○ The teachers and therapists are satisfied with the program that is being developed.					

SUGGESTIONS:

For teachers and therapist

1- Very Little, 2- A Little, 3- Moderate, 4- Quite, 5- Very Much

ASPECTS	INDICATORS	1	2	3	4	5
The speakers	○ The speakers and responsables of the activities have the right skills.					
	○ The speakers and responsables of the activities have a good attitude.					
	○ The speakers and responsables of the activities have responded adequately to the demands and questions from the audience.					
The contents	○ The contents have been relevant to the topic of the project.					
	○ The contents have been understandable.					
	○ The contents have been complete.					
The activities	○ The activities have been relevant to the topic of the project.					
	○ The activities were useful and sufficient to acquire the knowledge.					
	○ The activities have developed without problems.					
	○ The activities have been useful to better understand of the relationship between executive functions and ADHD and how to improve the disorder through their training.					
The material resources and the place	○ The materials are adjusted to the needs of each activity.					
	○ Has there been enough materials for all the assistants.					
	○ The materials have been used appropriately.					
	○ The place of performance for each activity have the appropriate conditions (light, space, ventilation, temperature ...).					

SUGGESTIONS:

Final evaluation

1- Very Little, 2- A Little, 3- Moderate, 4- Quite, 5- Very Much

For teachers, therapist, designer and implementers of the project

OBJECTIVES	INDICATORS	1	2	3	4	5
Verify the efficiency and effectiveness of the project	○ Now the teachers are better able to adapt education and classes for children with ADHD.					
	○ Now the therapists are better able to train the executive functions in ADHD cases.					
	○ The attendees are more aware of the importance of understanding and train the executive functions of students with the disorder.					
	○ The program has harmed in some way the possible affected by ADHD.					
Check the sufficiency and adequacy of the various resources	○ The professionals responsables for implementing the project were sufficient and necessary to its realization.					
	○ The activities have been properly exploited.					
	○ The economic resources available to the project have been sufficient and appropriately distributed.					
	○ The facilities of where the project has been developed have been utilized to the maximum and properly.					
	○ The time allowed for carrying out the project have been sufficient to achieve the objectives.					
	○ The efforts made by workers and responsible to design and implement the project have been reasonable.					
Study the impact of the project	○ Changes have been made on teachers and therapists after the project.					
	○ The project, with consequent adjustments, can be applied in other schools in the region.					
	○ The project can be generalized to other institutions such as other high schools or various associations.					

SUGGESTIONS:

Final evaluation (2-3 month after the teachers and therapist have been applied to their students with ADHD which they learned during the activities of the project)

1- Very Little, 2- A Little, 3- Moderate, 4- Quite, 5- Very Much

For teachers

OBJECTIVES	INDICATORS	1	2	3	4	5
Verify the repercussion of the project on students with ADHD	○ Students have improved their handwriting.					
	○ Students have improved their spelling.					
	○ Students have improved in reading comprehension.					
	○ Students have improved pronunciation and vocalization when they read.					
	○ Students have improved logical-mathematical understanding.					
	○ Students have improved their emotional control.					
	○ Students have improved their behavior in class.					
	○ Students are socializing better with their peers.					
	○ The adaptations in homework and exams are useful.					
	○ The program has harmed in some way to those affected by ADHD.					

SUGGESTIONS:

For therapist

OBJECTIVES	INDICATORS	1	2	3	4	5
Verify the repercussion of the project on students with ADHD	○ Students have improved their working memory.					
	○ Students have improved their self-directed speech (self-instruction).					
	○ Students have improved their selective attention.					
	○ Students have improved their divided attention.					
	○ Students have improved maintained / sustained attention.					
	○ Students have improved their emotional control.					
	○ Students are more motivated.					
	○ Students have greater cognitive flexibility.					
	○ The sessions are attractive and motivating for students.					
	○ The program has harmed in some way to those affected by ADHD.					

SUGGESTIONS:

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Las funciones ejecutivas son indispensables en nuestra vida diaria para realizar con éxito multitud de tareas (fijar objetivos, planificar y ejecutar tareas, autorregular nuestro comportamiento, anticiparnos, etc.). En los déficits de atención y los trastornos hiperactivos estas funciones se alteran de forma particular, lo que provoca importantes déficits en las capacidades mentales y en las conductas de estas personas.

Debido a las características de los centros educativos y las tareas que en ellos se desarrollan, estas dificultades en las funciones ejecutivas son muy significativas, y si no se tratan adecuadamente, pueden producir importantes problemas académicos, sociales y personales en los estudiantes con TDAH.

Sin embargo, las escuelas también pueden ser lugares muy valiosos donde mejorar las funciones ejecutivas. Por ello, este proyecto de intervención se centra en estos espacios y en brindar a sus profesionales, una diversidad de estrategias, actividades, recursos y consejos prácticos, que pueden aplicar a sus alumnos/as con TDAH, con el fin de mejorar sus capacidades, no solo en el ámbito académico, sino también en otros igualmente importantes.

