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Facultad de Filosofía, Letras y Ciencias de la Educación

Carrera de Ciencias de la Educación en la Especialización de Lengua y  
Literatura Inglesa

### Teaching EFL to Students with Attention Deficit Hyperactivity Disorder

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### Resumen

Esta síntesis de investigación identificó los diferentes métodos utilizados en las clases de inglés como Lengua Extranjera (EFL) con estudiantes diagnosticados con trastorno por déficit de atención e hiperactividad (TDAH). La Educación Inclusiva es beneficiosa ya que permite a los estudiantes con estas condiciones interactuar con otros alumnos que no las tienen, ayudando a que la educación se desarrolle de una manera óptima. En los últimos años, la inclusividad ha cobrado importancia en el entorno educativo ya que los niños con diferentes condiciones tienen la necesidad de comunicarse y desarrollar habilidades de acuerdo con su condición. Los 20 artículos analizados se desarrollaron en diferentes contextos educativos en los niveles de primaria y secundaria. Las edades de los estudiantes oscilaron entre los nueve y 12 años. Los resultados de los estudios demostraron que el uso de diferentes enfoques como Respuesta Física Total (TPR), Enfoque Natural (NA) y Estrategias Tecnológicas favorecen el aprendizaje del idioma inglés en estudiantes con este tipo de condiciones. Los estudios establecen que los niños con TDAH respondieron de manera efectiva al enfoque de TPR en referencia al otro enfoque y estrategias mencionados anteriormente.

*Palabras clave:* respuesta física total, déficit de atención, hiperactividad, EFL clases, comunicación

### Abstract

This research synthesis identified the different methods used in English as a Foreign Language (EFL) classes with students diagnosed with attention deficit hyperactivity disorder (ADHD). Inclusive Education is beneficial since it allows students with these conditions to interact with other students who do not have them, helping education to develop optimally. In recent years, inclusivity has gained importance in the educational environment since children with different conditions need to communicate and develop skills according to their conditions. The 20 articles analyzed were developed in different educational contexts at the primary and secondary levels. The ages of the students ranged from nine to 12 years. The results of the studies showed that the use of different approaches such as Total Physical Response (TPR), Natural Approach (NA), and Technological Strategies was favorable for learning the English language in students with this type of condition. Studies establish that children with ADHD responded effectively to the TPR approach in relation to the other approach and strategies mentioned above.

*Keywords:* total physical response, attention deficit, and hyperactivity disorder, EFL classroom, communication

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### Introduction

Munk et al. (2017) states that inclusive education is a dynamic, consistently changing approach that needs constant evaluation and improvement. This type of education has been considered since many students have experienced this behavior. This is now recognized as an issue, and numerous research has demonstrated that it can be considered a condition that requires treatment, whether through pharmaceuticals or by various techniques, methodologies, and approaches to improve education (Cordier et al. (2018). Inclusive education aims to make these kinds of students, suffering from ADHD, feel the same as others and, above all, learn the same content and at the same level as all the rest (Mitchell, 2015). The information regarding this condition, its background, and the objectives of this research synthesis will be presented below. Moreover, information about Technology Enhance Learning Environment (TELE) and Total Physical Response (TPR) as standard methods for Teaching EFL will be presented. Additionally, data about the implementation of Natural Approach (NA) with children with Attention Deficit Hyperactivity Disorder (ADHD) and its effects on children's progress when they are learning a foreign language will be revealed. Furthermore, the analysis of the data will be presented in this research synthesis, as well as the tables in which they are ordered as follows: Table 1, year of publication of the studies, and Table 2 approaches to teaching EFL. Each table will have contrasting and comparison information. In addition, based on the studies collected and analyzed, conclusions are reached about the most used and most convenient approaches or methodologies to achieve a timely learning by students within the condition of ADHD. Finally, given the analysis carried out, recommendations can be made regarding the methodologies that can be worked together to achieve a better learning of students with ADHD.

## Chapter I

### Description of the Research

Throughout this research, the general characteristics of ADHD will be explored, as well as the typical behavior of individuals with this disorder in the learning context, and some methods through which they could acquire a foreign language.

As there is a diversity of students in the educational system, social and cultural factors have been evidenced that determine the success or failure in cognitive development in students such as race, ethnicity, and others, Yenita (2018). In this regard, the educational system intends to implement inclusive education, just as instruction has been adopted for students with physical disabilities, with the use of tools that facilitate their learning. In the same way, it seeks to optimize the resources and skills teachers implement to develop optimal results and achieve the primary teaching goal. Inclusive education is an effective method to help students with different learning mechanisms to meet the objectives of this type of education and aims to achieve universality in relevant and adequate educational quality.

#### **1.1. Background**

Liontou (2019) stated that in the last couple of years, the educational system had experienced different changes, one of them is inclusive education for people diagnosed with various learning disabilities. As Yenita (2018) mentioned, special needs address various issues, including communication and interpersonal difficulties, sensory, physical, and medical concerns, cognitive and learning challenges, and social, emotional, and behavioral traits.

According to Moriña (2017), inclusive education "aims to improve the learning and active participation of all the students in a common educational context" (p. 3) through strategies, processes, and activities that make it real. Recent research studies in this area pointed out that a well-planned curriculum with well-elaborated needed materials and good learning techniques would help children with special needs overcome difficulties during the learning process (Yenita, 2018).

Teachers try to address the classroom's needs using different teaching techniques and methodologies in this context. For instance, English teachers have faced this barrier in the EFL classroom and had to deal with it with no prior instruction (Rosen, 2017). Researchers concluded that "principal leadership and the degree of cooperation among the teachers have a major impact on teachers' sense of teaching efficacy" (Weisel & Dror, 2006, p. 161).

Due to the research work carried out, it was possible to identify that in terms of learning disabilities, ADHD has been the focus of different research studies. ADHD is a common disorder that often results in learning difficulties (Yenita, 2018). According to Brook and Boaz (2005), "Attention deficit and hyperactivity disorder is a Neuropsychiatric syndrome that remains the most common problem in children, and the reported prevalence among school pupils varies between 2 and 17%" (p. 187).

Children with this disorder act impulsively and are easily distracted; they may also exhibit hyperactive behavior (National Institute of Mental Health, 2022). While some specialists consider ADHD a behavioral disorder, others call it a cognitive one (Assari, 2021). Research carried out by Curatolo et al. (2010) suggested that ADHD is a neurological disorder stemming from inefficiencies in the brain. The author states that the cause of ADHD may be associated with prenatal factors; for example, prenatal alcohol exposure; therefore, brain scans indicate that it may be caused by abnormal size, function, and form of the brain's frontal lobe. For this reason, it is crucial to take care of learners with these conditions and implement different approaches in the EFL classroom.

According to De la Paz (2001), students who suffered from this syndrome were often considered lazy despite their knowledge and creativity. The author also remarks that teachers who are not prepared to teach English to students with ADHD still have difficulty maintaining discipline and the attention of their pupils during a lesson. She mentioned that many students fail in the educational system due to this. Typically, speech input and output are impaired, making the language acquisition process rather challenging and confusing for such learners (Sparks et al., 1992). Many of them struggle with the four skills of their mother tongue: speaking, listening, reading, and writing which frequently becomes a difficulty while learning a second language (Al-Hosni, 2014).

## 1.2. Problem Statement

Learning a foreign language is often a problem for students with ADHD since speech and language disorders in children include a variety of conditions that disrupt their ability to communicate and participate in other activities at school (Rosenbaum & Simon, 2016).

Some specialists recognize the root of the ADHD problem as an impairment or underdevelopment of the front lobe of the brain, which is responsible for significant language functions (Weisel & Dror, 2006). Some studies have shown that the language abilities of an ADHD child are affected by a deficit of working memory (Aini & Prasetyowati, 2019; Carranza & Rodríguez, 2017; Cho & Blair, 2017; Dalessandro, 2016).



In the classroom, children with ADHD absorb important information as they hear different sounds and see static and dynamic objects, colors, symbols, and characters, Aini and Prasetyowati (2019). In addition, their sensory receptors are constantly working; they may unceasingly touch and fidget with whatever gets into their hands and attracts their attention (National Institute of Mental Health, 2022). A tremendous amount of information often creates a chaotic state in their brains, and they do not see or hear more than other students do, yet, they cannot cope with such distractions, and it is difficult for them to distinguish between vital and irrelevant information (Rosen, 2017).

Moreover, it is known that teachers who work with ADHD students have many problems when teaching EFL (Weisel & Dror, 2006). Students with this deficit struggle to maintain attention in the classroom (Villalobos, 2011). They do not complete schoolwork; also, they tend to make more mistakes than other students because they ignore details (De la Paz, 2001). This represents a difficulty in education because teachers do not use approaches to address all the classroom needs (De la Paz, 2001; Rouhani et al., 2016; Sabet et al., 2015). However, there is a treatment for that, according to Patel et al (2016). "Common treatments include adjusting the environment to accommodate the disorder, behavior modification, and the use of medications along with psychological and psychiatric support to address severe conditions" (Patel et al., 2016, p.15).

According to Riccio (2008), a person with ADHD condition has "a weak span for auditory-verbal information" (p. 4) that causes problems with listening comprehension. An ADHD child may start listening to what is being said, but in a short period, the concentration drifts away as if being attracted by something that presents more interest at that moment. Even if an ADHD child is interested in a teacher's speech and continues listening, he/she may often only be able to catch some unimportant details that grasp his/her attention (National Institute of Mental Health, 2022). As a result, ADHD students concentrate on a smaller percentage of what is taught, failing to grasp the topic's essential elements and main ideas. This condition leads to the utilization of inappropriate data, which leads to an unsatisfying outcome (Mapou, 2008).

Inclusive education is one of the primary purposes of education, especially in Ecuador, and ADHD has been analyzed and studied for over fifty years (Stecher & Suarez, 2000). When teachers face students with ADHD, it usually becomes a problem since there is no specific instruction for teaching them (Ward et al., 2022). Teachers who do not have accurate approaches tend to implement general teaching techniques in their classrooms, which do not encompass the idea of inclusive education (Villalobos, 2011). Students with ADHD can be a real challenge for language instructors, classmates, and parents since it interferes with

concentration and mobility in the EFL classroom; this behavioral disorder affects an estimated eight to 10% of children from school (Villalobos, 2011). Girls are less liable to suffer from ADHD than boys, who are three times more likely to do it (Timothy, 2016). We aim to gather information about a specific set of different approaches used by English teachers in EFL classrooms that have been reported in studies as effective, so teachers will be able to practice in their classrooms to make the English language learning process easier for ADHD students, making a real inclusive education.

Different research studies have focused on teaching strategies for children with physical disabilities; only some have focused on children with different behavioral issues (Weisel & Dror, 2006). It is essential as teachers to know how to handle situations of children with the attention-deficit syndrome; it is necessary to look for the best strategies and methods for those children to learn and not be excluded from an education that by law belongs to them.

### 1.3. Research Questions

The following research synthesis analyzes different approaches teachers use in EFL classrooms with students diagnosed with ADHD. Thus, the research questions are formulated as follows:

**RQ1:** What approaches have been used to teach EFL to students with ADHD?

**RQ2:** What approach has been reported to be the most effective for teaching English to students with ADHD?

## 1. Objectives

### 1.4.1. General Objective

·To identify the different approaches used in EFL classrooms with students diagnosed with Attention deficit and hyperactivity disorder (ADHD).

### 1.4.2. Specific Objectives

·To determine different approaches and methodologies for teaching English to students with ADHD.

·To determine which approaches for teaching English to students with ADHD have the most significant impact.

## Chapter II

This chapter describes the TPR, NA, and TELE as standard methods for Teaching English as a Foreign Language (TEFL) that allows acquiring a vast range of vocabulary, reading, speaking, and certain listening comprehension skills for students with ADHD.

In general terms, TPR is a method for teaching languages that is based on the simultaneous use of speech and physical activity (Er, 2013). The body movements are a response to verbal input. It is an imitation of how children acquire their native language. On the other hand, the NA focuses on the idea that a second language is acquired in the same way that the first language has been acquired and internalized. It also emphasizes vocabulary learning over grammar. Based on this approach, fluency can be achieved through communication and better results have been evidenced compared to the audio-lingual methodology.

### **2. Theoretical Framework**

The notions, concepts, and viewpoints covered in this chapter are fundamental for understanding what TPR, TELE, and NA are, as well as their potential effects on the performance of EFL learners. Therefore, the chapter comprises three main parts: TPR and its advantages in an EFL class. Secondly, NA for children with ADHD: application in classes and its benefits.

#### **2.1. TPR as a standard method for TEFL**

James Asher developed the TPR theory based on the idea that humans are biologically programmed to learn a language, including a second language. TRP is a teaching method that emphasizes action and movements (Dalessandro, 2016). According to this author, the TPR method is based on the positive motor response of students to an order issued by the teacher, allowing them to increase their cognitive and didactic abilities when acquiring new knowledge.

Based on Dalessandro's study, an example using the TPR would be when the teacher teaches the parts of the human body to his students. In this way, the teacher will give the order to touch the head performing the action. Thus, the students will repeat the action based on the mime of the teacher. Next, the teacher repeats the order to touch the head, however, this time the students act without the need to imitate the teacher. Finally, the teacher asks a student to issue the order to touch his head to which his classmates, including the teacher, act.

One of the most important advantages of using TPR is that students get involved in different activities during the learning process (Er, 2013). The results of experimental studies that

focused on the efficiency of teaching a Foreign Language (FL) using the TPR method indicated that TPR could lead to a significant increase in the vocabulary acquisition and listening comprehension skills of FL learners (Asher, 1966). Children registered in early elementary school are not developmentally prepared to focus and sustain attention for long periods while staying still in their seats. Learning at this age (around 5 years old) is usually more kinesthetically oriented. In this sense, using TPR to teach FL vocabulary seems to be an age-appropriate and efficient method for elementary school in FL classrooms (Dalessandro, 2016).

## *2.2. NA for children with ADHD*

Learning is one of the important everyday encounters for everyone, and it is most evident for young learners who rapidly attain new behaviors, data, languages, ideas, and concepts (Bartsch et al., 2003). According to Krashen and Terrell (1983), the NA has based on the theory that language acquisition occurs only when students receive comprehensive input. They mentioned the emphasis on reading and listening comprehension for beginning students. The NA focuses on learning a second language the same way the first language is acquired. In other words, the student's environment must be surrounded by the target language (Krashen & Terrell, 1983).

According to Krashen and Terrell, NA consists of 3 stages: the silent period, the emergency stage, and the intermediate fluency. In the silent period stage, vocabulary words of everyday use in the classroom are used, allowing students to include these words as they do with those, they acquired in their childhood from their first language. They begin to pronounce these terms spontaneously such as "yes", "no", "mom", and "dad". By using them several times they become familiar that they and can use them in a comfortable way for them.

In the emergency stage, students can formulate simple sentences and give answers that include the words "how" or "why" in this way they manage to generate complete sentences and not just answer questions with a single word. Within this stage, due to the results obtained, the student can expand their vocabulary, and pronunciation and generate longer sentences in the target language.

In the Intermediate Fluency stage of the NA, the student maintains intermediate fluency, analyzes the target language, and does not need to translate from one language to another. In this way, emphasis is placed on the expansion of vocabulary and the syntactic schemes of the first language as well as in the target language, to be fluent when speaking the language.

Implementing the NA in classes with children will lead them to learn the target language for communication purposes. Basic oral communication may be expressed regarding situations, functions, and topics. It is highly recommended to establish everyday situations in which students must use the target language. According to Tehrani et al. (2013), students scored higher in both communicative and vocabulary tests after being taught using the NA. This supports Krashen and Terrell's theory that language is seen as a means of communication, and by teaching it, students learn and communicate better in the target language.

Krashen and Terrell (1983) claimed that children learn something efficiently when they do it naturally in a stimulating environment that facilitates a low affective filter, and encourages a progressive development from language comprehension to language production. Implementing the NA in classes with children will lead them to learn the target language for communication purposes. Basic oral communication may be expressed regarding situations, functions, and topics (Krashen & Terrell, 1983).

### *2.3. TELE for children with ADHD*

In general terms, TELE constitutes a teaching method that consists of the implementation of technological tools into the learning process. In regards to children with ADHD, Liantou (2019) mentioned that the use of online activities might provide a less stressful environment to learn a language, and it can also be more interesting and motivating. There is an important aspect to take into consideration and is related to the use of digital media. When children with ADHD are familiar with online applications, they could experience high levels of self-confidence as well as motivation in the educational context (Liantou, 2019).

Liantou (2019) also mentions that according to the educational needs that students with ADHD require a wide range of computer-based activities are provided, and specific technology-enhanced features were developed that were shown to have a beneficial impact on the reading comprehension skills of these students. Students with ADHD are more visual in terms of their learning, so relevant visual cues were implemented to help first process information through the display of different brightly colored fonts in different sizes to capture children's attention. , funny videos were implemented on how to give answers to reading comprehension questions included before each activity, attached a motto as a phrase to excuse mistakes and present them as an essential part of the learning process, this helps to calm their level of anxiety or fear to fail.

### Chapter III

This chapter discusses different research findings on the implementation of these approaches and strategies such as NA, TPR, and Self-Regulated Strategy Development (SRSD). SRSD is a viable mechanism for treating students with ADHD. It aims to encourage students to take control of their learning, take responsibility, and apply journal writing instruction, persuasive writing, and sentence-level skills.

For the learning process of FL for students with ADHD, the TPR and NA teaching strategies will be analyzed, which through research will determine if they can help improve the learning process. In addition, to reduce the anxiety and stress of student failure and achieve these objectives, teaching materials that promote the cognitive development of said students are organized. Results were achieved that show the daily acquisition of the language of children with ADHD and greater learning of spoken and written skills.

The studies carried out are to show that effective methodologies, appropriate material, and the help and predisposition of the teachers can make a student learn the language successfully.

#### 3. Literature Review

Empirical studies regarding teaching students with ADHD have demonstrated that using different teaching approaches and specific activities help to address the different issues that learners with ADHD experience (Riccio, 2008). The literature review includes relevant research studies about various approaches and strategies to address behavioral and academic issues that arise during the learning process of students with ADHD.

##### *3.1. ADHD individuals' school performance and inclusive education*

ADHD is a developmental, neurobiological condition defined by the presence of severe and pervasive symptoms of inattention, hyperactivity, and impulsivity (National Institute of Mental Health, 2022). Cordier et al. (2018) mentioned that ADHD is the most prevalent disorder that is affecting school-aged children due to the difficulties that it implies.

Children with ADHD have difficulty taking turns, talk excessively, often appear not to be listening when someone talks to them and tend to interrupt other children's conversations or activities (Sabet et al., 2015). In a study reported by Brook & Boaz (2005), 380 adolescents with ADHD were examined and interviewed; 34% of them showed severe stress when going to school and being in the classroom. Some of them also complained about their relationship with other classmates, low self-esteem, and tiredness. In this sense, there is a need for them to receive special attention, but at the same time to be integrated with other individuals that do not necessarily have developmental disabilities. Weisel and Dror (2006) highlighted that

“the integration of students with special needs in general education schools is winning grounds...” (p. 157).

Many studies reflect on the relationship between ADHD and academic performance. Merrell and Tymms (2001) found that children who exhibited symptoms of ADHD performed significantly inferior to those who did not on first-stage reading and mathematics tests.

As a response to the educational area, Stecher and Suárez (2000) mentioned that there have been different projects provided to children with developmental disabilities, which might be held within special classes in regular schools or special boarding schools. There have also been services such as early stimulation, psychoeducational evaluation, parent training, occupational training, and integration training which are associated with inclusive education. As Stubbs (2008) mentioned, the educational system should adapt to the child, not the child to the system. Nevertheless, not all educational institutions have sufficient funding and technical equipment to achieve it. That is why putting inclusive education into practice has become challenging and not an easy task as the same author reported.

### *3.2. Educational strategies for children with ADHD in language learning*

Learning a foreign language might be a big challenge for individuals with ADHD as well as for their instructors since it implies the assimilation of external information, the interaction with others, and so on as Rosenbaum et al. (2016) mentioned. To achieve it, Villalobos (2011) reported some techniques and strategies to improve the performance of a student with ADHD in EFL classes. Some of these strategies include: sitting the individual where there is not much distraction, using physical proximity and touch, having rewards for homework and in-school work, and so on. The same study showed how effective the application of those strategies in the learning process and language acquisition of an individual with ADHD was. In this sense, the study of Lontou (2019) highlighted the need of giving insight and practical guidance to language instructors; thus, they can be able to accurately design the curricula, the class material, the activities, and the use of the proper resources to achieve an efficient teaching process for individuals with ADHD. Besides this, it is also a family matter to support these individuals during their learning process, that is why Rosen (2017) suggested that the parents should create a proper environment to achieve it; for instance, the creation of some non-distracting zones, such as a “tech-free zone”, since technological devices may increment their distraction.

De la Paz (2001) applied the SRSD approach in her research study. This study took place in two middle schools with inclusive classrooms with at least ten students with special needs and aimed to help three middle school students who had learning problems, including ADHD and specific language impairment. Results indicated a positive effect on the student's

approach to writing performance. Moreover, these results indicated that SRSD is a potentially viable approach for students with language impairment and ADHD since the strategy combination led to several positive outcomes.

Similar findings came to light in a research study conducted by Rouhani et al. (2016). These authors reviewed four methods of teaching writing to students with disabilities. The focus of their study was the use of SRSD, which aimed to encourage students to take control of their learning, give them confidence, and build responsibility. With their review, they attempted to determine if the application of journal writing instruction, persuasive writing, and sentence-level skills were an option. The sample included 30 students, of whom 12 were diagnosed with ADHD. The strategy instruction was a three-phase intervention consisting of self-regulated strategy development, self-regulated strategy development with video self-modeling, and cognitive strategy instruction writing. Authors review students' sentence construction, grammar, and vocabulary using this instruction. The results suggested that ADHD students did not significantly improve compared with their counterparts with no learning disability; consequently, they suggested a different teaching methodology to address specific difficulties.

On the other hand, Dalessandro (2016) investigated the effect of using instructional strategies of TPR and NA on the FL learning process of students with learning disabilities (LD) in an inclusive Spanish classroom. The author suggested that these types of students could benefit from numerous teaching strategies that support their learning in different areas. This study was conducted with 708 students as participants, from which 138 received special education services, and four students were diagnosed with LD. Materials used for this class included vocabulary picture flashcards, guided speaking sheets, measurement materials, daily warm-up sheets, weekly speaking assessments, weekly written assessments, and a survey. The results of this study showed that the daily language acquisition of children with ADHD increased during the intervention. Also, these participants showed an increase in the written and spoken language learning process through the increase in their vocabulary. Shiela (2016) highlighted that NA provides the proper conditions for the acquisition of foreign language within a classroom environment.

In a study by Tehrani et al. (2013), 40 Iranian girls between seven and nine years old were randomly selected, to learn EFL. These authors worked with students in two different schools. One group was taught using the audio-lingual method, and the other with the NA. The results were overwhelming; students taught using NA scored significantly higher on final exams than students taught using the audio-lingual method. Also, students taught using NA communicated better in the target language. This supports Krashen and Terrell's theory that



language is seen as a means of communication, and by teaching it, students learn and communicate better in the target language (Tehrani et al., 2013).

On the other hand, Aini and Prasetyowati (2019) conducted a study to examine instructors' tactics for teaching vocabulary to ADHD students, their implementation, the ADHD students' reactions, problems faced by the teacher, and alternative solutions for those problems. Interviews, observation, and document analysis were carried out to obtain the required data. This study was conducted at an Inclusive School Kindergarten and implemented different teaching strategies to teach English vocabulary. During the interview session, they selected two teachers and an ADHD student. Then, observations provided information about teaching strategies used by the teacher. Hence, the vocabulary was delivered by introducing the word and how to pronounce it as well as how to write the word. These researchers found that the mother tongue (L1) was involved in making the student understand more about the words the teacher taught. Researchers also noted that words were introduced by demonstration using pictures or non-verbal explanations. Another strategy used was making strong memory connections by organizing vocabulary in general to specific based on the topic. Moreover, the teacher employed some activities involving movement and media. This study stated that teachers overcome challenges by teaching media and therapy tools, minimizing visual distractors, interspersing instruction and treatment, giving rewards and punishment, and emphasizing color coding.

Another study was carried out by Carranza and Rodríguez (2017), they conducted research in the first year of an EFL class with 23 students, from which one had been diagnosed with ADHD and another one with Dyslexia. The research implemented different assessment methods to measure students' English competence at different stages. They employed observation and three different questionnaires to assess the level of students' involvement and check student progress, respectively. They selected certain features to design accurate activities to address vocabulary, grammar structures, and discourse. Consequently, the outcomes obtained from those activities were positive. The study showed that providing the right methodology and appropriate learning material can make that type of student a successful language learner.

For instance, Cho and Blair (2017) successfully evaluated the effects of a multicomponent function-based intervention on students with other health impairments (OHI) for ADHD in a private school over four weeks. The focus of this study was to prevent problem behavior and increase academic engagement by modifying classroom activities, teaching replacement skills, and changing behavior consequences. The data were collected using an event recording system for problem behavior and a 10-s partial interval system for academic

engagement. Results showed that target problem behaviors decreased, and academic engagement increased in reading and writing, and teachers indicated that the intervention process and outcomes were highly acceptable. This study provided strong evidence to support multi-component function-based intervention that can be successfully applied to students with ADHD and problem behaviors.

Finally, with a different approach, Sabet et al. (2015) aimed to determine the effect of focus strategies on the vocabulary learning of ADHD students at two junior high schools. During the study, participants received 16 sessions of the teaching period. The data collection was through pre and post-test to compare participants' scores. When the ADHD students used the focus strategies, the first and the last focus strategies had significant effects on ADHD students' vocabulary learning. The results of the first focus strategy showed that the keyword technique improves students' vocabulary retention ability. Although focus strategies improved the outcomes of the "regular" students compared to the ADHD students, this difference was not significant. The authors suggested that students should be exposed to new strategies for learning vocabulary. Teachers need to introduce strategies so that students can be self-directed learners. These strategies would be helpful both for ADHD and regular students.

## Chapter IV

The methodology to carry out this project was based on the search for studies carried out in different countries and different educational institutions carried out on students with ADHD. The different databases produced satisfactory results on the subject, with several studies of interest, this was thanks to the search with key terms that helped to synthesize and discern the required information.

### 4.1. Methodology

This research synthesis analyzed different studies to compare and combine the findings across the different studies (Norris & Ortega, 2006) about teaching approaches implemented with ADHD students. The analyzed empirical research studies are included in databases such as Google Scholar, ProQuest, ERIC, Scielo, and ELSEVIER. The key terms for research were ADHD, EFL, teaching process, approaches for EFL teachers, hyperactivity, and attention deficit. Mixed approaches studies will be considered.

The inclusion criteria to select the articles will be described as follows. First, the articles must have different approaches teachers use to teach EFL to students diagnosed with ADHD.

Second, the articles must have participants involved. Third, unpublished research papers, presentations, and reports available on the web were excluded from making the present research synthesis more reliable because of the quality of the published studies. Finally, this research includes articles from relevant educational journals such as the Journal of Communication Disorders, the International Journal of Inclusive Education, and the European Journal of Special Needs Education; which have both native and non-native speakers, since the primary purpose is to know the approaches that have the most significant impact in education.

## Chapter V

In this chapter, the information collected for the realization of this research work will be analyzed. In addition, similarities and differences between the collected studies will be made to reach a conclusion about the most used and convenient strategies and methodologies to teach students with ADHD condition within an inclusive education.

### 5.1. Data Analysis

The 20 studies in the literature review were coded into different categories to answer the research questions. Approaches to teaching EFL (the Total Physical Response, the Natural Approach, Self-regulated Strategy Development, and Technology Enhanced Learning Environment) to students with ADHD. Likely, they were classified according to their year of publication because it is a usual topic of interest recently. These data were set up in tables with their corresponding description.

**Table 1: Year of Publication of the Studies**

Year of Publication	No. of Studies	Authors
2000- 2003	3	De la Paz (2001), Merrell & Tymms (2001), Stuecher & Suarez (2000)
2004 – 2007	2	Brook & Boaz (2005) Weisel & Dror (2006)
2008 – 2011	2	Villalobos (2011), Stubbs (2008)
2012 – 2015	2	Tehrani, et al. (2013),

		Sabet, et al. (2015) Suhendan (2013)
2016 – 2019	11	Aini & Prasetyowati (2019), Carranza and Rodríguez (2017), Cho & Blair (2017), Cordier et al. (2018), Dalessandro (2016), Liontou (2019), Rosen (2017), Rosenbaum et al. (2016), Rouhani, et al. (2016) Shiela (2016)

**Note. N: 20**

Table 1 shows that 11 out of 20 studies were published in recent years (2016-2019). This result indicates the importance that this subject has gained over the years and the importance that ADHD has recently received in the field of research and EFL classrooms. In addition, Carranza and Rodríguez (2017); Liontou (2019); and Cho and Blair (2017) support this finding, emphasizing the research on teaching EFL to students with ADHD in the most recent studies. According to Liontou (2019), this is due to the need to guarantee equal opportunities in education and make learning fruitful for all students, regardless of their abilities.

**Table 2: Approaches to teach EFL**

<b>Authors</b>	<b>Approaches</b>	<b>Total N.</b>	<b>Target Skills/Sub Skills</b>
De la Paz (2001), Rouchani, et al. (2016)	Self-regulated Strategy Development (SRSD)	2	Writing
Dalessandro (2016), Asher (1966)	Total Physical Response (TPR)	2	Writing Speaking Vocabulary

Shiela (2016)	Natural Approach (NA)	1	Speaking
Liontoul (2019)	Technology Enhanced Learning Environment (TELE)	1	Reading Speaking Listening

**Note. N=6**

Table 2 shows the different approaches for teaching EFL to students with ADHD, the number of studies that refer to the author's approach, and the skills or sub-skills each approach specializes in. De la Paz (2001) reviewed four strategies (Self-regulated strategy development, self-instruction writing, video self-modeling, and cognitive instruction writing) for teaching writing to students with disabilities.

One of the oldest studies carried out by Stecher and Suarez (2000) described the problems that arise in inclusive education, especially in developing countries, where there are economic challenges that have consequences for the health, well-being, and education in general of the student's situation that has led to making ethically compromising decisions. According to these same authors, by the year 2000 in Ecuador, there were only 2 institutions to care for children with special needs. This shows that there are no preventive services to improve the educational quality of students.

Entering the subject of school performance, we have studies such as those by Rosen (2017), Weisel and Dror (2006), Stubbs (2008), and Villalobos (2011). Those who agree that having trained teachers and a good organizational climate allows for coping with the cognitive diversity of students. Likewise, the authors Stubbs (2008), Yenita (2018), and Carranza and Rodríguez (2017) agree that it is necessary to have government policies and budgets to implement as many tools as possible to improve the teaching-learning process. For their part, Carranza & Rodríguez (2017) also emphasize the need to find methodologies that allow all students to advance together. However, Yenita (2018) contradicts all the indicated studies, mentioning that teaching English to children with ADHD is different from the way that is used with "normal students". Therefore, for the author, the interaction between the students is deficient, since they do not all advance in the same way.

Tehrani et al (2013) and Dalessandro (2016), indicate that the Natural Approach method is one of the most efficient. However, Dalessandro (2016) highlights that using it in conjunction with other methods, such as the Physical Response method, allows for better results. This

may be due to personalization since it must be understood that not all students with ADHD are the same, within the disorder there is also diversity, which must be evaluated individually.

The use of different approaches, methodologies, and strategies in teaching in recent years have become increasingly important. Authors such as Lontou (2019) and Rouhani et al (2016) have implemented techniques to help with the individual process of each student. On the one hand, Lontou (2019) applied strategies based on information technologies to improve reading competence. While Rouhani et al (2016) implemented different ways of teaching according to vocabulary knowledge and grammar ability. Based on the table, one of the most used methods is TPR and according to Dalessandro (2016), compared with the other studies, is the most effective method for teaching EFL to students with ADHD due to its focus on student actions and movements during the learning process.

## Chapter VI

### Conclusions and Recommendations

#### 6.1. Conclusions

This research synthesis aimed to identify the different approaches used to teach EFL to children with ADHD. It is worth mentioning that the studies analyzed were focused on children between nine-14 years old. Regarding the first research question about what approaches have been used to teach EFL to students with ADHD, the studies discussed in this research have analyzed the different methodologies utilized in EFL classrooms. It is feasible to get the conclusion that various approaches are beneficial to students with ADHD because children can use their bodies to express their thoughts and feelings, TPR is one of the evaluated methods that produced more successful results than the others. It is worth noting, however, that there have been some drawbacks to using this method because it is prone to disorganizing the students' ideas. Even though NA has been analyzed and used in some studies, becoming successful, it is important to know that the best results were obtained with the TPR method. In addition, the studies reported few methodologies implemented in classrooms with children with ADHD; however, all opted for the TPR method. Concerning the second research question about the approach that has been reported to be the most effective for teaching English to students with ADHD. Some studies showed that the daily foreign language acquisition of children with ADHD increased during the research intervention using TPR. In addition, besides increasing their vocabulary, the students with disabilities increased in writing and spoken language acquisition. However, the same author mentions that TPR works better in combination with the NA.

TPR is considered the best approach to teaching EFL to children with ADHD. It has been evidenced how efficient this method has been when teaching EFL to students with this condition, especially in teaching vocabulary. Learners have the chance to say a word, and their partners must act out what they heard. They are given the opportunity of moving and release their hyperactivity.

#### 6.2. Recommendations

Many of the studies analyzed in this synthesis have recommended focusing more on implementing different methods to create inclusive classroom environments. Inclusive education today has gained importance, and due to this reason, teaching strategies have increased.

In addition, it is recommended to deepen further research not only for those children with the condition specified in the topic but also for all those who suffer from mental and physical disabilities. All children have the right to quality education. Therefore, teachers must be

trained in subjects like these so that education improves and quality knowledge can be transmitted.

It is highly recommended to develop activities for children with special needs so they become more involved in the classroom environment with other children and feel included.



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