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Carrera de Lengua y Literatura Inglesa

Strategies Used in EFL Classrooms with Young Down Syndrome People

Trabajo de titulación previo a la obtención del título de Licenciado en Ciencias de la Educación en Lengua y Literatura Inglesa

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Resumen:

El propósito de esta síntesis de investigación fue identificar las estrategias de aprendizaje más efectivas que se utilizan para ayudar a los jóvenes estudiantes con síndrome de Down (SD de ahora en adelante) a desarrollar habilidades lingüísticas en las aulas en el área de inglés como lengua extranjera. La metodología de esta síntesis de investigación fue la selección y análisis de veintidós artículos enfocados al tema de investigación. Los artículos de investigación recopilados se compararon y contrastaron para un análisis profundo. Esta comparación ayudó a los investigadores a sacar conclusiones sobre las estrategias más efectivas utilizadas para enseñar a los jóvenes estudiantes con SD, las percepciones de los maestros sobre el proceso de aprendizaje de los estudiantes y las ventajas y desventajas de cada estrategia. Se encontró que las tres estrategias para la enseñanza del inglés como lengua extranjera (TEFL por sus siglas en inglés) la repetición, la logografía y la amplificación del campo sonoro son excelentes para desarrollar las habilidades lingüísticas de los estudiantes con SD. Además, hubo percepciones positivas y negativas, por parte de los profesores, acerca del proceso de aprendizaje de los estudiantes con SD. Los resultados del estudio demostraron que cada estrategia tenía más ventajas que desventajas. La mayor ventaja encontrada fue que los estudiantes con SD podían aprender eficazmente aplicando las estrategias de acuerdo con sus necesidades. La principal desventaja fue que las escuelas ordinarias no poseían los recursos necesarios para trabajar con estudiantes con necesidades especiales. Finalmente, dado que la educación inclusiva es un término relativamente nuevo, especialmente en

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Ecuador, se deben realizar más estudios que apliquen estrategias TEFL a los estudiantes con

SD.

Palabras claves: Enseñanza del Inglés como Lengua Extranjera (TEFL). Síndrome de

Down. Estrategia de Repetición. Estrategia Logográfica. Estrategia de Amplificación de

Campo Sonoro**.**

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Abstract:

The purpose of this research synthesis was to identify the most effective learning strategies used to help young Down Syndrome (DS henceforth) learners develop language skills in EFL classrooms. The methodology of this research synthesis was the selection and analysis of twenty-two papers focused on the research topic. The compiled research papers were compared and contrasted for an in-depth analysis. This comparison helped researchers draw conclusions about the most effective strategies used to teach young DS learners, teachers' perceptions towards learners' learning process, and advantages and disadvantages of each strategy. The three strategies to TEFL drilling, logographic, and sound-field amplification were found to be excellent in developing DS learners' linguistic skills.

Additionally, there were positive and negative perceptions, from the teachers, about the DS students' learning process. The results from the study demonstrated that each strategy had more advantages than disadvantages. The greatest advantage found was that DS students could effectively learn by applying the strategies accordingly to their needs. The main disadvantage was that mainstream schools did not possess the necessary resources to work with special needs students. Finally, since inclusive education is a term relatively new, especially in Ecuador, more studies applying TEFL strategies to DS learners should be conducted.

Keywords: TEFL. Down Syndrome. Drilling Strategy. Logographic Strategy. Sound-field Amplification Strategy

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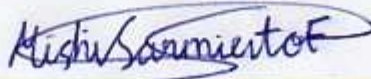Michelle Camila Sarmiento Figueroa

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First and foremost, I would like to thank God, who has blessed me and givenme the knowledge, strength, and patience to achieve this goal. To my grandma Rosario, for supporting me in the decisions and projects that I have undertaken in life. Also, my deepest gratitude to the University of Cuenca, my home of study during these long years of effort. In addition, I am grateful to the IFTH-SENESCYT for having supported me financially during my studies. In the same way, special thanks to Michelle, who has been workinghard with me all of this time (Tatiana).

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DEDICATION

To God for His protection and guidance throughout my academic life. It is dedicated to my grandparents Rosario and Julio for their motivation, encouragement, and moral support.

Tatiana

This research synthesis is completely dedicated to my beloved parents, without their constant support this could not been possible. They always inspire me. At the same time, my thanks to my sisters who have never left my side and are very special.

Michelle

Introduction

Due to the promotion of the principle of "universal education", the number of students with intellectual disabilities in general education systems around the world has increased. In addition, UNESCO (2008) defined the term "educational inclusion" as the strategy for responding to the needs of any student. It refers to the process of facilitating the participation of all people as an active part of the culture and community, free from any restrictions, prejudices, and forms of exclusion. Indeed, Down syndrome (DS) is a birth defect with huge medical and social costs, caused by trisomy of the whole or part of chromosome 21. It is the most prevalent genetic disease worldwide and the common genetic cause of intellectual disabilities appearing in about 1 in 400-1500 newborns (Kazemi, Salehi, & Kheirollahi; 2016).

Students with Down syndrome face various problems in school life. Teachers must effectively deal with these problems, not only to ensure the development of their physical skills, but also to ensure the development of their cognitive skills. For example, they face problems such as slow physical and mental development, communication difficulties, inability to store knowledge in long-term memory, and distraction. If teachers deal with these problems effectively through appropriate and good teaching skills and effective teaching strategies, they may improve their learning (Amjad & Muhammad, 2019).

This research synthesis aims to analyze and collect data from several studies to show different strategies used to Teach English as a Foreign Language to young Down Syndrome learners. For this paper, the following research questions were addressed:

1. What are the most effective EFL strategies used with young Down Syndrome learners?

2. What are teachers' perceptions about students' learning process?

3. What are the advantages and disadvantages of the most effective EFL strategies used with young Down Syndrome learners?

This paper presents six chapters. The first chapter describes the research that contains the background, problem statement, rationale, and research questions. The second chapter covers the theoretical framework which presents the main definitions related to the main topic. The third chapter includes the literature review based on studies that answer the research questions. The fourth chapter contains the methodology of the research. The fifth chapter analyzes the results of the studies. Finally, the sixth chapter presents the conclusions and recommendations.

CHAPTER I

1. Description of the research

1.1. Background

The definition of Down Syndrome given by the Oxford learners dictionary asserts that Down Syndrome is "a medical condition, caused by a fault with one chromosome, in which a person is born with particular physical characteristics" (Oxford, 2020). Basically, for an unexplained reason in cell development, each cell results in 47 instead of the usual 46 chromosomes. In Down Syndrome, there is an additional number 21 chromosome, resulting in the medical diagnosis of Trisomy 21. So Down Syndrome occurs when an individual has a full or partial extra copy of chromosome 21 ((Down Syndrome Association of West Michigan, 2010).

In addition, according to Laws, Brown, and Main (2016), Down Syndrome is the most common biological cause of intellectual disability, which affects 1.08 in 1000 live births in the United Kingdom. Although most children with Down syndrome attending mainstream schools learn to identify words, they find comprehension tests difficult, particularly when verbal responses are required. Kurghinyan (2013) suggested that audio narrations for children add an element of interest and engagement, so televised stories lead to language acquisition.

Alemi and Basiri (2016) mentioned that learning a foreign language is a complex process, even for normally- developing individuals. Therefore, the importance of developing methods for students with Down Syndrome is highly relevant. On the other hand, Gallardo (2017) worked on a project that consisted of the elaboration of a theoretical framework on intercultural diversity and the implementation of an intervention project to improve attitudes towards intercultural diversity. Likewise, Al Otaiba and Hosp (2004) have searched and have

found that children with Down Syndrome need more time reading at school because reading helps to develop their skills and their comprehension skills.

1.2. Statement of the problem

Children with DS experience significant communication impairments, particularly in expressive language. Nevertheless, the main problem is that there are many myths about these people. For example, people usually think that Down syndrome people have severe mental retardation. In fact, most people with DS have IQs that fall in the mild to moderate range of intellectual disability (Feeley and Jones, 2007). Children with Down syndrome fully participate in public and private educational programs.

On the other hand, another problem is that strategies are not centered on Down syndrome learners. According to Bysterveldt and Westerveld (2016), in New Zealand, children with Down syndrome attend mainstream schools and receive the same education, or their teachers follow the same curriculum that is basically made for all of the students. Based on that, the goal of the research synthesis is to analyze the different strategies which could fit better in EFL Down Syndrome learners.

1.3. Rationale

The key aspect discussed in this research synthesis is about strategies used in EFL classrooms. Primarily, reading, writing, listening, and speaking are the main four components of the English language. Each of them constitutes an important role/part in EFL students in order to arrive at the communicative competence. Nevertheless, there is another aspect which is vocabulary that is an essential thing because it can list the words used in some enterprise, a language user's knowledge of words, and the system of techniques or symbols serving as a means of expression (Fariska, 2010).

Another essential point is that no research presents an analysis based on the four skills of English in EFL classrooms with young Down syndrome students. In addition, no article

shows which techniques work better with Down syndrome learners and what do they prefer to do in English class.

1.4.   Research Questions

After analyzing the relevant literature in the chosen field for this synthesis, the following questions have arisen.

- What are the most effective EFL strategies used with young Down Syndrome learners?
- What are teachers' perceptions about students' learning process?
- What are the advantages and disadvantages of the EFL strategies used with young Down Syndrome learners?

1.5.   Objectives

1.5.1.   General Objective

To identify the most effective strategies used with young Down Syndrome learners to develop the language skills in EFL classrooms.

1.5.2.   Specific Objectives

- To determine the most effective strategies used with young Down Syndrome learners in EFL classes.
- To analyze the teachers' perceptions about the learning process of young Down Syndrome learners.
- To analyze the advantages and disadvantages of the strategies used with young Down Syndrome learners in EFL classes.

CHAPTER II

2. Theoretical Framework

In this chapter, key concepts related to strategies used to teach English as Foreign Language to Down Syndrome learners are presented. The definitions are taken from academic sources and are helpful to understand the next chapter, which is the literature review. This theoretical framework includes definitions of the following terms: Down Syndrome, Foreign language, Teaching English as a Foreign Language, Bilingualism in children with DS, strategies to teach these types of learners, and language skills.

2.1. Down Syndrome

Down Syndrome is a genetic disorder that causes intellectual disabilities to the people who have it. Down Syndrome is usually caused by an error in cell division named nondisjunction. All people with Down Syndrome have an extra, critical portion of chromosome 21 present in all or some of their cells. This additional genetic material alters the course of development and causes the characteristics associated with the syndrome (Wajuihian, 2016).

According to Jafar (2020), Down Syndrome learners are considered special needers and they present some delays in production skills. Madrigal-Muñoz (2005) mentioned some of the physical features shared by most of the DS community: they have a small and plain nose, slanted eyes, and their tongue is bigger than the oral cavity, among others. Another important characteristic is that the shape of their hands may pose difficulties when writing.

These physical and cognitive features may affect the learning process. For instance, Rast and Meltzoff (1995) stated that children with DS have typically been shown to acquire basic object concepts more slowly than regular students.

2.2. Foreign Language Teaching and Learning

"Foreign languages are often learned in emotionally neutral academic environments which differ greatly from the familiar context where native languages are acquired" (Iacozza, Costa & Duñabeitia, 2017, p. 1). In addition, Moella and Catalano (2015) pointed out that foreign language learning and teaching refer to the teaching or learning of a nonnative language outside of the environment where it is commonly spoken. Also, the authors mentioned that a language is considered foreign if it is usually taught in the classroom and not spoken in the society where the teaching takes place.

According to Moella and Catalano (2015), the study of another language enables the individual to communicate effectively and creatively and to participate in real situations through the language of the authentic culture itself. Furthermore, learning a language provides access to a perspective other than one's own, increases the ability to push links across content areas, and fosters an interdisciplinary perspective by gaining intercultural understanding (Moella & Catalano, 2015).

Nordquist (2018) stated that Teaching English as a Foreign Language, or TEFL, as it is most commonly referred to, involves teaching English in countries where English is not the primary language. Additionally, TEFL involves being able to convey the English

language articulately and interestingly. TEFL educators encourage students to improve their English skills through listening, reading, speaking, and writing. Therefore, TEFL is often facilitated through the use of books, audio-visual aids, and technology-based materials (Imaniah & Indra, 2017).

2.3. Bilingualism in children with Down Syndrome

According to Buckley (2002), children with Down Syndrome are capable of becoming bilinguals. In a bilingual family, parents can use the two languages at home since the first language of each parent is different, so parents want their children to be able to speak both languages. For example, Vallar and Papagno (1993) provided a case study of a 3-year-old woman with DS who is successfully trilingual (Italian, English, and French). Additionally, Buckley (2002) had concluded that learning two languages has had no negative effects on the learning of the first language.

2.4. Inclusive education

Inclusive education is a key policy in several countries, including the US, UK, and Norway, and it is designed to improve the educational opportunities of children with disabilities. Besides, inclusion is described, according to Farrell (2000: 154), as 'taking a full and active part in the life of the mainstream school' as a valued and integral member. According to UNESCO (1994), inclusive schools must respond to the diverse needs of their pupils and accommodate appropriate curricula, organizational arrangements, and teaching

strategies to provide a favorable setting in which pupils with special education needs can achieve the fullest educational progress, equal opportunities and full participation.

Mahmoud (2015) pointed out that the main idea of special education is to adjust our normal teaching so that specific types of learners are cared for. He also mentioned that teachers should adjust their teaching in such a way that encompasses and meets all students' specific needs (i.e. disabilities, language levels, proficiency, learning difficulties, talents, psychological problems/handicaps/needs, etc. (Mahmoud, 2015).

Basically, inclusion is not only about placing DS children into mainstream schools, it has something else behind it. It is about changing schools in order to make them more responsive to the needs of all the students (Mittler, 2000). Additionally, teachers need help to accept their responsibility for the learning of all of the students, and also, they need to be prepared to teach those children who are excluded from their school for any reason (Mittler, 2000). Besides, it is stated by Macías and Villafuerte (2020) that inclusive education in Ecuador do exist from many years ago because the Ecuadorian Nation is considered as multicultural and inclusive; however, teaching practices and local inclusive culture still require some advancements and educational institutions need more experience in the administration of adaptions in the school system.

2.5. Method

Gill and Kusum (2016) defined method as a scientific way of teaching the subject considering the psychology and physical requirements and needs of learners; in other words,

the activities used in order to teach. It is a step-by-step procedure whose successful accomplishment lies in the effectiveness of the teaching process. Additionally, the term method covers both strategy and techniques of teaching. However, the definition that will be considered in this research synthesis is different from that strategies may be adopted in following a method.

2.6. Strategy

Strategy is a word with many meanings. They are all meaningful and useful to those who are responsible for making strategies for a company, enterprise, education, or organization. Here is a brief review of some strategic definitions in terms of education provided by different authors.

According to Gill and Kusum (2016), a strategy is full planning with a set of achieved objectives that have to be mastered by the end of the planning. Strategies are flexible and they change for educational purposes. In other words, the definition that will be considered in this research indicates that strategies are necessary modifications of methods. In addition, in the field of education, Isaac (2010) stated that strategy is a generalized plan for a lesson that includes structure, instructional objectives, and an outline of planned tactics, necessary to implement them.

2.7. Linguistics Skills

Markee (1990) defined linguistics as the study of language, how it is put together, and how it functions. Linguistic skills measure the capacity of individuals to understand and express themselves, both in written and oral form (Snow, Cancino, De Temple, Scheley & Bialystok, 1991). Furthermore, language is a complex skill involving four sub-skills: writing, listening, reading, and speaking. The four main sub-skills may be classified into two parts: productive and receptive skills. Speaking and writing are known as productive skills since both require some output in a language such as symbols in writing and sounds in speaking. On the other hand, reading and listening are known as receptive skills because learners do not need to produce language, they just have to receive and understand the language (Husain, 2015).

2.8. Strategies for enhancing students with Down Syndrome

In the following paragraphs, there is a compilation of the most effective strategies used to teach English as a Foreign Language to young Down Syndrome learners. These strategies are Logographic Method in reading, Sound field amplification in Listening, and Drills in writing and speaking.

2.8.1. Logographic Strategy in Reading

In the early stages of reading, most typically developing children learn to read initially through a logographic method which consists of learning whole words by sight. Then, they

progress to learn by listening to sounds, so they can start to use letter/sound correspondences to decode or break words into separate sounds to read and spell them. As good visual learners, children with Down syndrome make considerable progress in the sight recognition or logographic stage and are often able to build up an impressive sight vocabulary of words, but they can struggle with the transfer to the alphabetic or phonological stage, often relying on logographic visual memory strategies to maintain their progress in reading (DS Association, 2011). In addition, Gough and Hillinger (1980) said that children learn to read their first 40 or so words through visual cues.

Children and young people with Down syndrome attending mainstream schools outperform their peers in special schools in reading, emphasizing the role of environmental factors (Buckley, Bird, Sacks & Archer, 2006). Many studies made by Buckley (1985) suggest that word identification skills develop relatively well in Down Syndrome, perhaps suggesting a 'logographic' approach with decoding abilities lagging. It is mentioned that the prevailing view of reading acquisition is that children start as logographic, or pre-alphabetic readers. Unable to take advantage of the systematic relations between spellings and sounds that exist in an alphabetic writing system, young children treat printed words as if they were arbitrary symbols, or logographs (Ehri, 1998; Frith, 1985; Gough & Hillinger, 1980).

2.8.2. Sound Field Amplification in Listening

Many children with Down Syndrome have constant fluctuations in conductive hearing loss, which further reduces their speech, language, and academic development. In a school environment, access to auditory information is crucial, and many children with Down syndrome are particularly disadvantaged since DS learners have some issues of hearing loss and it reduces the child's ability to extract important information from the teacher or the speaker (Bennetts and Flynn, 2002). Miller et al. (1999) studied children with Down Syndrome over three years and found that 33% of the children always had a hearing loss, 33% never had a hearing loss and 33% had a fluctuating hearing loss. The sound-field amplification strategy is a small high-fidelity wireless public address system that is self-contained in a classroom (Flexer,1997).

The purpose of this strategy is to amplify the teacher's voice so that it is delivered clearly and consistently to all pupils resulting in a consistent and favorable signal-to-noise ratio. For example, Massie, Theodoros, Byrne, McPherson, and Smaldino (1999) observed children in classrooms with and without sound-field amplification strategy and found increases in the spontaneous contributions made by children in a class, improvements in perception of speech, and an increase in the children's interaction with each other when sound field amplification was used.

Besides, according to Flexer (1997), sound field amplification is particularly suitable for people with hearing impairment, auditory processing defects, language, learning,

attention, or behavior problems. In all the areas mentioned (hearing impairment, auditory processing defects, language, learning, attention, or behavior problems) children with Down syndrome can benefit from SFA. In many cases, children with Down syndrome may wear hearing aids. Unfortunately, hearing aids may not always provide the best solution in a classroom environment, because hearing aids amplify the teacher's voice and background noise at the same time.

Bennetts and Flynn (2002) said that sound-field amplification introduced a low-level personal audio system in the classroom, which undisturbed the teacher's voice to ensure the students get constant sound coverage throughout the classroom space. This ensures that every child or student in the room can hear the lesson anywhere at the same level. In other words, sound field amplification (SFA) equipment consists of a wireless microphone worn by the teacher and one or more wireless receivers (small stereo speakers) placed around the classroom.

2.8.3. Drills in Speaking

"Drilling technique is a technique for teaching language through dialogues which emphasize on the students' habit formation by repetition, memorization of grammatical structures, and tense transformation, using the target language and the culture where the language is spoken" (Setiyadi, 2006, p.54). Drilling means listening to a model provided by the teacher, a tape, or another student, and repeating what is heard. This is a repetition drill, a technique that is still used by many teachers when introducing new language items to their

students. The teacher says the word or phrase and the students repeat it. Other types of drills include substitution drills, or question and answer drills. Substitution drills can be used to practice different structures or vocabulary items.

Drills are controlled by the instructions of the teacher; therefore, students do not have much choice or say in what is said during the drilling activity. There is only one correct answer and the main focus is getting it correct. Usually, these drills are conducted chorally: the whole class repeats and then followed by a selected few students called on by the instructor. The steps for this strategy are the following, 1. The teacher has to model the language item. Say the model at least three times, so students are clear with the model and they can repeat it with no issues. 2. Gesture to the class to repeat the model altogether twice. This is called a chorus drill. 3. Highlight what you want to model and drill the particular aspect of the language item.

4. Finally, drill the whole language item again, individually and then as a chorus. For instance, groups or pairs of students can also conduct language drills together using flashcards or reading a paragraph with blank spaces to fill in the gaps (Rathakrishnan, 2017).

2.9. Linguistic Skills

2.9.1. Reading

Reading is the ability to interact and gain meaning from a written text. Reading is a skill that enables people to get a message by recognizing the written words/symbols and

understanding information from texts. Additionally, reading consists of two processes: word recognition and comprehension. The first process, word recognition, is about perceiving how written symbols correspond to one's spoken language. The second process, comprehension, is about the process of making sense of words, sentences, and connected text (Козак, 2011).

Furthermore, it is assumed that DS learners can acquire at least the rudiments of reading and that some can have a greater reading skill than what is expected of these learners (Cardoso, Peterson, Olson, & Pennington, 2008). Also, reading is a necessary skill to comprehend. Hence, it has been demonstrated that DS learners are classified as poor comprehenders but they show good word recognition (Laws, Brown, & Main, 2015).

The reading process for DS learners can be compared as the same as ordinary learners with only a few differences. For example, DS children can read but more processing time is required, as well as a lot of repetition opportunities and increased visual and tactile cues to compensate for hearing loss (Cologon, 2013).

2.9.2. Writing

Writing is a skill that has to do with the abilities and knowledge related to expressing ideas through the written word. In other terms, writing is the capacity to communicate ideas with others through writing. Furthermore, writing skill involves a writer, which is the producer, and a reader, which is the receiver. Writing means the use of orthography to construct grammatically correct sentences that produce and informs a meaning to the reader or receiver (Satya & Rao, 2018).

Writing is considered a motor skill and fine motor skills are less developed in DS learners. The process of acquiring information, then processing it, and coordinating movements signify a great difficulty for them. These learners may need more time and practice than ordinary learners to develop this skill since they need a lot of support and guidance to perform skills well (DS Association, 2002).

2.9.3. Listening

Listening is the ability to identify and understand what others are saying. This involves understanding a speaker's accent or pronunciation, his grammar, and his vocabulary, and grasping his meaning (Howatt & Dakin, 1974). Listening is recognized as a multidimensional construct that consists of complex (a) effective processes, such as being motivated to attend to others; (b) behavioral processes, such as responding with verbal and nonverbal feedback; and (c) cognitive processes, such as attending to, understanding, receiving, and interpreting content and relational messages (Halone, Cunconan, Coakley & Wolvin, 1998).

Listening is affected by DS learners since they experience hearing loss. Hearing loss can affect one or both ears and range from mild to profound. Besides that, their poor middle ear regulation may predispose them to ear infections causing even more impediments in listening skills (Martin, Klusek, Estigarribia, & Roberts, 2009).

2.9.4. Speaking

According to Cameron (2001), speaking is a productive skill in the organs of speech to express meaning which can be directly and empirically observed. Speaking is "the process of building and sharing meaning through the use of verbal and non-verbal symbols, in a variety of contexts" (Chaney, 1998, p. 13). Speaking is an interactive process of constructing meaning that involves producing, receiving, and processing information (Brown, 1994; Burns & Joyce, 1997). Its form and meaning are dependent on the context in which it occurs, including the participants themselves, their collective experiences, the physical environment, and the purposes for speaking (Florez, 1999).

According to Buckley (2016), children with Down Syndrome commonly experience feeding, swallowing, and speech difficulties due to anatomical and physiological differences in their mouth area. Also, it is stated that these learners are late in saying the first words and their vocabulary grows more slowly than the ordinary children.

CHAPTER III

3. Literature Review

The following literature review provides an overview of the analyzed studies to place this research synthesis within the context of existing literature and to identify possible gaps in research. These studies provide findings of the most effective strategies used to teach EFL to young DS learners. Also discussed are the teachers' perceptions towards this type of learners, and the advantages and disadvantages of the EFL strategies used with DS learners. This chapter has been organized in the following way: the most effective EFL strategies used with young Down Syndrome learners, Drilling, Logographic, and Sound Field Amplification; teachers' perceptions towards young Down Syndrome learners' learning processes; finally, the advantages and disadvantages of the most effective strategies.

In order to address the first research question of this project, this section analyzes the most effective EFL strategies used with young Down Syndrome learners. To date, these strategies are Drilling, Logographic and Sound-field Amplification.

3.1. Drilling Strategy

In a study conducted by Fransiska (2016), the use of the drilling technique was tested in DS students around the age of 11-12 years old in Tanggulangin School (Negeri). The objective of this study was to demonstrate students' abilities in using specific language items in a controlled manner. Indeed, the class was divided into two groups in which the first group experimented with the drilling strategy and the second group did not. The methodology of the research consisted of a pre-test and a post-test applied to all learners to show the

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differences in learners' vocabulary mastery in the two different groups. To mention, the treatment used in both tests consisted of using drilling techniques such as repetition, substitution, and translation drill. It was demonstrated that the use of the drilling technique could improve DS students' vocabulary mastery.

Another study was carried out by Gutierrez (2017) with DS students, from the age of 16 to 17 years old, in Bucaramanga, Colombia. The objective of this study was to develop a methodology, by using drilling strategies, to teach a short English course. In the methodology of this study, DS learners were divided into two groups: (1) The ones who support the methodology using the drilling strategy and (2) the ones who do not support the strategy already mentioned. Ergo, through the use of drilling activities, the learner could overcome barriers and demonstrate that the common advice given to families with children with the disorder of not exposing them to more than one language should not be followed. As participants proved along with the investigation, having DS does not deprive them of developing skills in more than one language (Gutierrez, 2017).

Additionally, there is a study conducted by Handayani (2011) with 24 DS students around the age of 11-12 years old in Java, Indonesia. The objective of this study was that through the use of drilling, DS students' fluency in speaking English improve and make them more interested in learning to speak. Participants have been given pre-tests and cycle tests. After the study, it was demonstrated that drilling is a perfect strategy in teaching and learning speaking.

3.2. Logographic strategy

An interesting study addressing the use of Logographics was conducted by Bowman and Treiman (2008) with 42 DS participants from 4 to 5 years old in the United States. The objective of this study was to develop the logographic strategy in which DS students would be able to read words with phonics. In the methodology, half of the participants were randomly chosen to participate in the reading task and a half in the spelling task. The results of this study suggest that DS children who cannot recognize simple words can use a logographic strategy to read when learning words that contain phonics.

In addition, there is another study done by Fletcher and Buckley (2002) with 17 participants with Down Syndrome. The ages of the participants ranged from 9 to 14 years old. The purpose of the study was to demonstrate that DS children commonly make semantic reading errors, suggesting that they use a logographic rather than an alphabetic/ phonological reading strategy. The study consisted of applying some standardized tests to all the participants and then applying reading tasks with the logographic strategy. After all, the results demonstrated that this strategy works well with this type of student.

3.3. Sound Field Amplification

The first research using Sound Field Amplification which is pertinent to the topic is a study conducted by Bennetts and Flynn (2002) which was conducted with 4 children with Down Syndrome, ages from 5 to 11 years old in Brisbane, Australia. The objective of the study was to determine if sound field amplification affected student performance in two

different types of classrooms. The methodology consisted of dividing DS students into two classrooms, one classroom with SFA devices and the other one without them. After the study, it was demonstrated that participants' speech perceptions improved in the classroom with SFA devices. Besides, better interaction between teacher and students took place.

Additionally, there is another study made by Trinite and Astolfi (2020) in Italy with 72 DS learners aged from 5 to 8 years old. The objective of the study was to compare the impact of sound field amplification systems on fourth-grade students with and without language disorders in classrooms with different acoustics. Pupils were divided into 12 classrooms with different acoustic conditions, and the results demonstrated that amplification increases speech perception and decreases the number of errors in the reproduction of monosyllabic nonsense words in classrooms with short reverberation time.

3.4. Teacher's positive and negative perceptions of young Down Syndrome learners' learning process

According to studies made by Abbasian and Hebrahimi (2020), Amjad and Muhammad (2019), and Mcfadden (2014), it was agreed that there is a positive perception by the teachers towards the learning process of DS students. According to the results, the researchers found that the amount of teacher's experience and preparation influences the development of attitudes, confidence, and participation of the students with DS. Conversely, they found also a negative perception in which it is stated that teachers may have a feeling of disempowerment. Thus, they have to change their teaching methodology every time because their students learn differently.

In studies made by Bills and Mills (2020), McFadden (2014), and Abbasian and Ebrahimi (2020), they agreed that inclusive education plays an important role in the success of DS learners because of their special needs. This is because mainstream schools do not have the necessary equipment, experienced teachers, or classrooms to work with students with special needs, in this case, DS learners. In contrast, they concluded that negative perception by teachers towards DS learners originates from the perception that this type of student faces various problems in their school life such as problems in communication, especially in using complicated words, and trouble in storing knowledge in long-term memory.

Another study conducted by Amjad and Muhammad (2019) uses a qualitative case study in Indonesia in which nine participants, including teachers and psychologists from selected schools, were recruited. The objective of this research was aimed at understanding the pedagogical practices used by teachers to manage the learning difficulties of students with Down Syndrome. For data collection, semi-structured interviews were conducted to gather the meaning that teachers or psychologists gave or extracted from the experiences they had lived. Seven different dimensions (Individual Differences, Passivity, Environment/Surroundings, Communal Effect, Communication Skills, Independent Living, Sensory and Motor difficulties) were chosen for the interview guide. The results from this study suggest that teaching students with Down syndrome are a complex educational endeavor since students possess an intellectual disability having multiple dimensions and aspects. Finally, Amjad and Muhammad (2019) concluded that, for teaching DS students, a

teacher must be ready from every aspect as the main point is not whether students are ready for learning–but whether a teacher is ready to teach students.

Also, a research made by McFadden (2014) included participants which were all female teachers teaching in year levels from Prep to Year Three. All of them were teaching students with DS in Australia. The objective of this research was to describe differences in teachers' conceptualization of children with Down syndrome, and how these variations impacted the way the child was included or excluded in the class. McFadden (2014) used qualitative research in which studies provided descriptions of each teacher's teaching approach, school context, and classroom context positioning the teachers within their wider cultural, social, and political contexts. Results indicated that teachers are more likely to effectively include children with Down syndrome into their general education classrooms if they operate within more contemporary understandings of disability.

Meynert (2014) examined the concept of inclusion and the degree to which it is being practiced in a Swedish municipality. It means that inclusiveness is seen as a higher form of integration and is associated with special equipment and materials. This is a qualitative case study where primary data was collected from only five facilitators of children with special needs (DS) in one school in Sweden. The objective of this study was to get a more accurate and understanding of the perceptions of the learning process of students with Down Syndrome. Data was collected with an open-ended questionnaire. This study concluded that every fifth DS student in middle school in Sweden is probably in need of differentiated activities, and there is a need for another form of teaching than what is being currently used

there; however, there was a danger that teachers lower the level of ambition in low ability groups, and underestimate the capabilities of students in lower track classes. It mainly happens because some teachers do not believe that DS students can overcome the barriers of their condition. However, these students can learn a language as well as a regular student by applying different strategies (Meynert, 2014).

In a study made by Avrimidis, Bayliss, and Burden (2000), they show that there is a positive correlation between the amount of teachers' experience and training in the area of Down's syndrome and their positive perception of Down's syndrome children in inclusive education. For instance, teachers who have received less training and experience in the education of children with Down syndrome still say that they think children with Down syndrome should be in an inclusive environment and therefore generally hold a positive attitude (Bills & Mills 2020). Also, Donohue and Bornman (2015) investigated the relevance between the age of the teachers and their attitudes towards children with Down syndrome. They found that the older the teacher, the more the teacher's attitude towards children with Down syndrome in the classroom is positive. This finding may be consistent with experience levels because older teachers tend to have more teaching experience than younger colleagues.

In addition, McFadden (2014), Bills and Mills (2020), and Donohue and Bornman (2020) found some negative perceptions towards Down Syndrome learners' learning process. For example, it is said that teaching Down's Syndrome students is a complicated educational task because it involves students with multiple and various aspects of intellectual disabilities

(McFadden, 2014; Bills & Mills, 2020; Donohue & Bornman, 2020). Besides, each student with Down Syndrome is unique (McFadden, 2014; Bills & Mills, 2020; Donohue & Bornman, 2020). Therefore, to educate students with great differences in abilities and interests, a teacher who hopes to bring changes in the lives of students is required to make serious efforts and input (McFadden, 2014; Bills & Mills, 2020; Donohue & Bornman, 2020). Finally, Avrimidis, Bayliss, and Burden (2000), Campbell and Gilmore (2003), Donohue and Bornman (2015), and Georgiadi, Georgiadi, and Kalyva et al. (2012) said that teachers with less experience believe that they cannot adequately meet the children's unique learning needs.

3.5. Advantages and disadvantages of the EFL strategies used with young Down Syndrome learners

The last section of this chapter shows the different advantages and disadvantages found with each of the strategies already mentioned. It is important to mention that only the most relevant ones were considered.

3.5.1. Drilling Strategy

To begin with, some studies made by Fransiska (2016), Gutierrez (2017), and Handayani (2011) stated that the drilling strategy has some advantages. First of all, it provides for a focus on the accuracy of speech fluency because it creates an environment in which DS learners can feel free to communicate and talk. Further, it helps students notice the correct form or pronunciation of a word or phrase since they repeat a word or phrase after the teacher.

Additionally, it helps in the memorization and atomization of a common language. Finally, drilling helps learners to memorize language by the teacher's control. Drilling is guided by the teacher, so students do not have much choice or voice in the technique. There is only one correct answer, and the main point is to make it correct (Yoder, Camarata & Woynaroski, 2016).

Although the Drilling strategy is mainly positive, it may have some disadvantages for DS English learners. According to some studies, drilling is not effective while teaching abstract concepts because DS learners may not develop a deeper understanding of the knowledge they acquire (Fransiska, 2016; Gutierrez, 2017; Handayani, 2011).

3.5.2. Logographic Strategy

According to some studies already mentioned before, by using the logographic strategy, the level of confidence in reading skills in the student will constantly increase, his/her daily routine skills will also improve, and the negative emotional level may be lower when they engage in the reading learning environment. This is because they are visual students who are only attracted to a visual form of presentations; indeed, this strategy will also help children with DS to develop vocabulary, grammatical knowledge, and will give additional practice. Therefore, DS students will improve speaking skills (Fletcher & Buckley, 2002; Bowman & Treiman, 2008).

Unfortunately, disabled children, especially children with DS, have difficulty acquiring reading skills. Another disadvantage of the logographic strategy is that learners with DS often

confuse printed words with one another, and they tend to forget them quickly (Fletcher & Buckley, 2002; Bowman & Treiman, 2008, Cologon, 2013).

3.5.3. Sound-field Amplification

Sound Field Amplification includes many benefits according to some studies made by Bennetts and Flynn (2002), and Trinite and Astolfi (2020) such as the increasing time available due to better classroom management. Furthermore, it decreases the teacher's vocal fatigue problems and sick time. Another advantage lies in the fact that classrooms can be too noisy due to internal or external noise, so the implementation of acoustics in classrooms benefits all school members. Similarly, in another study, it was determined that SFA improves speech communication during class time and students respond more quickly to teachers' questions and requirements (Wilson, Marinac, Pitty, & Burrows, 2011).

Even though the sound field amplification system seems to have so many benefits, it also has a few disadvantages. According to Bennetts and Flynn (2002), and Trinite and Astolfi (2020), it is said that the implementation of the equipment required may be too expensive. However, the devices may give so many opportunities for DS English learners that it is worth the expense. Mainstream schools can consider getting this equipment for the benefits Further, with the elimination of school hearing screenings, hearing loss can go undiagnosed in students with milder losses or with hearing loss in only one ear. Without systematic screening programs, milder hearing loss may not be identified.

CHAPTER IV

4. Methodology

Research synthesis is the method of combining the comes about of numerous essential

investigate ponders pointed at the same conceptual hypothesis (Cooper & Hedges, 2019). In

arrange to get satisfactory sources for the taking after explanatory research synthesis, a

careful look will be performed. The data will be taken in online databases such as Dialnet,

INASP, University of Cuenca ProQuest Educational Journals, Redalyc, and Google Scholar.

The key terms for research will be 1. EFL, 2. Down Syndrome, 3. English, 4. young Learners,

5. teaching, 6. vocabulary, 7. speaking, 8. writing, 9. listening, 10. strategies.

Furthermore, there will not be any confinement related to the plan of the studies.

Thus, subjective, quantitative, or blended strategies will be considered for the present study.

Moreover, the sources will stay computerized due to the trouble of discovering physical

thinks within the range inside the setting. Additionally, the articles have to be published in

the last ten years in order to get a better idea of how inclusive education has evolved.

Finally, the criteria to select the articles will be as follows. First, the articles must be

written in English, since the research topic is applied in EFL classrooms/environment.

Second, only published articles will be considered in order to make more reliable the research

synthesis. Third, the articles should be already applied to get conclusions from those

researchers, taking into account that the research synthesis is not going to be applied.

CHAPTER V

5. **Data Analysis**

5.1. Introduction

For the present synthesis, 23 studies were categorized based on different aspects and gathered from different sources. The studies were directed to respond to the research questions. The results are presented in the following tables organized considering the research questions.

5.2. The most effective EFL strategies used with young Down Syndrome learners

Table 1 shows the three main strategies used with young Down Syndrome learners. Of the 20 studies 3 of them talk about Logographic Strategy, 3 of them are focused on Sound-field Amplification Strategy and finally, 3 of them contain information about Drilling Strategy.

Table 1. Most effective strategies

Strategy	N° of Studies	Author/Year
Logographic	3	Bowman and Treiman (2008), Fletcher and Buckley (2002), Cologon (2013)
Sound-field Amplification	3	Bennetts and Flynn (2002), Wilson, Marinac, Pitty, and Burrows (2011) Trinite and Astolfi (2020)
Drilling	3	Handayani (2011). Fransiska (2016), Gutierrez (2017)

5.3 Teacher's perceptions towards young Down Syndrome learners' learning process

From the 20 studies, 5 of them contain information about the impressions towards children with DS (McFadden, 2014; Meynert, 2014; Bills & Mills 2020; Amjad & Muhammad, 2019; Abbasian & Ebrahimi, 2020). It is necessary to synthesize the 5 studies that show positive and negative perceptions from teachers towards DS learners. On the other hand, Bills and Mills (2020), McFadden (2014), Abbasian and Ebrahimi (2020) coincided that a negative perception of teachers towards DS learners is that this type of students faces various problems in their school life such as problems in communication by using complicated words and troubles in storing knowledge in long-term memory.

Table 2. Positive perceptions towards DS learners

Perceptions	N° of studies	Author/Year
Inclusive education programs help in the success of DS learners	3	McFadden (2014), Meynert (2014), Bills & Mills (2020).
Experienced teachers work better with DS students	3	Bills & Mills (2020), McFadden (2014), Abbasian & Ebrahimi (2020).

Prepared teachers in the inclusive education field help DS students' learning process	3	Meynert (2014), Amjad & Muhammad (2019).
Providing more contact and exposure by the teachers help DS learners' confidence	3	McFadden (2014), Abbasian & Ebrahimi (2020), Meynert (2014).

Table 2 shows an analysis of 5 studies about teachers' positive and negative perceptions towards DS learners. The studies demonstrate that McFadden (2014), Meynert (2014), Bills and Mills (2020) agreed that inclusive education plays an important role in the success of DS learners because of their special needs. In addition, Bills and Mills (2020), McFadden (2014), Abbasian and Ebrahimi (2020) mentioned that educator´s experience and preparation are related to the student's progress because children with DS need instructors that want to work with them and have the necessary amount of working experience. Also, McFadden (2014), Abbasian and Ebrahimi (2020), Meynert (2014) accorded that educator should have more contact and exposure with their students because DS students will feel more confident and comfortable; it means that DS learners are going to feel free to participate inside the classrooms. In conclusion, most of the authors decided that special education,

teacher's experience, preparation, and exposure are really important aspects in the learning process of this type of children with special needs.

Table 3. Negative perceptions towards DS learners

Perceptions	N° of studies	Author/Year
Lack of support staff to help DS students	4	McFadden (2014), Meynert (2014), Amjad & Muhammad (2019).
Teachers may lose confidence in themselves working with DS students	2	Amjad & Muhammad (2019), Abbasian & Ebrahimi (2020).
A feeling of disempowering by teachers towards DS students learning process	3	Bills & Mills (2020), McFadden (2014), Abbasian & Ebrahimi (2020).
Teachers underestimate	3	Amjad & Muhammad (2019), Bills & Mills

student's		(2020), Abbasian &
capabilities		Ebrahimi (2020).

Table 3 shows teacher's negative perceptions towards DS learners in which McFadden (2014), Meynert (2014), Amjad, and Muhammad (2019) mentioned that there is a lack of support staff because not all the teachers are capable to support the student's needs. In addition, Amjad and Muhammad (2019), Abbasian and Ebrahimi (2020) pointed out that teachers lose their confidence as teachers working with this type of learners because they have to change their methodology to work better with them and this perception also has to deal with the feeling of disempowering that teachers feel when they see the progress of their students. Finally, Amjad and Muhammad (2019), Bills and Mills (2020), Abbasian and Ebrahimi (2020) agreed that teachers underestimate students' capabilities because children with DS learn differently.

Table 4. Advantages of the Logographic Method in Reading

Advantages	Number of studies	Author/ Year
Improve DS students' speech perception	4	DS Association (2002), Rahmah (2016), Cologon (2013), Goetz, Hulme (2007).

Enhance listening and learning in the classroom	2	DS Association (2002), Cologon (2013).	
Better children performing	3	Bowman & Treiman (2008), DS Association (2002), Goetz and Hulme (2007).	
Improve comprehension speech	4	Goetz and Hulme (2007), DS Association (2002), Rahmah (2016), Cologon (2013).	
Develop awareness of grammar	2	Cologon (2013), DS Association (2002).	
Acquire new skills by reusing the knowledge	2	DS Association (2002), Rahmah (2016).	

Table 4 shows the advantages of the logographic method in reading to DS learners. DS Association (2002), Rahmah (2016), Cologon (2013), Goetz and Hulme (2007) agreed that this method helps to improve the speech perception of the students. Also, DS Association (2002), Cologon (2013) pointed out that children enhance their listening skills in the classroom because this technique contains different activities such as podcasts. In addition, Cologon (2013), DS Association (2002) said that by using this technique children develop their grammar because they start learning from words by words until they can read whole sentences. Finally, DS Association (2002) and Rahmah (2016) mentioned that students can develop more skills and improve their knowledge by reusing the activities or tasks applied during class time in other daily situations that children can relate easily.

Table 5. **Disadvantages**

Disadvantages	Number of studies	Author/ Year
Noisy Classrooms	5	(Lob, Syaqira, Mohd, Abas, & Ariffin, 2016) (Bastien-Toniazzo & Jullien, 2001) DS Association (2002), Rahmah 2016, Cologon (2013).
Difficulties acquiring the skill	3	(Bastien-Toniazzo & Jullien, 2001)

		DS Association (2002), Rahmah (2016), Cologon (2013).
Mainstream schools	5	(Lob, Syaqira, Mohd, Abas, & Ariffin, 2016) (Bastien-Toniazzo & Jullien, 2001) DS Association (2002), Rahmah (2016), Cologon (2013).
Uninteresting activities	3	(Bastien-Toniazzo & Jullien, 2001) DS Association (2002), Rahmah (2016), Cologon (2013).

Table 5 shows the disadvantages of the logographic method in reading to DS learners. Besides, Lob, Syaqira, Mohd, Abas, and Ariffin(2016), Toniazzo and Jullien (2001), DS Association (2002), Rahmah (2016), Cologon (2013) agreed that noisy classrooms are a great disadvantage because most of the students suffer hearing problems and the teachers would have to raise the volume of the earphone causing ear pain in the students. In addition, Toniazzo and Jullien (2001), DS Association (2002), Rahmah (2016), Cologon (2013)

mentioned that students can have some difficulties acquiring the skill because the students may confuse the phonological sounds with the correct writing of the word. Another disadvantage of this method is that mainstream schools have a great influence on student's learning process because conventional schools are not well prepared or do not have enough experience with children with DS or students who need special education. Finally, this method may not work using uninteresting activities with this type of learner; that is why teachers must find interesting topics that call students' attention.

Table 6. Advantages of Drilling Strategy

Advantages	Number of studies	Author/ Year
Provides for a focus on the accuracy of speech fluency	4	Gutiérrez & Alexandra (2017), Sicilia Polo (2017), Yoder, Camarata & Woynaroski, (2016), Handayani (2011).
Helps students notice the correct form or pronunciation of a word or phrase	4	Fransiska (2016), Cifuentes, Rojas, Cárdenas & Benito (2017), Gutiérrez &

		Alexandra (2017), Sicilia Polo (2017).
Helps memorization and atomization of common language patterns and language chunks.	5	Gutiérrez & Alexandra (2017), Sicilia Polo (2017), Yoder, Camarata & Woynaroski, (2016), Fransiska (2016), Cifuentes, Rojas, Cárdenas & Benito (2017)
Helps learners memorize language with the teacher's guidance.	5	Gutiérrez & Alexandra (2017), Sicilia Polo (2017), Yoder, Camarata & Woynaroski, (2016), Fransiska (2016), Cifuentes, Rojas, Cárdenas & Benito (2017)

Table 6 shows the advantages of the drilling method to Down Syndrome learners. As mentioned by Gutiérrez and Alexandra (2017), Sicilia Polo (2017), Yoder, Camarata, and Woynaroski (2016), Handayani (2011) said that using this method helps learner's language improve their fluency because it is the perfect time to speak along with the teacher. Another advantage reported by Fransiska (2016), Cifuentes, Rojas, Cárdenas, and Benito (2017), Gutierrez and Alexandra (2017), Sicilia Polo (2017) said that drills help students to notice the correct form or pronunciation of a word or phrase because teachers can correct and help them to pronounce correctly the word or phrase. In addition, Gutiérrez & Alexandra (2017), Sicilia Polo (2017), Yoder, Camarata and Woynaroski (2016), Fransiska (2016), Cifuentes, Rojas, Cárdenas, and Benito (2017) agreed that this technique helps with the memorization and atomization of common language patterns and language chunks.

Table 7. Disadvantages of Drilling Strategy

Disadvantages	Number of studies	Author/ Year
It is not effective when teaching more abstract concepts	3	Gutiérrez & Alexandra (2017), Fransiska (2016), Yoder, Camarata & Woynaroski, (2016)
Make the students not very creative	4	Yoder, Camarata & Woynaroski, (2016), Fransiska (2016), Cifuentes, Rojas, Cárdenas & Benito (2017), Sicilia Polo (2017)

Table 7 shows the disadvantages of the drilling method to Down Syndrome learners. Gutierrez and Alexandra (2017), Fransiska (2016), Yoder, Camarata, and Woynaroski (2016) agreed that drills are not effective when teaching more abstract concepts because students may not be prepared enough, so they will not be able to understand difficult concepts. Moreover, Yoder, Camarata, and Woynaroski (2016), Fransiska (2016), Cifuentes, Rojas, Cárdenas, and Benito (2017), Sicilia Polo (2017) said that this technique may not be effective because students cannot develop their creativeness. Thus, using drills students have no or very little choice over what is said so drills are a form of very controlled practice.

Table 8. Advantages of Sound Field Amplification Strategy

Advantages	Number of studies	Author/Year
Children respond more quickly	2	(Millett, 2009) (Bennetts & Flynn, 2002)
Improves listening and learning environment	4	(Flexer, Millin, & Brown, 1990) (Wilson, Marinac, Pitty, & Burrows, 2011) (Millett, 2009) (Bennetts & Flynn, 2002)
Improves the signal-to-noise ratio for all students in the class	3	(Wilson, Marinac, Pitty, & Burrows, 2011) (Millett, 2009)

		(Flexer, Millin, & Brown, 1990)
Decreases in teacher vocal fatigue	2	(Wilson, Marinac, Pitty, & Burrows, 2011)
		(Bennetts & Flynn, 2002)

Table 8 enunciates the advantages of the sound-field amplification strategy used with DS students. Millet (2009), Bennetts, and Flynn (2002) agreed that by using this method children may respond more quickly because learners can listen in an improved way and experience a better understanding of what the teacher says. Additionally, Flexer, Millin, and Brown (1990), Wilson, Marinac, Pitty and Burrows (2011), Bennetts and Flynn (2002) pointed out that this strategy improves the listening and learning environment since sound-field amplification provides improved access to the speech signal for children with Down syndrome and as a consequence, it leads to improving classroom success. Also, Wilson, Marinac, Pitty, and Burrows (2011), Millet (2009), and Flexer, Millin, and Brown (1990) had concluded that this strategy improves the signal-to-noise ratio for all students in the class because of the microphone, loudspeakers and all of the equipment used in this strategy. Finally, Wilson, Marinac, Pitty, and Burrows (2011), Bennetts, and Flynn (2002) said that sound-field amplification helps to decrease teachers' vocal fatigue because the teacher will not be repeating what she/he says every single time since students are capable of hearing clearly.

Table 9. Disadvantages of Sound Field Amplification Strategy

Disadvantages	Number of studies	Author/Year
Equipment may be expensive	2	(Millett, 2009) (Simpson, 2011)
Hearing loss can be undiagnosed	3	(Millett, 2009) (Simpson, 2011) (McLaren, Page, & Chang, 2016)

Table 9 shows that the sound-field amplification strategy is very useful and it does not have too many disadvantages. However, it is noticeable that sound-field amplification can be used with DS learners with some kind of difficulty. Millet (2009) and Simpson (2011) agreed on the fact that equipment can result expensive because a microphone, loudspeakers, and other gadgets must apply this strategy in a classroom. Finally, Millet (2009), Simpson (2011), and McLaren, Page, and Chang (2016) had concluded that hearing loss can be undiagnosed because children may not notice in-class time their hearing problems due to the appliance of the equipment needed of this strategy.

CHAPTER VI

6. Conclusions and Recommendations

6.1.   Conclusions

This research synthesis aimed to determine the most effective strategies used to Teach English as a Foreign Language to young DS learners through the analysis of the advantages and disadvantages of Logographic, Sound-Field Amplification, and Drilling strategies; as well as teacher´s perceptions towards these strategies. Conclusions were taken from the three main research questions that are: What are the most effective EFL strategies used with young Down Syndrome learners? what are teachers' perceptions about students' learning process? and what are the advantages and disadvantages of the EFL strategies used with young Down Syndrome learners? The objective was accomplished by exploring the findings of 22 published studies, so having carried out this analysis, the following conclusions were stated.

Regarding the first research question, from the 22 studies, 17 show the effectiveness of three strategies to TEFL to young Down Syndrome learners, namely drilling, logographic and sound-field amplification. Since Down Syndrome is a very common condition, it is vital to develop strategies that help these types of learners to overcome some issues in the learning process. In the case of drilling, it can be concluded that with drilling activities, the learner could overcome barriers and demonstrate that having DS does not deprive him or her of developing skills in more than one language (Gutierrez, 2017). Subsequently, by applying the logographic strategy it was demonstrated that students with DS were able to develop the reading skill because this strategy is appropriate and beneficial in learning a foreign language (Bowman & Treiman, 2008). Finally, it was proved that sound-field amplification improves

the speech perception of children with Down syndrome by providing an advantageous listening environment (Bennetts & Flynn, 2002).

Regarding the second research question, five from the 22 studies analyzed demonstrated positive and negative teachers' perceptions towards DS students' learning process. McFadden (2014), Bills and Mills (2020), Abbasian and Ebrahimi (2020), Meynert (2014) agreed that special education plays an important role in the success of DS learners because of their special needs. They concluded that special education, teacher's experience, preparation, and exposure are really important aspects of the learning process of this type of children with special needs (McFadden, 2014; Bills & Mills, 2020; Abbasian & Ebrahimi, 2020; Meynert, 2014).

Regarding the third research question about the advantages and disadvantages of the three strategies used for Teaching English as a Foreign Language to young Down Syndrome learners it can be concluded that by using all these strategies, Down Syndrome students can learn if the strategies are correctly adapted for them and in an adequate environment. However, mainstream schools may be the greatest disadvantage because they are not well equipped, they do not have experienced educators to work with this type of learners, and inclusion programs are still in process of implementation.

About the drilling strategy, Gutiérrez (2017), Sicilia (2017), Yoder, Camarata and Woynaroski (2016), and Handayani (2011) had concluded that the main advantage it has is that it helps DS learners to improve their fluency and pronunciation. On the other hand, these authors found out that the main disadvantage this strategy has is that drills are not effective

when teaching more abstract concepts because students may not be prepared enough, so they will not be able to understand difficult concepts.

Also, according to DS Association (2002), Cologon (2013), and Goetz (2007), it is demonstrated that the logographic strategy helps to improve the speech perception of DS students. However, a great disadvantage is that DS students can have some difficulties acquiring the reading skill because the students may confuse the phonological sounds with the correct writing of the word.

Finally, about the sound field amplification strategy, the main advantage it has is that this strategy improves listening and learning environment since sound field amplification provides improved access to the speech signal for children with Down syndrome, and as a consequence, it leads to improved classroom success. Otherwise, Millet (2009) and Simpson (2011) agreed on the fact that equipment can result expensive because it is necessary a microphone, loudspeakers, and other gadgets to apply this strategy in a classroom.

6.2. Recommendations

Based on the results reported in the analysis the recommendations can be stated as follows. First, since inclusive education is a term relatively new, especially in Ecuador, more studies applying TEFL strategies to Down syndrome learners should be conducted. Second, despite there are several strategies for Teaching English as a Foreign Language for this type of learners, more methods should be adapted to give better education and improve the educational system. Finally, teachers play an important role in the development of a foreign

language in Down syndrome learners because they are in charge of learners' success in education. That is why it is necessary to have prepared teachers in schools in general.

Additionally, this study aimed to find the different strategies used to Teaching English as a Foreign Language to Down Syndrome learners. Although the number of studies related to this topic was considerably broad, the majority of them were applied in different countries but not in Ecuador. Only a little information was collected in Ecuador which was a limitation since the collected results were mostly a product of a different context than ours. All in all, Down Syndrome is a very common condition that needs more educational studies to clarify all the teachers' doubts about this syndrome and to give adequate strategies that work well with this type of learner.

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Appendix 1

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