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**READING STRATEGIES FOR TEACHING READING SKILLS IN  
PEOPLE WITH HIGH-OPERATING ASD**

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**Abstract.** This article investigates the different reading strategies that exist for people with Autism Spectrum Disorder (ASD) of level 1. First, a review of the term ASD is carried out from its beginnings with Kanner and Asperger until today . A study has also been conducted on different authors who point out the importance of reading in people with ASD. The main objective of this research is to know the different reading strategies that can be applied with the global method to promote the teaching of reading of people with high functioning ASD. The research is a bibliographic review of reading skills and strategies in ASD. For this, an English search has been carried out in different scientific education journals. All the selected articles dealt with Primary Education and the high functioning ASD. The results obtained show the different strategies that can be carried out. Due to the different strategies that can be found and the discrepancies that exist between the authors, it is convenient that reading skills in people with ASD of level 1 are taught with the global method and adapting the strategies that exist to the characteristics of each person.

**Keywords:** Reading strategies, ASD, global method.

**ESTRATEGIAS DE LECTURA PARA LA ENSEÑANZA DE LAS  
HABILIDADES LECTORAS EN LAS PERSONAS CON TEA DE  
ALTO FUNCIONAMIENTO**

**Resumen.** El presente artículo investiga sobre las diferentes estrategias de lectura que existen para las personas con Trastorno del Espectro Autista (TEA) de nivel 1. En primer lugar, se lleva a cabo una revisión del término TEA desde sus inicios con Kanner y Asperger hasta la actualidad. También se ha realizado un estudio sobre diferentes autores que señalan la importancia de la lectura en las personas con TEA. El objetivo principal de esta investigación es conocer las diferentes estrategias de lectura que pueden aplicarse

con el método global para fomentar la enseñanza de la lectura de las personas con TEA de alto funcionamiento. La investigación es una revisión bibliográfica sobre las habilidades y estrategias de lectura en el TEA. Para ello se ha realizado una búsqueda en inglés en diferentes revistas científicas de educación. Todos los artículos seleccionados trataban sobre la Educación Primaria y el TEA de alto funcionamiento. Los resultados obtenidos ponen de manifiesto las diferentes estrategias que pueden llevarse a cabo. Debido a las diferentes estrategias que se pueden encontrar y a las discrepancias que existen entre los autores, es conveniente que las habilidades de lectura en las personas con TEA de nivel 1 sean enseñadas con el método global y adaptando las estrategias que existen a las características de cada persona.

**Palabras clave:** Estrategias de lectura, TEA, método global.

## **Introduction**

In today's classrooms, inclusion is increasingly favored by the presence of the diversity of the student body, which is very noticeable at present. This inclusion guarantees an enrichment in the teaching work and the learning process of the students since to attend to the diversity, different strategies and methodologies must be used to adapt to the individualities and needs of the students. Among the diversity, we can find students with ASD.

Currently, as stated in the DSM-V, ASD is considered as a spectrum. Therefore, its classification is dimensional. It is divided into three levels: level 1, level 2, and level 3, from less to more language impairment, repetitive behaviors, and restricted interests, respectively (American Psychiatric Association, 2014).

Therefore, in this research, the objectives, guidelines, methodologies, indications, etc. that are going to be followed and studied will be recommended to be applied to students with level 1 ASD, also known as high functioning or Asperger's.

The assistance of ASD students in the classroom together with their educational needs make necessary to take curricular measures and methodological strategies individually adapted to their characteristics and learning style (González, 2006).

Currently, ASD can be defined as a neurodevelopmental disorder of neurobiological origin. People with this disorder present an affectation in everything related to social communication and behaviors and interests. It is present since the first months of life and it is chronic. The etiology of ASD is due to various causes, such as genetic, epigenetic, or environmental factors. One-third of people who present ASD are associated with Functional Diversity due to Intellectual Disability with insufficient functional adaptation. Besides, two-thirds of these people present an IQ around the average but without total independence (Hervás, 2016).

However, ASD has not always been defined in this way and throughout history, it has changed. Therefore, it is characterized by being a dynamic concept. Undoubtedly, those who set the foundations for ASD were Kanner and Asperger. But before that, there were some other authors, doctors, etc. who described, researched, and worked on this disorder. These initial contributions to ASD were based on early-onset schizophrenia, syndromes similar to schizophrenia or regressive childhood cases. The characteristics of these people made the psychiatrists in the consultations they attended expectant and interested in it. The first references to ASD are from the 16th century with Johannes Mathesius, who was Martin Luther's chronicler. In his work, he tells the story of a 12-year-old boy with severe autism. Luther referred to the boy as a mass of flesh in a soulless spirit, possessed by the devil. Luther himself insinuated that he should die of suffocation.

Another anonymous book tells the story of Friar Juniper, from the 17th century. This friar has characteristics of ASD. In the 18th century with the wild boy Victor de Aveyron, who was studied by Itard, a debate was opened on whether this boy presented ASD symptoms or was a person not corrupted by social values (Artigas-Pallares and Paula, 2012).

The Swiss psychiatrist Bleuler introduced the term autism to refer to an alteration characteristic in schizophrenic patients who distance themselves from the external reality around them. Autos, from the Greek, means oneself and ismos, from the Greek as well, refers to the way of being. Therefore, autism refers to the fact of being locked up in oneself, isolated from society (Bleuler, 1911).

Later, the Swiss psychoanalyst Jung characterized people with ASD as deeply introverted, oriented towards their inner world. Autism was believed to be a characteristic of some people with schizophrenia (Artigas-Pallares and Paula, 2012).

Kanner integrates the term autism into the current meaning, defining it as autistic impairments in affective contact employing a study of eleven patients. The origin of autism is in the coldness of the parents, especially the mothers. Moreover, the term mother fridge was adopted, a theory from which it started, years later Bettlheim (Kanner, 1943).

Later, Kanner observed that the symptoms were present from birth and that the siblings did not have the disorder, he called them "inborn autistic contact disorder". Kanner's study has a psychodynamic aspect, therefore, we should not worry about genetic, metabolic, environmental causes, etc. However, years later, it was classified as a neurodevelopmental disorder. As Kanner advanced in the study of the disorder, he called it differently, this time as early childhood autism. The nuclear characteristic that Kanner highlighted was the obsession with living in a static world where changes are not admitted. He marked some differences to distinguish autism from schizophrenia and mental retardation (Kanner, 1951; Kanner, 1954; Artigas-Pallares and Paula, 2012).

Asperger, one year after Kanner, published an article in German based on the study of four patients. In this article, he defined the concept of autism. The patients showed a pattern of behavior marked by a lack of empathy, naivety, poor ability to make friends, repetitive language, poor nonverbal communication, interest in certain subjects, motor clumsiness, and poor coordination. In his period, Asperger already advocated education in understanding people with ASD. It is believed that because of the characteristics of Asperger, he may have Asperger's Syndrome (Asperger, 1944).

Years after Asperger's publications, in the 1980s, Wing translated Asperger's work into English and introduced the term Asperger's Syndrome. However, years before, Bosch had already used this term and placed it within autism. This author introduced the term Autism Spectrum Disorder, ASD (Wing, 1981).

Another author who addressed autism was Erikson. This author advocated that children with ASD fail to make eye contact, social smile, and make physical contact that causes them to distance from their mother, resulting in social isolation (Artigas-Pallares and Paula, 2012).

The Diagnostic and Statistical Manual of Mental Disorders (DSM) has also changed the term of autism throughout history. In 1952, the DSM-I viewed autism as a childlike schizophrenic reaction, although autism was already diagnosed as a specific entity and was not included in this version (American Psychiatric Association, 1952).

In 1968, the DSM-II still viewed autism as a characteristic of childhood schizophrenia rather than a specific diagnosis. It noted that ASD could manifest itself as autistic behavior, which could be atypical or as isolation (American Psychiatric Association, 1968).

In 1980, the DSM-III incorporated the term childhood autism as a specific diagnosis. In 1987, the DSM-III-TR changes the term childhood autism to autistic disorder. Also, it named autism atypical for those cases that met many, but not all, of the features of autism (American Psychiatric Association, 1980; American Psychiatric Association, 1987).

In the years 1994 and 2000 the DSM-IV and DSM-IV-TR were published. In this manual five categories of autism were determined: Autistic Disorder, Asperger's Syndrome, Rett Syndrome, Childhood Disintegrative Disorder, and Pervasive Developmental Disorder. The sixteen diagnostic criteria of the previous DSM were replaced by six, so the diagnoses were less restrictive. This led to an increase in these diagnoses (American Psychiatric Association, 1994; American Psychiatric Association, 2000).

In 2014, DSM-V replaces the term Pervasive Developmental Disorder with Autism Spectrum Disorder. Therefore, Rett Syndrome is excluded from this classification because it is a specific genetic entity that matches autism in some symptoms. There is no genetic, cognitive, or neurobiological evidence to distinguish the subtypes of autism, so they are all included in the ASD category because the differences between them are marked by an intellectual level, language development, and other manifestations outside the autistic nucleus. The areas affected are those of communication and social interaction and activities, interest, and repetitive or restricted behaviors. Also, symptoms must be present since early childhood (American Psychiatric Association, 2014).

There is a connection between emergent reading processes and reading competence. Reading is the most important learning process in the education of students, especially for students with ASD, since everything that is observed is influenced by words, and they have strategies that help them to understand, so that they become more autonomous and competent (Akçin, 2013; Martínez, 2017).

In the research that has been carried out during all these years, it is found that many authors have stated the difficulties that people with level 1 ASD show in terms of word recognition and reading comprehension. Also, many studies show that people with high-functioning ASD do not achieve good reading and reading comprehension levels. This may be due to their functional and automatic learning in reading and to the lack of contextualization and, consequently, of text understanding. That is to say that it is related to the Weak Central Coherence Theory since they focus on details and do not integrate information into a coherent and general whole, which makes it more difficult to understand the text in its entirety (Frith, 1989; Mayes and Calhoun, 2003; Wahlberg and Magliano, 2004; Nation, Clarke, Wright and Williams, 2006; Newman, Macomber, Naples, Babita, Volkmar and Grigorenki, 2007; Asberg, Dahlgren and Sandberg, 2008; Huemer and Mann, 2010; Estes, Rivera, Bryan, M., Cali and Dawson, 2011; Norbury and Nation, 2011; Brown, Oram-Cardy and Johnson, 2013; Ricketts, Jones, Happé, and Charman, 2013).

Children with level 1 ASD often have delays in language acquisition, reading, and consequently in writing. However, this delay may not be due to limitations in the basic processes of access to written code, nor to cognitive development (Saldaña, 2008; Axe and Sainato, 2010).

On the contrary, other authors believe that the reading difficulties may have their origin in the cognitive, behavioral, and verbal problems associated with ASD (Mayes and Calhoun, 2003; Nation and Norbury, 2005; Williamson, Carnahan, and Jacobs, 2012).

Other authors point out as the main responsible for the lack of reading skills, spontaneous speech, global meaning capture, etc. to what is known as the Weak Central Coherence Theory. According to this theory, it does not allow people with ASD to notice

the global meaning of texts, words, and also makes them present vocabulary problems, among others (Frith, 1989; Frith and Happé, 1994; Happé and Frith, 2006).

Children with level 1 ASD need to learn how to read because their learning is cumulative. This can explain that usually, children with ASD learn to read memorizing words (Vacca, 2007; Benitez, Catalá and Domeniconi, 2016).

Students with high-functioning ASD have a variety of problems when they are learning to read, including attention problems, lack of motivation, and problems decoding words, among others (Vacca, 2007).

It is necessary to show commitment to work on emergent reading processes to improve the difficulties in the conceptualization of the image of students with Asperger's. That is to say, to improve communicative processes and acts and to know how to control and understand better the environment that surrounds them. In short, the aim is to develop linguistic competence through the opportunities offered (Martínez, 2017).

Until relatively recently, there were discrepancies between the authors, as some pointed at the global method as the best method for learning to read in normotypical people. On the other hand, others opted for the phonetic method, using phonological strategies to acquire phonological awareness. Nevertheless, nowadays these discrepancies are solved. Therefore, the phonemic method is established as the best method for the initiation of learning to read for normotypical people due to the acquisition of phonological awareness by the students. On the contrary, people with ASD learn to read by the global method with the use of pictograms. This is due to the difficulty in developing phonological awareness in people with ASD (Ventoso, 2003; Vacca, 2007; Chamorro, 2011; Martínez, 2017).

Teaching reading skills to a child with level 1 ASD can be very challenging because some children may never learn to read. However, high-functioning ASDs can learn to read and become excellent readers. Children with level 1 ASD have difficulty practicing some of the language skills needed to read. As a result of the lack of these necessary reading skills, they have difficulties in pragmatics, guesswork, social conversation, etc. Therefore, they must learn to read to develop their speech. Because, as many authors point out, the basis of reading is talking and conversing later on (Montfort and Juarez, 2004; Vacca, 2007; LaBarbera and Soto-Hinman, 2009; Kim, Rispoli, Lory, Gregori and Brodhead, 2018).

Children with high-functioning ASD have pragmatic deficits that affect communication proficiency, that is to say, non-verbal communication skills, conversation, and narrative skills. Also, other difficulties that they present are related to narrative skills because of their deficiencies in organization, comprehension, and coherence. This is due to their difficulties in Theory of Mind as they do not infer why the characters do what the story tells. It should be noted that true learning and significant progress, for the person with level 1 ASD in language development, occurs when he understands words for which there is no established physical or visual representation, that is to say, for abstract terms (Vacca, 2007).

Therefore, due to the importance of learning to read in people with high functioning ASD, this research aims to find out strategies for teaching reading in people with level 1 ASD. Also, it aims to promote reading instruction in people with high functioning ASD since the development of reading skills will make them more autonomous because they will understand their environment better and will make them more functional. Besides, it is necessary to encourage the practice of the different strategies taking into account the characteristics of the students with level 1 ASD or Asperger's, since the reading way of learning must be personalized and adapted to the students.

## **Method**

Specifically, the research is proposed to find strategies for teaching to read to people with high-functioning ASD.

### ***Design***

The design of this research has been a bibliographic review of different scientific documents and articles that are related to reading skills and strategies and ASD.

### ***Strategies for searching***

The searching strategies that have been followed are, firstly, a search in the ERIC database (Education Resources Information Center), also a search in the Psychology Database of Proquest and EBSCOhost. The search was conducted in English, in all databases, with the following search equations: literacy programs OR reading instruction AND Autism OR ASD AND primary school students OR elementary education OR elementary schools OR elementary school teachers OR elementary school students.

Articles that did not contain the link to the full text in the ERIC database, nor in Proquest's Psychology Database databases had a link that redirected to SAGE Journals and in this database the full text of the article was accessible.

### ***Inclusion Criteria***

The inclusion criteria followed were based on the fact that the studies had to be carried out in Primary Education for people with high-functioning ASD, level 1 or Asperger's, and that they also included strategies for learning to read in people with ASD. On the contrary, we have excluded those articles that did not show anything referred to the reading strategies of students with ASD in Primary Education.

### ***Data extraction***

For data extraction, a search was made in ERIC, Psychology Databases of Proquest, and EBSCOhost. From the total of the results of these databases, 20 articles were selected, after having read their abstract, which contained relevant information for this review.

### ***Data analysis***

The analysis of these articles has allowed us to detect the different reading strategies that can be carried out with students with ASD in Primary Education. Different classroom structures, groupings, methodologies, materials, resources, and areas of development have been taken into account.

## **Results**

It is very difficult for people with ASD to learn to read since many of them communicate through Augmentative and Alternative Communication Systems (AAC)(Vacca, 2007).

One of the programs based on AAC, on visual agendas, more specifically, is the TEACCH Method (Treatment and Education of Autistic Related Communication Handicapped Children). The Method was created at a state level by the North Carolina

government. It was launched by the North Carolina University in 1966 to help people with ASD and their families. Schopler co-founded it around 1972. At the University of North Carolina, the "TEACCH Division" was created to serve the community with educational centers, families, etc. It was then applied in all schools and other countries. The TEACCH Method aims to reduce the stress of living with a child with ASD and to enhance the child's intellectual development through community activities. However, the main objective and the ones that should be given more importance are those referred to as the independence and autonomy of people with ASD. This method aims to improve the motor area, improve language, through the teaching of basic reading skills, and increase motivation. It is a very visual method as it works through pictograms. Environments must be very structured and individual work and tasks must always be presented through agendas so that they know how to plan the day (Schopler, Lansing and Waters, 1983; Schopler, 2001).

Children with level 1 ASD can be taught to read through visual aids or pictograms. They think in pictures, as they are visual, that is to say, that they make pictures of the words in their mind. The reading method must be appropriate, as well as the level that must be adapted to their characteristics. For example, reading fantasy is a challenge for them because of the complexity of the abstraction that this genre involves. Therefore, they should read stories based on reality and that are of interest to them. To sum up, it is important, for a child with level 1 ASD to begin to read and show interest in reading, to use visual supports, and allow them to start from his concerns, so that he pays more attention. In addition to reading through pictograms, the use of self-instructions should be taken into account since it will help them to understand their environment and to organize themselves better (Ventoso, 2003; Vacca, 2007; Almalki, 2016).

In contrast, other studies show that when children are learning to read it is advisable to substitute pictures for words as an effective way of learning to read. It is important to move from pictures to letters and to combine words with pictures as it is a prerequisite for achieving the reading comprehension (Miguel, Yang, Finn & Ahearn, 2009).

Some studies show that learning to read in people with high-functioning ASD is more effective and occurs in less time with the use of specific digital programs for this task. Through the use of digital media such as computers or tablets, this type of student is more motivated and shows more interest in learning to read. This motivation and interest make the predisposition greater and therefore the learning of reading skills occurs earlier (Heimann, Nelson, Tjus and Gillberg, 1995; Pennington, 2010; Yaw, Skinner, Parkhurst, Taylor, Booher and Chambers, 2011; Grindle, Hughes, Saville, Huxley and Hastings, 2013; Omar and Bidin, 2015; Bailey, Arciuli and Stancliffe, 2017).

However, some studies show the advantages and effectiveness of the method of teaching reading through digital media programs. While other studies, in contrast, point out that, in most cases, learning without digital media is more effective. Also, several studies are showing that the effectiveness of learning to read in people with level 1 ASD is the same whether it is done without or through digital media (Coleman, Cherry, Moore, Park and Cihak, 2015).

Also, learning to read is more effective if the child with ASD is included in the regular classroom, and he works through small cooperative groups. This increases and improves academic results and has positive effects among students. Besides, this improves interactions and helps to understand the environment of students with Asperger's. In short, it fosters and improves the social skills of this type of student (Kamps, Barbetta, Leonard and Delquadri, 1994; Ledford, Gast, Luscre and Ayres, 2008;

Whalon, Otaiba, and Delano, 2008; LaBarbera and Soto-Hinman, 2009; Kim, et al., 2018).

In contrast, other studies indicate that learning is more effective when it is done individually and through direct instruction programs, that is to say, the term known as Direct Instruction (DI), because they improve and implement their understanding. They then move on to combine this with cooperative group work with their peers in an ordinary classroom. Thus, they will acquire strategies for social relationships (Flores and Ganz, 2007; Flores, Nelson, Hinton, Franklin, T., Strozier, Terry, Franklin, 2013; Roux, Dion, Barrette, Dupéré and Fuchs, 2015; Shillingsburg, Bowen, Peterman and Gayman, 2015; Braun, Austin and Ledbetter-Cho, 2017; Head, Flores and Shippen, 2018).

In short, they would first work individually with direct instructions and then combine these direct instructions with cooperative group work as this would make their development more complete (Flores and Ganz, 2007; Flores et al., 2013; Braun et al., 2017; Head et al., 2018).

However, other authors complement these direct instructions with the recognition of words that are close to their environment or that they already know. This is designated as Sight-Word, through simultaneous printing, Simultaneous Prompting (SP). Thanks to this, we start from what the person already knows and this makes him show more interest and understand better the meaning of the reading. Simultaneous printing is a strategy in which an instructional prompt is presented. For example, the student is shown the word "dog" in written form and the teacher says "dog" so that the student immediately repeats "dog". This technique of Simultaneous Prompting is very effective in learning to read for people with level 1 ASD because the learning occurs without error. It helps them to access the curriculum, and to have more fluency and reading comprehension (Ehri, 2005; Browder, Wakeman, Spooner, Ahlgrim-Delzell, Algozzine, 2006; Waugh, Alberto, and Frederick, 2011; Akçin, 2013).

Other studies show that an effective strategy for learning to read in people with high-functioning ASD and for improving reading comprehension is through story mapping (Browder, Root, Wood, & Allison, 2017).

Some studies show that an effective technique would be to present reading as a fun activity using visual materials of great interest for the student. Also, the reading method to be used will be a comprehensive method, using phonological strategies for learning to read. The global method should be put into practice in readings from close contexts, social stories, and comic strips. If the reading is made to be based on their interests, it will be an attractive activity for the person with level 1 ASD. To do this, it must contain visual materials, for example, with the comic strips and deals with the context in which it takes place. Besides, through reading, you can teach rules and other social content so that they can understand them (Vacca, 2007).

Also, it is important that parents are involved and practice reading at home, so that the natural context will be the starting point. This is a methodology for working with people with level 1 ASD that has been very popular in recent times. In addition, the behavior of the parents as a model is decisive in the learning process of the children since the latter will learn social skills from the interrelationship with them. These skills will later be extended to school interrelationships (Benitez et al., 2016).

### **Discussion and Conclusions**

According to this review, despite the real difficulties that exist for people with high-functioning ASD or Asperger's to learn to read and understand reading, different methodological strategies can be used.

Therefore, most of the authors agree that the TEACCH Method is an adequate method for the learning of reading skills of people with level 1 ASD since it works through pictograms or visual supports. Also, some studies show the benefits for reading comprehension, of presenting the image together with the word. Other authors complement the work with pictograms with the use of self-instructions. These two techniques will help them to better understand their environment, to learn to control themselves and, therefore, to be more independent (Schopler et al., 1983; Schopler, 2001; Ventoso, 2003; Vacca, 2007; Miguel et al., 2009; Almalki, 2016; Browder et al., 2017).

The reading method, par excellence for people with high-functioning ASD, is the global method. This method will make their reading skills more functional, and they will learn better (Vacca, 2007).

Other studies focus on the grouping type. Most studies show that teaching and learning reading skills are more effective and help improve the social development of the person with Asperger's. This will happen if this type of student is included in their regular classroom, for example, through small cooperative groups. In contrast to other studies, better results are obtained if students with level 1 ASD are not included in their regular classroom during the learning process of reading. Furthermore, according to other studies, better results are obtained when at the beginning of the teaching-learning process of reading the student is not included in his ordinary classroom and as he progresses, he is included in cooperative groups of his model classroom (Kamps et al., 1994; Flores and Ganz, 2007; Ledford et al., 2008; Whalon et al., 2008; LaBarbera and Soto-Hinman, 2009; Flores et al., 2013; Roux et al., 2015; Shillingsburg et al., 2015; Braun et al., 2017; Head et al., 2018; Kim et al., 2018).

Meanwhile, other studies pay more attention to strategies for teaching reading to people with level 1 ASD. Some show that better results are obtained in the reading skill of this type of student with the sole use of direct instructions. While others have shown that good learning outcomes of reading skills have been achieved in high-functioning ASD students with the combined use of direct instruction, simultaneous printing, and Sight-Word. Also, some studies highlight the development of Story Mapping as a strategy for learning to read for people with ASD (Ehri, 2005; Browder, et al., 2006; Flores and Ganz, 2007; Waugh et al., 2011; Akcin, 2013; Flores et al., 2013; Roux et al., 2015; Shillingsburg et al., 2015; Braun et al., 2017; Browder et al., 2017; Head et al., 2018).

On the other hand, some studies emphasize the methodology and resources used. Regarding the methodology, some authors have shown in their studies that learning to read comes earlier if it is carried out using a traditional methodology and traditional resources. However, due to the implementation of Information and Communication Technologies (ICT) in the classroom in recent years, there has been an increase in the number of research in which reading is taught through digital media, for example, with the use of the tablet or the computer. These studies that combine the traditional method with ICT resources for teaching reading skills show better results than studies that have been carried out with traditional methodology and resources. © On the contrary, other studies show similar results if reading is taught using the traditional method and traditional resources than if it is taught using ICT resources (Heimann et al., 1995; Pennington, 2010; Yaw et al., 2011; Grindle et al., 2013; Coleman et al., 2015; Omar and Bidin, 2015; Almalki, 2016; Bailey et al., 2017).

Some authors also stress the importance of planning, directing, and structuring the meant reading practice. Also, it is important to eliminate stereotypes and to trust that students with ASD can learn. Enthusiasm for progress should also be shown, as motivation plays a major role. Therefore, they should start from their interests and previous knowledge, so that they can later make associations with the outside world and

with themselves, always from the text. The learning that takes place should be by modeling and without error through multisensorial materials. The person teaching these students to read will have to be very persistent and repetitive. There must always be great coordination among all the educational agents, and they will be offered many opportunities to practice the exercise of reading (Vacca, 2007).

Furthermore, other studies in their results show the importance of the involvement of all educational agents, including families, to adequately developed the reading skills of people with level 1 ASD. Since with these persons, persistence, involvement, and concordance between the different environments in which they develop are very important (Benitez et al., 2016).

In short, pre-reading and reading skills are important for all people, especially people with ASD, and especially people with level 1 ASD, as they will be able to understand pictograms and all the visual cues around them. Regardless of the methodology, supports, strategies, etc. used to develop reading skills, it is important to find what motivates and interests them and to start from their previous knowledge (Carr, Levin, McConnachie, Carlson, Kemp and Smith, 1996; Vacca, 2007; Akçin, 2013; Robledo, 2017).

Although many people with ASD cannot acquire reading skills academically, they must be functional in this ability to generalize knowledge. This is since, like that, they increase their opportunities to express themselves and to be independent and autonomous. Also, it fosters the ability for relating, communicating, connecting with others, anticipating simple routines, and even decreasing problematic behaviors such as tantrums, in short, improving their quality of life. Because 9 out of 10 problematic behaviors have a communicative purpose, if students with ASD are taught reading skills, they will develop speech more optimally and will have more ease to communicate and express themselves. That is to say, problematic behaviors in general, and especially those that have a communicative origin will be reduced (Carr et al., 1996; Akçin, 2013; Robledo, 2017).

Reading skills for ASD people are very important, so many authors have written about the relationship between reading and ASD. This may be because reading is one of the main ways to access the curriculum. In addition, reading is the beginning of speech development for those with preverbal ASD. Consequently, if these people develop speech correctly, they will be able to relate and maintain social relationships. Besides, they will be able to be more functional socially and academically, perhaps even a little more autonomous.

Despite the difficulties that people with level 1 ASD have in learning to read, the different strategies that can be implemented and the various reading methods that exist. Recently, there has been a discussion about the connection between teachers' knowledge of reading and their students' achievements in this reading skill. Therefore, it is confirmed that the deeper the knowledge of teachers about reading, the better their students will learn to read. They will have different resources and strategies to teach reading successfully (McCutchen, Green, Abbott, & Sanders, 2009; Piasta, Connor, Fishman, & Morrison, 2009; Podhajski, Mather, Nathan, & Sammons, 2009).

The limitations found in this research have been the limited knowledge that exists about the reading strategies and methods that can be used to teach reading skills in people with level 1 ASD. This is due to a limited number of research on this topic. Therefore, more research must be carried out.

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