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Intervention in the Cohesion of Narrative Discourse in Pupils with Developmental Language Disorder

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A B S T R A C T

The main objective of this study was to verify the effectiveness of an intervention program on cohesion in pupils with typical development and with developmental language disorder. A total of 99 5-year-old pupils from schools in the island of Tenerife (Canary Islands, Spain) participated. For the narrative analysis, a story retelling task was used, studying cohesive resources such as ellipsis, anaphora, possessives, and connectors. The intervention program was organized at different levels of practice and involved teachers and speech language therapists. The results indicated that the pupils diagnosed with developmental language disorder initially presented worse performance in cohesion than their peers with typical development. Finally, the two groups of children who received the intervention program showed significantly higher gains than the two groups without treatment, with medium or small effect sizes.

La intervención en la cohesión del discurso narrativo en los alumnos que tienen un trastorno evolutivo del lenguaje

Palabras clave:
Evaluación narrativa
Intervención temprana
Cohesión
Trastorno del desarrollo del lenguaje

R E S U M E N

El objetivo principal del presente estudio ha sido comprobar la efectividad de un programa de intervención en la cohesión de alumnado con desarrollo típico y con trastorno del desarrollo del lenguaje. Participaron 99 alumnos de 5 años de colegios de la isla de Tenerife (Islas Canarias, España). Para el análisis narrativo se utilizó el recontado de un cuento, estudiándose recursos cohesivos como las elipsis, las anáforas, los posesivos y los conectores. El programa de intervención se organizó en diferentes niveles de práctica y contó con la colaboración entre el profesorado y las logopedas. Los resultados indicaron que el alumnado diagnosticado con trastorno del desarrollo del lenguaje presentaba inicialmente un peor rendimiento en cohesión que sus compañeros con desarrollo normal. Finalmente, los dos grupos de niños que recibieron el programa de intervención mostraron ganancias significativamente más altas que los dos grupos sin tratamiento, con tamaños de efecto medianos o pequeños.

Cohesion is one of the main aspects of the narrative discourse. It can be defined as the concurrence of syntactic and semantic mechanisms that facilitate thematic continuity in a discourse and clarify relations of local coherence (Pavez et al., 2008), that is, cohesion links different elements and creates dependence between them, allowing the discourse to be correctly interpreted (Halliday & Hasan, 1976), thus increasing the clarity of a narrative. Cohesive resources include lexical and grammatical structures that support the production of a coherent text (Mortesen et al., 2009). When cohesion mechanisms are used ambiguously in discourse, communicative breakdowns occur, leading to obstacles between adjacent pairs in a communicative exchange. A number of different categories of cohesion are usually identified: ellipsis, in which a nominal or verbal element is omitted; pronominal anaphora, in which a previously mentioned element is referred to by its pronoun; lexical anaphora, where a nominal element is referred to or replaced by another word; possessives, where possessive adjectives are used to refer back to an element; and connectors, which clarify the relations between utterances making up the discourse (Pavez et al., 2008; Sherratt & Bryan, 2019).

Pupils with language difficulties tend to manifest considerable limitations when organizing a narrative discourse. A good example of this can be found in pupils diagnosed with Developmental Language Disorder (DLD). This group regularly presents numerous language

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difficulties affecting phonological, grammatical, lexico-semantic, pragmatic, and discursive elements of language (Buiza et al., 2004). The term DLD has been proposed by many in the scientific community to replace the term Specific Language Impairment (Bishop et al., 2017).

Past research has shown (Del Valle et al., 2018), in a number of studies addressing the acquisition of cohesion in pupils with DLD, that these pupils produce fewer cohesion mechanisms and, when they do use them, they tend to assign them an inappropriate function and make many mistakes. This severely restricts the conceptual complexity of their narratives (Sanders & Spooren, 2007).

The use of fewer cohesion mechanisms leads to greater narrative ambiguity in pupils with DLD, who tend to be unclear about who is performing the action and omit certain main ideas (Pérez, 1997). The result tends to be a disjointed discourse with low production of cohesive resources that are often used imprecisely (Del Valle et al., 2018). Further, they tend to have very limited use of pronominal anaphora, with more errors committed when this device is employed. Together with this, one often finds an inappropriate use of pronouns with a referential value determined by an antecedent, revealing an overuse of deixis with an insufficiently clear reference, as shown by Serra et al. (2000).

Given the above, it would seem reasonable to assume that intervention programs addressing narrative discourse would give priority to helping pupils with DLD improve their use of cohesion mechanisms. However, there is actually a clear predominance of programs aiming to optimize formal structure and grammatical expression in a narrative discourse. Some of these have become very widespread, such as *Plan para la Estimulación del Desarrollo Narrativo* (Pavez et al., 2008), the Functional Language Intervention Program-Narrative (Gillam et al., 2008), and Story Champs (Spencer et al., 2014). Programs aiming to improve narrative cohesion include those developed and implemented by Hayward and Schneider (2000) and by Davies et al. (2004). Overall, the current landscape does not offer many options for programs aimed at improving cohesive resources in Spanish-speaking pupils. This is why we have decided to conduct the present study.

Method

The present research defines two main hypotheses: first, pupils diagnosed with DLD will have more difficulties using cohesive resources than pupils with typical language development and second, pupils diagnosed with DLD will show greater gains in the use of cohesive resources in oral narrative after participating in an intervention program than a control group of pupils with typical development and another control group of pupils with DLD.

Design

The longitudinal design included four groups: two groups of pupils with DLD, one experimental and one control and two groups of pupils with typical development, one experimental and one control. The independent variables were the group and the longitudinal variable of the repeated measures (with two levels), time of assessment; the dependent variable was narrative cohesion, more specifically measured as the number of uses of ellipsis, possessives, anaphora, and connectors, with all variables measured using a ratio scale. Once the participants and control variables had been identified, the pre-intervention assessment was conducted. Then, the intervention program was run, followed by post-intervention assessment. Both assessments and program were carried out in pupils' schools. Prior consent was obtained from schools and families. Compliance with ethical standards was also positively evaluated by the university's Ethics Committee.

Participants

A total of 99 pupils participated, all of whom were enrolled in early childhood education in schools in the island of Tenerife (Canary Islands, Spain) in the 2017-2018 school year. They were divided into four groups: (1) a group of pupils with DLD receiving treatment (DLD-T), (2) a group of pupils with DLD not receiving treatment (DLD-C), (3) a group of pupils with typical language development receiving treatment (TD-T), and (4) a group of pupils with typical language development not receiving treatment (TD-C). The Kolmogorov-Smirnov test was employed to assess normality of age, $z(99) = 0.08$, $p = .174$. To verify that the groups were matched in this variable, a hypothesis contrast test was conducted. As a preliminary step, Levene's test was used to test homogeneity of variance, $F(3, 95) = 0.6$, $p = .591$. The ANOVA showed no significant differences, $F(3, 95) = 3.0$, $p = .520$, $\eta^2 = .01$. The K-BIT intelligence test was used to assess non-verbal IQ (Kaufman & Kaufman, 2000). Normality of non-verbal IQ was verified using the Kolmogorov-Smirnov test, $z(99) = 0.10$, $p = .098$. To confirm that the groups were matched in this variable, a hypothesis contrast test was conducted. As a preliminary step, Levene's test was used to test homogeneity of variance, $F(3, 95) = 1.9$, $p = .139$. The ANOVA showed no significant differences, $F(3, 95) = 5.1$, $p = .097$, $\eta^2 = .04$. Table 1 shows the descriptive statistics for each group for these two variables.

The schools' teams of guidance counsellors referred to us a total of 147 boys and girls, to whom the Clinical Evaluation of Language Fundamentals-CELF-4 test (Semel et al., 2003) was administered to confirm the presence of DLD. This is a language assessment test with scales for Spanish speakers in the United States. It evaluates the processes of language comprehension and expression in general by means of tasks involving the structuring and formulation of sentences, concepts and directions, structure and kinds of words, and remembering sentences. Average reliability coefficients for CELF-4 Spanish index scores range from .90 to .96. The structure of the test was validated by several confirmatory analyses (by age group) to check the hierarchical structure of the model. All showed an appropriate goodness of fit. Following the test, a sample was selected of 50 pupils with a diagnosis of DLD, who were then randomly assigned, adjusting only for sex, to one of the two DLD study groups. A total of 65 participants were excluded from the study for presenting simple language delay, and 32 participants were excluded for not completing the tests due to repeated absences or lack of cooperation.

Table 1. Descriptive Statistics of Groups by Age and Non-verbal IQ

Groups	*n*	Age		Non-verbal IQ	
	Male/Female	Range	*M* (*SD*)	Range	*M* (*SD*)
DLD-C	14/11	5.2-6.3	5.6 (0.3)	80-106	96 (7)
TD-C	14/11	5.2-6.3	5.7 (0.3)	89-113	111 (6)
DLD-T	15/10	5.3-6.2	5.7 (0.3)	80-106	98 (8)
TD-T	15/9	5.2-6.3	5.8 (0.3)	80-120	107 (8)

Note. DLD-C = developmental language disorders control group; TD-C = typical development control group; DLD-T = developmental language disorders treatment group; TD-T = typical development treatment group.

Pupils with typical development were selected to ensure the greatest possible uniformity among the four groups in age and sex. A total of 50 pupils with typical development were selected from amongst the classmates of pupils with DLD.

Assessment of Narrative Performance

To obtain the oral corpora required for this study, "Tito the greedy dog" story was used. This is a story told only through images. The script reads as follows:

> Once upon a time there was a dog called Tito who lived in a pretty little garden. Tito liked to eat so much that he was the greediest dog in the world. In the garden, a little mouse also lived amongst the plants. One day, Tito's owner, a lady named Ana, put out his food and took him for a walk. When Tito came back from his walk, he saw that the food had disappeared. So Tito began to search all over the garden for it. Looking at the ground, he saw bits of food near one of the plants, and to his surprise, he saw the mouse in his burrow, with all of the food he had stolen. Tito tried to enter, but he couldn't fit through the entrance, because it was a very small burrow. The dog was so hungry that he wouldn't stop barking. At that moment, he thought, "What can I do? I need to get to the food!" Then, the dog started digging to make the entrance larger, but there was a huge stone in his way. So Tito, who was very stubborn, used all his strength to move the stone, and finally he reached the food. As he was very greedy, he started to eat very, very quickly. But just at that moment, when he looked at the mouse, he saw that he was very sad and he thought, "I'll share my food with him!". In the end, the two animals were happy because they had both got something to eat. And from that day onward, Tito always left a little food in the garden for his friend the mouse.

A retelling task was selected, in which the evaluator tells the story and then asks the child to retell it using the pictures as a guide (Bustos & Crespo, 2014). The transcriptions were produced immediately following the retelling task. Also, to ensure the greatest possible reliability, each corpus was transcribed by two evaluators (Acosta et al., 2016), with very high interrater agreement (κ = .934).

Then, an analysis was conducted of the cohesive resources, identifying all uses of ellipsis, anaphora, connectors, and possessives. Table 2 offers an illustration of this analysis with some examples.

Procedure: Intervention Program

The intervention program was made up of 55 sessions lasting 20 minutes each, organized into four phases (the second of which was the longest, with 25 sessions: 10-25-10-10). It was based mainly on the contributions of Gillam and Gillam (2016) and Spencer and Petersen (2020). A dual aim was initially pursued: first, to automate the use of a formal narrative structure with an introduction, main story, and conclusion; this would then form the basis for the second aim, which was to improve linguistic complexity by focusing particularly on cohesive resources: pronominal and lexical anaphora, intra-sentence and extra-sentence connectors, possessives, and reflexive pronouns. Materials included a range of personal and fictitious stories (*Getting ready for school; Going to the doctor; Ana plays with her doll; The three hungry mice*) that facilitated the creation of a narrative scheme or pattern of a metalinguistic nature, thereby avoiding mere memorization of the content of a single, specific story (Spencer & Petersen, 2020).

Pupils were encouraged to participate actively in the sessions and were given a number of opportunities to retell the stories. To this end, the sessions broadly followed the response to intervention models employing a multilevel approach, as proposed by Ebells (2019), Greenwood et al. (2019), and Spencer et al. (2015), among others. A first level involved all pupils, at the second level work was done in small groups, and a third level offered individual practice. Both regular classroom teachers and speech language therapists were involved, which fostered generalization of learning. A number of resources, such as pictograms, icons, graphical organizers, and mind maps, were initially used for visual support then withdrawn over time. Different intervention techniques were used in turn, and included interactive modeling, recast, and imitation. Intervention leaders provided indications during telling and retelling the story without waiting for the pupils to reach the end. This assistance was introduced gradually, and started with minimally intrusive guidance. For example, if the pupil omitted an element from a sentence: "*Eran tres ratones tenían mucha hambre*" ["There once were three mice were hungry"], it would be reformulated for them: "*Eran tres ratones que tenían mucha hambre*" ["There once were three mice *'who'* were hungry"], then they were allowed to continue the story. However, if the reformulation was not effective, then imitation was used, with the teacher saying: "*Dímelo así. Eran tres ratones 'que' tenían mucha hambre*" ["Say it like this for me: There once were three mice *'who'* were hungry"]. This approach ensured that the pupils would not become dependent on the impression, but that

Table 2. Analysis of Cohesion and Examples

Cohesion categories	Examples
Nominal ellipsis. The explicit reference to the character is omitted, and so verbal morphology must be used to identify the reference.	"['El perro'] tenía tanta comida porque comía mucho" ("[the dog'] had so much food because he ate a lot").
Verbal ellipsis. The verb is omitted after having been mentioned in a previous or recent sentence, or when correct context is provided through the subject and object.	"Empezó a cavar, pero no podía ('cavar') porque…" ("He started to dig, but couldn't ['dig'] because...").
Possessives. Repeated reference to an element is made using possessive adjectives.	"Y después de ese día, Tito, siempre dejaba un poco de *su* comida en el jardín para su amigo el ratón" ("And from that day on, Tito always left some of 'his' food in the garden for his friend the mouse").
Anaphora. These are linguistic expressions whose meaning depends on a part of the previous text, called the antecedent. Three different types were studied:	
Pronominal anaphora	"Una piedra no 'le' dejaba cavar" (a rock prevented 'him' from digging")
Reflexive anaphora "se"	"La ardilla 'se' (referente al perro) lo robó" ("The squirrel stole it 'from him' 'the dog']").
Lexical anaphora	"El perro tenía mucha hambre. El 'chucho' la buscaba por todas partes" ("The dog was very hungry. That 'mutt' was looking for it everywhere").
Connectors are the most typical cohesive elements, and the ones most used by young children. They create a connection within a sentence (intra-sentence) or between sentences (extra-sentence), using link words to show addition, causality, temporality, or continuity.	"'Cuando' Tito llegó del paseo, vio que la comida había desaparecido" ("'When' Tito arrived from the walk, he saw that the food had disappeared"). "Tito intentó entrar, pero no cabía por la puerta, 'porque' era una madriguera muy pequeña" ("Tito tried to go in, but he didn't fit through the entrance, 'because' it was a very small burrow").

Table 3. Descriptive Statistics for Pre-test and Post-test Measures and Gains

	DLD-C			TD-C			DLD-T			TD-T		
	Pre *M* (*SD*)	Post *M* (*SD*)	Gain *M* (*SD*)	Pre *M* (*SD*)	Post *M* (*SD*)	Gain *M* (*SD*)	Pre *M* (*SD*)	Post *M* (*SD*)	Gain *M* (*SD*)	Pre *M* (*SD*)	Post *M* (*SD*)	Gain *M* (*SD*)
NE	2.0 (2.9)	4.1 (4.0)	2.1 (4.5)	5.7 (3.8)	8.1 (4.2)	2.4 (4.4)	2.1 (2.8)	4.3 (3.4)	2.2 (3.6)	5.9 (3.3)	7.4 (3.4)	1.5 (5.1)
VE	0.2 (0.4)	0.0 (0.0)	-0.2 (0.4)	0.5 (0.7)	0.3 (0.8)	-0.2 (1.1)	0.1 (0.2)	0.3 (0.5)	0.2 (0.6)	0.5 (0.6)	0.8 (1.4)	0.3 (1.6)
PO	0.8 (1.1)	1.2 (1.5)	0.4 (1.8)	1.9 (1.5)	1.8 (1.2)	-0.1 (1.7)	1.0 (1.5)	1.5 (1.3)	0.5 (1.8)	1.9 (1.4)	2.2 (1.7)	0.3 (1.6)
PA	1.3 (1.5)	1.6 (1.3)	0.3 (1.9)	2.5 (1.7)	2.8 (2.2)	0.3 (2.2)	0.9 (1.3)	1.6 (1.8)	0.7 (1.9)	2.4 (1.8)	3.1 (1.7)	0.7 (1.8)
LA	4.1 (3.9)	4.6 (2.7)	0.5 (4.1)	6.2 (4.1)	6.5 (3.5)	0.3 (4.6)	3.5 (4.8)	5.3 (3.0)	1.8 (5.5)	5.9 (3.0)	7.1 (4.3)	1.2 (4.6)
SE	1.8 (1.8)	1.5 (1.8)	-0.3 (2.1)	2.8 (2.1)	2.4 (1.7)	-0.4 (2.8)	1.1 (1.6)	2.1 (1.6)	1.0 (1.8)	2.7 (1.8)	3.6 (1.9)	0.9 (2.5)
IC	0.6 (0.8)	0.8 (2.2)	0.2 (2.1)	1.9 (1.9)	2.0 (1.8)	0.1 (1.8)	0.4 (0.9)	1.6 (2.1)	1.2 (1.9)	1.8 (1.2)	3.4 (2.5)	1.6 (2.7)
EC	0.2 (0.7)	0.5 (1.1)	0.3 (1.4)	1.4 (2.0)	2.0 (1.7)	0.6 (2.5)	0.1 (1.2)	1.9 (3.3)	1.8 (3.1)	1.2 (2.1)	3.5 (3.8)	2.3 (4.6)

Note. DLD-C = developmental language disorders control group; TD-C = typical development control group; DLD-T = developmental language disorders treatment group; TD-T = typical development treatment group; NE = nominal ellipsis; VE = verbal ellipsis; PO = possessives; PA = pronominal anaphora; LA = lexical anaphora; SE = reflexive anaphora SE; IC = intra-sentence connectors; EC = extra-sentence connectors.

they would receive help only when needed (Spencer et al., 2015). Finally, the aim of the intervention was aimed not only at having pupils tell and retell stories, but also extended to the generation of personal and invented stories.

Data Analysis

First, an ANOVA was run for each dependent variable using the pre-test measures to evaluate the initial differences between the groups and establish a baseline. Then, a second ANOVA was run on the pretest-posttest difference to identify any differential gains following the intervention. As a preliminary step for all the ANOVAs, homogeneity of variance was determined using Levene's test. In the contrasts showing homogeneity, the robust Welch's test was used. Orthogonal contrasts were run as post-hoc comparisons for evaluations showing significant differences, to identify which groups showed these differences. Generalized η^2 was used as an indicator of effect size for both main effects and simple effects from the ANOVAs. A measure of η^2 of approximately .01 is considered a small effect size, η^2 of approximately .06 shows a medium effect size, and η^2 greater than .14 is a large effect size. All analyses were run using the program SPSS v26.

Results

Table 3 shows the descriptive statistics of the four groups for the results of the pre- and post-tests by "cohesion mechanisms", as well as the gains following the intervention program.

Table 4 shows the ANOVA for each "cohesion type" prior to implementing the intervention program. It can be observed that there are significant differences for each, with a large effect size.

In all of the elements showing differences, the two groups of pupils with DLD (DLD with treatment and DLD without treatment) showed results that were significantly lower than those of the two groups of pupils with TD (Control with treatment and control without treatment), with medium or large effect sizes, while the equivalent groups, DLD-C vs DLC-T and TD-C vs TD-T, did not show any differences between them.

Table 5 shows the ANOVA on the gains obtained for each "cohesion type" following implementation of the intervention program. As can be seen, only the "reflexive anaphora, SE" and the two types of connectors showed significant differences, with a medium effect size. It can be seen that the two groups with treatment showed greater gains than the two groups without treatment, with medium effect sizes, with both showing similar gains.

In all of the elements showing differences, the two groups of pupils who received the intervention program (DLD and TD with treatment) showed gains that were significantly greater than those of the two groups without treatment, with medium or small effect sizes. Also, the groups with treatment showed no differences between them; the same was the case for two groups without treatment.

Discussion

Oral narratives are a key aspect of participation and progress for pupils with DLD, not least because they create many opportunities

Table 4. ANOVAs: Main Effect and Orthogonal Contrasts for Pre-test

	Main effect	Orthogonal contrast					
		DLD-C vs. TD-C	DLD-C vs. DLD-T	DLD-C vs. TD-T	TD-C vs. DLD-T	TD-C vs. TD-T	DLD-T vs. TD-T
	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$
NE	14.4*** (.26)	20.5*** (.14)	0.0 (.00)	23.8*** (.16)	19.5*** (.14)	0.1 (.00)	22.7*** (.16)
VE	5.9[1]*** (.13)	4.9* (.04)	1.5 (.01)	4.9* (.04)	12.0*** (.09)	0.0 (.00)	12.0*** (.09)
PO	6.4*** (.13)	11.7*** (.09)	0.6 (.01)	11.7*** (.09)	7.2** (.06)	0.0 (.00)	7.2** (.06)
PA	7.9*** (.16)	9.7** (.07)	0.8 (.01)	7.8** (.06)	15.9*** (.11)	0.1 (.00)	13.4*** (.10)
LA	3.5* (.08)	4.4* (.03)	0.3 (.00)	3.7* (.03)	7.2** (.06)	0.1 (.00)	5.6* (.04)
SE	6.0*** (.13)	4.5* (.03)	2.3 (.02)	3.9* (.03)	13.1*** (.10)	0.0 (.00)	12.2*** (.09)
IC	11.7[1]*** (.22)	16.6*** (.12)	0.2 (.00)	15.0*** (.11)	19.9*** (.14)	0.0 (.00)	18.2*** (.13)
EC	5.8[1]*** (.12)	9.8** (.08)	0.1 (.00)	10.6*** (.08)	12.0*** (.09)	0.3 (.00)	7.3** (.06)

Note. DLD-C = developmental language disorders control group; TD-C = typical development control group; DLD-T = developmental language disorders treatment group; TD-T = typical development treatment group; NE = nominal ellipsis; VE = verbal ellipsis; PO = possessives; PA = pronominal anaphora; LA = lexical anaphora; SE = reflexive anaphora SE; IC = intra-sentence connectors; EC = extra-sentence connectors.
[1]Welch's *F*.
*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$.

Table 5. ANOVAs: Main Effect and Orthogonal Contrasts for Gains

	Main effect	Orthogonal contrast					
		DLD-C vs. TD-C	DLD-C vs. DLD-T	DLD-C vs. TD-T	TD-C vs. DLD-T	TD-C vs. TD-T	DLD-T vs. TD-T
	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$	$F(\eta^2)$
NE	0.3 (.01)	-	-	-	-	-	-
VE	2.2[1] (.05)	-	-	-	-	-	-
PO	0.5(.01)	-	-	-	-	-	-
PA	0.5 (.01)	-	-	-	-	-	-
LA	0.6 (.01)	-	-	-	-	-	-
SE	3.3* (.06)	0.1 (.00)	4.7* (.04)	3.9* (.03)	6.0* (.05)	5.2* (.04)	0.0 (.00)
IC	3.5* (.08)	0.0 (.00)	3.0* (.03)	6.4* (.05)	3.6* (.03)	7.3** (.06)	0.7 (.01)
EC	3.0[1]* (.07)	0.2 (.00)	3.5* (.03)	7.0** (.05)	3.0 (.03)	4.7* (.04)	0.6 (.00)

Notes. DLD-C = developmental language disorders control group; TD-C = typical development control group; DLD-T = developmental language disorders treatment group; TD-T = typical development treatment group; NE = nominal ellipsis; VE = verbal ellipsis; PO = possessives; PA = pronominal anaphora; LA = lexical anaphora; SE = reflexive anaphora SE; IC = intra-sentence connectors; EC = extra-sentence connectors.
[1]Welch's *F*.
*$p \leq .05$, **$p \leq .01$, ***$p \leq .001$.

for improving socioemotional skills and academic success. However, we often find that these pupils present serious narrative deficits. As the present study has shown, they perform worse in the use of cohesion markers as compared to their typically developing peers. There are few studies analyzing cohesion difficulties in children with DLD. One such study is that of Befi-Lopes et al. (2008), which found more rudimentary narrative production with little use of cohesion mechanisms in this population. Similar results were obtained in the studies by Acosta et al. (2011), Soriano and Contreras (2012), and Del Valle et al. (2018), which observed less frequent use of cohesive resources in the language of pupils with DLD, specifically with respect to ellipsis, pronominal anaphora, and connectors. These deficits may be explained in different ways. It must be considered that this is a group that struggles to codify and recover the central elements of a narrative, and that this heightens the difficulty of the story retelling task considerably. What is more, this idea is strongly linked to these pupils' notable syntactic and lexical limitations, which also negatively affect their ability to use cohesion mechanisms and produce and understand narratives (Coloma & Pavez, 2020). Infrequent use of these links will affect the production of cohesive discourse and, ultimately, lead to less discursive unity. All this, as we are reminded by Pérez (1997), leads to narratives that lack cohesion and the resulting communication breakdowns that reduce listener comprehension.

Turning now to the intervention program's effectiveness, gains were observed in both the DLD and the TD groups that received the program, affecting use of the reflexive anaphora "se", and the two types of connectors. For the gains in the use of the reflexive anaphora "se", it must be recalled that the program was run with participants in their initial phases of development. Indeed, when considered in terms of early childhood development, one is more likely to find correct use of reflexives than of pronouns in this age group. One reason for this might be that reflexive antecedents are found in the same sentence, while the antecedents for pronouns are outside the sentence (Serra et al., 2000). However, the most significant finding was in the use of specific connectors, often replacing the excessive use of the conjunction "and", which implies the production of other, more complex forms of compound sentences or the expression of more specific meanings.

Beyond the statistical significance, it is notable that clinical significance was also achieved, that is, there were gains in the remaining skills as well (nominal ellipsis, verbal ellipsis, possessives, pronominal anaphora, and lexical anaphora) in the group receiving the intervention program; such gains were not always observed in the two control groups.

Furthermore, these findings should be considered, as stated by Petersen (2011), in the context of the fact that most intervention programs, when studied, show greater efficacy at the macrostructural level than at the microstructural level. In this vein, the progress achieved by this intervention program shows us a possible way forward for increasing the use of cohesion mechanisms and achieving greater narrative competence in pupils with DLD. What is proposed here is a teaching approach that is structured, sequential, and targeting the acquisition of specific skills and that is implemented by regular classroom teachers and speech language therapists, using activities that are incorporated into pupils' daily schoolwork. The challenge now is to bring about a more general application of narrative stimulation in context and in connection with regular curricular content, in particular the teaching of reading and writing (Justice & Kaderavek, 2004; Spencer & Petersen, 2020).

The present study reveals a weakness in the ability exhibited by pupils in early childhood education in general, and in pupils with DLD in particular, to tell stories that are coherent and cohesive. For this reason, as suggested by Shapiro and Hudson (1991), they must be offered support to help improve their performance. The present study has been intended to contribute to this work.

Conflict of Interest

The authors of this article declare no conflict of interest.

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