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Case reports

Dialogic Reading for Comprehension: effects on children's story retelling – a case report

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ABSTRACT

The present study investigated if Dialogic Reading for Comprehension can help children improve their retelling skills. Earlier studies suggest that Dialogic Reading promotes the inclusion of psychological story elements, but has little effect on the organization of plot sequences. Dialogic Reading for Comprehension is a development of Dialogic Reading aimed at comprehension. It uses scaffolding based on (a) structure of story events and (b), the meaning of story events (narrative functions). A single subject design was used across participants for two of the children and an adapted alternating treatment design for the other two, with follow-up. Four children participated in four conditions: baseline, Dialogic Reading for Comprehension with scaffolding about narrative functions, Dialogic Reading for Comprehension with scaffolding about narrative events, and Dialogic Reading for Comprehension, a combination of both. At the baseline, the children were not including the minimum elements to create a coherent storyline and this skill was established with the intervention. Plot sequence and organization improved the most in the combined condition. Narrative enrichment was not affected. Thus, it is discussed that Dialogic Reading for Comprehension can help children organize plot sequence and coherence. The superiority of the combined condition may reflect an underlying interdependence between the psychological and action-related components of narratives.

Keywords: Narration; Child Language; Language Development; Reading

INTRODUCTION

Narrative is an essential part of any culture, used to transmit values, knowledge, and practices from generation to generation[1]. Telling stories is a complex and plural skill[2]. It involves multiple abilities that can have different rhythms of development[3-6] and may have varied social functions. Among them, the oral narrative retelling of fictional stories[7,8] is considered an essential activity for the development of children's oral skills[9] and for learning about narrative structure[10]. The present study focuses on the retelling of fictional stories by children.

Retelling stories is an ability related to emergent reading[11], meaning that retelling is part of a set of pre-reading skills supporting acquisition of formal reading and writing skills[3,12-14]. Besides supporting literacy, oral narrative skills have been related to school success[2,3,5]. Peterson[5] lists critical classroom skills linked to retelling: talking about personal experiences; decontextualizing; relating events causally or temporally by using connectives; chronologically organizing story events; among others.

Dialogic Reading

Given the evidence supporting its role in child development and school success, researchers have investigated activities which may foster retelling skills[4,15-18]. Here, experimental evidence for the effects of Dialogic Reading (DR) on retelling is reviewed. In DR, an adult altercates between reading out loud and talking with the child about illustrations and story[19]. Five kinds of open questions are usually employed, which are summarized in the acronym CROWD: (1) Complete: requests to complete a sentence or a word; (2) Recall: requests to retell a part of the story; (3) Open-ended: requests to describe an illustration or scene; (4) Wh-questions: questions about illustrations beginning with what, where, who, when or how; (5) Distancing: prompting children to relate the story to their personal experiences[19,20].

The CROWD prompts are employed along with the strategies summarized by the PEER acronym[19]: Prompt; Evaluate the child´s answers; Expand the child´s answers and Repeat the cycle, always offering opportunities to practice. The prompt-feedback-expansion cycle should be used to scaffold children's answers and help them achieve growing levels of autonomy in the activity. Support should be faded out as learning progresses, and questions should be adapted as the child becomes capable of talking about topics of increasing complexity. DR has been used predominantly to boost oral language skills, especially vocabulary.

Dialogic reading and story retelling

Zevenbergen, Whitehurst and Zevenbergen[21] investigated the effect of DR on the inclusion, during retelling, of evaluative devices (e.g., internal states, qualifying comments, and expressions conveying causal links). Children in the experimental group included more mental states and dialogue than the control group in the post-test (moderate effect size), with no significant effects for other evaluative devices. There were also no effects on standardized measures of narrative macrostructure.

Lever and Sénéchal[4] investigated the effect of DR on retelling and novel narrative production. Forty children were assigned either to DR or to a control phonological awareness group. Children's narratives were assessed using the *Edmonton Narrative Norms Instrument* – ENNI[22], which measures narrative macrostructure (narrative grammar) and microstructure (linguistic complexity, cohesion and anaphora). Children participating in DR described more feelings, emotions, and intentions in their narratives. There were no significant differences in other aspects of narrative structure nor for linguistic complexity or cohesion.

In a similar vein, Flores, Pires and Souza[23], Rogoski et al.[24] and Medeiros and Flores[25] found that DR based on questions about narrative functions (character's emotions and intentions, causal links between events, among others) helped children answer comprehension questions but had little impact on how they structured their retellings.

In sum, results investigating DR and story retelling suggest that they help children understand and include narrative functions, such as character's feelings, in their retellings, but have little impact on story micro and macrostructure. The studies reviewed used DR in a wholesale way, with no distinction between different prompting strategies. Among the CROWD strategies of DR, however, the one that seems the most propitious to help children with story structure in their retellings is Recall. This type of question can potentially help children remember and describe events of the narrative. On the other hand, questions based upon narrative functions are more compatible with story comprehension and the inclusion of evaluative devices.

The present study used a shared reading intervention that developed to gear dialogic reading towards comprehension, rather than vocabulary as is

the case with traditional DR. The intervention is called Dialogic Reading for Comprehension – DRC[26]. In DRC, prompts and scaffolding are based on a pre-analysis of two dimensions of narrative: structure or plot (Events) and the meaning of story events (Narrative Functions). This study aimed to investigate the effects of DRC on children's ability to retell narratives. Children participated in DRC with scaffolding emphasizing story structure and sequence (Events), story meaning (Narrative Functions), or both, depending on their performance during each phase.

CASE REPORT

This study was approved by the institutional review board from Faculty of Health Sciences, University of Brasília, Brazil (document number 2.021.345). Parents or guardians consented to the children's participation by signing an Informed Consent Form and children assented after explanation and a brief demonstration of a typical session.

Participants

Three girls and a boy were participants in this study: Amanda, Camila, Mariana, and Paul (fictitious names). Camila was five years old, and the others were aged six. All children were enrolled in the first year of primary school at a public institution in a large urban center in Brazil and came from families with low incomes. Inclusion criteria were assiduousness at school, age between 5 and 6yrs, willingness to participate and authorization by parents or caregivers. All four children were referred to the research team by their teachers, based on the inclusion criteria and on the teachers' judgement that they would benefit from interventions that could potentially improve their oral skills.

Portuguese was the children's first language, and none of them spoke other languages. None of the children were diagnosed with any disabilities or developmental delays, and all performed within the expected range for their age on the Auditory Vocabulary USP Test[27].

The retelling sessions were contextualized as practice in storytelling, which later culminated with a performance by the children to their schoolmates. They chose a name for their storytelling team and designed a print for custom t-shirts.

Setting and Materials

Data collection took place in two pre-booked rooms at the children's school. The rooms had artificial and natural lighting and ventilation. Thirty storybooks (the complete list is available from the first author) were used. All books followed a chronological, action--centered narrative style, had similar sizes, and were age-appropriate.

Pre-analysis of stories and establishment of Minimum Narrative

For each storybook, story events and narrative functions were analyzed and listed, following the DRC method as described in Flores, Rogoski e Nolasco[26]. Narrative events are the ordered events of a story plot. Narrative functions are what give meaning to narrative events and hold them together, such as characters' intentions and feelings and causal links between events. The sum of the main narrative events and main narrative functions of each story were called Minimum Narrative. The criterium for the inclusion of a narrative event or function in the Minimum Narrative analysis was that its exclusion would either (a) hamper comprehension of a potential listener or (b) substantially change the story. Table 1 offers an example of this analysis. Pre-analysis of Minimum Narrative for each story served as a basis for scripting prompts and for calculating the percentage of Minimum Narrative elements included by each child in their retelling.

For the first four books (13.33%), narrative events, narrative functions and Minimum Narrative were analyzed by all the members of our research group at the University of Brasília, using the method described in Flores, Rogoski and Nolasco[26]. Researchers discussed the disagreements and improved their understanding of functions and events through concrete examples until consensus was reached. The criteria set forth in these early analyses were used in further analyses by the first author. All subsequent analyses were done by the first author and reviewed by the second author.

Table 1. Minimum Narrative of the book Wild by Emily Hughes

1. The girl had grown up in the forest and had been raised by wild animals; *
3. She was happy and felt at home in the forest with her animal friends; *
3. Each animal had taught her something different;
4. One day, some strange animals appeared in the forest (humans);
5. They took her away from the forest and her friends;
6. They tried to teach her their ways;
7. The girl felt very unhappy/everything seemed wrong and strange to her; *
8. One day, she became furious* and broke everything in her room;
9. She ran away and went back to the forest to live with her animal friends;
10. She was thrilled to be back*.

*Narrative functions.

Prompt scripts

For each book, the researchers prepared a script with prompts based on narrative functions and events. For each narrative function of each story, prompts were scripted to be used in the Fn condition (see below). For example, referring to Table 1, for the narrative function 3, the scripted prompts were "What does it mean to feel at home? Does she feel at home here? Why? Have you ever felt like that?" For the Rc Condition (see below), the general prompt to recall the story was always the same, and the point at which the facilitator (called the story-teller from now on) would ask the question was around the high point or climax of each story. For example, for the story analyzed in Table 1, the child was asked to recall events before Event 8. There was a mean of 7.08 (SD of 0.94) questions for all Fn sessions (plus the single standard question for Fn+Rc condition).

Measures

Independent and scaffolded retellings of each story were scored for the presence of Minimum Narrative elements. Children´s performance was calculated as follows: (Elements of Minimum Narrative included in the retelling/Total of Minimum Narrative elements in pre-analysis) x 100.

A similar method was employed to score narrative events and functions, which were part of the story but were not considered essential and therefore were not included in the Minimum Narrative analysis, the Narrative Enrichment:

(Elements of Narrative Enrichment included in the retelling/Total of Narrative Enrichment elements in pre-analysis) x 100.

Procedure

A multiple baseline by participants with follow-up for Camila and Paul was used. Amanda and Mariana went through an adapted alternating treatments designs (cf. Shepley, Ault, Ortiz, Vogler & McGee[28]). In this way, each participant went through Baseline (BL) and three variations of DRC. Straight reading served as BL. In the Recall Condition (Rc), DRC emphasized prompts based on story events and sequence; in the Narrative Functions Condition (Fn), prompts were based on narrative functions, emphasizing meaning; and in the Combined Condition (Fn+Rc), DRC combined both kinds of prompts. During DRC, the decision of which treatment to start with was based on the children's´ performances, as assessed during BL (whether difficulties tended to center on story structuring or comprehension). Subsequent interventions added or removed Fn or Rc depending on performance and were followed by follow-up, return to BL (straight reading). The orders of interventions for each child are in Table 2.

Table 2. Order of Interventions per participant

Participant	Order of Conditions			
Mariana	BL	Fn	Fn + Rc	BL
Amanda	BL	Fn + Rc	Rc	BL
Camila	BL	Rc	Fn + Rc	BL
Paul	BL	Rc	Fn + Rc	BL

Captions: BL = Baseline; Fn = Function Condition; Rc = Recall Condition; Fn+Rc = Function plus Recall Condition

Two storytellers conducted the sessions. Both were university undergraduate students with at least one year of experience with research and with DRC in school settings. Training for session conduction was done using instructions, video modeling, and role-playing. The storybook and prompt scripts were handed to the storytellers two days before data collection, and they were instructed to read the story and practice interventions (if applicable) before sessions. Two children were always read to by one of the storytellers and the other two children, by the other one. The order of books was established randomly prior to data collection but was different for each storyteller, as they would swap books between sessions (only one copy of each was available). Some differences in the order of books used by each storyteller with each of the two children happened due to variations in the availability of the books in the project library.

Baseline. During BL, the storytellers read the books straight through, with no interspersed prompts. If children spontaneously commented or asked questions, the storyteller answered briefly but did not expand or initiate dialogue.

Fn: Prompts aimed at the comprehension of narrative functions. During Fn, the storyteller would interrupt reading out loud at predefined points to prompt dialogue based on narrative functions, using the scripted prompts and the scaffolding process suggested by Medeiros and Flores[25] (see Figure 1).

Rc: Prompt aimed at the recall of event sequence. During Rc, the storyteller would interrupt reading out loud at a predetermined point of each story, before story climax. The storyteller would ask the child to tell him or her what had happened in the story up to that point (e.g., "Shall we practice telling the story together? Let us remember what has happened so far"). The storyteller would then scaffold story events from Minimum Narrative that were missing from the child's retelling, using the same least-to-most hierarchy as in Fn (see Figure 1).

The Fn+Rc condition combined both kinds of prompts and scaffolding.

Follow-up. Experimental conditions were followed by an immediate return to BL, followed by a four-week pause and then Follow-Up, which also followed the same procedure as in BL.

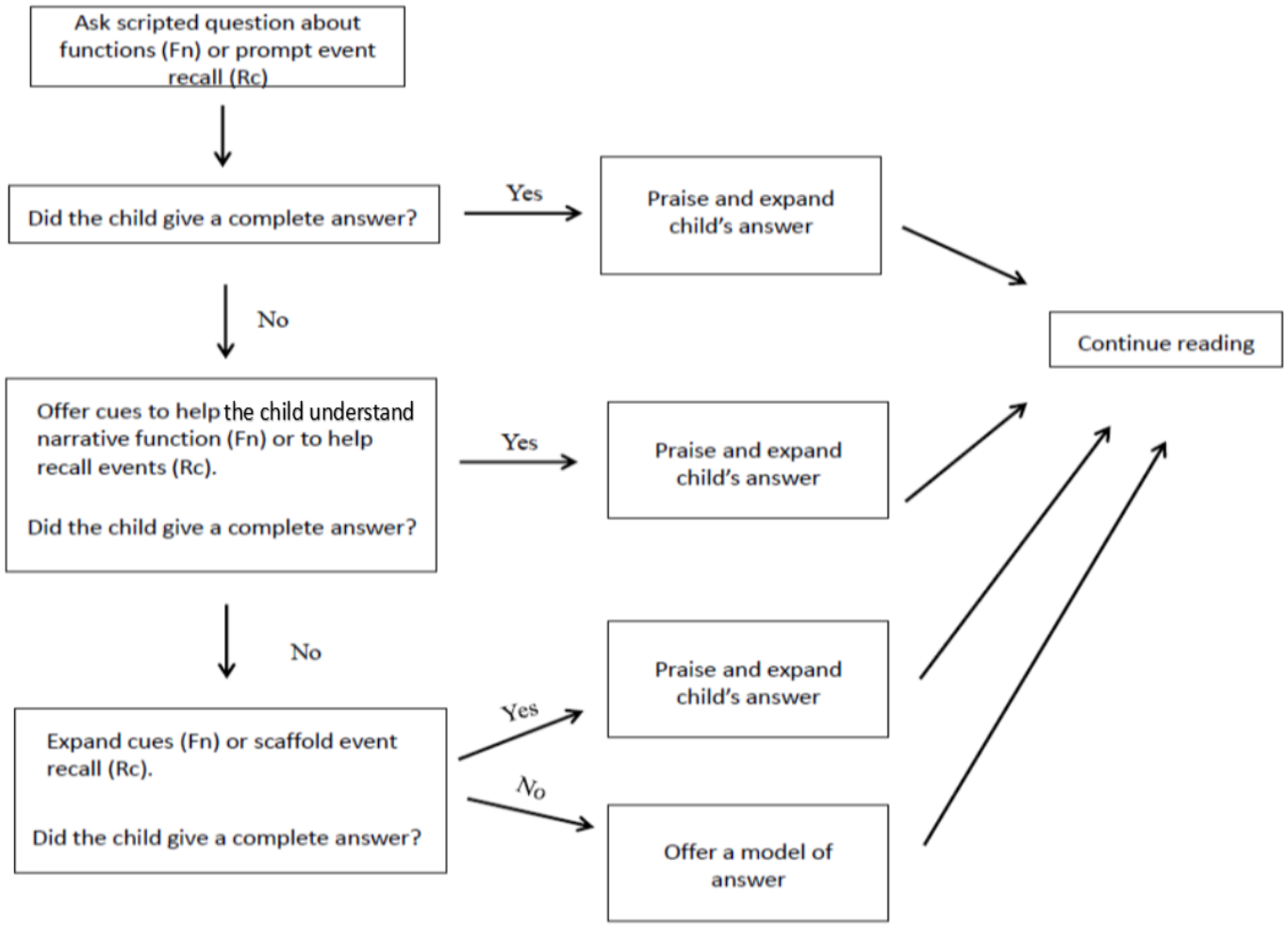


Figure 1. Scaffolding scheme used during Functions Condition and Recall Condition

Retelling tasks. Once storytelling was over, a second researcher came in and invited the child to tell her the story she or he had heard on that day. This was done in two steps: Independent Retelling and Scaffolded Retelling. Independent Retelling began with an invitation to practice storytelling for the final presentation "Would you like to practice storytelling for the festival? I don't know the story you have heard today; I would love to hear it!" The child's retelling was encouraged by expressions of interest and enthusiasm. This was followed by Scaffolded Retelling when the researcher would ask open-ended questions about any parts of the Minimum Narrative that had been left out by the child.

Procedural Integrity

Two videos for each child and condition (23.30% of the number of sessions) were randomly selected for evaluation of procedural integrity. A graduate student watched the videos and judged whether the storytellers (1) did not prompt dialogue during BL, (2) prompted as scripted during DRC, and (3) offered least-to-most scaffolding during DRC whenever needed. The storytellers never prompted dialogue during BL sessions and asked 100% of the scripted questions during DRC sessions. In 2.91% of the analyzed sessions, the storyteller did not correctly follow the scaffolding steps on one occasion.

Interobserver agreement (IO)

An independent judge analyzed a random selection of 10 videos (9.7%) of children's retellings, distributed among the experimental conditions. IO was calculated as:

Agreement / (agreement + disagreements) x 100.

IO was 85.12% for narrative functions; 80.28% narrative events; and 83.40% for Minimum Narrative elements.

Analysis of Effect Size

Complementing visual analysis, the effect size was also calculated using the Tau-U $_{Avs.B}$ statistical analysis[29], for Minimum Narrative results. Tau-U$_{Avs.B}$ yields an estimate of overlap between scores in BL and each condition. Since no evident trends were visible at BL, there was no correction for BL trends. Tau $_{Avs.B}$ scores range between 0 and 1. A score at or near zero indicates a considerable overlap of scores between BL and intervention and, therefore, little or no effect of the independent variable. Approximations to one indicate decreasing overlap, with scores of one indicating no overlap. Scores below 50% were considered small effects, scores between 50 and 79% were considered moderate, and from 80 to 100%, strong.

RESULTS

Minimum Narrative

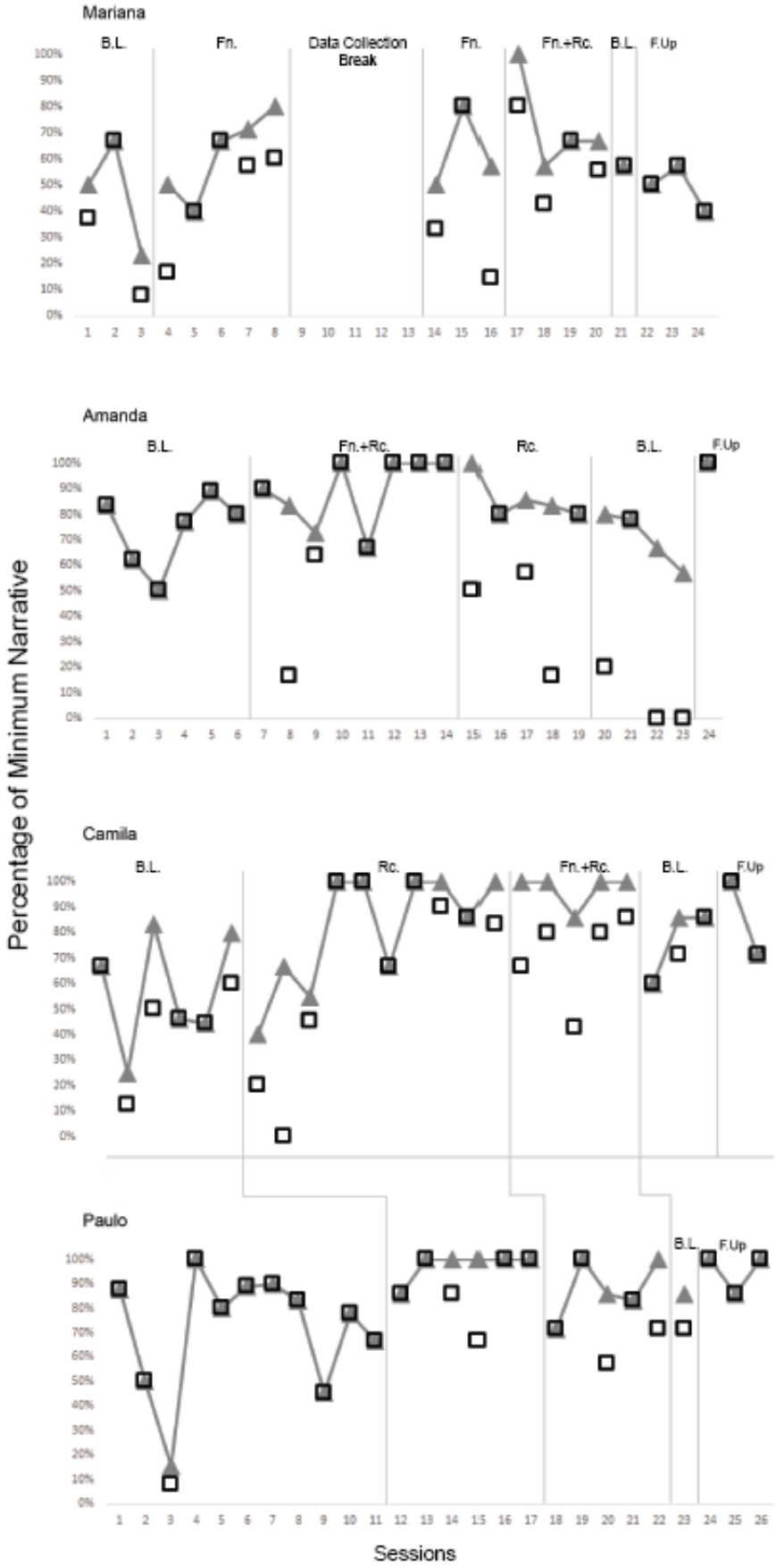
Visual Analysis. Figure 2 presents the percentage of Minimum Narrative elements in children's retellings. Results are broken down into independent retelling and scaffolding retellings.

***Mariana*.** Inclusion of Minimum Narrative elements in Mariana's independent retellings varied during BL between 8% and 66.6%, and low overall performance in Session 3 led to the decision to start DRC in condition Fn, that is, with focus on story meaning. Mariana's performance then showed a steady upward trend for independent as well as scaffolded retellings, reaching 66.6% and 80%, respectively. Even so, she then expressed the wish to interrupt retellings and "just play" for a few sessions, which was granted. In the intervening sessions, the experimenters played board games with Mariana. When DRC resumed, Mariana´s independent performance was above BL but below previously reached performance (between 14% and 80%). The combined Fn+Rc condition, with the addition of prompts to recall story events, led to stabilization in performance to around 50% of Minimum Narrative. This performance continued at maintenance (40% - 57.1%).

***Amanda*.** During BL, Amanda's retellings included between 50% and 88.8% Minimum Narrative elements. Her independent and scaffolded retellings coincided, that is, scaffolding at retelling showed no effect on her performance after non-DRC sessions. The introduction of DRC with both Fn and Rc prompts were followed by variations in performance similar to BL during the first five sessions, followed by an immediate stabilization with 100% performance in the last three sessions of this condition. Differently from BL, in sessions where she had trouble retelling, she benefited from scaffolding (see, e.g., Session 8). This was followed by the Rc condition, when the removal of prompts based on narrative functions, leaving only recall prompts, led Amanda´s performance to fall to BL levels with scaffolding (80% - 100%) and below BL levels without scaffolding (16% - 80%). Results at maintenance continued to show a downward trend, but with a further downward trend in scaffolded retelling and independent retelling near zero. Her performance at a follow-up session was 100%.

***Camila*.** Inclusion of Minimum Narrative events and functions varied between 25% and 83.3% at BL. Since Camila showed good comprehension but had trouble reconstructing the story, her first intervention was Rc, i.e., DRC focused on recalling story events. Her scaffolded recalling began an upward trend immediately after the intervention, and her independent retellings caught up after three sessions. During the last four sessions of Rc, her performance stabilized to include between 83.3% and 100% Minimum Narrative elements in her independent retellings. When function--based interventions were then added (Fn+Rc), her scaffolded retelling scores remained high, but there was a drop in independent performance. Her scores at the return to BL and follow-up (60% and 100%) were lower than the last intervention but higher than BL.

***Paul*.** Independent inclusion of Minimum Narrative elements in Paul's retellings was already above 66.6% in 8 out of 11 BL sessions. Like Amanda, scaffolding his retelling did not make a difference during BL. The introduction of DRC with Rc prompts led to the stabilization of performance at 100%, first with scaffolding, then independently. Similarly to Camila, there was a worsening of performance when prompts related to narrative functions were added in the next phase, with independent performance varying between 57.1% and 100%. At Follow-up, independent retelling scores were high, 100% in two sessions, and 85.7% in one of them.



Captions: BL = Baseline; Fn = Function Condition; Rc = Recall Condition; Fn+Rc = Function plus Recall Condition

Figure 2. Percentage of Minimum Narrative elements included in independent (squares) and scaffolded (triangles) retellings

Analysis of Effect Size. Table 3 displays average, range, and *Tau-U* $_{Avs.B}$ for each intervention phase. All children showed higher average scores in their inclusion of Minimum Narrative elements after the intervention was begun, except for Amanda, who showed similar average scores but a higher inferior limit in the range of scores during DRC. The effects of DRC on retelling were moderate to strong, except for the Fn condition in the case of Mariana, which was small.

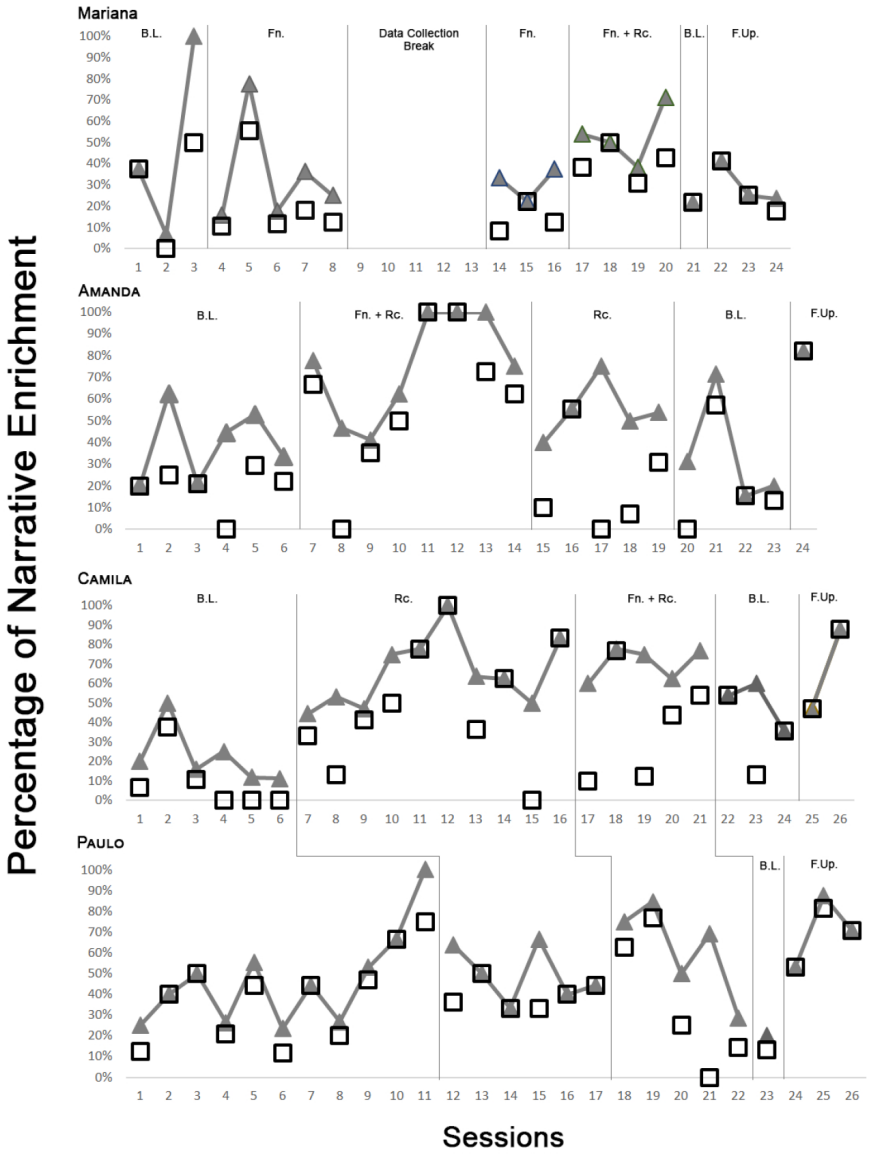
Table 3. Tau-U $_{A\ vs.B}$ results for each intervention phase

	LB	Fn	Rc	Fn+Rc
Mariana				
Average (range)	47 (23-67)	61.6 (40-80) 62.3 (50 - 80)*	-	72.8 (66.7-100)
Tau-U $_{A\ vs.\ B}$	-	0.47	-	0.67
Effect Size	-	small	-	moderate
Amanda				
Average (range)	86 (67-100)	-	85.8 (80-100)	89.1 (72.7-100)
Tau-U $_{A\ vs.\ B}$	-	-	0.50	0.60
Effect Size	-	-	moderate	moderate
Camila				
Average (range)	72 (40-100)	-	81.5 (40-100)	97.2 (85.7-100)
Tau-U $_{A\ vs.\ B}$	-	-	0.57	1.00
Effect Size	-	-	moderate	strong
Paul				
Average (range)	71 (15-100)	-	97.7 (85.7-100)	88 (71.4-100)
Tau-U $_{A\ vs.\ B}$	-	-	0.803	0.27
Effect Size	-	-	strong	small

*After pause
Captions: BL = Baseline; Fn = Function Condition; Rc = Recall Condition; Fn+Rc = Function plus Recall Condition

Narrative Enrichment

Visual Analysis. Figure 3 presents the percentage of Narrative Enrichment elements (events and narrative functions beyond those in the Minimum Narrative) included by the children when retelling the stories, in BL and DRC conditions. Again, results are broken down into independent retelling and scaffolded retellings. The percentage is based on the total of Enrichment elements present in each story.



Captions: BL = Baseline; Fn = Function Condition; Rc = Recall Condition; Fn+Rc = Function plus Recall Condition

Figure 3. Percentage of Narrative Enrichment elements included in independent (squares) and scaffolded (triangles) retellings

Mariana. Mariana included between 0% and 56% Narrative Enrichment elements at BL during unprompted retellings, but reached 100% with scaffolding. During DRC with emphasis on narrative functions (Fn), there was a decrease in both independent and scaffolded performance, followed by stability before and after the pause (independent retelling around 15% and retelling with scaffolding around 30%). Mariana´s retelling improved with the addition of specific prompts aimed at structuring plot (Fn+Rc), when independent retelling fluctuated between 31% and 50%, while scaffolded retelling varied around 45% in the first three sessions and reached 71% in the last session. Follow-up varied between 18% and 41%.

Amanda. At BL, Amanda included between 0% and 29% Narrative Enrichment elements without prompting, but her performance was better with scaffolding (21% to 63%). Her performance improved upon the introduction of DRC with a focus on both recalling events and on narrative functions (Fn+Rc), with independent and scaffolded performances similar in most sessions and varying between 35% and 100%. When the prompts based on narrative functions were suspended in the following condition, leaving prompts based on story events only (Rc), her independent performance worsened dramatically, with some values lower than BL. Meanwhile, a similar fall did not happen for scaffolded retelling, which varied between 40% and 75%. As with

Minimum Narrative, this fall in performance continued in subsequent sessions.

Camila. At BL, Camila included 15% or less of the Narrative Enrichment elements, with or without scaffolding, except for one session. There was some improvement in the Rc condition with the inclusion of prompts to recall story events, but with high variability (0% -100%). The combined condition of Fn+Re led to stability at higher scores when Camila´s retelling was scaffolded (60% -78%), but her independent retelling continued to vary (10% -78%). Return to BL led to a drop to previous BL levels, followed by an upward trend.

Paul. Already at BL, the inclusion of elements beyond Minimum Narrative ranged from 13% to 56% in the first sessions and then showed an upward trend, reaching 75% without and 100% with scaffolding. The introduction of DRC was accompanied by a decrease in Paul´s inclusion of extra narrative elements, especially without scaffolding (33% to 50%, versus 33% to 67% with scaffolding). Paul´s best results were in the first sessions of the combined Fn+Rc condition, but there was a new decrease in performance, which continued throughout the return to BL. Paul´s performance was visibly better at follow-up when he included between 53% and 81% of Enrichment Narrative elements.

All in all, differently from Minimum Narrative, variations in Narrative Enrichment didn´t seem to correlate with the introduction of DRC. For instance, both Camila and Paul showed an increasing trend in the inclusion of extra elements in their stories from Session 7, only to decrease again around Session 13, with no relationship to the experimental condition.

Social Validity

Social validity was evaluated through informal conversations with the children, teachers, storytellers, and Camila's family (researchers were unable to reach the other parents and guardians after data collection). Children showed enthusiasm for the activity throughout the experiment, except during the session before the interruption of data collection, in the case of Mariana. Storytellers described the activity as very pleasurable and mentioned their satisfaction at perceiving the children's growing learning and engagement in the tasks. The teacher mentioned that the children were participating more in class and liked to retell the stories they had heard during the research sessions. Camila's parents reported that she had started retelling the stories she heard to family members and making up new ones as well.

DISCUSSION

Effects of DRC on Minimum Narrative

Results from the present study pointed out that DRC contributes to improving children's narrative retelling quality when compared to straight reading, as measured by their inclusion not only of the main story events but also of critical narrative functions that hold the events together. In general, independently of the kind of prompts (Fn, Rc or both), performance tended to improve with DRC. This indicates that including dialogue about story events and meaning during shared reading activities can help to foster better narrative skills and adds to the existent evidence of benefits of dialoging to children during storytelling on language skills[30].

This study suggests that DRC interventions can be tailored to meet the specific needs of each child. For Camila and Paul, for example, the Rc intervention was introduced first because, as noticed, they had little difficulty understanding the story but were struggling to give coherence to their retellings. On the other hand, Mariana's scores at BL suggested that there were comprehension issues involved and not merely difficulty reconstructing narrative. She showed steady improvement during the first intervention when DRC with prompts based on narrative functions began. Further studies should systematically investigate the potential of different variants of DRC for meeting the needs of different children.

The Rc intervention consisted of stopping at a crucial moment during storytelling and scaffolding the child's recalling of story events up to that moment. The improvement in Camila and Paul's story structuring is consistent with our hypothesis that, among the DRC strategies, prompts for recall may be especially helpful in helping children structure their narratives. The addition of other prompts based on narrative functions, in fact, disrupted their independent retelling performance.

While results and discussion of this study were being written, a recent study that used DR to foster children´s narrative skills[31] was found. The researchers compared traditional shared reading, conducted by the teacher, to DR conducted by a trained research assistant. Each book was read two times for each group of four children. In the intervention group (DR),

on the second reading, children were encouraged to retell the story with the adult's help. Children in the DR condition scored higher on post-tests and were able to include more narrative events and better narrative structure when compared with their pre-test scores and with the control group.

Interestingly, the intervention used during the second reading in Rato and Martins[31] was very similar to the intervention in the Rc condition here. Also, in comparison with DR as used by Lever and Sénéchal[4], Zevenbergen et al.[21], Flores and colleagues[23-25], Rato and Martins'[31] intervention led to better narrative structure and inclusion of more events. This study corroborates their findings and suggests that specific prompts to recall previous story events are important when the aim is to support oral narrative sills. Differently from their study, however, this research sought to minimize the risk of interrupting the flow of dialogue, so this strategy was used a single time in each story.

During BL, Amanda's, Camila's and Paul's performances on Minimum Narrative were, in general, already above 50%. This could lead one to conclude that the intervention only perfected skills already present at BL but did not establish new ones. However, it should be taken into account that Minimum Narrative measured whether the child included at least the very minimum elements for their retelling to make sense (if any of the elements of Minimum Narrative were left out or changed, the story became unintelligible, or became a different story). So, a BL performance of around 50% meant that the child was not giving an intelligible retelling of the story. This is why the effect of DRC for those children who came consistently to include 100% or close to 100% of Minimum Narrative elements was not merely the perfecting of existing skills, but rather the establishment of an important basic skill. Importantly, this newly acquired skill was shown with several different stories that the child had never heard before, showing that it was not something limited to a particular narrative.

Effects of DRC on Narrative Enrichment

Although DRC improved overall retelling quality, fostering the children´s inclusion of main story events and the expression of critical narrative functions, the intervention did not correlate with the inclusion of more details or extra story elements (Narrative Enrichment). This result makes sense when one considers that the intervention was designed to foster organization and structure around main story events and essential narrative functions, but not enrichment or detailing. There were no prompts aiming at the inclusion of secondary events or functions. Such richness of details, however, often makes the story more exciting and compelling, so, in the future, it may be worthwhile to test DRC prompts aimed explicitly at helping participants notice and appreciate these dimensions, preferably as a second stage of intervention, after Minimum Narrative is satisfactorily established.

Amanda, Camila, and Paul showed a concomitant increasing on the inclusion of Enrichment elements from session 8 to session 12, although they were undergoing different experimental conditions and, more importantly, Paul was still in the BL condition. A plausible explanation was not found within the procedures: the books were in a different order for each child (excluding the possibility of the books being increasingly easy), and two different storytellers were involved. Treatment integrity was also checked and no prompting or scaffolding errors were found. The pattern, if it is not spurious, was related to unknown extraneous factors in the shared school environment, which is one limitation of the present study.

Methodological implications

It is worth noting that shared reading interventions in this study stemmed from the pre-analysis of events and narrative functions of each book, which characterizes what is called Dialogic Reading for Comprehension – DRC. This strategy may help to explain differences from previous studies that did not find benefits of DR for story structuring[4,21]. Spontaneous prompts, without a pre-analysis of the story (for example, the CROWD-type questions about illustrations usually employed in traditional DR) may boost vocabulary but may not be as useful to help children understand the story and structure their retelling.

The Minimum Narrative measure used in this study, based on narrative functions as well as event sequence, was devised after some attempts to apply the widely used Narrative Grammar[4,8,32-34] to the storybooks. Although storybooks with a simple narrative structure (beginning, middle, and end, with no chronological leaps or consciousness plan) had been chosen, Narrative Grammar did not apply adequately to all of them. That is probably why many previous studies use texts made by the researcher[33] or standardized tests[4,21]. DRC thus has the advantage of being applicable to non-customized storybooks, available at the children´s schools or homes.

The present study used a different storybook in each session. Although this can have contributed to the variability in the data, it also provides strong evidence that children's learning was not restricted to one story or to two versions of similar stories, a possibility that cannot be ruled out in studies using pre and post-tests design and custom texts[4,16,21]. In this context, McCarthy[35] expresses concern about the widespread use of *textoids* (texts tailored for laboratory use or stories explicitly made to be used in research), which often lack in ecological validity as they have few similarities with children's literature.

Another methodological implication that can be noticed is about the performance of the children among different conditions. The combination of questions about events and functions produced better performances for Amanda and Camila. A possible explanation is that these dimensions, although conceptually distinguishable, work inseparably in the narrative structure. In the last session of this discussion, this point is clarified.

As explained earlier, the order of introduction to the first intervention depended on children performance at BL. The order of intervention was not systematically manipulated among children, which makes it difficult to establish any order effect. This is a limitation of the present study, which should be addressed in further studies by systematically varying the order and combination of prompts based on story structure and those based on meaning.

Effects of scaffolding at retelling

For two participants (Amanda and Paul), scaffolding at retelling was not effective at BL, but only after introducing DRC. This suggests that the prompts offered during the retelling tasks acquired their function only when they followed a DRC session. In other words, DRC may have enhanced the discriminative properties of the prompts used at retelling.

On the other hand, Amanda's, Camila's, and Paul's independent recall seem to have been affected by order of presentation of the recall tasks (first, independent, then scaffolded recall). During the final phases of the experiment, i.e., after they had had some experience with the structure of the sessions, their performance on the independent recall task began to worsen, while scaffolded recall continued to improve. Possibly, the children learned to wait for the scaffolding questions, a phenomenon that is known as prompt-dependency[36]. Medeiros and Flores[25] found a similar pattern in a DR context and interpreted it in terms of the relatively lower response effort and memory load involved in scaffolded recalls, in comparison with free recall. In order to avoid prompt dependency, it might be interesting to combine DRC with other strategies to help children gain gradual independence when structuring their stories, such as teaching story-mapping techniques[37].

The interdependence of story events and narrative functions

There is an extensive literature suggesting that the task of reconstructing a narrative is exceptionally demanding and that, in order to accomplish it, narrative comprehension is necessary but not enough[14,38]. Thus, the results achieved by children, including more relevant elements in their retelling and producing stories that could be understood by a naïve listener, indicates the effectiveness and significance of the DRC intervention.

Specific results of prompts based on events versus prompts based on story meaning, however, were not clear. Our analysis of the stories, as well as our analysis of the results of this study, have come to suggest that story events and prompts based on narrative functions may interact in their effects, a hypothesis to be investigated in further experimental studies. Scaffolding based on narrative functions may help the children understand how the story events are connected, but this is only possible if they have a good grasp of the sequence of story events. On the other hand, it is reasonable to expect that one remembers the sequence of events better when one has a good grasp of what holds them together.

The intertwinement of narrative functions and story events may therefore be one of the reasons why there were no clear-cut differences in the effects of Rc versus Fn conditions. When helping the child retell events, it was impossible not to mention what gave sense to the events, and the opposite is also true. Further studies will seek to elaborate on this theoretically and to design DRC interventions that build on both aspects, which, although distinguishable in conceptual terms, may interact in their effects on the reader.

CONCLUSION

The results of this study showed that DRC can be a useful strategy to establish and enhance storytelling skills. Children who underwent DRC constructed more coherent and complete storylines at retelling,

independently of the kind of prompt used (based on storyline or on deeper meaning). However, this might have been due to the fact that the kind of prompt used at the start of the intervention was chosen for each child based on their performance at baseline. Even so, the two types of prompts combined yielded the best results in most cases, possibly because knowledge about storyline and about deeper meaning are interdependent and enhance each other, a hypothesis to be further explored in future studies.

DRC is an inexpensive and ecologically valid strategy that can be implemented in children's homes and schools. Ecological validity was especially salient from the fact that this study used varied, commercially available, non-customized children's books and that the children's retelling skills improved consistently in settings using never-read storybooks. We suggest that future research focus on (1) systematic assessment of the differential benefits of prompts based on storyline or deeper meaning and their possible functional interdependence; (2) effects of order of prompt presentation and; (3) further exploration of scaffolding strategies and their effects on retelling and on story comprehension.

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