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The Effect of a Narrative Intervention on Story Retelling and Personal Story Generation Skills of Preschoolers With Risk Factors and Narrative Language Delays

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Narration, or storytelling, is an important aspect of language. Narrative skills have academic and social importance. This study evaluated the effects of a narrative intervention on story retelling and personal story generation skills of preschoolers with risk factors and narrative language delays. Narrative intervention was delivered in a small group arrangement, and materials, activities, and assistance were systematically adjusted within sessions to facilitate increasingly independent practice of oral narration. Participants were 5 preschoolers enrolled in a Head Start classroom who performed below average on two narrative language tasks. Participants made substantial gains in narrative retelling, demonstrated improved preintervention to postintervention scores for personal story generations, and maintained improvements when assessed following a 2-week break. These results have several implications for practice, including narrative intervention's versatility with a range of children from diverse backgrounds and its use of economic and efficient classroom-based small group formats for intervention.

Keywords: *language development; child development; at risk for school readiness; disabilities and developmental delays; effective intervention; early intervention issues; single-case methods*

Language competency is important for almost every aspect of a child's life, including positive peer relations, effective communication, and adequate learning in school. Children with poor language skills might develop social and behavioral problems (Botting & Conti-Ramsden, 2000) and reading difficulties (Dickinson & Snow, 1987; Snow, Burns, & Griffin, 1998). Dickinson, McCabe, and Essex (2006) strongly suggested that systematic language instruction in preschools can help avert more intense language and reading intervention during primary grades. They described the preschool years as the window of language opportunity.

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Narrative language is one important aspect of language for young children. Narration, or storytelling, is defined as orally presenting causally related events or an experience in temporal order (Hughes, McGillivray, & Schmidek, 1997; Peterson, 1990). Most teachers and parents encourage preschool children to talk about events that occurred earlier in the day or even the more distant past. In the event of an injury, the need for a complete and comprehensible story is crucial. In social situations, good storytellers are well liked and have more opportunities to practice language than do those who do not tell stories (P. C. McCabe & Marshall, 2006). Children with delayed language skills generally have decreased opportunities to develop social competence (Hart, Fujiki, Brinton, & Hart, 2004), and enhancing their narration skills might facilitate positive peer relationships (P. C. McCabe & Marshall, 2006).

Early narrative abilities predict later academic performance. Bishop and Edmundson (1987) investigated several language measures at 4.0 years of age that predicted persistent language impairment and school success at 5.5 years of age. The ability to tell a simple story while looking at pictures was identified as the strongest predictor ($r = .76$). Feagans and Appelbaum (1986) found that narrative skills were better predictors of academic problems than were syntax and semantic skills. Fazio, Naremore, and Connell (1996) examined a number of language skills in kindergarten as potential predictors of need for academic remediation in second grade. When compared to vocabulary, grammar, rote memory, and morpheme learning, story retelling was the best predictor of academic remediation in the second grade ($r = .40$). Several researchers found moderate correlations ($r = .31$ to $.57$) between early childhood narrative abilities and reading comprehension in elementary grades (Catts, Fey, Tomblin, & Zhang 2002; Dickinson & McCabe, 2001; Griffin, Hemphill, Camp, & Wolf, 2004).

In line with Dickinson and colleagues' (2006) recommendation, language instruction—including interventions to improve oral narration—can begin before children enter kindergarten. A small number of researchers have investigated the impact of narrative intervention on preschoolers' language abilities. Hayward and Schneider (2000) investigated a narrative intervention with 13 preschool and kindergarten children with moderate to severe language impairments. The children participated in small intervention groups (2 or 3 children per group) twice a week for 20 minutes. The intervention involved repeated exposure to stories, cloze activities, vocabulary building, comprehension monitoring, retelling, and role-playing stories. The authors explicitly taught the main parts of stories or the story grammar elements (e.g., character, initiating event, attempt, consequence). Story grammar activities included cue cards to represent each story grammar element, sorting and sequencing elements, identifying missing elements, and reformulating scrambled stories. For assessment, children retold fictional stories, some of which were familiar to them. Transcripts of narrative retells were analyzed for number of story grammar components and complexity. Group pretest to posttest gains reflect large and statistically significant differences between groups' inclusion of story grammar elements ($d = 1.0$) and complexity of stories ($d = 1.96$). Based on the single-subject graphical displays, 12 of 13 participants showed improvements, with about two thirds demonstrating substantial gains (i.e., percentage of nonoverlapping data points were 80% or higher) after only eight intervention sessions.

McGregor (2000) investigated the effect of a clinician-prompted, peer-mediated narrative intervention on story retelling. Participants were English-speaking African American children attending a Head Start preschool. Two students who scored near the ceiling on

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initial narrative assessments served as tutors, and two students identified by the teacher as poor communicators served as tutees. During intervention sessions, tutors modeled retelling a story using the pictures while the clinician provided prompts and asked questions. The authors developed the stories to reflect common-event themes, such as losing a shoe or catching a train. After the tutor modeled the story, the tutees retold the story with the clinician's assistance. The clinician never narrated a complete story but simply assisted in the process. Pre- and postintervention retell assessments were conducted with a familiar story book, *Corduroy*, and analyzed for the inclusion of story grammar elements. Ten children served as a control group, whereas the 2 tutors and 2 tutees made up the experimental group. The group data (displayed graphically) revealed larger pre- and postintervention gains for the experimental group than for the control group.

Using parents as intervention agents, Peterson, Jesso, and McCabe (1999) implemented a home-based, mother–child storytelling narrative intervention. Participants were 20 economically disadvantaged children (mean age = 3 years, 7 months) and their mothers. Families were randomly assigned to intervention and control groups. In the intervention condition, mothers were trained to spend more time in narrative conversation, ask *wh* questions, and use elaboration and recasting techniques to encourage their children to tell longer stories. Children's personal narratives were elicited before the intervention, after a 12-month intervention phase, and at 1-year follow-up, using a natural conversation technique (A. McCabe & Rollins, 1994; Peterson & McCabe, 1983). Personal narratives were analyzed for amount of context-specific information. There was no statistically significant difference in narrative skills immediately following the 12-month intervention ($d = -0.60$); however, at follow-up, the difference between groups was statistically significant ($d = 0.80$). The authors speculated that because it took some time for mothers to hone their narrative and encouragement skills, the effects on the children's narratives were delayed (Peterson et al., 1999). Another unique feature of this study was the dependent variable of personal stories, as opposed to retold stories. Of the three main narrative genres (scripts, fictional, and personal), personal narratives are more common in children's speech and might be more functionally important for promoting generalized use of language. In fact, 70% of preschoolers' stories are personal; only rarely do young children produce fictional stories (Preece, 1987).

Narrative structure addressed in most intervention studies follows the organizations of Stein and Glenn (1979) or Labov (1972), which reflect a European American culture. Several researchers, however, have identified cultural differences in narratives related to information and organization, interaction style, and linguistic conventions (for a summary, see Gutierrez-Clellen & Quinn, 1993). For example, Michaels (1981) found that European American children produced narratives consisting of a single topic, whereas African American children produced more loosely related story elements associated with a theme. In investigations of Japanese children's narrative development, researchers reported that children produce more succinct narratives and exclude structural features typically valued by European Americans (Clancy, 1980; Minami & McCabe, 1991). Although it is important to recognize cultural influences on narrative production, especially for diagnostic evaluations (Gutierrez-Clellen & Quinn, 1993), there might be sound reason to teach mainstream narrative structure to culturally and linguistically diverse children. In U.S. schools, children encounter literature and academic content that contain the European American

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story grammar structure. Adequate knowledge of this structure can facilitate learning; however, it is not the only valuable narrative structure.

Favorable results from previous preschool narrative research suggest that narrative intervention is a promising approach to teach oral narration to young children who are at risk. Given that narrative intervention research has incorporated a range of materials, activities, arrangements, participants, and genres and that there are relatively few studies, several dimensions of this approach have not been adequately examined. Further replications and extensions of narrative intervention with preschoolers are needed. Specifically, it is important to identify efficient, cost-effective, and replicable procedures that enhance preschoolers' narrative language abilities.

The purpose of this study was to investigate a narrative intervention delivered to small groups—namely, its effect on the story retell and personal experience generation skills of preschoolers with risk factors and narrative language delays. Because there is not a standard method for delivering narrative intervention, we assembled a variety of components from previous research to extend the investigation of narrative intervention to a group of 4 children and to a less common but important genre: personal narration. We included active narration as the primary intervention activity and supplemented it with pictures, story grammar icons, and adult assistance, as in Hayward and Schneider (2000). In contrast to those authors, we implemented the procedures with 4 children at a time, instead of 2 or 3. We followed McGregor's (2000) example and developed our own intervention and assessment stories that reflect young children's experiences. Finally, like Peterson and colleagues (1999), we directly taught personal experience narration. Personal narration skills are most appropriate and immediately useful for young children (A. McCabe & Rollins, 1994; Peterson & McCabe, 1983; Preece, 1987). We consider improved personal narration to be the ultimate target of our study, even though for methodological reasons, retell narration is the primary dependent variable.

The following research questions were addressed in this study: To what extent does narrative intervention improve preschoolers' story retells? To what extent does narrative intervention improve preschoolers' personal experience narratives? To what extent do any improvements in preschoolers' retell and personal narrative performance maintain following a period of 2 weeks with no intervention?

Method

Participants

Nineteen preschool children enrolled in one Head Start classroom participated in the narrative intervention. However, only 5 of the 19 students were monitored throughout the study and thus served as research participants. The classroom teacher completed a selection questionnaire regarding students' direction-following ability, attendance, and disability status. The teacher identified 11 students as being compliant, rarely absent, and not having cognitive or language disabilities. To identify children who were at risk, we selected 5 of the 11 children who performed below average on two narrative language tasks. To determine *below average*, we administered two narrative tasks to these 11 students. First, the Renfrew

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Table 1
Participant Demographics and Scores Used for Selection

Participants	Age	Gender	Ethnicity	Language	Bus Story[a]	Personal Narrative[b]
Jenny	4:6	Female	White	English	79	2
Melanie	4:8	Female	White	English	79	1
Nicky	4:3	Female	American Indian	English	75	3
Ellie	5:1	Female	Latino	Bilingual: Spanish–English	76	2
Adam	4:7	Male	Latino	Spanish English-language learner	72	1

Note: Pseudonyms used to protect the identity of participants.
a. Standard scores.
b. Number of story grammar elements.

Bus Story (Cowley & Glasgow, 1994) is a norm-referenced narrative retell assessment instrument. The normative sample included children from 3 years, 6 months, to 6 years, 11 months, of age who were typically developing and whose first language was English. Using the Bus Story norms, we calculated standard scores for students and defined *below average* as performing at least one standard deviation below the mean (i.e., standard scores below 85). Next, we elicited a personal narrative from each student using a conversation elicitation technique (A. McCabe & Rollins, 1994). Given the available normative information about the narrative skills of 5-year-olds (Peterson & McCabe, 1983), we defined *below average* as including three or fewer story grammar elements in a personal narrative. Table 1 shows the results of the assessments used to select participants and describe their narrative language competence. In general, participants were able to tell personal stories consisting of one or two simple sentences with unclear characters and problems. Participants often used ambiguous nouns and prepositional phrases without main clauses. For example, Adam's preintervention personal story was "I candy. Um my mom say. Is in there. Then there." Jenny's personal story was "In the water. And he sad. And he's build another one."

Table 1 also displays demographic information for each participant. Of the 5 participants, 4 were girls. At the beginning of the study, participants' mean age was 4 years, 6 months (range = 4 years, 3 months, to 5 years, 1 month). Two children were White, two were Latino, and one participant was American Indian. Three children spoke English as a first language; one child, Ellie, was bilingual (spoke Spanish and English); and one child, Adam, was a Hispanic English-language learner. To confirm Ellie's and Adam's language proficiency and identification of bilingual speaker and English-language learner, a Spanish-speaking research assistant interviewed their mothers.

Arrangement and Setting

With assistance from the classroom teacher, we divided the 19 students in the classroom into four groups of 4 children and one group of 3 children. We strategically arranged the groups so that each had children with a range of language abilities. Research participants were grouped with students who demonstrated better language skills (as assessed by the Bus Story) before the intervention. The groups of 4 children included research participants,

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but the group of 3 children did not. However, all groups received the intervention to ensure fairness among students.

Assessment sessions—in which research participants generated personal experience stories or retold stories—took place in one of two locations: the students' Head Start classroom (when the rest of the students were outside) or the hall (when the rest of the students were in the classroom). All intervention sessions took place in the hall just outside the Head Start classroom. A table and five chairs were available for 3 or 4 students and 1 instructor.

Assessment Materials

With assistance from a speech-language pathologist (research assistant), the first author wrote 40 short assessment stories. We wrote fictional stories about realistic preschool experiences, such as getting hurt, attending special events, eating dinner, dealing with a sibling, playing at the park, expecting a visitor, going to the doctor, shopping with a parent, getting dressed, and playing games. To maintain a similar level of complexity across stories, we developed them using a template. Each story contained the same structural features: five main story grammar elements (character, problem, internal response, action, and consequence), the main character's name, a general description of the setting (e.g., *outside*), two causal markers (e.g., *because*), two temporal markers (e.g., *then*), one formulaic marker (e.g., *One day*), one instance of dialogue (e.g., *John said, "Ouch. That hurts."*), one adjective (e.g., *purple*), and one adverb (e.g., *quickly*). In addition, all the stories had 67 to 70 words and a narrative complexity score of 16 (see Dependent Variable section for description of scoring rubric). This narrative structure aligned with the available information on typically developing 4- and 5-year-old children's narrative abilities (see Hughes et al., 1997; A. McCabe & Rollins, 1994; Peterson, 1990; Peterson & McCabe, 1983). Additional assessment materials included a digital voice recorder and a variety of hand puppets.

Intervention Materials

We developed an additional 10 stories to use during intervention, using the same methods as the assessment stories previously described. A graphic designer created a series of five pictures to accompany each intervention story, which corresponded to the five major story grammar elements (character, problem, internal response, action, and consequence). The pictures were mostly black-and-white with a few colored features; they were printed on 5- × 7-in. cardstock; and they were laminated.

In addition to providing the pictures, we provided visual support during intervention with story grammar icons—that is, symbols representing each major story grammar element (character, problem, internal response, action, and consequence), printed on 3- × 3-in. cards. To increase active participation, we developed a number of story games for students to play during the intervention: story bingo, story cubes, story sticks, and story gestures. Three of the four games required materials to play. Story bingo cards were 6- × 11-in. laminated cardstock boards with each story grammar icon in its own square; story cubes were 4- × 4- × 4-in. cardboard cubes with an icon on each side; and story sticks were small wooden sticks (like tongue depressors) with icons on one end.

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Dependent Variable

Narrative elicitation procedures. The dependent variable consisted of three categories of participant-produced narratives: story retells elicited daily, personal experience story generations elicited daily immediately after story retells, and personal stories elicited with a conversation elicitation technique at preintervention, postintervention, and maintenance assessments.

Story retells. Story retells served as the primary dependent variable and were elicited daily before intervention sessions (Monday through Thursday). To elicit story retells, an examiner sat across from the child and said, "I'm going to tell you a story. Listen carefully because I'm going to ask you to tell the same story to this puppet. Ready?" The examiner read the child a randomly selected story (without replacement) from the pool of 40 assessment stories described previously. After reading the story, the examiner said, "Now you tell the same story to the puppet. Remember, he's never heard it before." As the child retold the same story, the examiner (pretending to be the puppet) provided only neutral listening and continuing prompts, such as "Uh-huh," "Yeah," and "Really?" When the child finished or paused for more than a few seconds, the examiner asked, "Is that the end?" When the child confirmed that he or she was finished retelling the story, the examiner began the probed generation elicitation.

Probed personal experience generations. Immediately after the child finished retelling a story, the examiner asked, "Has something like that ever happened to you?" If children responded *yes*, the examiner encouraged them to share a personal story but did not insist. We call this type of narrative the *probed personal experience generation* because we probed for a personal story but could not ensure that the child would produce one. As a result, we relied on participants' willingness to share a personal story. As the child told his or her story, the examiner again provided only neutral listening and continuing prompts. When the child finished or paused for more than a few seconds, the examiner asked, "Is that the end?"

Pre- and postintervention personal experience generations. We employed a conversation elicitation procedure at preintervention, postintervention, and maintenance assessments to elicit participants' personal experience generations. The procedure was adapted from Peterson and McCabe (1983) and A. McCabe and Rollins's (1994) natural conversation technique for eliciting narratives from preschoolers. While engaging the child in play or puzzles, the examiner told a short story. The story was based on a realistic fictional story drawn randomly (without replacement) from the pool of assessment stories but told in first person. When the examiner's story was complete, she asked the child, "Has something like that ever happened to you?" As the child generated his or her story, the examiner again made only neutral continuing prompts to demonstrate that she was listening and interested. When the child finished or paused for more than a few seconds, the examiner asked, "Is that the end?" Whether the child told a story or not, the examiner told another first-person story a few minutes later. This procedure repeated three times during the conversation to increase the likelihood that the child had a story to share. Occasionally, a participant was reluctant to share a story. When that occurred, the examiner encouraged the child to think about a story to share by highlighting the theme of the examiner's story. For example, the

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examiner said, "Have you ever gone to the doctor?" or "Tell me a story about when you got hurt." Once the examiner had shared three stories and the child had three opportunities to generate personal experience narratives, the examiner thanked the child for playing and talking and cleaned up the toys.

Fidelity of elicitation procedures. To document fidelity to elicitation procedures, we recorded all assessments and evaluated them with a procedural fidelity checklist, which included six steps for eliciting narrative retells, four steps for eliciting probed generations, and five steps for eliciting pre- and postintervention generations. For example, the six steps for eliciting narrative retells were as follows:

1. Say, "I'm going to tell you a story. Listen carefully because I'm going to ask you to tell the same story to this puppet. Ready?"
2. Read the story word for word using a slow to moderate pace and normal inflection.
3. Say, "Now you tell that story to the puppet. Remember, he's never heard it before."
4. Make only neutral comments.
5. Do not prompt or model.
6. Ask whether the child is finished telling the story.

While listening to the recording, a research assistant wrote a plus sign (+) in the space next to steps implemented correctly and a minus sign (–) in the space next to steps implemented incorrectly. We calculated the percentage of steps completed correctly for eliciting the daily narratives and for the pre- and postintervention generations. We combined the fidelity results for the two daily measures (retells and probed generations) because they were implemented in the same session and were recorded on the same digital file. We reported the pre- and postintervention generations fidelity results separately because the procedure differed from the daily elicitation procedures. A research assistant assessed 38% of the daily assessments (across all phases) for procedural fidelity. The mean fidelity score was 98%, with a range of 77% to 100%. She assessed 25% of the preintervention, postintervention, and maintenance conversation elicitations for fidelity. The mean fidelity was 96%, with a range of 80% to 100%.

Scoring. The Index of Narrative Complexity (INC) scoring system is a rubric used to rate structural elements and other features of narratives on a rating scale of 0 to 2 or 3 and to derive a total score that reflects the overall complexity of a narrative (Petersen, Gillam, & Gillam, 2008). The INC has 13 categories: characters, setting, initiating events, internal responses, plans, action/attempts, complications, consequences, narrator evaluations, formulaic markers, temporal markers, dialogue, and causal adverbial clauses. In a preliminary investigation of reliability and validity of school-age children's scores on the INC, Petersen et al. (2008) found high interscorer agreement (90% to 96%), good test–retest correlations with 1 month between testing (.604 to .898), and strong concurrent criterion evidence for validity (.602 to .828) with the Test of Narrative Language (Gillam & Pearson, 2004).

Because the INC was developed to score school-age children's fictional narratives, we made minor modifications and clarifications—the most significant of which involved elimination of the *narrator evaluations* category because of our inability to obtain agreement on

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this scoring category during training. Other modifications included adding examples and lengthier descriptions of categories to make them easier to score. For example, we allowed points for the use of *I* as the character for personal stories. We specified that the problem and action/attempt had to be in reference to the main character and not a secondary character, which aligned better with the assessment stories. We allowed only 1 point for repeated uses of *then* because young children tend to use it in excess and it could have otherwise inflated the scores. Although it was not optimal to make modifications, we believe that these adjustments made it possible to score younger children's narratives reliably.

The examiner recorded all participant-produced narratives (retells, probed generations, and pre- and postintervention generations) using a digital voice recorder. A research assistant—who was blind to participants' identification, group assignment, and condition—transcribed the narratives with a word-processing program. The same research assistant scored each narrative with the modified INC scoring system and calculated a total INC score for each narrative.

Scoring agreement. Owing to the complexity and subjectivity of scoring young children's narratives, we implemented a double-checking system before establishing the level of interscorer agreement. The first research assistant listened to each digital recording and transcribed the narrative. She used the modified INC scoring rubric to assign a score of 0, 1, 2, or 3 in each of the 12 categories. After the initial scoring, the primary investigator read each transcript and reviewed the scoring but did not rescore the narrative. If she discovered errors, she returned the narrative for the research assistant to rescore. Once the scoring was final, a second research assistant—who was blind to participants' identity, group assignment, and condition—independently transcribed and scored a randomly selected subset of the narratives to document the degree of agreement. For transcription, we calculated word-by-word agreement using the following formula: number of agreements, divided by the number of agreements plus disagreements, multiplied by 100%. We used the same formula to calculate agreement on INC scoring for each narrative. The second research assistant transcribed 20% of the retell and personal experience narratives from all phases. The transcription agreement between the two research assistants was 96% (range = 81% to 100%). The same research assistant scored 30% narratives from all phases. The scoring agreement between the two research assistants was 91% (range = 58% to 100%).

Independent Variable

Instructors. The first author (an early childhood special educator) and research assistant (a speech-language pathologist) who developed the assessment and intervention stories also served as the instructors. Before implementing the intervention for the study, we practiced with a pilot group and provided feedback to each other. This process continued until we both delivered two consecutive interventions with 100% fidelity.

General procedures. Shortly after the daily assessment sessions, we conducted activities with the small groups in the same order every day. We referred to these activities as *story time* whether the group was in baseline or intervention. Although story time attendance was always optional, we provided stickers and beads to students after each session. Most students appeared to enjoy story time, excitedly waiting for their turn. Throughout the length of the study, only one student opted not to join his group (once).

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Baseline procedures. During baseline, story time consisted of our bringing groups to the hall and reading a story to them. The reasons for reading to the children included disguising phase changes and minimizing novelty effects, teaching students appropriate listening behaviors during sessions, equalizing attention among students, and equalizing the amount of attention that students received in small groups across phases. Sample titles included *If You Give a Pig a Pancake*, *Caps for Sale*, and *Slowly, Slowly, Slowly, Said the Sloth*. While reading, we did not ask questions about the book or enhance the story in any way. We simply read the book cover to cover and praised the students for appropriate listening behaviors (e.g., keeping hands still, eyes on book, and being quiet). The average length of baseline sessions was about 5 minutes.

Narrative intervention procedures. In the intervention phase, narrative intervention procedures replaced storybook reading, but we continued to call the small group activities *story time*. Just before the session, we randomly selected (without replacement) 1 of the 10 intervention stories to provide the basis of narrative activities in the session. After we used all 10 stories (i.e., after 10 sessions), we returned the stories to the pool and repeated the selection process. The average length of intervention sessions was about 12 minutes, with session times ranging from 7 to 18 minutes.

The narrative intervention sessions consisted of six basic steps in which the genre of narration (fictional retell and personal story generation) and level of visual support systematically changed. Although the final goal of intervention was to improve preschoolers' personal generation skills, we taught narrative structure most explicitly in a retell context. The first four steps of the intervention taught the story grammar components in a retell format based on realistic fictional stories, and the last two steps provided additional practice of the story grammar components but within a personal story context. The following sections provide descriptions the steps (see Table 2 for outline).

Step 1: Model. In the first step, the instructor displayed the set of pictures corresponding with the day's story in the center of the table so that students saw them in order from left to right. The instructor read the selected intervention story while students listened. As the instructor read each part of the story, he or she laid the story grammar icons in a lower corner of the corresponding pictures.

Step 2: Group retell. After reading the story aloud, the instructor picked up the story grammar icons, placed them face down, and allowed students to select one without seeing which he or she was selecting. The icons determined which part of the story he or she would retell. Because there were five icons and only four students, the instructor told the fifth part of the story. The individual who selected the *character* icon told about the character and placed the icon on the picture. Next, the individual with the *problem* icon retold that part and placed the icon on the picture. The group retold the modeled story in parts while the instructor provided any necessary vocal prompts to individual students. After each part had been retold, the instructor summarized the entire story.

Step 3: Individual retell with pictures and icons. The instructor left the story grammar icons and the pictures in place and passed out story game materials. With the pictures and

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Table 2
Steps of Narrative Intervention

Steps	Instructor Behavior	Student Behavior
1. Model	Displays five pictures on table	
	Tells the model story	
	Places icons on corresponding pictures	
2. Group retell	Leaves pictures displayed on table	
	Picks up icons, places them face down	Each student selects an icon
	Provides support and prompting	Each student tells one part of story
	Ensures all parts of story are retold	Places icons on corresponding pictures
	Summarizes story	
3. Individual retell with pictures and icons	Leaves pictures and icons displayed on table	
	Selects preassigned student to retell	
	Distributes story game materials	
	Provides support and prompting	One student tells the entire story
	Ensures all parts of story are retold	Other students play story game
	Summarizes the story	
4. Individual retell with icons	Removes pictures from table	
	Selects preassigned student to retell	
	Provides support and prompting	One student tells the entire story
	Ensures all parts of story are retold	Other students play story game
	Summarizes the story	
5. Individual generation with icons	Leaves icons displayed on table	
	Selects preassigned student	
	Asks, "Has something like that ever happened to you?"	
	Provides support and prompting	One student tells a personal story
	Ensures all parts of the story are included	Other students play story game
	Summarizes the student's personal story	
6. Individual generation without visual support	Removes icons from table	
	Selects preassigned student	
	Asks "Has something like that ever happened to you?"	
	Provides support and prompting	One student tells a personal story
	Ensures all parts of the story are included	Other students play story game
	Summarizes the student's personal story	

icons available, the student sitting to the right of the instructor retold the entire story. While listening to the retold story, the other students and the instructor played a story game (story bingo, story cubes, story sticks, or story gestures). In each story game, the students listened

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for their friend to tell each part of the story and then pointed to the corresponding icon on their bingo cards, turned their cubes to the correct side, held up the corresponding stick, or made a corresponding gesture. Thus, each story game required a discriminated response to each story grammar element. The instructor provided vocal prompting as necessary and summarized the story when the student was finished.

Step 4: Individual retell with icons. The instructor removed the pictures that went with the story but left the story grammar icons. With the visual support of the icons available, the student sitting in the second position around the table retold the story (i.e., second from right). While listening to the retold story, the other students and the instructor played a story game. The instructor provided vocal prompting as needed and summarized the story.

Step 5: Individual generation with icons. In this step, the student sitting in the third chair around the table generated his or her own story. The instructor asked, "Has something like that ever happened to you?" With the icons available, the student was encouraged to tell a personal experience story like the modeled story. If the student said that he or she did not have one to share, the instructor asked the student to tell a different personal experience story. If student still did not produce a personal experience story, the instructor suggested that he or she tell the modeled story but in first person. The instructor ensured that students always told a story, whether a personal experience story or not, and provided vocal prompting when appropriate. The group played a story game while listening to the generated story. When the student was finished, the instructor retold this new story.

Step 6: Individual generation without visual support. The instructor removed the story grammar icons from the table and asked the student sitting in the last position, "Has something like that ever happened to you?" With no visual supports available, the student was encouraged to tell a personal experience story as described in Step 5 and was provided vocal prompting. The instructor and students played a story game while listening. When the student's story was complete, the instructor retold his or her story.

Rotation of student roles. Before calling groups to the hall, the instructor set up for story time sessions. In setting up, the instructor used a predetermined schedule to label the position around the table for each student. Although assigned seating was necessary for intervention only, we placed name tags on the tables during baseline to get students used to sitting in an assigned seat, to facilitate an easy transition into intervention procedures, and to disguise phase changes to the class and teachers.

Student positions were systematically rotated so that each student sat in each seat once per week; this ensured that each student told a story in each step of the instructional procedure once per week. As an example, Melanie sat in the seat to the right of the instructor on Monday so that she told the story in Step 3; on Tuesday, she sat in the third seat and told a story in Step 5; on Wednesday, she sat in the second seat and told a story in Step 4; and on Thursday, she sat in the last seat and told a story in Step 6. In addition, the sequence was constructed so that students alternated between giving a retell on one day (Step 3 or 4) and a personal generation story (Step 5 or 6) on the subsequent day.

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Modeling and prompting. Although visual supports were available in many of the intervention steps, we provided vocal prompting during Steps 2 through 6 to make certain that students successfully told each of the five main story grammar elements. We developed a hierarchy of prompts before the study and used this as a rough guide for our on-the-spot decisions about what level of prompting was appropriate for individual students. The hierarchy of vocal prompts was outlined from most to least intrusiveness. Prompts included modeled responses with a request to imitate (e.g., "The character's name is John. Now you say, 'John.'"), cloze procedures (e.g., "He fell and hurt his knee. Now he feels ——."), direct questions about parts of the story (e.g., "What was John's problem?"), and indirect questions (e.g., "What happens next?"). Owing to the range of language skills among students, some required more frequent and more intrusive vocal prompting than others. Similarly, some students had a more difficult time with one genre (i.e., retell or personal experience generation). We allowed 3 to 5 seconds of wait time before prompting students but then provided a prompt that ensured success. It was important that students not become frustrated by inefficient prompting.

As previously described, each intervention story included the main five story grammar elements and supplemental narrative elements. For example, each story included causal, temporal, and formulaic markers and one instance of dialogue. We designed the procedures to prompt the five main elements and model the rest. When students produced their parts of the stories or produced a story individually, we made sure that the five main elements were mentioned, but we did not prompt students to use the other elements. For example, when we modeled and restated the stories, we said, "John was sad because his knee hurt." When it was the student's turn and he or she paused after stating the problem, we prompted, asking something like "How did John feel?" The student could respond, "He was sad." However, we did not prompt the student to say, "He was sad *because* he got hurt."

When students were absent, we produced the story or parts of the story that students typically completed. This was necessary to make certain that the students experienced the same sequence of activities, including hearing the prewritten story seven times and two student-generated stories two times each.

Narrative intervention fidelity. Fidelity of implementation was assessed with a procedural checklist. A research assistant watched video recordings of 35% of the total intervention sessions and scored each session for percentage of steps completed correctly. The fidelity checklist included the items in the Instructor Behavior column of Table 2. For example, fidelity of Step 3 of the narrative intervention was assessed with six items on the checklist (see Table 2). The research assistant recorded whether each item was completed correctly. The average fidelity of implementation was 98%, with a range of 78% to 100%. One instructor's fidelity of implementation was 98%; the second instructor's fidelity was 99%.

Experimental Design and Conditions

We investigated the effect of narrative intervention on preschoolers' story retell skills and personal experience story generations in a multiple-baseline, across-participants design. However, because we could not ensure that participants would produce a personal

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experience narrative, we plotted generation data without data paths. Effects on both types of narration were assessed in three conditions: baseline, intervention, and maintenance.

Each group entered the intervention phase on the basis of the participants' stable baseline patterns. The five participants make up three legs of a multiple baseline design. Two groups included two children; therefore, there are two panels for two of the legs.

Baseline. An examiner elicited a preintervention personal experience story generation for each target child at the beginning of baseline. During this phase, she elicited daily retell narratives and gave children an opportunity to tell personal experience narratives immediately following the retell elicitation (probed personal experience generations). A few minutes after assessment sessions with participants, an instructor conducted story time with each of the five groups. In baseline, story time consisted of reading children's books to the group rather than delivering the narrative intervention.

Intervention. Assessment of retell narratives and opportunities to produce personal narrative generations (i.e., probed personal experience generations) continued daily throughout the intervention phase. When groups entered the intervention phase, they received the narrative intervention instead of storybook reading during story time. The day after their last intervention session, children generated personal experience stories in a conversation/play context with the examiner (i.e., postintervention generation).

Maintenance. The last intervention session occurred 3 weeks before the last day of school at Head Start. For 2 weeks, the children attended Head Start as they typically did, but they did not participate in narrative assessments or story time. At the end of the 2-week maintenance phase and 2 weeks after they produced postintervention generations, the examiner elicited retell narratives and probed for personal experience generations immediately following the retell; that is, she implemented the same assessment procedures carried out before each baseline and intervention session. On the next day, the examiner implemented the conversation elicitation procedures to collect maintenance personal experience generations. One child was absent the last 2 weeks of school owing to a death in her family. She was unavailable for maintenance assessments.

Results

Figure 1 displays results for three types of narratives. Narrative retells, the primary dependent variable, are shown by filled dots. Open markers indicate secondary dependent variables—probed personal experience generations are marked by open squares and pre- and postintervention personal experience generations are marked by open triangles. We analyzed each panel of the multiple-baseline graph individually for improvements in level, trend, and variability. In addition, we calculated effect size estimations for each participant using the percentage of nonoverlapping data method. Table 3 shows phase means, gain scores, and percentages of nonoverlapping data.

These results indicate that this narrative intervention produced substantial improvements in the preschoolers' retelling skills. According to visual displays and statistical summaries,

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Figure 1
Narrative Retell and Personal Generation INC Scores

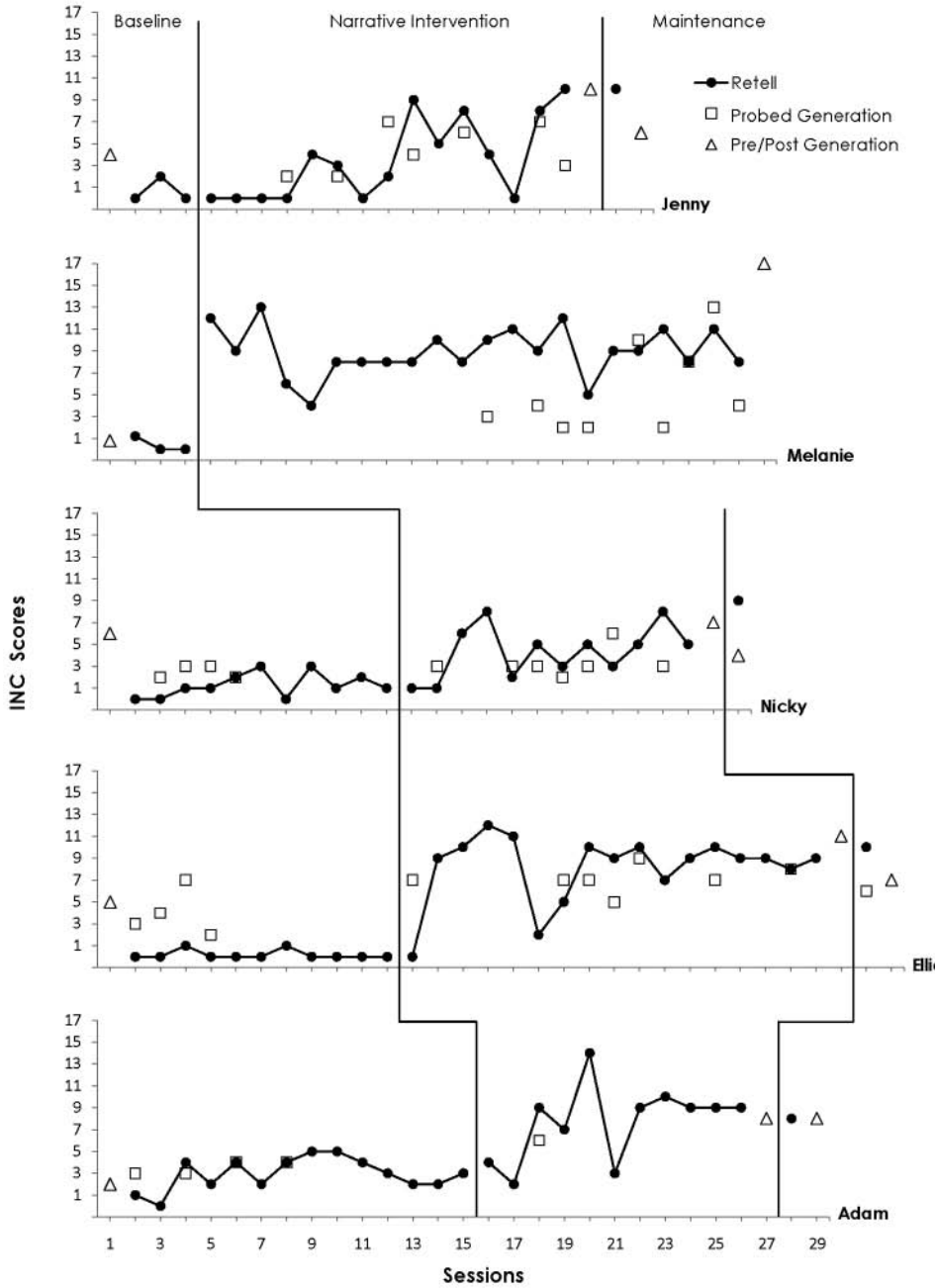

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Table 3
Retell Narratives: Phase Means, Gain Scores, and Percentages of Nonoverlapping Data

	Phase Means				
	Baseline	Intervention	Change	Best Retell Gain	Nonoverlapping Data (%)
Jenny	0.6	3.6	3.0	8	53
Melanie	0.3	9.0	8.7	12	100
Nicky	1.3	4.3	3.0	5	58
Ellie	0.2	8.0	7.8	11	94
Adam	2.9	7.7	4.8	9	72

all participants' retell scores increased with narrative instruction. During baseline, participants' narrative performance was low and stable, showing no tendency to rise to the levels observed in intervention. Clear level and/or trend changes occurred for all children. When changes were observed for children receiving intervention, the children who remained in baseline did not show changes. Additionally, four children showed notable progress after only a few sessions of intervention. These effects were demonstrated at three points. All children for whom maintenance data were gathered maintained scores above baseline levels after a 2-week break.

There were a few notable patterns in the retell results. Melanie and Ellie's stories rapidly improved once intervention began, indicating a substantial and immediate level change. It was apparent that they understood the task expectation; however, neither of them could recall parts of the modeled story during baseline. These girls needed little instruction on the main story grammar elements to retell the modeled stories, which suggests that Melanie and Ellie had sufficient language skills before intervention but lacked knowledge of story structure. Jenny and Nicky showed slower ascending patterns following intervention. Both girls were younger, frequently absent, and appeared to be shy. Despite those external factors, Jenny and Nicky achieved moderate improvements in narrative skills. Adam produced an abrupt change in trend soon after the introduction of the intervention. In both phases, there is evidence of rising trends and then stabilization. However, there are stark differences between baseline and intervention phases.

The results of the narrative intervention are not as clear for personal narratives. Three of the five participants generated personal experience stories at postintervention that were considerably more complete than their preintervention personal stories. Jenny and Melanie had a sufficient number of probed generations that ascended over time, supporting the notion that narrative intervention improved performance on personal experience generations. For example, at approximately every third daily assessment session during intervention, Jenny produced a personal story. These data ascend and show roughly the same gains as those observed for her narrative retells. Although Melanie did not produce probed generations until after several intervention sessions, her scores gradually improved. Eventually, Melanie's personal generation narratives received higher scores than did her retell narratives.

To examine the appropriateness and feasibility of the intervention, four Head Start teachers responded to five statements after watching a video recording of an intervention session. They indicated their level of agreement with each statement (1 = *strongly disagree*,

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5 = *strongly agree*). Mean agreement scores for each statement are as follows: "Story-telling is an important aspect of language" ($M = 5.00$); "The activities were appropriate for preschoolers" ($M = 4.75$); "The students enjoyed the activities" ($M = 4.50$); "The activities can be adapted for use in a classroom with a larger group" ($M = 4$); "I am interested in using these activities to teach story-telling in my classroom" ($M = 4.75$). To investigate the social validity of the outcomes (i.e., narrative improvement), the same four Head Start teachers read two retell narratives for each participant (i.e., baseline narrative with median score and intervention phase narrative with median score from last three sessions) and chose the one that they thought was a better story. Seventy-one percent of the time the teachers identified participants' intervention retell narrative as the better story. All teachers identified Melanie's intervention stories as the better stories. For two participants (Adam and Jenny), three teachers identified the intervention narrative as the better story. Only one teacher identified Nicky and Ellie's intervention stories as the better story; that is, three teachers ranked their preintervention stories as better quality.

Discussion

Narrative Retelling and Personal Generation Skills

The primary objective of the current study was to examine the effects of a narrative intervention on the narrative retelling skills of preschoolers with risk factors and narrative language delays. Results indicate that narrative intervention—as delivered in small groups and consisting of brightly colored visual materials, active responding activities, and instructor support—leads to improvements in preschoolers' retell narratives. The consistency of the results and the experimental design allow for confident conclusions. Participants were preschool-age children identified as *at risk*; in addition, they were from ethnically and linguistically diverse backgrounds. Note that children were taught and assessed using European American story grammar organization relevant to U.S. schools. Nicky, who is American Indian, made the smallest gains with these intervention and assessment procedures. Despite our recognition that Nicky's culture might interact with her narrative performance, we did not adjust our assessment procedures to account for them. Overall, participants' results are similar across language and cultural differences. The diversity of participants and their relatively consistent outcomes enhance the study's external validity, suggesting that the effect of narrative intervention on retell skills might generalize to preschoolers with diverse risk factors.

Although the current study offers strong evidence that narrative intervention is an effective strategy to improve the retell skills of preschoolers with risk factors, the evidence supporting its effect on personal generations is less convincing. During assessments, we could not compel participants to generate personal stories, and they were much less likely to tell a personal story than retell a modeled one. It is difficult to distinguish participants' story generation skill from their motivation or content availability (i.e., they might not have had any experience in a given area). Despite the conversation/play elicitation procedures and repeated invitations to share personal stories, we could not guarantee that participants' would have a story to tell and would want to tell it. Participants produced more probed

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personal story generations as intervention continued, which might indicate that comfort or motivation were contributing variables. Because content and motivation confound skill in personal experience story generations, we are less sure that we captured true skills in our measures. Due to the challenges of eliciting personal generations, we were unable to establish a causal relation between narrative intervention and personal narrative generation skills. Thus, these results should be interpreted as being suggestive, not conclusive.

There is evidence to suggest that our intervention contributed to personal story improvements. First, we explicitly taught the story grammar elements of character, problem, internal response, action, and consequence, which are common to both genres (i.e., realistic fictional stories used in retells and participants' personal experience generations). Second, we developed the stories to reflect preschoolers' experiences so that the content of these retell stories would be similar to the content of their personal generations. We anticipated that this overlapping content would promote transfer of story grammar structures. The third reason that we expected growth in personal experience story generations was that we taught it directly in our narrative intervention. In the last two steps of the daily instructional sequence, students practiced telling their own story while the instructor provided support. During intervention, we were able to provide enough support to guarantee that students generated a story.

Despite the missing data that preclude strong conclusions about personal narration, these data patterns point to moderate improvements in personal experience story generation skills. Even small improvements in narrative generations might be important for young children with risk factors. For example, a child who tells a personal story containing a problem, an action, and a consequence is likely to maintain peer attention better than if he or she mentions a problem without closure to the story. Adults need to know details about a few key components (e.g., character, setting, and problem) to respond appropriately, especially in situations of injury or danger. Linguistic features such as temporal and causal markers are necessary to connect story grammar elements and help the listener understand an event that he or she has not shared with the storyteller (Greenhalgh & Strong, 2001). In our study, an improvement of just a few INC points might mean the difference between a confusing, ambiguous story and a clear, complete story.

Contributions and Limitations

The current investigation includes a number of features that have important implications for research. The researcher-developed assessment stories eliminated the possibility that participants had prior exposure to any particular story because the examiner modeled a new, randomly selected story each time. In addition, the stories were developed with a template to ensure that story structure, syntax, content, and vocabulary were developmentally appropriate and stable across stories. Another noteworthy methodological feature involves the daily assessment sessions, which took place before intervention sessions. We assessed the influence of narrative intervention on participants' retell skills at least 24 hours after their previous intervention session—a conservative strategy. Results from assessments that are temporally removed from recent practice are stronger demonstrations of important effects. Given that the current participants demonstrated sizable gains when assessed 24 hours after opportunities for practice, the current results appear to be robust.

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Despite this study's contributions to the narrative intervention literature, it is not without challenges and limitations. Preschool children are challenging participants. Compared to older children, preschoolers are more distractible, more sensitive to rapport with the examiner and instructors, and more prone to speaking quietly or unintelligibly. To build rapport before beginning the study, we spent several days in the classroom getting to know the children. We went to great lengths to eliminate as many distractions as possible from assessment and intervention environments. We conducted assessment and intervention sessions in the hall to reduce the problem of noise on our recording devices. Even with these precautions, some of our participants spoke so softly or with such unclear articulation that we were not able to understand every word. Occasionally, participants ended their retell or generation stories abruptly when people walked by or an unusually loud noise came from a classroom. Investigators who conduct research with preschoolers have the challenge of separating real effects from confounds introduced by attention, rapport, and unintelligibility. Although these challenges certainly played a role in how we carried out the study, we do not believe they weaken our conclusions. Our informal observations suggest that the problems of distractibility and unintelligibility were similar in baseline and intervention phases. If distractibility and unintelligibility affected assessment performance, it tended to reduce scores; therefore, our data probably represent low estimates of participants' skills in both conditions.

Another possible limitation was the less-than-consistent teacher ratings of "better" stories. We assessed the degree to which teachers' ratings of stories corresponded with INC scores and found that teachers' ideas of a good story only moderately agreed with the INC scoring system. There are several factors that could account for at least part of the disagreements. First, because median scores were selected from baseline and the last three intervention retells, Nicky's stories were possibly less distinguishable. She made the least gain of all the participants, and three teachers identified Nicky's baseline story as the better one. Second, we did not provide any information about what teachers should consider in judging "a good story." It is possible that teachers selected the better story on the basis of grammar, syntax, length, or vocabulary use. Although these language measures correlate with story grammar, they are different, as evident in the rating of Ellie's baseline and intervention stories. Three teachers identified Ellie's baseline story as the better story. Ellie's baseline story was "I wanted a other bike. But Santa didn't give me other one," and her intervention story was "Yesterday, it was time to go to school. And then he didn't know the kids and the teachers. And then she asked if you want if they want to play. And then they all played. They played together." Her intervention story included several more structural elements and was considerably longer than her baseline story. However, her baseline story identified a character by name and had fewer fragments. Unfortunately, we cannot determine which aspects teachers used to form their judgments.

Implications for Practice

Considered in conjunction with previous research findings, this study confirms that narrative intervention can be an effective strategy for enhancing preschoolers' narrative skills. Evidence of its effectiveness with children who are typically developing and children who are at risk is strong. Researchers have implemented some version of narrative intervention

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with young children with low socioeconomic status (Peterson et al., 1999) and children who attend Head Start programs (McGregor, 2000). In these studies, researchers included participants who were similar to the current group and produced favorable results. Thus, we are confident that preschoolers with risk factors and average to slightly below-average language abilities benefit from these narrative intervention strategies. Findings might also generalize to children with moderate to severe language impairments. Hayward and Schneider's (2000) participant group consisted of slightly older children (4.8 to 6.4 years old) with moderate to severe language impairments. Their version of narrative intervention considerably overlaps with the current procedures in terms of arrangement (e.g., small groups and number of sessions provided), materials (e.g., story grammar icons), and activities (e.g., retelling). Given these similarities, it is reasonable to conclude that the narrative intervention that we have implemented might benefit children with moderate to severe language impairments as well. Although the current study is the first to investigate narrative intervention with bilingual preschoolers and those whose first language is not English, the pattern of findings appears to extend to these children. Nonetheless, we included only one bilingual preschooler and one English-language learner, so the effect has not been sufficiently replicated.

An important implication for practice is the relatively efficient manner of implementation and the relatively modest intervention dosage necessary to produce the desired effect. Speech–language therapists and other interventionists often have too many students and lack resources to provide extensive individual instruction to all of them. In the current study, we demonstrated a sizable improvement using relatively brief small group intervention sessions (about 12 minutes). Small group interventions are usually more efficient than individually administered interventions in terms of time and money. The addition of story games is one aspect of our procedures that helped make it a viable small group intervention. As students listened to their peers tell the story, they identified the story elements by using the sticks, bingo cards, cubes, or gestures. These story games not only helped to maintain active engagement but also served as story comprehension activities.

In addition to having efficiency advantages, our arrangement of intervention sessions has implications for service delivery. In the current study, a speech–language pathologist and an early childhood special educator provided narrative instruction to the entire class but delivered it in small groups near the classroom. Within school settings, speech–language pathologists increasingly provide language services within the classroom. Classroom-based service delivery is popular in inclusive preschool settings. Wilcox, Kouri, and Caswell (1991) compared classroom-based intervention for preschoolers to individual language intervention. They found that classroom-based intervention is associated with superior generalization of language targets. When teachers and speech–language interventionists collaborate or codeliver language interventions in the classroom, students' language skills appear to improve more than when teachers and speech–language pathologists provide services independently (Throneburg, Calvert, Sturm, Paramboukas, & Paul, 2000). Even though narrative intervention has historically been implemented as a speech–language intervention apart from inclusive classrooms, more children might benefit if classroom teachers deliver narrative intervention or if speech–language pathologists team with teachers. We asked four Head Start teachers if they thought that the procedures could be adapted for use in a classroom and whether they were interested in trying it in their classrooms. All the

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teachers responded positively. If preparing children for reading instruction and enhancing important oral language skills are a priority, then classroom-based and teacher-delivered narrative interventions appear to be excellent options.

In this study, we prompted only the main story grammar components, but several other features of narratives can be targeted. Narrative elements such as causal markers (e.g., *because*), temporal markers (e.g., *then*), dialogue, modifiers (e.g., prepositions and adjectives), vocabulary, and morphosyntax (e.g., pronouns, subject–verb agreement and past tense) are among the many aspects of language that practitioners can easily address using narrative intervention. Skilled interventionists can address different targets for different children within the same session. In the context of stories, practitioners can prompt preselected and individualized targets according to the specific needs of the children in the group. Even though our research did not permit us to differentiate language targets for individual participants, we recognized how easily we could have prompted one student to use the correct pronoun, another to say, "*When* she came down the stairs . . . ," and another to increase the length of his or her utterance. Evidence suggests that Adam, the English-language learner, acquired new vocabulary words. For example, in one of our intervention stories, we repeat the word *pepperoni* several times. Adam initially called pepperoni "circle things" and looked to the instructor for help. By the time Adam took his turn, he was able to use the word *pepperoni* without hesitation and understood that pepperoni was something that people like on their pizza. Although differentiating within groups is somewhat challenging, narrative intervention nicely lends itself to differentiated language instruction because of the broad range of targets available.

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