The effect of personal narrative intervention on late talkers’ personal narrative generation skills

Gül Kahveci¹ and Ahmet Güneyli²*

Abstract: The purpose of the present study was to address the extent to which narrative intervention improved late talkers’ ability to generate personal narratives and the extent to which the effect of narrative intervention was maintained after three weeks of no intervention. Three late-talking preschool children participated in this narrative intervention program. To examine the effect of personal narrative (PN) intervention on personal narrative generation, we implemented a multiple-probe design by using grid analysis. The effects on personal narration were assessed in different phases: baseline, probes, intervention, and maintenance and generalization. The participants demonstrated the ability to generate a personal narrative, which has the power to link oral language skills to literacy since it requires the participant to plan and produce contextualized and cohesive discourse.

ABOUT THE AUTHORS

Dr. Gül Kahveci was born in Batman, Turkey. She graduated from the biology department of the Middle East Technical University and did her master’s degree in the same department. Then, she completed her master’s and doctorate in Gazi University special education department. She is a faculty member at the European University of Lefke, Special Education Department. She gives courses about ASD, ADHD, learning disorders, children with multiple disabilities, and learning strategies.

Dr. Ahmet Güneyli was born in Nicosia, Cyprus. He graduated from primary school education department of Teacher Training College in Cyprus. Then he did his master’s and PhD degree in the department of Turkish language teaching department in Ankara University. He is a faculty member at the European University of Lefke, Turkish Language Education Department. He gives courses about Turkish language teaching, linguistics, children literature and teaching methods.

PUBLIC INTEREST STATEMENT

Personal Narrative (PN) can serve as an effective bridge into schooling and early literacy, by bringing children’s lives into the classroom. Children’s PN provides valuable insight into what they think about, how they interpret their experiences and their desire to make sense of self and others. Helping children to see their own experiences and stories as valued and important so that they can build confidence and by using this confidence-related competence, teachers may use PN as a stepping stone for teaching narrative text structure strategies and other comprehension strategies in reading, writing, and critical thinking, that are necessary for the higher-level literacy skills. Even, teaching narrative text structure can be another stepping stone for teaching expository text structures and many interventions can be designed to teach the structure strategy starting from PN. These further researches will allow educators to meet the needs of the maturing narrator or reader who will interact with more varied and complex materials in narrative and expository text forms.
Subjects: Inclusion and Special Educational Needs; Language & Communication Difficulties; Childhood; Early Childhood

Keywords: personal narrative (PN) intervention; late talkers; personal narrative (PN) generation skills; micro- and macro-structure

1. Introduction

In every aspect of a child’s life, positive peer relations, effective communication, and adequate learning in school language competency play major roles. As a consequence, children with poor language skills are at risk of developing social and behavioral problems (Botting & Conti-Ramsden, 2000). Developing strong oral language skills has become the focus of preschool programs, since these skills form the foundation of academic achievement in later elementary school years (Storch & Whitehurst, 2002). Oral/expressive language is an individual’s ability to generate meaningful language. This includes language skills that require the person to talk and produce meaningful oral responses including kinesthetic language, which is the physical aspect of language communication performed through non-verbal gestures. Sentence length and complexity are important in understanding children’s language development because they have been found to predict academic achievement, while sentence length has been found to identify language disorders (Restrepo & Kruth, 2000).

Children with primary language impairment are defined in the research literature under a variety of names, including late talkers, specific language impairment (SLI)/developmental language disorder (DLD), language impairment, and language-based learning disabilities, and these different names emphasize visible changes in the most obvious characteristics of the affected population across different ages and stages of development as well as some differences in theoretical perspectives (Kohnert et al., 2009; Laasonen et al., 2018). Children with language impairment often underperform in comparison to their typically developing peers in terms of both processing speed and working memory, as they generally respond at a slower rate in many tasks (Lohey et al., 2001). Late talkers may have difficulty expressing what they know and what they think (Singer & Bashir, 1999). Late talkers are defined as children who produce fewer than 50 words and/or produce limited word combinations by the age of 24 months. According to Rescorla and Fechnay, they make fewer clear verbalizations and are significantly more reliant on gestural and nonverbal communication cues (Rescorla & Fechnay, 1996). Paul and Smith (1993) showed in their study on late talkers aged 4 that the infants significantly underperformed compared to their peers with normal language histories on a variety of measures of narrative development. Narrative is an area in which late-talking children show deficits; for example, the average vocabulary size for this group was found to be 23 words with a standard deviation of 21, while the average size for the normal language group was 193 with a standard deviation of 92 (Myers & Bean, 1968). Evidence has shown that when entering school, language-delayed students increasingly unprepared for expressive language experiences. However, it is important that preschool students approach a topic with a title sentence so that they can speak an entire paragraph under a single title, followed by a series of subdivisions of the topic statement, where each is supported by examples and the thought pattern should be dominantly linear for clear development of expressive language. Delayed or language-delayed students whose delays are caused by a specific learning disability can experience difficulties in expressing themselves. Hence, early identification of discrepancies within language acquisition can provide the opportunity to resolve the problems at an early stage of development, which can yield accelerated gains among preschool students. The logic is that early intervention has a greater likelihood of avoiding the worst outcomes and making effective changes while the brain is still plastic; therefore, it is not necessary to wait until children experience substantial academic problems before intervening (Dickinson & McCabe, 2001).

Any effort to communicate affects young children’s vocabulary and sentences acquired while they are trying to develop their expressible language; additionally, the emergent-literacy period of a preschool child refers to the time before the age of 8 when they are naturally acquiring and learning basic language skills (Gibbard et al., 2004). Accordingly, there are interesting and exciting communication strategies like PN, which increase the motivation of children when engaging in speaking, thus increasing overall
language for later cognitive developmental milestones linked to expressive language skills. It is known that all events we experience in our daily lives as well as special events are good sources of conversation with others which present numerous opportunities to talk about our experiences, namely to express PN. Children’s experiences of their everyday lives are communicated to others in the form of narratives and stories (Riessman, 1993) and may include event representations, actor representations, and action representations. Such forms and representations in early childhood lead to the following advantages: gains in the child’s emotional or cognitive development, typically in the short term; improved parent–child relationships; improvements in the educational process and outcomes for the child; increased economic self-sufficiency; and reduced levels of criminal activity.

PN is those where the narrator uses his or her past experiences as the theme, which are stored as an event or experience knowledge (Bruner, 1990). The narration of events should be considered as situations in which children make sense of themselves and the world around them (Engel, 2006). From a developmental perspective, narrative is the first language form that requires the speaker to produce an extended monologue (Westby, 1985). Children’s narratives give researchers insights into their experience of the world. PN can be an effective medium of acceptance and play an important role in defining the self-concept and introduction to the world (Egan, 1986), which includes grammatical morphemes, syntax, and vocabulary tools for oral language development. Language instruction, such as narrative intervention, can begin before children display significant language impairment and a limited number of researchers have investigated the impact of narrative intervention on preschoolers’ language abilities (Hoffman et al., 1990; McCabe & Rollins, 1994; McKeeough & Sanderson, 1996; Peterson et al., 1999; Speaker et al., 2004; Tyler & Sandoval, 1994).

The PN can be shaped linearly via predetermined schema that specify both content and organization (Mandler, 1978; Rumelhart, 1975). Linear thinking or linear thought patterns are essential in understanding the factual nature of a child’s PN; in other words, what is happening at the present time, such as their preferences/choices, and what would they like to happen. Similar to linear thinking, coherence is a critical concept in studies of narrative across multiple domains (Baker-Ward et al., 2005). Therefore, programs that consider PN development must concentrate on basic principles. PN is embedded in expressive language in a coherent and a linear way and there are several aspects of oral speaking that reflect narrative structure: (a) predetermined organization, (b) narrative density, and (c) narrative function. Predetermined organization is considered first. The context in a PN needs to be related in the same order in which it is organized during oral speaking, so that the narrator can indicate how the context is related to each sentence in order to provide a coherent account. This is usually done linguistically by using temporal and causal/conditional terms. Thus, the number and type of temporal terms (then, and then, first, next, before, after) and the number and type of causal/conditional terms (because, so, when, if, while, until) were organized by the first researcher before starting the intervention stage. Narrative density, the second aspect, was based on the inspection of the protocols, which indicated that there are three descriptive sentences, which include temporal and causal/conditional terms followed by a starter sentence and a highly organized PN ends with a conclusion sentence. The third aspect is a narrative function, which includes: an orienting function, which is defined as providing the necessary background information; a referential function, which is the specific information about what occurred; and an evaluative function, which provides information about how to think about the event, and also includes affect (e.g., “It was fun”), and intensifiers (Miller & Sperry, 1988; Peterson & McCabe, 1983).

The aim of PN intervention programs is to meet the needs of late-talking children who require an intensified and accelerated program to achieve the necessary developmental needs and to mitigate the gap between them and typically developed preschool students. Therefore, the purpose of this study is to investigate the effect of a PN intervention on late-talking preschoolers’ PN language performance.

The term developmental delay refers to students who have experienced delay or are identified to be at risk of experiencing a delay in the future (Danaher et al., 2004). Approximately 6%-8% of children may have speech and language difficulties in the preschool period (Boyle et al., 1996). This fact has important implications for the future, since oral language skills play an important role in
supporting the achievement of academic success among school-age children. Accordingly, best practice applications emphasize the importance of studying PN performance based on two levels, namely macro- and micro-structures (Owens, 1999; Paul, 2001). Macro-structural analysis examines children’s narrative abilities in terms of higher-order hierarchical organization. During macro-structural analysis, it is important to determine the number of episodes (i.e., segments that include an initiating event, attempt, and consequence) contained in a PN (e.g., Liles et al., 1995) along with the use of other narrative elements such as appendages and evaluations (Labov, 1972). In contrast, microstructural analysis considers the internal linguistic structures used in the narrative construction, such as conjunctions, noun phrases, temporal and causal/conditional terms. Thus, the number and type of temporal terms (then, and then, first, next, before, after, by, for) and the number and the type of causal/conditional terms (because, so, when, if, while, until) (Hayes et al., 1998). Apart from the macro and microstructure, an additional factor is required for a narrative to be considered high quality: it must first be coherent. Thus, coherence can be considered to be a necessary but not sufficient feature of a high-quality narrative as well as an important measure of individuals’ ability to draw meaning from life events (Linde, 1993).

The present research focuses on the macro- and micro-structural level in terms of the PN performance of late-talking children as the dependent variable and the PN intervention as the dependent variable.

2. Method

2.1. Participants
Three late-talking preschool children participated in this narrative intervention program. For the purposes of this study, the children were confirmed as late talkers if their parents indicated that the child used fewer than 50 words at 20–34 months of age. The selection process consisted of several steps starting with the classroom teacher completing a portion of the selection worksheet regarding the students’ compliance. Then, the teacher identified four students as non-compliant, unmotivated, and rarely absent. We considered their ability to generate a personal choice/preference narrative during a natural conversation and elicited a PN from each of the four students, which they created by using single or two words containing sentences. Finally, we asked each of the four students to look at a set of pictures of people and label their perceived emotion. We assessed their ability to expressively label the emotions happy, sad, and angry. One student was not able to identify the emotions featured in the pictures; therefore, he was eliminated from the pool of participants. Resultantly, we selected the remaining three children as the target participants.

2.2. Setting
All baseline, probe, intervention, and maintenance sessions took place in the same classroom. A table and two chairs were available for the participant and one instructor. However, the generalization session took place in the classroom in which the participants took part in a typical class with their peers.

2.3. Materials
The primary investigator prepared a choice list that reflected realistic preschool experiences and preferences, such as what to choose in a special event (e.g., dinner), playing at the park, expecting a visitor, going to a picnic, shopping with a parent, getting dressed, playing games, and animals they like. Each narrative contained the same structural features: (a) starter: his/her first three preferences about a topic (e.g., sea animals they like, type of cake at a birthday party, games they play on a computer/in the sea/in the school garden, summer fruits, best friends). This part resembles a predetermined linear organization. It contains a sentence with a conjunction; (b) their hierarchical preferences: starting from the first one with a linear order, they gave small description of this preference and his/her personal reason for choosing this preference. This part resembles narrative density, which was based on the inspection of the protocols that indicated that there are three descriptive sentences, which include temporal and causal/conditional terms; and (c) each child mentioned all three of his/her preferences in order and indicated which one was their first choice, along his/her reasons for selecting it as the first in the hierarchy. This part resembles narrative function, which may include: an orienting function, which is defined as
providing the necessary background information; a referential function, which is the specific information about what occurred; and an evaluative function, which provides information about how to think about the event, and also includes affect and intensifiers.

2.4. Fidelity of procedures
To ensure the accuracy of the procedures, we employed a system to measure fidelity. As each of the digital voice recordings of the PN included what the examiner said, procedural fidelity could be easily assessed at the time of transcription using a simple checklist. While listening to the recording, a research assistant wrote a plus sign “+” in the space next to the steps implemented correctly and a minus sign “-” in the space next to the steps implemented incorrectly. Subsequently, we calculated the percentage of steps completed correctly to elicit PN as well as for the baseline, probe, post-intervention, maintenance, and generalization phases. A research assistant assessed 42% of the daily elicitations (across all phases) for procedural fidelity. The mean fidelity score was 98% with a range of 77-100%.

2.5. Measurement
The primary investigator recorded all participant-produced PN for the baseline, probe, post-intervention, maintenance, and generalization phases using a digital voice recorder. A research assistant, who was blinded to the participants’ identities, and phase, transcribed them using a word processing program. The same research assistant scored (not numerically) each narrative using “Grid analysis”. The research assistant who conducted the primary scoring of all narratives required additional training in order to conduct “Grid analysis”. The primary investigator and the research assistant practiced transcribing and scoring the narratives together. The research assistant and the primary investigator independently scored the PN until a specific criterion was met, namely that there were three consecutively scored narratives with at least 95% agreement.

2.6. Grid analysis
Grid analysis provides an index of overall PN complexity including the presence of (a) a starter sentence with a conjunction, (b) three descriptive sentences about three preferences that include temporal and causal/conditional terms, and (c) specific information about what occurred as a best preference; an evaluative function, which provides information about how to think about the choice, and includes affect and intensifiers. To demonstrate mastery, participants were required to generate a PN with a full grid structure of (ac/b1TC/b2TC/b3TC/c1A) as a mastery criterion in a three consequent trial. Additionally, cohesion was automatically established if the participants were careful about creating their PN by adhering to the macrostructure of the PN and excluding all the preferences apart from the three predetermined choices. For each PN, the primary investigator marked the elements that were included and then upon completion, the entire series of PN produced by each participant was displayed visually. Using this presentation method, the primary investigator searched for patterns within specific PN elements. We chose not to give a PN score as a growth measure since the grid system in the graph explains both acquired and non-acquired micro- and macro-structures in a detailed manner, which is more valuable than a single score.

2.7. Instructor
The primary investigator served as the instructor and implemented the procedures five days a week. Prior to commencing the study, the instructor practiced delivering the intervention with a group of preschool students. During the field tests, the second investigator acted as an observer while the primary investigator delivered the intervention. The second investigator recorded procedural fidelity and provided corrective feedback to the instructor, who was the primary investigator. The instructor spent one week in field testing before finalizing the steps that would be included in the PN intervention.

2.8. Baseline/probe procedures
During the baseline stage, “PN time” consisted of the instructor bringing the participant to the class, where they could study in a one-on-one mode for providing attention control. The primary investigator shared the choice list with the participant, which reflected realistic preschool experiences and preferences such as what to choose in a special event (e.g., dinner, breakfast), playing at the park, expecting a
visitor, going to a picnic, shopping with a parent, getting dressed, playing games, and animals they like (pet animals, wild animals, birds, animals that live in water/tree trunk). Then, the primary investigator asked the participant to choose one of the topics and choose his/her personal preferences and among these preferences, the participant would then decide the first three and discuss them by adding his/her reasons. The average length of the baseline/probe sessions was about 5–8 minutes.

2.9. Personal narrative intervention procedures

In the intervention phase, the PN intervention started with the instructors sharing the choice list with the participant. The average length of the intervention sessions was about 15 minutes, with session times ranging from 12 to 18 minutes. In order to enhance the students’ willingness to participate, we provided a variety of rewards contingent upon their attendance at all sessions. Following each student’s PN generation, the instructor stamped the participant’s hand with a washable marker stamp (e.g., smiley face or star). Additionally, at the end of each session, the instructor displayed a variety of stickers and the participant had the option to choose one.

Daily intervention steps. The narrative intervention sessions consisted of three basic steps in which the genre of narration and the level of visual support changed systematically. The participant’s personal choices related to the three pictures were selected from the internet then printed on A4 paper in triplicate. All printouts were used to give support for the macrostructure of the PN. The first triplet was used for the starter sentence, the second triplet was used for the body of the narrative, and finally, the last triplet was used for the termination sentence. In order to make the invisible narrative structure visible as a predetermined structure/schema, triplet pictures were used by placing them on the table accordingly, while the instructor and participant tried to design the specific PN.

Although the ultimate goal of the intervention was to improve preschoolers’ PN generation skills, the narrative structure was firstly taught explicitly in a retell context, where the instructor modeled how the narrative should be performed by using a predetermined structure/schema via pictures. Descriptions of each of the steps are given below.

Step one: Model. In the first step, the instructor displayed the set of pictures corresponding to the choice list and they sat close to the table so the participant could see the related pictures in order from left to right. He or she listened to the selected topic and how the instructor spoke about each part of the PN and showed the predetermined structure/schema verbally. Then, the participant repeated this narrative. In the second part of the first step, the instructor picked up the pictures, placed them face down, and allowed the participant to repeat the narrative without looking at the pictures. This part resembles a predetermined linear organization as it contains a sentence with a conjunction. The instructor provided vocal prompting as needed and retold the narrative. Then, the instructor advised the participant, “Now it’s your turn. You choose a topic and make your own decision and share it with me”. The student was encouraged to tell a PN similar to the modeled narrative. If the participant did not produce a PN, the instructor suggested that they tell the modeled narrative but in the first person. The instructor ensured that the participants always told some form of narrative, whether it was a personal preference narrative or not, and provided vocal prompting when appropriate.

Step two: The instructor repeated the same procedure for part (b) where the participant’s hierarchical preferences were made starting from the first one with a linear order, a small description about this preference and his/her personal reasons for choosing this preference. This part resembles narrative density, which was based on the inspection of the protocols and indicated that there are three descriptive sentences including temporal and causal/conditional terms. The instructor repeated the procedure for part (c) where the participant was asked to talk about all three of his/her preferences in order and then indicate which one was their preferred option along with his/her reasons for placing it at the top of the hierarchy. Index of personal narrative micro- and macro-structure to assess personal narratives via the grid system is given in Table 2.
2.10. Narrative intervention fidelity
To ascertain whether the instructor delivered the narrative intervention as planned, we assessed the fidelity of implementation using a procedural checklist. A third research assistant watched video recordings of 35% of the total intervention sessions and scored each session according to the percentage of steps completed correctly. The average fidelity of implementation was 98% with a range of 78-100%.

2.11. Social validity
Three preschool teachers viewed a video recording of the baseline, intervention, and generalization sessions and completed a questionnaire about the appropriateness of the intervention and its feasibility in the classroom. The five related questions were: Do you think PN is an important aspect of language? Do you think this instruction is appropriate for the participants? Do you think the participants enjoyed the intervention? Are you interested in using the intervention to teach PN generation in your classroom?

2.12. Experimental design
We investigated the effect of PN intervention on late-talking preschoolers’ PN skills using a multiple-probe across participants design. To examine the effect of PN intervention on PN generation, we implemented a multiple-probe design by using a grid analysis. The effects on PN were assessed in different phases: baseline, probes, intervention, and maintenance and generalization. Additionally, a generalization session took place in the classroom in which the participants took part in a typical class with their peers.

Single-subject research is an experimental design and its purpose is to document causal or functional relationships between independent and dependent variables. It employs within- and between-subject comparisons to control for major threats to internal validity and requires systematic replication to enhance external validity (Martella et al., 1999). In this type of analysis, each participant serves as his or her own control and related performance prior to intervention is compared to performance during and/or after intervention by repeatedly measured dependent variable/s. These features make single-subject research a powerful and useful methodology for improving the practices that benefit individuals with disabilities. Although the basic logic underlying single-subject experimental research is that control for extraneous variables is demonstrated with the individual subject, there is a misconception that the results derived from such experimentation cannot be generalized to other individuals. As single-subject methodology does not rely on assumptions of random sampling to extend the results of an experiment to other individuals, as is the case with group designs, single-subject data are often presumed to be lacking in generality. This may not necessarily be the case as the generality of findings produced by single-subject research may be accomplished through replication. There are two kinds of replication available for this purpose: (a) direct replication, which refers to replication of the experimental procedures using additional subjects who present similar behaviors where the experimenter applies the same procedures; (b) systematic replication, which refers to the replication of treatment procedures when certain parameters of an experiment are varied (Cozby, 1993; Myers & Hansen, 1997, Sidman, 1960). Apart from experimental replications, in real-life situations, teachers may collect performance data on the effects of specified instructional techniques on individual students’ learning and analyze the data themselves. Then, teachers can confidently determine the specific findings and recommendations that are applicable to their students (McCoy & Pany, 1986). In order to provide clearer data for teachers who want to collect performance data from their students, the first researcher combined the grid structure with a general single-subject experimental design graphic that produces an original graphic structure. The analysis of this data involves systematic visual comparisons of the grid, where each individual structure is briefly explained in Table 1.

Table 1. Participant demographics

| Participants | Age  | Gender | Ethnicity | Language |
|--------------|------|--------|-----------|----------|
| A            | 5:4  | Male   | Caucasian | Turkish  |
| B            | 5:6  | Male   | Caucasian | Turkish  |
| C            | 5:10 | Female | Caucasian | Turkish  |
| Macrostructure | Microstructure | Example | Coherence |
|----------------|----------------|---------|-----------|
| (a) Initiation | (a) Starter sentence | My favorite animals that live in the ocean are whales, dolphins, and seahorses. | My favorite animals that live in the ocean are whales, dolphins, and seahorses. |
| | (aC) Starter sentence with a conjunction | My favorite animals that live in the ocean are whales, dolphins, and seahorses. | My favorite animals that live in the ocean are whales, dolphins, and seahorses. |
| (b1) Text body content | (b1) Descriptive sentences about first preference | I like whales. Whales live in the ocean. | I like whales. Whales live in the ocean. |
| | (b1TC) Descriptive sentences about first preference, which includes temporal and/or causal/conditional terms | I like whales. Whales live in the ocean. A whale has two flippers. In addition, a whale has a long strong body. | I like whales. Whales live in the ocean. A whale has two flippers. In addition, a whale has a long strong body. |
| (b2) Text body content | (b2) Descriptive sentences about second preference | I like dolphins. Dolphins live in the ocean. | I like dolphins. Dolphins live in the ocean. |
| | (b2TC) Descriptive sentences about second preference, which includes temporal and/or causal/conditional terms | I like dolphins. Dolphins live in the ocean. A dolphin has a long tail fin. A dolphin has two flippers. Therefore, a dolphin can jump. | I like dolphins. Dolphins live in the ocean. A dolphin has a long tail fin. A dolphin has two flippers. Therefore, a dolphin can jump. |
| (b3) Text body content | (b3) Descriptive sentences about third preference | I like seahorses. A seahorse lives in the ocean. | I like seahorses. A seahorse lives in the ocean. |
| | (b3TC) Descriptive sentences about third preference, which includes temporal and/or causal/conditional terms | I like seahorses. Seahorses live in the ocean. A seahorse has a curly tail for swimming fast. | I like seahorses. Seahorses live in the ocean. A seahorse has a curly tail for swimming fast. |
| (c) Termination | (c) Specific information about what occurred as a best preference; an evaluative function, which provides information about how to think about the choice | My favorite animals that live in the ocean are whales, dolphins, and seahorses, but I like whales the most. | My favorite animals that live in the ocean are whales, dolphins, and seahorses, but I like whales the most. |
| | (cI) Specific information about what occurred as a best preference; an evaluative function, which provides information about how to think about the choice and includes intensifiers | My favorite animals that live in the ocean are whales, dolphins, and seahorses, but I like whales the most because whales are enormous and cool. | My favorite animals that live in the ocean are whales, dolphins, and seahorses, but I like whales the most because whales are enormous and cool. |
| | (cIA) Specific information about what occurred as a best preference; an evaluative function, which provides information about how to think about the choice, intensifiers and affect | My favorite animals that live in the ocean are whales, dolphins, and seahorses, but I like whales the most because whales are enormous and cool. They make me feel happy. | My favorite animals that live in the ocean are whales, dolphins, and seahorses, but I like whales the most because whales are enormous and cool. They make me feel happy. |
3. Results

Results of the study are given in Figure 1. The examiner elicited daily PN from each participant across four phases consisting of baseline, intervention, maintenance, and generalization. We used the index of PN micro- and macro-structure to assess the PN via a grid system and displayed them using multiple baseline graphing conventions.

The baseline data of Participant A based on the grid system were as follows: in the first session, it was a, b1, b2, and c; in the second session it was a, b1, c; and in the third session, it was defined as a, b1 and b2. The post-intervention results started at session 13, and the related data were ac, b1TC, b3TC, and cIA. The participant skipped the b2TC part of the grid system. The data in the 14th and 15th sessions were ac, b1TC, b2TC, b3TC, and cIA. After three weeks of maintenance followed by the generalization steps with the school teacher, the grid was determined as ac, b1TC, b2TC, b3TC, and cIA.

Resultantly, the graphed data series of probed generations shows three sessions. In these sessions, Participant A used a starter sentence without a conjunction. He generated a simple descriptive sentence, but he skipped one out of three preferences. Then, he gave specific information about what occurred as a best preference as the termination sentence without using any intensifier or affect and he skipped one out of three termination sentences. For mastery, participants were required to generate a PN with a full grid structure of (ac/b1TC/b2TC/b3TC/cIA) as a mastery criterion in a three
consequent trial. Participant A required a total of nine sessions to reach mastery. In the post-instruction phase, he began to use a starter sentence with a conjunction. He generated a descriptive sentence, but he skipped one out of three preferences. In the termination stage, he generated specific information about what occurred as a best preference; an evaluative function, which provides information about how to think about the choice, intensifiers, and affect. In the maintenance and generalization phases, he generated a full PN. Moreover, in order to provide a coherent account, he was careful about adhering to the macro and microstructure of his PN.

The baseline phase of Participant B data was determined as a, b1 according to the grid system in the first and second sessions, and a, b1, b2, and c in the third session. Data were a, b1 and c in the seventh session and a, b1, b2, c in the eighth session. For mastery, participants were required to generate a PN with a full grid structure of \((ac/b1TC/b2TC/b3TC/c1A)\) as a mastery criterion in a three consequent trial. Participant A needed a total of seven sessions to reach mastery. After seven sessions of intervention, the grid data were ac, b1TC, b2TC, b3TC and c1A in the post-intervention phase (16th session). In the 17th session, the grid data were ac, b1TC, b2TC, and c1A. In the 18th Session, the grid data were ac, b1TC, b2TC, b3TC, and c1A. In the 19th and 20th Sessions, which consisted of maintenance and generalization, the grid data were ac, b1TC, b2TC, and c1A.

Participant B’s graphed data series of probed generations shows five sessions. In these sessions, Participant B used a starter sentence without a conjunction. He generated a simple descriptive sentence, but he skipped one or two out of the three preferences during the five sessions. Then, he gave specific information about what occurred as a best preference as the termination sentence without using any intensifier or affect and skipped the last termination sentence in two of the five sessions. In the post-instruction phase, Participant B began to use a starter sentence with a conjunction. He generated a descriptive sentence but he skipped one out of three preferences. In the termination stage, he generated specific information about what occurred as a best preference. In the maintenance and generalization phases, he generated a full PN. Moreover, in order to provide a coherent account, he was careful about adhering to the macro and microstructure of his PN.

The baseline phase of Participant C data was determined as a, b1, c in the first and second session. Grid data were a, b1, b2, and c for sessions 3 and 8. Related data were a, b1, and c for the 9th session and a, b1, and b2 for the 10th session. In the 19th, 20th and 21st sessions, which comprised the post-intervention phase, data were ac, b1TC, b2TC, b3TC, and c1A. Maintenance and generalization grid data were ac, b1TC, b2TC, b3TC, and c1A in sessions 22 and 23, respectively.

Participant C’s graphed data series of probed generations shows eight sessions. In these sessions, Participant B used a starter sentence without a conjunction. She generated a simple descriptive sentence but she skipped one or two out of three preferences during the eight sessions. Then, she gave specific information about what occurred as a best preference as the termination sentence without using any intensifier or affect and skipped the last termination sentence in one of the eight sessions. For mastery, participants were required to generate a PN with a full grid structure of \((ac/b1TC/b2TC/b3TC/c1A)\) as a mastery criterion in a three consequent trial. Participant C reached mastery after a total of five sessions. In the post-instruction phase, she began to use a starter sentence with a conjunction. She generated three descriptive sentences, which included temporal and/or causal/conditional terms. In the termination stage, she generated specific information about what occurred as a best preference; an evaluative function, which provided information about how to think about the choice, intensifiers, and affect. In the maintenance and generalization phases, she generated a full PN. Moreover, in order to provide a coherent account, she was careful about adhering to the macro and microstructure of her PN.

A total of five social validity questions were asked about the appropriateness of the intervention and its feasibility in the classroom, which were: Do you think PN is an important aspect of language? Do you think this form of instruction is appropriate for the participants? Do you think...
the participants enjoyed the intervention? Are you interested in using the intervention to teach PN generation in your classroom? After viewing the video of the PN intervention study, three teachers responded affirmatively to each social validity question.

4. Conclusion
The present research focused on the macro and microstructural level with the PN performance of late-talking children as the dependent variable and the PN intervention as the independent variable. In order to show the effectiveness of an intervention, researchers must use an experimental design to strictly control for extraneous variables that might account for changes that occur in the dependent or outcome variables for participants when an intervention or teaching approach is applied. In the present research, we preferred a single-subject design research methodology to determine the effectiveness of individual practices and the subsequent results showed that the number of sessions required to reach mastery was nine for Participant A, seven for Participant B, and five for Participant C. As the number of sessions to reach a level of mastery is a critical value, since this reflects the effectiveness of the intervention, it is possible to state that the “personal narrative intervention” can be considered an effective procedure that could be applied for late talkers in terms of personal narrative generation. Additionally, the three preschool teachers who viewed video recordings of the baseline, intervention, and generalization sessions expressed positive views on the appropriateness of the intervention and its feasibility in the classroom. In this research, several items were used as an index of outcome believability, including independent variable assessment, fidelity of intervention, evidence of improvement over time, intervention maintenance assessment intervention, generalization assessment (cross setting), and social validity of procedure assessment. PN provides a rich source of data about a child’s language use in a structured context and according to the multiple-probe design graphic via grid analysis including the outcome believability, all participants’ language complexity showed dramatic improvement. The participants demonstrated the ability to generate a PN, which has the power to link oral language skills to literacy, since it requires the participant to plan and produce contextualized and cohesive discourse.

This research addressed the extent to which PN intervention improved the late talkers’ ability to generate coherent PN and the extent to which the effect of narrative intervention was maintained after three weeks of no intervention. Thus, in examining children’s developing ability to recount PN, it is necessary to consider both their ability to tell a coherent narrative and their ability to provide an evaluative framework for understanding their personal choices. Moreover, these abilities should be examined as they emerge in social interaction. PN should be an ongoing process of composition; however, if we consider late talkers’ difficulties in regard to expressing what they know and what they think, it is logical to start from a predefined composition structure. In order to manage the macro- and micro-structure of the PN as well as the appropriation of language, at the beginner level, teachers should control and guide academic performance through participation in context-specific scripts. Then, in the generalization stage, teaching should shift from a teacher-directed to a more child-directed approach, which conforms to the Vygotskian perspective; at first, the adult provides both the content and the structure of the PN, and the child gradually becomes increasingly able to provide the content and structure independent of the adult’s guidance.

Language delay is of significant concern to those involved with child development and has far-reaching implications in terms of both the immediate impact and its long-term effects. If children do not receive any specific intervention, it is suggested that such difficulties may persist (Law et al., 2000). Narrative abilities appear to offer useful information regarding language skills beyond the sentence level. Generating PN is important for later academic success in terms of literacy and even for comprehension of the language of mathematics (Westby, 2005).
According to Kaderavek and Sulzby (2000) and Oakhill and Cain (2007), reading comprehension has its roots in the comprehension of narrative discourse that develops simultaneously with other early language skills prior to formal reading instruction.

Intervention studies have shown that teaching narrative skills directly improves comprehension and the production of oral narratives as well as reading comprehension (Hayward & Schneider, 2000; Swanson et al., 2005). Moreover, narrative abilities at the macrostructure level (i.e., composition of cohesive event sequences) reflect capacities that go beyond the specifics of one language. For this reason, the application described here is thought to be a pioneering approach.

5. Directions for future research
Clearly, these data are tentative because the sample size was extremely small, which means that it is not possible to precisely establish causality. Moreover, because of the small sample size, none of the correlations reached statistical significance. However, these data represent an important first step in exploring the ways in which late talkers’ structured interactions about their PN related to choices might influence their developing abilities to recount. Evidently, future research needs to be performed to replicate these findings. More importantly, more in-depth longitudinal analyses should be conducted on consistency and change intervention styles for talking about the preferences. Furthermore, the relationship between late talkers’ developing linguistic skills and their developing narrative skills needs to be studied. In this research, there were no independent measures of children’s verbal abilities; it is possible that children who are more verbally fluent are simply better narrators. Lastly, the results are sufficiently provocative to warrant more systematic and extended investigation.

Funding
The authors received no direct funding for this research.

Author details
Gül Kahveci 1
E-mail: gkahveci@eul.edu.tr
Ahmet Güneyli 2
E-mail: aguneyli@eul.edu.tr
ORCID ID: http://orcid.org/0000-0002-2168-1795
1 Department of Special Education, Faculty of Education, European University of Lefke, Lefke, Northern Cyprus TR-10, Mersin, Turkey.
2 Department of Turkish Language Education, Faculty of Education, European University of Lefke, Lefke, Northern Cyprus TR-10, Mersin, Turkey.

Citation information
Cite this article as: The effect of personal narrative intervention on late talkers’ personal narrative generation skills, Gül Kahveci & Ahmet Güneyli, Cogent Education (2020), 7: 1758288.

References
Baker-Ward, L. E., Eaton, K. L., & Banks, J. B. (2005). Young soccer players’ reports of a tournament win or loss: Different emotions, different narratives. Journal of Cognition and Development, 6(4), 507–527. https://doi.org/10.1207/s15327267jcd0604_4
Botting, N., & Conti-Ramsden, G. (2000). Social and behavioral difficulties in children with language impairment. Child Language Teaching and Therapy, 16(2), 105–120. https://doi.org/10.1177/026153900001600201
Boyle, J., Gillham, B., & Smith, N. (1996). Screening for early language delay in the 18-36 month age-range: The predictive validity of tests of production, and implications for practice. Child Language Teaching and Therapy, 12(2), 113–127. https://doi.org/10.1177/0261539000120020
Bruner, J. S. (1990). Acts of meaning. Harvard University Press.

Cozby, P. C. (1993). Methods in behavioral research (5th edition). Mayfield.
Danaher, J., Shackelford, J., & Harbin, G. (2004). Revisiting a comparison of eligibility policies for infant/toddler programs and preschool special education programs. Topics in Early Childhood Special Education, 24(2), 59–67. https://doi.org/10.1177/02711214040240020101
Dickinson, D. K., & McCabe, A. (2001). Bringing it all together: The multiple origins, skills, and environmental supports of early literacy. Learning Disabilities Research & Practice, 16(4), 186–202. https://doi.org/10.1111/0938-8982.00019
Egan, K. (1986). Teaching as storytelling: An alternative approach to teaching and curriculum in the elementary school. The University of Chicago Press.
Engel, S. (2006). Narrative analysis of children’s experience. In S. Greene & D. Hogan (Eds.), Researching children’s experience: Approaches and methods (pp. 199–216). Sage.
Gibbard, D., Coglan, L., & Macdonald, J. (2004). Cost-effectiveness analysis of current practice and parent intervention for children under 3 years presenting with expressive language delay. International Journal of Language & Communication Disorders, 39(2), 229–244. https://doi.org/10.1080/136882403000168839
Hayes, P. A., Norris, J., & Flaitz, J. R. (1998). A comparison of oral narrative abilities of underachieving and high-achieving gifted adolescents: A preliminary investigation. Language, Speech, and Hearing Services in Schools, 29(3), 58–171. https://doi.org/10.1044/0161-1461.2903.158
Hayward, D., & Schneider, P. (2000). Effectiveness of teaching story grammar knowledge to preschool children with language impairment: An exploratory study. Child Language Teaching and Therapy, 16(3), 255–284. https://doi.org/10.1177/026153900001600303
Hoffman, P. R., Norris, J. A., & Monjure, J. (1990). Comparison of process targeting and whole
language treatments for phonologically delayed preschool children. Language, Speech, and Hearing Services in Schools, 21(2), 102–109. https://doi.org/10.1044/0161-4611.2102.102

Kaderavek, J. N., & Sulzby, E. (2000). Narrative production by children with and without specific language impairment: Oral narratives and emergent readings. Journal of Speech, Language, and Hearing Research, 43(1), 34–49. https://doi.org/10.1044/jslhr.43:1.34

Kohnert, K., Windsor, J., & Ebert, K. (2009). Primary or “specific” language impairment and children learning a second language. Brain and Language, 109(2–3), 101–111. https://doi.org/10.1016/j.bandl.2008.01.009

Laasonen, M., Smolander, S., Lohtii-Nuuttila, P., Leminen, M., Laijuni, H. R., Heinonen, K., Pesonen, A. K., Bailey, T. M., Service, E., Kunnari, S., Arkki, E., Bartlett, C. W., Geneid, A., Lauronen, L., Service, E., Kunnari, S., & Arkki, E. (2018). Understanding developmental language disorder - the Helsinki longitudinal SLI study (HelSLI): A study protocol. BMC Psychology, 6(1), 24–38. https://doi.org/10.1186/s40359-018-0222-7

Labov, W. (1972). The transformation of experience in narrative syntax. In W. Labov (Ed.), Language in the inner city (pp. 352–396). University of Pennsylvania Press.

Lahey, M., Edwards, J., & Munson, B. (2001). Is processing speed related to severity of language impairment? Journal of Speech, Language, and Hearing Research, 44(6), 135A–136L. https://doi.org/10.1044/0161-4866(2001/0105)

Law, J., Boyle, J., Harris, F., Harkness, A., & Nye, C. (1978). The transformation of experience in narrative syntax. American Journal of Speech-Language Pathology, 3(2), 415–425. https://doi.org/10.1044/jslhr.3802.415

Linde, C. (1993). Life stories: The creation of coherence. Oxford University Press.

Mandler, J. M. (1978). A code in the node: the use of story schema in retrieval. Discourse Processes, 1(1), 14–35. doi:10.1080/016383780954462

Martella, R., Nelson, J. R., & Marchand-Martella, N. (1999). Research methods: Learning to become a critical research consumer. Allyn & Bacon.

McCabe, A., & Rollins, P. R. (1994). Assessment of preschool narrative skills. American Journal of Speech-Language Pathology, 3(1), 45–56. https://doi.org/10.1044/1058-0360.0301.45

McCoy, K. M., & Pany, D. (1986). Summary and analysis of oral reading corrective feedback research. The Reading Teacher, 39(6), 548–554. https://www.jstor.org/stable/20193154

McKeough, A., & Sanderson, A. (1996). Teaching storytelling: A microgenetic analysis of developing narrative competency. Journal of Narrative and Life History, 6(2), 157–192. https://doi.org/10.1080/01449291.1996.10542161

Miller, P. L., & Sperry, L. L. (1988). Early talk about the past: The origins of conversational stories of personal experience. Journal of Child Language, 15(2), 292–315. https://doi.org/10.1017/S0305000900012381

Myers, A., & Hansen, C. (1997). Experimental psychology (4th ed.). Pacific Grove, CA: Brooks/Cole Publishing Company.

Myers, J., & Beal, L. (1968). A decade later: A follow-up of social class and mental illness. Wiley.

Oakhill, J., & Cain, K. (2007). Issues of causality in children’s reading comprehension. In D. McNamara (Ed.), Reading comprehension strategies: Theories, interventions, and technologies (pp. 47–72). Erlbaum.

Owen, E. R. (1999). Language disorders: A functional approach to assessment and intervention. Allyn and Bacon.

Paul, R. (2001). Language disorders from infancy through adolescence (2nd ed.). Mosby.

Paul, R., & Smith, R. (1993). Narrative skills in 4-year-olds with normal, impaired, and late-developing language. Journal of Speech and Hearing Research, 36 (3), 592–598. https://doi.org/10.1044/jshr.3603.592

Peterson, C., Jesso, B., & McCabe, A. (1999). Encouraging narratives in preschoolers: An intervention study. Journal of Child Language, 26(1), 49–67. https://doi.org/10.1017/S0305000998000365

Peterson, C., & McCabe, A. (1983). Developmental psycholinguistics: Three ways of looking at a child’s narrative. Plenum.

Rescorla, L., & Fechnay, T. (1996). Mother–child synchrony and communicative reciprocity in late talking toddlers. Journal of Speech and Hearing Research, 39(1), 200–210. https://doi.org/10.1044/jshr.3901.200

Restrepo, M. A., & Knuth, K. (2000). Grammatical characteristics of a bilingual student with specific language impairment. Communication Disorders Quarterly, 21(2), 66–76. https://doi.org/10.1177/152764070002100201

Riessman, C. K. (1993). Narrative Analysis. Qualitative Research Methods Series, No. 30. Sage

Rumelhart, D. (1975). Notes on a schema for stories. In D. Bobrow & A. Collins (Eds.), Representation and understanding (pp. 237–272). Academic Press.

Sidman, M. (1960). Tactics of scientific research: Evaluating experimental data in psychology. Basic Books.

Singer, B. D., & Bashir, A. S. (1999). What are executive functions and self-regulation and what do they have to do with language-learning disorders? Language, Speech, and Hearing Services in Schools, 30(3), 265–273. https://doi.org/10.1044/0161-4616.3003.265

Speaker, K. M., Taylor, D., & Karnen, R. (2004). Storytelling: Enhancing language acquisition in young children. Education, 125(1), 3–14.

Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. Developmental Psychology, 38(6), 934–947. https://doi.org/10.1037/0012-1649.38.6.934

Swanson, L., Fey, M., Mills, C., & Hood, L. (2005). Use of narrative-based language intervention with children who have specific language impairment. American Journal of Speech-Language Pathology, 14(2), 131–143. https://doi.org/10.1044/1058-0360(2005014)

Tyler, A. A., & Sandoval, K. T. (1994). Preschoolers with phonological and language disorders: Treating different linguistic domains. Language, Speech, and Hearing Services in Schools, 25(4), 215–234. https://doi.org/10.1044/0161-4615.2504.215

Westby, C. E. (1985). Learning to talk, talking to learn: Oral-literate language differences. In C. S. Simon (Ed.), Communication skills and classroom success: Therapies methodologies for language-learning disabled students (pp. 181–213). College-Hill Press.

Westby, C. E. (2005). Assessing and remediating text comprehension problems. In A. Kamhi & H. Catts (Eds.), Reading disabilities: A developmental language perspective (pp. 157–233). Allyn & BaconPearson Education, Inc.
