Enhancing preschoolers’ understanding about story structure.

Hellen Vretudaki  
University of Crete, Greece  
ORCID: https://orcid.org/0000-0002-8031-7926  
Corresponding author: Hellen Vretudaki  
hellenvretudaki@gmail.com

Abstract

The purpose of this study was to examine the effect of an intervention program aimed to enhance preschoolers’ ability to create fictional narratives. The sample consisted of 92 children, ages 4-6. The children from the treatment condition were trained through a multilevel intervention programme to produce original fictional stories. The intervention program lasted for eight weeks. During the intervention an instructional strategy was carried out on five levels (creating prior knowledge, discussion, modelling, monitoring the process and producing stories). The children in the control group after the book readings implemented in a discussion about the interesting parts of the stories. The results showed that the intervention programme significantly affected on pre-schoolers’ ability to understand the structural elements of a story and to produce comprehensible and well organised fictional stories.

Keywords: Story structure; fictional narratives; preschool; intervention program.

1. Introduction

Narratives are temporal sequence of events connected by causal relationships (Briner, Virtue & Kurby, 2012). A well-organized narrative presupposes the ability to comprehend and produce larger units of text (orally or written), to maintenance of the topic, and the integration of meaning throughout the discourse (Humphries, Cardy, Worling, & Peets, 2004). Narratives are developmental procedures with cognitive and linguistic demands. For a child, as a narrator, to narrate a story requires many different kinds of knowledge such as general event knowledge, knowledge of human social interactions, knowledge of the structural characteristics of different narrative genres, rudimentary grammar and syntax knowledge and knowledge of the listener's needs (Hudson & Shapiro, 1991). The challenge and the difficulty of this task is the child’s ability to coordinate and organize these different types of knowledge.

1.1 Enhancing preschool children’s narrative skills

Narrative skills are considered to be developmental skills as, at an early age, children attempts to develop a narrative are characterized by a total absence of structure and coherence making them sound more like describing and labeling events and characters (Van Dam, 2010), whereas at the end of kindergarten, children include basic features in their narratives like characters, setting, a central problem or theme and at least two story events. Additionally, try to conjoin characters and their actions with simple types of causal
and temporal conjunctions whereas at later ages they enrich their stories with more complex narrative structures (Pinto, Tarchi & Bigozzi, 2019; Zanchi & Zampini, 2020). The ability to structure a fictional story provides a transition to literacy because fictional narratives use a higher degree of decontextualized language, of the sort found in books. Fictional stories are less dependent on the context, and children get more familiar with them when entering formal education (Reese, Suggate, Long, & Schaughency, 2010; Silva, Strasser & Cain, 2014).

Fictional narratives are considered to be the most difficult narrative genre, because young children need to have pre obtained certain knowledge about stories' conventions, their structural coherence, about evaluating language features and linguistic devices that are necessary to put story events in a causal and temporal order (Licandro, 2016). Researchers frequently use visual aids such as cards and picture books to help teach children how to produce enriched fictional stories (Grolig, Cohrdes, Tiffin-Richards & Schroeder, 2020). In a previous study (Vretudaki & Tafa, 2017) authors employed a relative multilevel intervention programme using visual aids (cards with structural elements, illustrations and photocopies from stories), verbal mediators (hints, controlled discussions), procedural facilities (brief interventions to reframe children’s efforts) helping children to reach their potential abilities. This program had very promising results since the majority of the sample children produce comprehensible and well-organized fictional stories.

Children narratives might vary in both their content and organization. To enhance children’s narrative skills researchers, provide evidence that exposure to questions about a story can improve the coherence of their narratives. Silva, Strasser and Cain, 2014 revealed that it might not be a surprise that narrative productions, when completed after answering a set of questions, were of higher structural quality. Furthermore, it seems that interactive dialogic reading, through the interactive dialogue used when it focuses on the structural elements of a story (setting, main character’s problem, actions and the outcome of a story) reinforces the narrative skills of young children, improving the structural content of their stories, as well as their references to and comments about the story’s characters (Lever & Sénéchal, 2011; Thomas, Colin, & Leybaert, 2019).

Researchers Grolig et al., (2020) formed an intervention program on purpose to enhance preschool children’s specific inferential and literal narrative comprehension and productions skills as well as their vocabulary. The results showed that the effect on inferential narrative comprehension (dialogs, feelings, thoughts, and motives) was slightly stronger than the effect on literal narrative comprehension (character, setting, initiating event, problem identification, event, and resolution). Overall, effects on narrative comprehension were stronger than the impact on narrative production skills, which was not significant. Five months after post-test, the effect on inferential narrative comprehension was maintained. The techniques, also, of short conversational intervention and scaffolding seem to contribute significantly, not only to children’s language development, but also to the creation of more refined narrations (Verzolla, Isotani, & Perissinotto, 2012).
In general, in many intervention programs utilized scaffolding techniques pre, during and after story reading like previewing story content, drawing children’s attention to important parts of stories, connecting story events with children’s own experiences or prompting children to providing missing elements in stories and others studies in which scaffolding techniques combined with one or more other strategies such as explicit and direct instruction about story grammar elements, modelling, practice in the form of repeated storytelling or reading, visual or tactile cues (icons or props) and story enactment (Pesco & Gagné, 2017).

1.2 Differences between genders in narration
In many studies highlighted differences in early trajectories of girls’ and boys’ language development by describing early narrative growth for microstructural and macrostructural skills. Specifically, as discussed in Nicolopoulou and Richner (2007), boys and girls in their preschool years have a different apprehension of reality and therefore employ different narrative routes in the stories they produce (Buckner & Fivush, 1998; Nicolopoulou & Ilgaz, 2006). However, the effect of gender is not a given, as some studies indicate a difference in the structure and content of a narrative between the sexes (Ross & Holmberg, 1990), while others do not (Lepola, Lynch, Laakkonen, Silvén, & Niemi, 2012). Meier (2020) in her study tried to identify how preschoolers produce narratives and examined whether or not narrative skills develop differentially for girls than boys across time. Results showed that, for microstructural skills girls outperforming boys and this advantage persist over time. As far as, macrostructural skills while boys start preschool with lower skills than girls the difference dwindled over the year. Generally, it seems that whatever the gender differences that appear mainly in the younger ages, with the passage of time they balance out both on a linguistic and on a cognitive level (Ardila, Rosselli, Matute & Inozemtseva, 2011).

1.3 The present study
Taking into account the aforementioned studies which suggest using a series of verbal and visual mediators to enhance children’s skills in narrating well-structured fictional stories, we considered it interesting to investigate the efficacy of a multilevel intervention programme including a combine of some interesting of the abovementioned techniques and strategies to enhance preschool children’s narrative skills.

2. Methodology
2.1 Purpose
The purpose of the present study was to investigate the effect of an intervention programme on preschool children ability to produce original fictional stories. It was further investigated were the effects of internal and external factors such as sex, age, non-verbal intelligence and children’s initial level in narrating fictional stories.

2.2 Sample
The sample consisted of children 4-6 years old ($M=53,87$, $Sd=2,18$) who were attending 7 public kindergartens in Greece in urban and semi-urban areas. Convenience sampling was used to choose the sample. which comprised 92 children – 48 girls and 44 boys. Four of the seven kindergarten classes were
randomly selected and composed the experimental group, while the three classes consisted the control group. The intervention lasted two months (March to May). Special permission was received from the school and the parents of the children for their participation in this study.

2.3 Data collection
All the sample children’s level of non-verbal intelligence was ascertained before the intervention programme was implemented. The Raven Coloured Progressive Matrices (Sideridis, Antoniou, Mouzaki & Simos, 2015) was used to evaluate their non-verbal intelligence. The reliability coefficient of Cronbach $a$ was 0.87 and the concurrent validity was 0.97.

The children’s ability to narrate fictional stories was assessed by two different yet supplementing ways: a) narration of fictional story by using a wordless book and b) narration of fictional story by using cards. The children’s stories were analysed using the Index of Narrative Complexity story coding Petersen, Gillam and Gillam (2008). Based on this a full narrative consists of: a) information on the setting (place, time, characters), b) the initiating event, c) the main character’s internal response to the problem, d) the plan of action, e) the actions the main character took to solve the problem, f) the complications that arose, and g) the consequences of the story. This index assesses a range of additional narrative elements such as children’s ability to enrich their story with: a) Knowledge of dialogues, b) narrator evaluations (explanation provided in the story to justify why an action or event took place), c) temporal markers, d) causal adverbial clauses and d) suitable introductions and endings - formulaic markers.

In having a child narrate a fictional story using a wordless book, the teacher gave the book to each child allowing them to turn the pages so that could look at the contents, and then the child narrated a story. When the children missed a picture, or took a long time to respond, the teacher encouraged them with open-ended questions such as: “Oh! What’s the frog doing here?”, or “and what happened next?”, or “do you have anything else to say about the story?”.

When using cards, the children narrated a story using 5 cards as an aid. The cards were photocopied illustrations (15x10 cm$^2$) from selected books and depicted the basic elements of the story (main character, initial event/problem, two story events and the resolution of the story). The teacher placed the cards in front of the children and asked them to narrate a story they believe these cards show us. The children’s narrations were recorded and then transcribed on special reporting paper so that they could be assessed.

2.4 Materials for the intervention programme
Sixteen books were used in the intervention. Eight books were read to the children during the intervention programme and the other eight were used to create illustrated cards. One wordless book was used for eliciting fictional narratives at pre and post intervention phase and from another one the illustrations for narration by cards. The criteria for choosing the books were: the text had to be interesting and comprehensible, the content had to be unfamiliar to the children, they had to have a good plot, clear structure and the illustrations had to enhance and represent the story.

Seven cards of different colours were made and each one bore one of the following words: WHERE (place),
WHEN (time), WHO (main character), WHY (the problem), WHAT (the plot), HOW (resolution), END (the end of the story). The words functioned as key words for each structural element of the story they represented. They served as intermediaries to remind the children the story elements they represented (Hansen, 2004).

2.5 Intervention programme
At the first level, before the story was read, the kindergarten teacher introduced the cards with the structural elements and explained what they represented. At the second level, the teacher provided examples from well-known stories and held a brief discussion so that the children could ascertain that these elements were present in every story. At the third level, the teacher read the story by an interactive-dialogic reading style which emphasize on the story structural elements. During the reading of each part of the story, the teacher placed the respective illustration cards underneath the cards with the structural elements. For example, the teacher placed the illustrations depicting the place and time of the story under the WHERE and WHEN cards. Also, during the reading, the teacher used the method of thinking out loud and held brief conversations on the existence and sequence of the structural elements of the story being read. At the fourth level, after the reading, with the help of their teacher the children retold the story and checked the presence of the structural elements. At the fifth level, the illustrations were taken away, but the cards with the structural elements remained to serve as a memory reminder. The teacher then gave the children a large piece of paper divided into 7 columns as the number of the structural elements. A key word was written on the upper part of each column. The children were then given five illustrations on cards, from the books that had been selected, and asked them to create a fictional story. At first the children looked at the cards and tried to describe what they depicted, while the teacher helped them analyse the pictures by asking questions such as “What do you think is being shown here? What could the main character’s problem be? What do you think he did? I wonder how the story ended?”. Through an interactive procedure and with metacognitive processes (controlling and revising their suggestions), the children created a story based on the illustrations and then wrote down in each column the respective part of the story they had just created in any way they could (drawing, pseudo-letters, invented syllabic or alphabetic writing). The teacher then called on the children to narrate the story which she recorded on the bottom of the paper. Finally, the teacher read the story so that the children could verify the contents. The children in the control group were read the same stories, in the exact same order, but after the reading the teacher held a discussion about the interesting parts of the story.

3. Results
Before the intervention programme group’s equivalency procedures was conducted on all study’s measures. The results showed that in non-verbal intelligence ($t=-.36, p>.05$), in story narration with picture books ($t=-.78, p>.05$), and in narrating stories with cards ($t=-.42, p>.05$) there were no statistically significant differences between the performance of the children in the experimental and control groups. As seen in the results (see Table 1), after the intervention, the $t$-test showed statistically significant differences between the performance of the children in the experimental group and the control group in narrating fictional stories.
based on picture books and narrating fictional stories using cards.

Table 1. Means ($M$) και and standard deviations ($sd$) of the post-experimental performance of the children in the experimental group and the control group and $t$-test in narrating fictional stories with picture books and cards.

<table>
<thead>
<tr>
<th>Narrative skills</th>
<th>Experimental group</th>
<th>Control group</th>
<th>$t$-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$sd$</td>
<td>$M$</td>
</tr>
<tr>
<td>Narration by wordless book</td>
<td>19.27</td>
<td>1.15</td>
<td>6.98</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narration by cards</td>
<td>14.22</td>
<td>1.27</td>
<td>5.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

To examine the improvement of the children’s average in the experimental group from the pre to the post phase of the study, the paired samples were examined. The $t$-test showed significant improvement of the mean performance of the children in the experimental group from the pre to the post phase of the study in narrating fictional stories with wordless books and in narrating stories with cards. The improvement in the average for the children in the control group in narrating stories from picture books ($t=1.41$, $p>.05$) and narrating stories by cards ($t=1.18$, $p>.05$) was not statistically significant. More analytical, results show significant differences both in the coherence (structural elements) and in the cohesion (dialogues, narrator evaluations, temporal markers, causal adverbial clauses and formulaic markers) of the stories produced by the children. (see Table 2).

Table 2. Means ($M$), standard deviations ($sd$) and $t$-test of the post-experimental performance of children in the experimental group and in the control group in all narrative criteria in Petersen et al., (2008) index

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Control group</th>
<th>$t$-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M$</td>
<td>$sd$</td>
<td>$M$</td>
</tr>
<tr>
<td>Narration wordless book structural elements</td>
<td>9.53</td>
<td>1.32</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Narration by cards structural elements</td>
<td>7.68</td>
<td>1.51</td>
</tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narration wordless book additional narrative elements</td>
<td>4.45</td>
<td>1.54</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narration by cards additional narrative elements</td>
<td>4.12</td>
<td>2.02</td>
</tr>
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Next, the effect of the independent variables of the study (age, sex, non-verbal intelligence, initial performance in narrating fictional stories) on the improvement in the children’s performance was investigated when using picture books and when using cards. The final ANCOVA model in the narration of stories with picture books demonstrated that intervention program had a significant affect
The analysis of covariance (ANCOVA) with backward elimination procedures showed that children’s improvement in narrating fictional stories with cards was affected by the experimental intervention program $F(1.59)=93.212$, $p<.001$, partial $\eta^2=.69$, as did gender (girls) $F(1.59)=20.101$, $p<.05$, partial $\eta^2=.29$. Specifically in narrating stories using cards, the girls of the experimental group produced more organised fictional narrations than the boys of the group (Table 3).

Table 3. Analysis of the ANCOVA of the independent variables’ effects on the children’s improvement in narrating fictional stories using cards.

$(R^2=.65), (Adjusted R^2=0.62) (*=reference group)$

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Coefficient</th>
<th>standard error</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>8.215</td>
<td>.860</td>
<td>8.112</td>
<td>.000</td>
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<tr>
<td>Experimental group</td>
<td>11.021</td>
<td>.983</td>
<td>10.143</td>
<td>.000</td>
</tr>
<tr>
<td>Control group</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental group* gender- girl</td>
<td>-3.514</td>
<td>.572</td>
<td>-2.434</td>
<td>.039</td>
</tr>
<tr>
<td>Experimental group* gender- boy</td>
<td>*</td>
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</tbody>
</table>

4. Discussion

The purpose of the present study was to examine the impact of the instructional strategy on preschool children’s narrative skills when implemented in whole group settings. It was further examined whether the effect of the intervention program was significantly differentiated by children’s age, intervention program, non-verbal and verbal ability as well as the children’s initial level in all narrative skills. The results confirmed that the intervention program implemented was effective as, after the intervention, the children of the experimental group demonstrated a significant improvement in the production of fictional stories using either picture books or illustrated cards. The children of the control group told more structured stores than they had initially told but in comparison with the performance of the experimental group children showed weaker structures in their narratives.

As far as the additional elements of Petersen, Gillan and Gillam (2008) index that enhance and complete a narration task (temporal markers, knowledge of dialogues, causal adverbial clauses and formulaic markers) were clearly present in the narrations of the children in the experimental group, while only a few of these were present in the stories of the children in the control group. The ability of the experimental group children to use more sophisticated language to displayed chronologically ordered event, to express a causal link to events in the story and to add dialogues to the story characters may be due to the type of dialogic reading which was enhanced using the technique of modelling and thinking out loud about the structural elements of the story. It may also be due to the types of aids they were given (verbal, visual), (Veneziano et al., 2020; Verzolla, Isotani, & Perissinotto, 2012). With this process, children were able to comprehend the structure and contents of the story and they grasped the underlying causal relationships between the characters’ thought, emotions, and reactions (Curenton, 2011; Silva, et al., 2014; Veneziano et al., 2020).
Besides the significant differences between the experimental and control group children’s performances in narrating fictional stories from the wordless book and the cards significant differences were also observed in the children’s performance within the treatment group. Children in the experimental group narrated more coherent stories using the wordless book than the cards ($t=4.66$, $p=.001$). We assume that this occurred because in narration with wordless books children have had additional visual aids (14 pictures from the story) which assisted more effectively children’s efforts to narrate a coherent and comprehensive story. On the other hand, children’s narrations using wordless books were characterized by a more descriptive narrative language than the narration using cards, in which the narration was characterized by more sophisticated narrative language, due to the reduced visual aid (5 cards). In narration using cards children must interpret the meaning from the illustrated cards and compose an original fictional story that in many cases is very different in content among the children. Therefore, narration using cards is considered a more deliberate narrative task than narration from a wordless book (Allen, Kertoy, Sherblom, et al., 1994).

The results showed also that through training experimental group children developed further understanding about narrative construction elements but seemed to face certain difficulties to include a large amount of the additional narrative elements, such as main characters’ plans, internal response (character’s psychological state) and evaluations about the story content. This may be because during the interactive dialogic reading, teachers emphasized the structural elements of the story and not the additional narrative ones. This evident converge with the findings of Lever and Sénéchal (2011) and Grolig et al. (2020) studies which underlined the difficulty of producing task over the narrative comprehension task such the retelling and the necessity of one balanced intervention program to enhance equally the children’s literal and inferential skills (by the presence of structural and additional narrative elements). Preschool children’s inability to refer comments about story characters states and story content is acknowledged by many researchers (Dennen & Burner, 2008; Silva, Strasser, & Cain, 2014; Pinto, Tarchi & Bigozzi, 2019; Thomas, Colin, & Leybaert, 2019).

The results also showed that the participation group, played the most significant role. The findings underscore and verify the significantly positive impact of the intervention programme composed for the needs of this study as it was enhanced with effective methods and techniques highlighted by international research (Pesco & Gagné, 2015; Silva, et al., 2014; Verzolla, et al., 2012). Regarding gender, the results showed that in narrating fictional stories based on illustrated cards, the girls of the experimental group told more complete fictional stories than the boys. This may be because the five cards illustrated a social story which seems to have been more comprehensible and subject to interpretation by the girls, as the manner in which they grasp reality includes a strong sense of symbiotic social behaviour. This was highlighted by the manner in which girls connect the narratives and the roles they are usually ascribed in their narrative (Nicolopoulou & Ilgaz, 2006; Nicolopoulou & Richner, 2007). Developmental psychologists point out different primary developmental narrative paths in different genders (Nicolopoulou & Richner, 2007). However, the observed difference that occurs at a younger age, seems to fade both at linguistic and cognitive levels over time (Ardila et sl., 2011).
6. References


Baltimore. MD.


