

화제적인 회상에 기초한 가장놀이와 이야기 구술의 효과 *

The Effects of Pretend Play and Storytelling upon Narrative Recall

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ABSTRACT

이 학습은 단기간과 장기간으로 나누어 연구한 화제적인 회상을 중심으로 이야기 구술과 가장놀이의 그 효과들을 탐구하고 논증(Demonstration)하였다. 특별히 이 학습은 어린이들이 가장놀이의 연기와 구술을 하는 동안에 인지변화들을 동일시하고 시험하였다. 교육자들과 연구자들은 제안하기를 놀이와 이야기를 말하는 것은 한 사건의 인지적인 모형으로 유치원 어린이들이 기초적인 기교(Skill)를 배우는 것으로서 상징의 흐름(Stream of Symbolization)안에서 동시에 나타난다고 시사하고 있다.

가장놀이(Pretend Play)는 인지 발달과 사회성 발달 안에서 중요한 영역으로 오랫동안 고려되어져 오기도 하였다. 그런 의미에서 이 학습은 이야기 구술과 가장놀이, 단기간과 장기간의 기억력, encoding and inference 그리고 그것들의 상호관계들에 대한 발달적인 차이들에 초점을 두었다.

그 data에 의하면 화제적인 회상을 효율화하고 있는 가운데서 이야기 말하기와 가장놀이 사이에 유효한 차이가 있었음을 보여주었다.

그 data는 또한 encode에 대한 질문이 inferences의 능력을 초과했다는 것을 지적하기도 했다. 다시 말해서 그 어린이들은 inferences를 만드는 능력이 향상하지 않았음에도 이야기 구술과 가장놀이에 참여할 수 있었다.

이것은 즉 inferences는 좀더 복잡한 인지 기교들을 요구하고 있었을 뿐, 이야기 구술과 가장놀이의 향상에는 관계하지 않았다는 것을 말해주고 있다. 또한 단기간과 장기간의 조건사이에는 유효한 차이가 있지 않았다.

This study examined the effects of pretend play and storytelling upon narrative recall. Pretend play has long been recognized as central to the cognitive development of children. Storytelling has also recently emerged as a key cognitive skill in the process of intellectual development. The two

skills of storytelling and pretend play both inference and create narrative structures. This study compares the effects of pretend play and storytelling in facilitating the immediate and long-term retention of narrative recall.

The Purpose of this quantitative study

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was to explore how storytelling was related to young children's role-taking skills through enactment in pretend play. In fact, the emergence of narrative structures in pretend play is usually based on scripts, implying that children understand something about the roles of characters in the script, and how one action may lead to another. So, the children's invention of stories and enactment lead to the cognitive creation of play sequences and plots.

This study also explored narrative structure and information processing as cognitive processes that were influenced by play. The assessment of narrative structure revealed the overall grasp that children had of the schemata of a story. At the same time the cognitive content of the story was analyzed by examining the child's ability to encode and draw inferences from what they have learned. The linking of the narration, encoding and inference making showed the complexities of the cognitive skills that children routinely used in pretend play.

This study used procedures to measure encoding and inferences developed by Allen (1996): (1) encoding is defined as the bits of information presented in a situation that accesses our knowledge structure relevant to the problem such as identifying the terms in a verbal analogy or recalling the main characters in a story; (2) inferring refers to the cognitive processes employed to show one or more relationships between objects or events (i.e., how term "A" relates to character "B" in a story).

Recent research has shown that reading stories to children is important. Experimental research in school settings has documented the types of activity that enhance literacy skills through storybook readings. Some of these studies have involved children in different forms of active participation after the storybook reading. Others have focused on the influence of the teacher when reading to a whole class have found that the teacher's reading style affects children's comprehension of stories (Dunning & Mason, 1984).

Engaging children in retelling a story reflects a holistic concept of reading comprehension. Retelling requires the reader or listener to integrate information by relating parts of the story to one another and to personalize information by relating it to one's own background of experience. As an activity, it contrasts with the piecemeal approach of traditional teacher posed questions which require students to respond with specific bits of information about the text (Morrow et al., 1986).

Comprehension of a story involves building a coherent representation, or situation model of story information. Some of the processes involved in building a coherent representation have emerged in recent research (Ackerman & Silver, 1991). One process of particular importance involves laying the foundation of a representation from early sentences and ideas in a story (cf. Gernsbacher, 1991).

Comprehension of a story appears to result in multiple mental representations. One of

these is a representation of the context, that is, a representation of its words and sentences. Another may be a mental model of what the context is about (Glenberg & Langston, 1992). The representational elements of the mental model stand for such things as ideas, objects, events and precesses. It can be updated and manipulated and can serve to foreground significant aspects of a situation. In producing the mental model, various kinds of relationships may be inferred but causal dependencies have been found to be particularly significant in the process.

Children's pretend play can be used as a tool for assessing children's symbolic competence and narrative structure. "One reason for this relationship is that pretend play reflects children's emerging representational abilities and thus provides valuable information about their social and cognitive development" (Lyytinen, 1995). When children are engaging in pretend play they are usually functioning, talking, dramatizing, storytelling, and narrating close to their optimal level, as they exhibit their existing skills and try out new undeveloped ones.

Pretend play involves the use of both actions and language to depict events (Lyytinen, 1991). Pretend play requires complex cognitive and social skills such as sharing, cooperation, self-regulation of affect, and behavioral role reciprocity (Werebe & Baudonniere, 1991). It can also express mutual comprehension of symbolic language

and the capacity to coordinate partners' activities. Kane and Furth (1993) specify in detail how pretend play abounds in societal features, such as shared values and assumptions, traditions, history, rules, desire for mutual recognition, and use of pretend for interpersonal advantage.

In order to pretend with other players, children must attend to the appropriate ways of executing pretend activities. For example, "pretend play activity is free-flowing in nature, in contrast to structured laboratory problem-solving activity, in which children are expected to reach predefined solutions" (Goncu, 1993).

In some preschools and kindergartens, story playing is a regular activity. Children have the option each day to dictate a "story play" to a teacher. Later it is enacted by their experience, both verbal and nonverbal, that fulfill the fundamental purpose of communicating the child's needs, interests, and desires. For the young child, these larger purposes of language provide the motivation and framework for later literacy development. Above all, "social pretend enactment is conceptually distinct from the initiation and termination of narratives of pretend play, which may include sequences of preparation for, negotiation of, and enactment of pretend" (Doyle, Doehring, & Tessier, 1992).

The essential aspect of storytelling and pretend play emerges at the same time as the ongoing activity. For instance, a doll is treated in play as if it could create imaginary objects in the absence of real toy

elements. In this situation, the child shows a tendency to perform pretend actions on substitute objects and to integrate pretend play acts into coordinated behavior with story sequences. During storytelling and pretend play, children recall and deal with unpleasant experiences by pretending the event happened to other characters such as picture-like animals or doll-like animals. "Pretend play and story narratives also provide children with the opportunities to reverse the roles they play in reality" (Farver & Frosch, 1996). According to Farver and Frosch (1996), during storytelling and pretend play children use metaphors to help distance themselves from the characters and the context being portrayed, which affords a feeling of safety and allows them to enact upsetting events more easily. Thus children's pretend play and narratives are basic developmental factors for understanding children's views of the world and their experiences. Further, children tend to construct play scenarios and talk about what they learn or have experienced.

Consequently, social pretend play can be facilitated by the children's story, familiarity

with each other and their prior group experience. Pretend play is also a powerful context and an excellent example of what might be called the natural exercise of skills. Therefore, children are pretending with the influence of contextual factors which relate to social and representational communication in the proportion and emergence of complex play. Furthermore, the vast literature on children's storytelling and pretend play reveals that its contributions to child development can be looked at from diverse vantage points.

The fundamental purpose of this study was to examine and identify to cognitive changes which underlied children's actions during a pretense enactment and narrating. It also involved the recoupling of children's actions to pretend characters so that pretend play was seen as at the center of development. Because play fosters all aspects of the child's development: emotional, social, intellectual, linguistic, and physical, children integrate what they are learning and stretch toward further possibilities.

This study also explained the influence of storytelling and pretend play on immediate and delayed narrative recall.

Methods and Procedures

Subjects

A total of 32 children, 13 girls and 19 boys who were attending preschool and

kindergarten participated in this study. The children ranged from 4.0 to 4.6 years of age for preschool children and from 5.1 to 5.6 years of age for kindergarten children. The

majority of children came from middle and upper-middle class homes. The mean educational level of the parents was 17.4 years. Ninety-four percent of the children were White, 3% Asian, 3% Black.

Materials

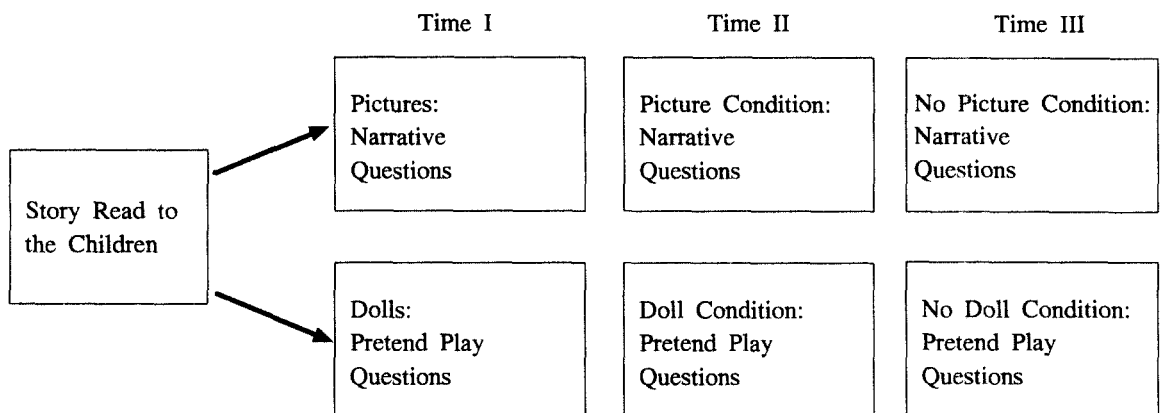
The materials for the pretend play tasks consisted of seven small doll-like animals: a rabbit, a frog, a jackal, an elephant, a leopard, a rhinoceros and a caterpillar. For the storytelling task, seven pictures of animals were used. These pictures portrayed the same animals as the above toys.

Design and Procedures

Each child was tested alone by a female researcher. This study had three different phases: (1) Storytelling and pictures and dolls. (2) The research phase and (3) Long-term retention (One week later).

Please see, Figure 1, the research design. The story, Who is in Rabbit’s House?, was read to all children, individually, prior to the start of the study. Immediately after reading the story, at Time I, the children were randomly divided into the two different groups described above. In Groups 1 and 3, the children were shown the seven pictures and asked to recall the story that had been read to them. Next the children were asked eight questions to test their knowledge of the content of the story. The children in

Figure 1.
Research Design for Times I, II, and III



[Note]

Picture Condition; Eight 4-year-old and eight 5-year-old children (groups 1 and 3),
Doll Condition; Eight 4-year-old and eight 5-year-old children (groups 2 and 4)

Groups 2 and 4 were presented with seven doll like figures of the animals from the story, and they were asked to pretend play the story with the dolls. These children were then asked the eight questions which tested their knowledge of the content of the story.

One week later at time II, the children in Groups 1 and 3 were presented with the original pictures that they had been shown previously and asked to tell the story again (Would you tell me the story about Rabbit's House again?). The eight questions were asked with the pictures placed before the child.

One week later at Time II, the children in Groups 2 and 4 who had participated in doll condition previously were presented with the dolls again. They were asked, "Would you tell me the story about Rabbit's House again?" At this point the children were asked the eight questions about the content of the story.

At Time III, three days later after Time II, the no picture and the no doll conditions took place. The children in the no picture condition were asked to remember the story and then they were asked the eight questions. At the same time the children in the no doll condition completed a similar research condition. They, too, were asked to remember the story and then were asked the eight questions. The eight questions were asked to assess encoding and inferences. All sessions were tape-recorded and spontaneous discussions relevant to pretense was later transcribed.

Measures and Scoring

This research project was based on the book, "Who is in Rabbit's House?". This story is an African folktale about a rabbit. It is a sequential story which begins with the rabbit sitting outside her house. A voice from within warns the rabbit not to enter because dire things will befall the intruder. The rabbit has a sequence of encounters with a frog, a jackal, an elephant, a leopard, a rhinoceros and a caterpillar. Finally, the frog pretending to be a spitting cobra frightens the caterpillar into coming out of Rabbit's House.

This interesting and sequential tale lends itself to narrative analysis. This study used the narrative procedures developed by Leondar (1977) and elaborated on by Benson (1993). This set of procedures provided a means of sorting the narrative skills of young children into different levels of complexity. This approach to narrative analysis permitted the researcher to look for competence among kindergarten and preschool children, as a result of the two procedures.

The following system developed by Leondar (1977) was used to assign narratives to levels of structural complexity having ordinal properties:

- (1) If the child did not produce a fictional narrative involving the characters for the task, this was designated as a non-response;
- (2) If a narrative was produced that had no temporally related sequence of events in

Table 1
Examples of Narrative Structure

Description

1. Rabbit was sitting in front of her house and she was waiting for someone. Because she didn't enter her house. The rabbit saw that a frog was coming.

(Boy, age 5. Storytelling)

Sequential Narratives

2. Once upon a time a rabbit wanted to get her house, but some bad animal didn't come out. And a frog came to rabbit and the frog said "what are you doing here?" "I can help you." And then a leopard came by. He said "Why aren't you trying to get into your house? And then some other animals came by."

(Boy, age 5 1/2. Storytelling)

3. The rabbit was trying to enter her house, but big animal was there. And then a frog wanted to help her, but he couldn't. The rabbit cried and said "this is my house." A rhinoceros came by and he asked "what are you doing here?" And then a jackal came by. He said "Are you making a farm here?"

(Girl, age 5 1/2. Pretend Play)

Plotted Narratives

4. Rabbit sits at his door. Then when animals come to the lake they see Rabbit sitting at his door. Then one day when Rabbit was going home he couldn't open his door. The rabbit said, "Who's in my house?" And the animal in his house said, "I'm the long one. I eat leaves from the trees and trample an elephant. And then a frog came to ask Rabbit why you were sitting on a log not in front of your house and Rabbit said because someone was in my house. So, I couldn't open my door. And then another animal came along and asked Rabbit "why you were sitting on a log and Rabbit said because someone was in my house and I couldn't open the door. And then a leopard came along and said "Who's in the house?" and the bad animal in the house said, "Go away." And then the leopard said "I'm not scared of you." and he started to break the house. And then an elephant came and said "Rabbit, why are you smoothing your roof?" And Rabbit said, "Because the leopard wanted to break down my house because I couldn't get in because somebody is in there." And the rhinoceros came by and said, "Is anyone in your house?" And Rabbit said "yes, there is someone in my house and I want him to get out of my house." Then Rabbit sat down on the log and frog came over and said, "I can get that." And Rabbit said, "how?", and frog said "I can scare him out." And frog said, "I will scare him out by blowing in a big leaf and said, I am going to eat you if you don't come out." And then a caterpillar came running out and said, "I was just teasing you." And then Rabbit said, "Frog was saying that he was the big thing that was going to eat you." And then frog laughed and laughed.

(Girl, age 5 1/2. Storytelling)

Table 2
Levels of Event Representation in Pretend Play

Level 1. Introduces no pretend elements into the play situation. Extremely stimulus-bound by the play materials. Child explores pretend possibilities; comes up with many ideas, but neither develops these, nor gets involved in pretend play.

Level 2. Child occasionally introduces fleeting pretend elements into play situation, but does not stay with any pretend situation for very long. No originality or organization found in pretend situations. A few pretend elements added to otherwise very stimulus-bound play.

Level 3. Shows a moderate amount of pretending in his play, but not very original or removed from the actual stimulus situation. Little organization or consistency of pretense or role-playing. No voice changes or stimulated vocalizations. Considerable changing from one activity to another.

Level 4. Shows a substantial amount of pretend elements in his play, spontaneously creating make-believe situations, showing some originality in his pretending, not changing activities very often. Shows high organization of activity and roleplaying.

it, this was designated a description (descriptions often sounded like the opening orientation for a story);

(3) Having a sequence of events (a sequential narrative) was a category in and of itself:

(4) Narratives that had a sequence of events were examined for the presence of all four phases of Leondar's primary narrative - only those that had all four phases were classified as being

"Plotted."

In Table 1 there are examples of the different kind of narratives children actually invented.

Subsequently, each narrative was transcribed verbatim and was coded for its narrative structure and verbal situation.

Example of observational play instructions: For the sake of discussion below it is

necessary to indicate that children's play behavior was rated according to a scheme derived from "The Child's World of Make Believe" (Singer, 1973) which distinguished between play in which actions and manipulations of objects are dominant, and play in which high organization of activity is dominant. Table 2 describes the four levels of representation in play in detail.

The elements in the questions (Encoding and Inferences) were listed below:

Encoding: 1. Who was sitting in the doorway? 2. Why couldn't the rabbit enter her house? 3. Who wanted to help the rabbit at first? 4. Who is in Rabbit's House? Inferences: 5. Why was the rabbit afraid to go into the house? 6. How did the frog scare the caterpillar inside the house? 7. What did the jackal, leopard, elephant, and rhinoceros

do that was the same in the story? 8. What was the difference between the frog and the other animals?

It should be noted that the levels of narratives and levels of event representation in play are different.

It was anticipated that the raw scores would be a linear scale and that parametric statistics could be used to analyze these data.

Data Analysis

There were three parts to the data

analysis, corresponding to the three research questions to describe the relationships; (1) between storytelling and pretend play, (2) between encoding and inferences, and (3) the effects of storytelling and pretend play upon immediate and long-term recall (cognitive variables). All data were analyzed by utilizing the statistical packages for the Social Sciences (SPSS). The statistical analyses were used in this study ranged from descriptive to multivariate methods.

Results

The descriptive findings are presented first, followed by the results of the study as addressed by the research questions.

Relationships Between Storytelling and Pretend Play in the Facilitation of Short-Term and Long-Term Recall of Narrative Structure

The purpose of this section was to identify if there are significant differences between storytelling and pretend play in structuring narratives. Non parametric statistics were used to examine the interrelationship between storytelling and pretend play.

The first question raised in the analysis was whether the levels of narrative structure were influenced by storytelling and pretend play. There was a significant difference between storytelling and pretend

play at the Time I condition. The obtained chi-square analysis revealed that there were significant differences between these two different methods. It should be noted that in the narrative condition, there are four different levels of narrative complexity (Benson, 1993). These four different levels take slightly different forms within the storytelling and the pretend play modes.

The results are summarized in Tables 3, 4, and 5. Table 3 cross-classifies mode (storytelling and pretend play) by narrative structure in the picture and doll condition for Time I. A chi-square analysis was applied to data that compared storytelling and pretend play across the four categories : non-response, short description, sequential, and plotted (Benson, 1993). The categories

Table 3
Cross-Classifying Mode by Narrative Structure (Time I)

Narrative Structure					
Type	Non-Responses	Descriptions	Sequential	Plotted	Total
	Level 1	Level 2	Level 3	Level 4	
Storytelling	* 3 #(3)	10 (5)	1 (1.5)	2 (6.5)	16
Pretend Play	* 3 #(3)	0 (5)	2 (1.5)	11 (6.5)	16
Total	6	10	3	13	32

[Note]

* Observed Frequency

Expected Frequency

 $X^2 = 16.574$. The Critical Value: 16.266, $P < 0.001$

Table 4
Cross-Classifying Mode by Narrative Structure with Pictures and Dolls Condition at Time II (N=32)

Narrative Structure					
Type	Non-Responses	Descriptions	Sequential	Plotted	Total
	Level 1	Level 2	Level 3	Level 4	
Storytelling	* 2 #(1.5)	9 (5.5)	3 (3.5)	2 (5.5)	16
Pretend Play	* 1 #(1.5)	2 (5.5)	4 (3.5)	9 (5.5)	16
Total	3	11	7	11	32

[Note]

* Observed Frequency

Expected Frequency

 $X^2 = 8.156$. $df=3$ (Critical Value=7.815), $P < 0.05$

for the pretend play were the levels of event representation (Singer, 1973). A description of the four levels is presented in Table 2 of the Methods Section.

The results of the chi-square test

permitted us to reject the null hypothesis that there was no association between storytelling and pretend play because the obtained chi-square of 16.574 was significant at the .001 level. Children in the pretend play

Table 5
Cross-Classifying Mode by Narrative Structure with No Pictures and No Dolls Condition at Time III

Type	Narrative Structure				Total
	Non-Responses	Descriptions	Sequential	Plotted	
	Level 1	Level 2	Level 3	Level 4	
Storytelling	* 4 #(3)	7 (4.5)	3 (3.5)	2 (5)	16
Pretend Play	* 2 #(3)	2 (4.5)	4 (3.5)	8 (5)	16
Total	6	10	7	10	32

[Note]

* Observed Frequency

Expected Frequency

$X^2 = 7.1858$. The Critical Value=7.815, $P < 0.05$

condition demonstrated a higher level of narrative structure than those in the storytelling condition at Time I.

At Time II, the children were asked to retell the narrative with pictures and dolls with $N=16$ in each condition. A chi-square analysis was applied to the data. Table 4 cross-classifies mode by narrative structure for the storytelling tasks. Since the computed X^2 (square) value (8.156) exceeds the critical value (7.815), the null hypothesis is rejected at the .05 level, and the conclusion is that the narrative structure at Time II differs for storytelling and pretend play and the influence of pictures and dolls. This indicates that again there was a significant difference between the storytelling and the pretend play conditions.

At Time III, this same group of children attempted narrative recall with no pictures and no dolls condition (Table 5). A

chi-square analysis was applied to the narrative structure data. The resulting chi-square was 7.19. This value did not exceed the critical value of 7.82, therefore it was concluded that there were no significant differences between the two conditions.

In summary, there were significant differences between storytelling and pretend play at Time I and Time II, and there was not a significant difference at Time III. At Time I the children were asked to remember the story which they had just heard. At Time II the children had pictures and dolls available as cues to facilitate remembering. At Time III there were no cues available as memory aids. At Times I and II the children in the pretend play condition did significantly better. The advantage for the pretend play appears to be related to the presence of representational knowledge. At Time III these cues and

Table 6
Cell Means of Encoding and Inferences

Group	Dependent Variable					
	Tlenc	Tlinf	TIIPen	TIIPinf	TIIPen	TIIPinf
1	3.0	1.5	3.75	1.875	3.375	1.5
2	3.125	2.0	3.5	2.125	3.375	2.0
3	2.0	1.75	2.75	1.5	2.625	1.375
4	2.62	1.375	3.125	1.375	3.0	1.25
Grand Mean	2.69	1.66	3.28	1.72	3.094	1.53

[Note]

Tlenc: Encoding at Time I

Tlinf: Inference at Time I

TIIPen: Encoding with pictures and dolls at Time II

TIIPinf: Inference with pictures and dolls at Time II

TIIPen: Encoding with no pictures and no dolls at Time III

TIIPinf: Inference with no pictures and no dolls at Time III

representational knowledge were not present.

Relationship Between Encoding and Inference Upon Storytelling and Pretend Play with Narrative Recall

A one-way MANOVA examined the effects of encoding and inferences (two types of questions) on storytelling and pretend play at each of three times. There was a significant effect due to the type of questions, encoding and inferences.

Table 6 (See Table 6) presents the group means for the encoding and the inference questions at Time I, Time II, and Time III. There were large, consistent differences between the two types of questions, which

persist across research condition and time. In each group at each time, there is a higher mean score for encoding than for inference questions.

A MANOVA was conducted to assess whether the four groups differed with respect to encoding versus inference questions across three different time periods. As expected, there was a clear significant difference for the two types of questions - encoding and inferences ($F=65.76, p<.0001$). There were no main effect for groups, or for time, nor were there any significant interactions.

Table 7 presents the multivariate tests of significance for the MANOVA on the subsequent sets of dependent variables. None of the terms in the MANOVA were significant in terms of explaining variability in measures of four groups except the effects of encoding and inferences. An inspection of the univariate F s indicated that there was a significant group effect on the encoding questions at Time I, $F(3, 29)=3.88, p<.02$ (See Table 7). This finding indicates that encoding was significantly better and different from inferences at Time I. This finding is not surprising because encoding identified bits of information such as the identification of content in the story while inferences referred to relationships between variables. The youngsters in this study always did better at encoding than inferences. Table 7 also shows that the effects due to encoding and inferences were extremely large, $F(3, 28)=65.76, p<.001$. When this F value is compared to the other

Table 7

Multivariate Analysis of Variance on Six Sets of Dependent Measures of Encoding and Inferences

Hypothesis	C	M'	S	M	N	F	Sig. of F
Between Subjects							
Group	[0 1]	[1 1 1 1 1 1]	3	1	10, 1/2	2.49	0.081
Within Subjects							
Time	[1 0]	[1 -1 0 1 -1 0] [1 0 -1 1 0 -1]	1	0	12, 1/2	2.49	0.125
Enc. and Inf.	[1 0]	[1 1 1 -1 -1 -1]				65.76	0.000
Time x Enc. and Inf.	[1 0]	[1 -1 0 -1 1 0] [1 0 -1 -1 0 1]	1	0	12, 1/2	5.83	0.075
Between/Within							
Group x Time		[1 -1 0 1 -1 0] [1 0 -1 1 0 -1]	2	0	12, 1/2	0.31	0.993
Group x Enc. and Inf.		[1 1 1 -1 -1 -1]				1.22	0.32
Group x Time x Enc. and Inf.		[1 -1 0 -1 1 0] [1 0 -1 -1 0 1]	2	0	12, 1/2	0.56	0.647

findings, it is evident that the effects of the cognitive variables of encoding/inferences are large and imposing. It is interesting that there were no main effects due to group and time.

Corresponding to the MANOVAs analysis of story comprehension and pretend play, separate analyses were run for the standard error and confidence intervals on encoding, inferences, and groups. When significant multivariate effects were found, univariate effects were examined using Post Hoc Turkey Tests.

Post hoc analyses (Turkey HSD; P<.05) indicated that the following contrasts were significantly different from zero: Group 1 and Group 3 as well as Group 2 and Group 3

indicates that the 5-year-old storytelling group was significantly better at encoding than the 4-year-old storytelling group. The significant differences between Groups 2 and 3 indicates that the 5-year-old pretend play group did significantly better than the 4-year-old storytelling group on the encoding questions. In fact, confidence intervals (Turkey HSD; p<.05) indicated that there were two contrasts that had an obtained value that exceeded Q=3.85, df=4.28. Confidence intervals were also computed using the studentized (Q) distribution. This table (See Table 9) shows that at G2-G3 is different from zero. Since the confidence intervals for all other comparisons include zero, these differences are not different from

Table 8

Univariate F-tests with (3, 28) D. F. for Encoding and Inference

Variable	Hypoth. SS	Error SS	Hypoth. MS	Error MS	F	Sig. of F
TIenc	6.125	14.75	2.04167	0.53	3.88	0.02
TIinf	1.84375	27.38	0.61458	0.98	0.63	0.603
TIipenc	4.59375	19.88	1.53125	0.71	2.16	0.115
TIipinf	2.84375	23.63	0.95	0.84	1.12	0.356
TIInpenc	3.08375	24.625	1.03	0.84	1.22	0.320
TIInpinf	2.59375	15.375	0.86	0.55	1.57	0.218

Table 9

Turkey Confidence Intervals for Encoding at Time I (Pairwise Group Comparison)

Contrast	Estimate	Q Statistic	95% Confidence Intervals	
			Lower	Upper
G1 - G2	-0.125	-0.48	(-1.126	0.876)
G1 - G3	1	3.85	(-0.001	2.001)
G1 - G4	0.38	1.46	(-0.621	1.381)
G2 - G3	1.125	4.81	(0.124	2.126)
G2 - G4	0.505	1.94	(-0.496	1.506)
G3 - G4	-0.62	-2.38	(-1.621	0.381)

[Note]

G1: 4-year-old children (Picture Condition)

G2: 4-year-old children (Doll Condition)

G3: 5-year-old children (Picture Condition)

G4: 5-year-old children (Doll Condition)

zero. Table 9 shows this result.

The mean ratios and group sizes as reported by data collection the estimate between Time I inference and Time III inference with no pictures and no dolls condition showed no difference in the Table (See Table 6). In general, the observed ratios and confidence intervals revealed a different

story. The encoding and inference values for these observational variables were consistently lower than long-term retention and consistently fell negative factors. With respect to the variable differences, there were no significant differences across each group in the share of the randomly selected kindergarten and preschool children who had

trained with early childhood education program. With respect to storytelling and pretend play group, however, the pretend

play group had a significantly higher score of encoding and inference.

Discussion

Storytelling today is increasingly recognized as having important theoretical and practical implications. Storytelling is part of the emerging fields of discourse and narrative analysis. The fields of literature, comparative literature, literacy criticism, anthropology, psychology and education are turning to discourse and narrative analyses as important approaches to inquiry. In education, storytelling is increasingly being recognized as important because it reflects moral standards, life-styles, fantasy, humor, emotions and different ways of knowing. Early childhood educators are recognizing that storytelling with pretend play enables children to think about their future as well as their present roles.

Children's engagement in and understanding of pretense is a classic topic in developmental research (e.g., Piaget, 1962), and for good reason. Pretend play emerges regularly in normally developing children; it emerges early, typically around 18 months of age, and then grows rapidly in complexity and frequency. A child is atypical indeed who does not spend many preschool hours engaged in pretense, sometimes alone, but most often with others. Like language

acquisition, pretend play may be a universal, rapidly acquired human competence. But it is a peculiar and intriguing competence. In pretense, the child treats nothing as something (an empty pot as full of water), treats one thing as something else (a block as a car or a house), and purposefully uses misleading actions and events (an empty cup raised to the face of an inanimate doll as a baby being fed). Much of the story of early cognitive development concerns, appropriately enough, the child's increasing competence at understanding the world "correctly," for example, coming to understand what physical objects are really like, what words conventionally refer to, how other people actually behave. In pretense, the child gets the story wrong, not by mistake, but by meaningfully construing things otherwise. Intriguingly, "this ability is not the sober culmination of intellectual development but instead makes its appearance playfully and precociously at the very beginning of childhood" (Leslie, 1987, p.412).

Narration is, by its very nature, a story-based activity that engages children in a personal reconstruction of the text. Storytelling is also an opportunity for the

children to engage in the verbal repetition or rehearsal of the text information. Story retelling should affect how much is learned and what is learned and retelling positively affects both the quantity and quality of what is learned from context.

Storytelling and pretend play provide a motivating context for literate behavior, as children communicate through narration to themselves in solitary play and to their peers in social play. Also, linguistic activities allow children to create and share imaginary worlds and participate in the beginning of narratives. Further, storytelling makes collaboration in play with others possible and facilitates the development of friendship so that narration in collaborative activities with others enhances the complexity of play by deepening, lengthening, and diversifying play forms.

Thus, this study attempted to explore the ways that children who reenact stories (especially pretend play) over some time period increase their ability to play skillfully and their ability to comprehend; that is, involvement in the general construct of play facilitates story comprehension relative to other conditions such as storytelling and enactment.

This study had three central purposes: first, to measure significant differences between storytelling and pretend play, second, to measure significant differences between encoding and inferences, and third, to validate inter-relationships among storytelling, pretend play, cognitive variables

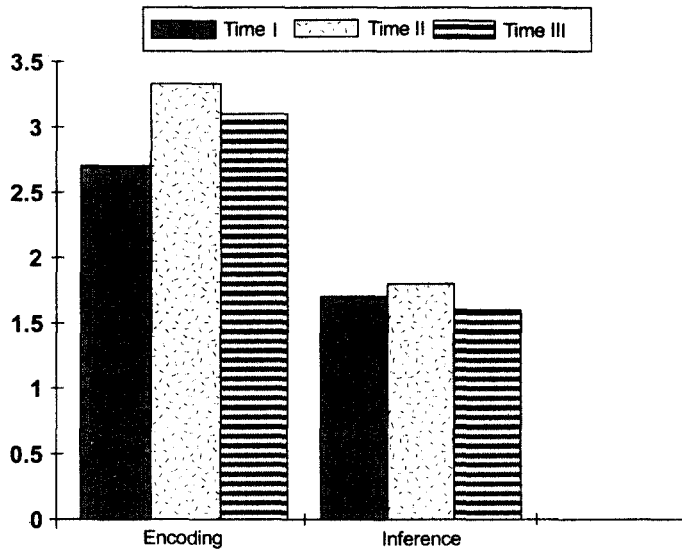
(encoding and inferences) and short- and long-term narrative recall. In general, it was theorized that storytelling and pretend play interact with the cognitive variables of encoding and inferences that posed particular dimension for child development.

In this study, with respect to storytelling and pretend play, the results supported the empirical findings that storytelling and pretend play facilitated narrative recall. This finding provides encouraging evidence for the usefulness of greater specification in the study of narration and pretend play development. In particular, it is evident that patterns of narrative structure and pretense need to be studied not only in terms of basic cognitive development and social development, but also in terms of different types of perspective. It is apparent from these findings that pretend play facilitates social-cognitive development.

There is increasing agreement among both researchers and educators that literate behaviors, particularly in pretend play and storytelling, are seen as precursors to a grasp of the concept of "story" or "narrative" and the necessary perspective taking this implies. Such understanding emerges through play as together children talk and share their early attempts at cognitive behavior.

As expected, our findings indicate that there are significant differences in the ways in which storytelling and pretend play influence the complexity of narrative structure. These data indicate that pretend

Figure 2.
Sample Profiles for Encoding and Inferences



play was significantly more influential than storytelling in facilitating the recall of complex narrative structure. At Time II, there was also a significant difference between storytelling and pretend play with regard to recall of complex narrative structure. In this condition, the pictures and dolls were available to the youngsters to demonstrate recall. The children in the pretend play condition who had dolls available did significantly better than the children in the storytelling condition who had only pictures to facilitate recall. In addition, the children in the pretend play group had stronger associations than those in the storytelling group, it is likely that doll condition was more effective than picture condition. It is important to recognize that pretend play seems to have a decisive effect

in facilitating narrative recall. This finding has implications for education and the cognitive development of young children.

Of the other independent variables, cognitive development is the variable accounting for an important portion of the variance. Our findings indicate that there are no differences between the storytelling group and the pretend play group for encoding and inference. However, there was a significant effect due to task. This significant difference indicated that there were significant differences across groups on encoding and inference (Figure 2). This difference can be easily seen by simply glancing at the means for the groups. There was also a significant effect in encoding and inference. The significant difference indicates that the children in the inference group did slightly

worse at Time III which was the no pictures and no dolls condition, one week later, than they had done at Time I. The children in Time II condition of encoding did significantly better than at Time I and III. It was also found that there were significant differences between groups at Time I on the encoding task. Also, the findings of this study demonstrated that children across the four- and five-year-old age groups integrated play events and story enactment to structure storytelling. All children were able to create shared meaning spontaneously during pretense and story representation that were not complementary.

The data indicate that there were significant differences between the four- and

five-year-old groups. There were no significant interactions indicating that five-year-old children did consistently better than four-year-old children. Perhaps these findings show that between ages four and five children acquire a cognitive background of skills that prepare them for later challenges and development.

Finally, this study supports the hypothesis that both storytelling and pretend play can influence cognitive variables. Some evidence of the complex role of storytelling and pretend play as estimates of cognitive development awaits further investigation, particularly as linked to children's emergent social and symbolic competence.

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