

THE EFFECTS OF PARENTAL STYLE ON NARRATIVE  
PRODUCTION IN PRESCHOOLERS:  
AN INTERVENTION STUDY

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THE EFFECTS OF PARENTAL STYLE ON NARRATIVE  
PRODUCTION IN PRESCHOOLERS: AN INTERVENTION STUDY

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## Abstract

The overall narrative productivity of economically disadvantaged preschoolers was evaluated prior to and following intervention. Participants were twenty preschool children and their mothers, who were randomly assigned to either an intervention or control group. The study consisted of a preliminary test, 12 months of intervention and a posttest. Fourteen children (7 in each group) also participated in a follow-up assessment that occurred a year after the end of intervention. All children's narratives from both the pretest and posttest were analysed for the quantity and length of propositions, unique units of information, decontextualized information, and simple and complex temporal terms. All narratives produced by the parents in both the pretest and posttest were analysed for the number of utterances, open-ended prompts, yes/no and wh-questions, and back-channelling. It was predicted that following training the intervention group would surpass the control group on all aspects of narrative productivity. Children in the intervention group showed no improvement relative to the control group in the posttest, except on a vocabulary measure, however a year later at the time of follow-up assessment intervention children produced more decontextualized descriptions of *where* and especially *when* the described events

took place. Such decontextualized language has been emphasized as important for literacy acquisition.

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The Effects of Parental Style on Narrative  
Production of Preschoolers: An Intervention Study

Researchers interested in the development of child language can study a number of language units, including words, sentences, and discourse. Over the past few decades, however, focus has shifted increasingly toward discourse analysis. Many researchers are now assessing the various processes involved in discourse through the examination of narrative texts, and more specifically, the personal experience narrative (Feagans, 1982; Hudson & Shapiro, 1991; Liles, 1987; Peterson, 1990; Peterson & Dodsworth, 1991; Peterson & McCabe, 1991; Snow, 1983; Snow & Dickinson, 1990). Precisely what a narrative is varies from definition to definition but will be formally defined herein as one way of recounting past experiences whereby a speaker will verbally provide a sequence of clauses which coincides with a sequence of events that has actually occurred (Labov, 1972).

There are a number of reasons for the considerable attention given to the personal experience narrative. First, it is the only form of narrative that can be elicited from very young children. Children as young as two years of age can tell about personal experiences that have occurred in the past (Eisenberg, 1985; Fivush, Gray & Fromhoff, 1987; Miller & Sperry, 1988; Peterson & Bell, 1996; Sachs, 1983; Todd &

Perlmutter, 1980). Second, they are relatively identifiable units (i.e., they have a marked beginning and end) (Labov, 1972; Mandler & Johnson, 1977; Peterson & McCabe, 1983) and third, they are common (Peterson & McCabe, 1991).

One of the defining features of narration is that it is a form of decontextualized speech (Graesser, Golding & Long, 1991; Peterson & McCabe, 1994). In other words, it is speech about events that are removed from the immediate context; it does not describe the here-and-now, but rather the there-and-then. This implies that narrative discourse should be able to be understood without additional supporting context. A listener who was not present at a described event should be able to understand the story. An important component of achieving this is provision of orienting information (who, when, where, why, and what object). In order to provide a coherent account of the experience, narratives should also be informative, contain explicit temporal and causal relationships, and be chronologically organized. The inclusion of such information would be indicative of a well-structured narrative. According to Graesser et al (1991), when children produce narratives they are no longer depending on the immediate environment but rather they can use mental images. This decontextualization allows the narrator to speak about times other than the present, to focus on the specific



attributes of events and to contrive alternate possibilities for events (French, 1986; as cited in Graesser et. al. 1991).

Narratives are quite common in daily activities of the classroom, such as story telling, show and tell and "sharing time". These activities often involve having the child verbally describe some object or produce a narrative account of a past event, with the teacher acting as a discourse facilitator, providing questions and comments (Cazden, 1988; Michaels, 1981). This mediation on the part of the teacher assists the children's narrative composition. According to Michaels (1981), events such as sharing time provide a link between the oral discourse that the child has experienced at home and literate discourse that is necessary at school. While such activities provide exposure to the kind of instruction and practice needed to acquire narrative skills, children are expected to possess some discourse skills when they enter school.

Discourse skills have been identified as a critical link to successful school achievement (Bruner, 1986; Miller, 1990; Olson, 1982; Wood, 1992). In particular, the ability to produce decontextualized speech is reported as being connected with academic success, especially literacy (Dickinson, 1991; Olson, 1977; Snow, 1983). Snow (1983) explains that children show a developmental change from contextualized literacy skills (reading the name on a sweatshirt when accompanied by

a picture or reading the name on a favorite box of cereal) to more decontextualized literacy skills (e.g., reading words and sentences without accompanying pictures). According to this research, it is this transition from contextualized to decontextualized language that enables individuals to acquire literacy skills. Narratives are a particularly good format for developing decontextualized language skills because they are about events that are removed in time and space.

According to Feagans (1982), narrative skill is a prerequisite for school adaptation, and unfortunately many children enter school with poor narrative skills. This is especially true for children who come from communities with language demands that are different from the language demands of the classroom.

The narrative skills of children have also been frequently associated with social class. Once it was believed that lower class children often perform poorer in school than do middle class children due to a linguistic deficiency, especially in syntax. However, over the past few decades this notion has been discredited. According to Bruck and Tucker (1974), the linguistic sophistication of lower class children is equivalent to that of their middle class peers. The difference in school performance is now believed to be due to lack of preparation for school programs that are geared toward children who have already acquired specific

language skills (Bruck & Tucker, 1974). Consistent with this premise is the finding that middle class children have the narrative skills necessary to meet the demands of the classroom, whereas lower class children enter school without having already acquired such skills (Feagans, 1982; Heath, 1981; Peterson, 1994).

According to Cairns, Cairns and Neckerman (1989), a relationship exists between socioeconomic status, school performance, and subsequent school drop-out rates. In a longitudinal study that examined behavioural, cognitive, and demographic factors associated with early school drop-out, Cairns et al (1989) reported that seventh graders were more likely to attain a low level of academic performance if they had low socioeconomic status. In turn individuals who performed poorly academically were more likely to drop out of school. Walker et al (1994) reported that children from economically disadvantaged families performed more poorly on tests of verbal ability, receptive and spoken language, and academic achievement as measured by standardized tests in kindergarten through grade three. We can now address these differences in terms of what happens prior to the onset of formal schooling.

There is little disagreement among investigators that a child's language environment plays a crucial role in shaping the development of his linguistic performance. One way to

explore the developmental differences in language between children from different socioeconomic classes is to compare the verbal environments of lower and middle class children. Recently, several researchers have confirmed a number of differences in the language styles of middle class children (see review in Fenson, Dale, Reznick, Bates, Thal & Pethick, 1994). Although parental behaviour may not be the only factor underlying these child style differences, most researchers view parents as major contributors. Because in the first 5 years of life parents are not only the primary caretakers but also the primary teachers, the role of parents in a child's verbal environment will be the focus in the present paper.

The verbal interaction between mother and child has been shown to have an effect on the child's language. For example, Nelson (1981) distinguished between two different language styles produced by children, referential and expressive. Referential children are characterized by frequent use of common nouns, early vocabulary acquisition, and the use of language as a device for gaining information. On the other hand, expressive children produce speech that has a scarcity of common nouns and an abundance of pronouns, are slower at acquiring vocabulary, and use language mainly for social interaction. Researchers examining the maternal speech of expressive and referential children report a number of differences. Mothers of expressive children, as compared to

mothers of referential children, use more person and fewer object references (Furrow & Nelson, 1984), respond less frequently to their children's attempts to initiate conversation, and provide fewer extensions and expansions of their children's utterances (Lieven, 1978).

Such research involves language with a here-and-now context: events that are taking place in the present. As children develop however there is increasingly more talk about topics that are not in the present context (Sachs, 1983). It has been suggested (Eisenberg, 1985; Peterson & McCabe, 1994) that the kinds of information that parents request from children provide children with cues as to the kinds of information they should provide when producing their own narratives.

Peterson and McCabe (1992, 1994) reported that parents who regularly asked many WH-questions and prompted for contextualizing language (such as when and where the described event took place) had children who regularly produced similar information in their stand-alone narratives. McCabe and Peterson (1991) also distinguished among several types of parental styles of narrative elicitation including topic-extending and topic-switching. Topic-extending is characterized by staying on the same topic whereas topic-switching implies introducing many different topics. Their data reflect that parents who are topic-extending had children

who produced lengthier narratives over time whereas parents who are topic-switching had children who produced relatively shorter narratives.

Fivush and Fromhoff (1988) also explored different maternal styles for conversing about the past. They too, observed two different types of conversational styles, an elaborative style and a repetitive style. The former is characterized by a rich description of the past event being discussed and providing additional information with each additional question asked, whereas the latter is characterized by little reference to the past event being discussed and few, simple, and redundant questions. Maternal style influenced the type of information recalled by the children. Children of elaborative moms recalled nearly twice as much information as children of repetitive mothers. This was true for all types of information including location, people, objects, activities, and descriptives. Also, Fivush (1991) reports that the way mothers structure their conversations about the past will have an effect on the way their children will produce personal narratives themselves. According to Fivush, most children can produce simple temporal links but children who have mothers that provide more complex temporal narratives (i.e., by using more causal/conditional terms) earlier in development will produce more complex temporal links themselves. Similar findings were also reported for the

number of propositions per conversational turn: children produced more propositions per conversational turn in a later interview if their mothers provided more propositions per conversational turn in an earlier interview.

Evidence that parent-child interactions affect a developing child is consistent with Vygotsky's (1978) developmental theory. According to Vygotsky, development can be explained with reference to the zone of proximal development which is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance ...." (pp. 86). Diaz (1991) describes the zone of proximal development as having two facets. The first of these is *joint collaboration*, which refers to the active participation or sharing of task responsibility by both the child and the adult, and the other is *transfer of responsibility*, referring to the increasing role of the child as the role of the adult decreases. The increased role of the child is achieved through the construct of "scaffolding" (Bruner, 1983). By gradually decreasing the amount of support, the adult provides the child with more opportunities to complete the task themselves. Initially, tasks will require much adult support, but as the child makes repeated attempts to perform the task, the adult can gradually withdraw the support until the child has mastered the task.

Vygotsky's theoretical perspective suggests that language intervention with parents at home will enhance a child's language skills. The efficacy of language intervention is suggested by a number of studies. Many of the current intervention studies involve children who have developmental delays (Earheart, 1982; Tannock, 1988; Tannock, Girolametta & Siegel, 1992). A consistent finding among these researchers is that mothers of delayed children tend to be more directive and less responsive than mothers of children without delays, and that these children initiate fewer interactions. Thus, it appears that the mother's style may interfere with the social interaction (i.e., turn taking, initiating) skills of the child. Born from this interpretation are a number of parent-focused intervention programs aimed at changing the mother's style of interaction. In one such study, Tannock et al. (1992) found that intervention led to changes in the speech of mothers such that they became more responsive and less directive. More importantly, this change in maternal speech was accompanied by an increase in the number of conversational turns produced by their children.

Whitehurst and Valdez-Menchaca (1988) implemented a home intervention technique to teach middle class mothers to use techniques that altered the role of mother and child while reading. Ultimately the child would switch from being the listener to being the teller and the mother would switch from



being the teller to being an active listener. A comparison group received no intervention. Whitehurst and Valdez-Menchaca found that the children involved in the intervention had an increased mean length of utterance as well as substantial gains on standardized tests of language development. A similar procedure was implemented with lower class children who attended a Mexican daycare (Valdez-Menchaca & Whitehurst, 1992). However, graduate students rather than mothers carried out the intervention. None-the-less, language gains (increased number of verbal productions and increased scores on standardized language tests) were reported for children in the intervention group.

Recently Whitehurst, Epstein, Angell, Payne, Crone & Fishell (1994) have reported that low-income families with parents who engaged in active book reading at home with their children had children who preformed better on standardized tests of language, writing, linguistic awareness, and print concepts than did children who were not envolved in such reading. As was discussed earlier, children from economically disadvantaged backgrounds often experience difficulties in school and, in particular, in their production of decontextualized speech. This decontextualized speech is characteristic of narrative discourse.

In the present experiment, lower class parents were trained to use certain techniques when eliciting personal

narratives from their child. These techniques included having the parents talk to their child frequently about past experiences, consistently spending time on a single topic, inserting many wh-questions and few yes/no questions. Also parents were instructed to listen carefully to what their child was saying and to aim at having their child say more than one sentence at a time by using responses such as "um-hum", "really?" or "tell me more" or simply by repeating what their child had just said. Parents were also instructed to follow their child's lead by talking with them about whatever it is they wanted to talk about. It is hypothesized that the way parents prompt their child for personal narratives will have an influence on the types and complexity of narratives the child will produce.

## Method

### Participants

Twenty children, 10 male and 10 female, and their mothers, participated in the study. All families were lower-class, living in subsidized housing and in receipt of social assistance. The children entered the study at a mean age of 3;7 (range = 3;3 to 3;11) and were followed for 12 months. Approximately a year later when the children were 5 1/2 years old (mean age 5;8), fourteen children (7 from each group) were located for a follow-up assessment.

### Procedure

The children were quasi-randomly assigned to either an intervention or control group, each group consisting of 5 boys and 5 girls. All children were visited in their home by the researcher. The researcher established rapport by playing with the children during the first 2-3 visits which took place within two weeks. Once rapport was established the Peabody Picture Vocabulary Test (PPVT), the Clinical Evaluation of Language Fundamentals (CELF) and a narrative elicitation task were administered to all children. Following this assessment, the children were visited in their homes approximately every other month for 1 year.

*PPVT.* The PPVT is a standardized, individually administered test which measures receptive vocabulary. Each test contains 5 practice items, followed by 175 test items which are ordered from most easy to most difficult. When presented with an arrangement of four pictures, the subject is required to choose the picture that best illustrates the meaning of a word presented orally by the examiner.

*CELF.* The CELF is a standardized test of language fundamentals which assesses both receptive and expressive language. Linguistic concepts, basic concepts, and sentence structure measures are used to define receptive language. Recalling sentences in context, formulating labels and word structure are used to define expressive language.

*Narrative Elicitation Task.* All subjects received a pretest whereby the experimenter met with each child individually for approximately 30 minutes. During this time the experimenter elicited personal experience narratives from the child by presenting standardized lists of narrative prompts. These short narratives were inserted within a context of play with the child, and each was followed by a general prompt such as, "Did anything like that ever happen to you?" One such example is as follows, "I went trick or treating once and some of the costumes were really scary. Did you ever go trick or treating?" Rather than restructuring the narratives of children, the experimenter's comments were restricted to general indications of interest and encouragement such as "Uh-huh", "Yeah?", "Really?", "And then what happened?" or repetitions of what the child had just said. According to Peterson and McCabe (1983), these comments are successful at encouraging narration without imposing structure.

Approximately one year later, all children received a posttest, administered by an independent researcher who was blind to the group membership of the child. This was simply a repeat of the preliminary testing using a different list of standardized prompts (e. g., "I went to a birthday party at McDonald's once. Have you or any of your friends ever had a birthday party at McDonald's?")

One year after the posttest 14 (7 from each group) of the 20 children participated in a follow-up assessment which consisted of repeat of the posttest with yet a different list of standardized prompts.

On visits between the pretest and posttest the experimenter engaged in play with the children, during which time additional attempts to elicit personal experience narratives were made. As in the pretest and posttests, short narratives were inserted within the context of play and each narrative was followed by a general prompt such as "Did anything like that ever happen to you?" Again, since the experimenter was interested in what the child would say spontaneously, no specific questions were asked. Instead, the experimenter used non-specific prompts such as "yeah?", "and?" or simply repeated what the child had said with question intonation. The experiences prompted for were common experiences to most children, such as having a birthday party, getting a needle or falling off a swing. All sessions were audio-recorded and later transcribed.

*Intervention.* Once the experimenter completed a single narrative session, the parents of the children in the intervention group were informed of the type of narrative interaction that can foster their children's language development and were continuously encouraged to act accordingly in the following manner.

1) The primary goal was to establish rapport with the mothers and to interest them enough so that they would participate in the study. At the start of the research project the researcher aimed to establish the importance of this work. Included here was information concerning the aspects of story telling (about past events) that are linked to school success, particularly reading and writing. It was explained that children who tell good narratives are likely to adjust well in school. When children can produce more than one sentence spontaneously, they are more likely to 'fit in'.

2) Mothers were informed of the types of research that has been conducted and relevant findings, specifically that mothers speak to their children in different ways, and that some kinds of talking are better than others.

3) The researcher explained to mothers some ways that they could assist their children in becoming better story tellers. The following points were included and reinforced using bi-weekly phone conversations.

a) Talk to your child frequently and consistently about past experiences. Set a time each day when you can talk with your child.

b) Spend a lot of time on a single topic.

c) Ask plenty of wh-questions and few yes/no questions.

d) Listen carefully and pay close attention to what your child is saying.

e) Encourage your child to say more than one sentence at a time. This can be achieved by using responses such as "um-hum", "really?" or "tell me more" and simply by repeating what your child has just said.

f) Follow your child's lead. This means talk with them about whatever it is they want to talk about.

4) At this point the researcher showed the parents actual transcripts and had them listen to transcripts that contained the types of prompting we wanted them to employ.

5) The researcher then practiced these steps with the mother through role-play.

*Control.* The parents of children who served as controls were simply informed that this research was being conducted to learn more about how children develop narratives.

Prior to providing any information regarding the study to either group of parents and again at the end of the study, an audio recorded conversation between the parent and child was collected.

### Measures of Analysis

Child Data. All narratives produced by the child in the pretest and posttest were analyzed. Any instance of talk about a specific event which is removed in time and consists of at least two related clauses was considered a narrative. This definition is consistent with that used by other

researchers (Peterson, 1990; Umiker-Seobek, 1979). A clause was considered any utterance containing both a subject and a predicate, as defined by Peterson and McCabe (1994).

*Number and Length of Narratives.* The number of narratives produced by each child, including both those narratives that were prompted for as well as those produced spontaneously by the child, and their average length was tabulated. The latter was determined by the average number of clauses in the longest three narratives. Each narrative was also scored for the average number of clauses per conversational turn (i.e., the number of clauses that are produced without adult interruption). Back-channelling (i.e., "Tell me more", "Uh-huh?" Really?") was not considered an interruption. The number of prompts was also counted. This included all attempts by the interviewer to elicit information from the child. This would include back-channelling as well as any direct prompts (i.e., "Have you ever been to a birthday party").

*Unique Units of Information.* All instances in which novel bits of information were produced was also tabulated. This is similar to the analysis of information by both Fivush (1991) and Peterson (1994). This included information pertaining to person (i.e., "Corinne was with me", nanny let me stay"), location (i.e., "I slept at Sidney's house", "I was at the mall"), activity (i.e., "I played with the -tendo game",



"I had to clean it up"), object (i.e., "The teacher gave me some *money*", "When I goe*d* trick-or-treating I got some *pumpkins* and some *fries* too"), and attribute (i.e., "It was a *big* Easter Bunny", "This guy fell down on a *concrete* step"). Attributes were further divided into object attribute (i.e., "And I got a *new* bike"), person attribute (i.e., "The new baby was *little*") and state attribute (i.e., "It got really *dark*").

*Decontextualized Information.* Each narrative was scored for the amount of decontextualized information. This included all instances of temporal context, indicated by *when* (the time the event occurred) and spatial context, indicated by *where* (the location of the narrated events). Examples of temporal context include "I went there *yesterday*" and "I had to get a needle *when* I was a *baby*" and examples of spatial context include "I was in my *backyard*" and "He bringe*d* me to the *Janeway*".

*Simple Temporal Terms.* The number of temporal terms was counted for each narrative. Narratives contain events that are temporally linked. These links can be expressed through the use of temporal terms which include *then, and then, first, next, before and after.*

*Complex Temporal Terms.* Narratives can also contain events that are causally connected. Causal connections can be expressed through such terms as *because, so, when, where, if, while and until.*

Parent Data. The mother-child transcripts were analysed for parental data. Each past experience about which the mothers questioned their child was considered a narrative. The mother's speech was analyzed for the following components:

*Parent Utterances per Narrative.* The number of utterances per narrative was tabulated in order to provide a quantitative measure of how much each parent talked about each narrative topic.

*Open ended prompts.* This consisted of all questions and/or commands that prompted for information but did not ask for orientative context information and required more than a simple yes or no response. "What happened then?", "What did you do at school today"? and "What happened at the Janeway"? are examples of open ended prompts.

*Back channeling/Repetition.* This included all cases in which the parent repeats what the child has said (i.e., Child: "A little castle". Parent: "A little castle? Wow" Child: "And a big castle". Parent: "And a big castle"? ) or provides an indication for the child to go on (i.e., "um-hum" "yeah?" "tell me more").

*WH-context Questions.* This included all questions that prompt for contextual information (i.e., who ("Who visited you yesterday"?), when ("When did nanny go home"?), where ("Where did mommy take you today"? ) and what object (What was in your lunch today"?). The number of wh-context questions per

narrative were calculated.

*YES/NO Questions.* This included all yes/no questions that provided context information about time (i.e., "Did we go to nanny's yesterday?"), location (i.e., "Did we go to McDonald's), person (i.e., Does Dorothy drive your bus?) and objects (i.e., Did nanny give you a new power jeep?), as well as questions generally focused on actions (i.e., Did you fall down?) or evaluations (i.e., "Was it a good movie?")

## RESULTS

Child data will be presented first. It was predicted that increases will occur in the posttest of the intervention group on the number and length of narratives, the number of unique units of information, the amount of decontextualized speech, and the number of complex temporal terms. The parent data will be presented second. Here, for the parents in the intervention group, it was expected that number of open-ended prompts, the amount of back-channelling and repetition, and the number of wh-context questions would increase. Preliminary analyses that included gender as a separate factor were all nonsignificant for gender. Therefore the data are collapsed across gender.

### CHILD DATA

PPVT. The scores for the intervention and control groups at initial testing were 52.5 and 54.0, respectively, and at

the posttest assessment were 59.0 and 55.5, respectively. A repeated measures ANOVA revealed a group X test interaction ( $F(1,18) = 18.58, p < .01$ ), with the intervention group showing improvement by having higher scores than the control group on the posttest but not on the pretest.

CELF CELF scores showed an increase in the posttest scores for the intervention ( $x = 88.4$  vs.  $x = 96.5$ .) and control group ( $x = 85.8$  vs.  $x = 95.6$ ). Analysis did not show a significant interaction nor main effect for group. Main effect for test, however, was significant ( $F(1,18) = 15.52, p < .01$ ), with scores higher on the posttest.

NARRATIVE ANALYSES All narratives produced by the child in the pretest and the posttest were analyzed for several properties: the number of narratives, the mean number of clauses in the child's three longest narratives, the mean number of clauses per conversational turn, the number of prompts required to elicit the narrative, unique units of information, decontextualized information, and temporal organization.

#### Narratives, Clauses and Prompts

The means for the number of narratives, the number of clauses per longest three narratives, the number of clauses per conversational turn, and the number of experimenter prompts appear in Table 1. In order to determine if group membership or time of testing had a significant effect on the

number of narratives, narrative length or the number of prompts, 3 repeated measures ANOVAS were calculated with group (Intervention vs. Control) a between subjects variable and Test (Pretest vs. Posttest) a within subjects variable. No significant effects were obtained.

#### Unique Units of Information

The mean number of unique units of information present in the pretest and posttest narratives of both groups of children are reported in Table 2. A repeated measures MANOVA was used to analyse the frequency of the various types of information (object, location, activity, person and attribute), as well as the totals with Group (Intervention vs. Control) the between-subjects variable and Test (Pretest vs. Posttest) and Units of Information being the within-subject variables. Analysis produced no significant Group interactions. There was however a significant interaction between Test and Units of Information,  $F(108,6) = 3.09, p < .01$ .

#### Decontextualized Information

The amount of decontextualized information present in the pretest and posttest of both groups of children are presented in Table 3. (see Table 3.) These data were also analysed using repeated measures MANOVA, with group (2 levels) the between subjects variable and test (2 levels) and context (2 levels: when and where) the dependent variables. No significant contrast effects were obtained.

### Temporal organization

Temporal organization is signalled by the use of temporal terms which can include both simple and complex forms. The children's narratives were searched for both types of temporal terms. The mean number of simple and complex terms present in the pretest and posttest narratives of both groups of children are presented in Table 4. (See Table 4.)

A repeated measures MANOVA was performed for simple temporal terms with Group (Intervention vs. Control) a between-subjects variable and Test (Pretest vs. Posttest) and Simple Temporal Term (5 levels: then, and then, first, next and before) the dependent variables. The MANOVA for simple temporal terms produced no significant effects.

Another repeated measures MANOVA was performed for complex terms, with Group (Intervention vs. Control) the between subjects variable and Test (Pretest vs. Posttest) and Complex Temporal Term (5 levels: because, until, so, if and while) the dependent variables. There were no significant results.

### Parent Data

All narratives produced by the mother in the initial and final sessions were analysed for a number of measures including the number of open-ended prompts, back-channelling, wh and yes/no questions, and other utterances (i.e., any

utterance that was not classified as one of the previous measures). Because intervention training focused on increasing the number of open-ended prompts, back-channelling and wh questions, a repeated measures MANOVA was used to analyse these three types of utterance in the pretest and posttest of both groups of children, with Group (intervention vs. control) being the between subjects variable and Test (pretest vs. posttest) and utterance type (3 levels: open ended questions, back channelling and wh questions) the dependent variables. The MANOVA revealed a significant group X test interaction,  $F(1,18) = 5.56$ ,  $p < .05$ , as well as a significant main effect for test;  $F(1,18) = 5.17$ ,  $p < .05$ . Thus, the intervention mothers were increasing the aggregate of the sorts of utterances they were encouraged to produce more than did the control mothers. Intervention parents were also encouraged to decrease their use of yes/no questions; when the frequency of these questions were analysed with group and test the between-subjects and within-subject variables, respectively, there were no significant effects. Thus the intervention did not appear to affect the production of yes/no questions. Parents were given no advice concerning other utterances. The frequency of these were also analysed with Group and Test the between-subjects and within subject variables, respectively, and no significant effects were found.

### Follow-up Data

Recently, 14 (7 in each group) of the 20 subjects were located and re-interviewed in the same manner as the original posttest. This took place approximately 12 months after completion of the first study (see Tables 1-4). While groups did not differ in the number and length of the narratives, nor on the number of the unique units of information, they did differ on the amount of temporal information produced. More decontextualized information (especially temporal) as well as more complex temporal terms were produced by subjects in the intervention group than by subjects in the control group.

When the pretest and posttest scores of the 14 children who were located for the follow-up assessment were compared with the pretest and posttest scores of the 6 children who could not be located for follow-up assessment no significant differences were found.

To analyse the decontextualized information a MANOVA was conducted with group membership (Control vs. Intervention) as the between-subjects variable and test (Pretest, Posttest and Follow-up) as the within-subjects variable. When the two types of decontextualized information were analyzed separately findings for the amount of temporal (when) information produced revealed a significant main effect for group ( $F(1,12) = 3.64, p < .01$ , a significant test main effect ( $F(2,24) = 4.03, p < .05$ ) and a significant group by test interaction



( $F(2,24) = 4.56, p < .05$ ). This was also done for the total of all decontextualized information and there was a significant group X test interaction ( $F(2,24) = 3.69, p < .05$ ). Overall, subjects in the intervention group produced significantly more decontextualized information, a year after intervention ended, and especially more temporal decontextualized information, than did subjects in the control group.

For the analyses of complex temporal terms a MANOVA was also conducted, with group membership (Control vs. Intervention) as the between-subjects variable and test (Pretest, Posttest and Follow-up) as the within-subject variable. Analysis showed a significant group main effect ( $F(1,12) = 5.27, P < .05$ ) with subjects in the intervention group producing more complex temporal terms than subjects in the control group.

#### DISCUSSION

Previous research has indicated that children from lower class families often do not possess the language prerequisites necessary for school success. Many studies have shown that language intervention can be successful at increasing the school performance of children; however, conclusions drawn from such research have been restricted by sample parameters (e.g., the target children were middle class, developmentally

delayed or learning disabled) (Koniditsiotis & Hunter, 1993; Tannock, Girolametta & Siege, 1992; Wiig, 1990). The sample in the present study is exclusively lower class.

The main focus of this research is to determine if parent centered language intervention in lower class families could be effective. Most researchers agree that parents are major contributors to the language style of their children and the kinds of information that parents request are the kinds of information that children will later produce on their own. In focusing on the importance of competent adults teaching new skills to children by providing a scaffold which is then progressively decreased as children's mastery of the new skill increases, we are taking a Vygotskian approach, a perspective which suggests that language intervention with parents at home will enhance a child's language skills.

It was proposed that training parents to elicit narratives from children using the previously described techniques would result in the children later producing more complex narratives. Parents were trained to use fewer yes/no questions but more open-ended prompts, back channel responses and wh questions. Complexity in the children's narratives was measured, not only by the length of narratives but also by the overall quality of narrative structure including the number of unique units of information provided, the amount of

decontextualized information and the number of complex temporal terms.

Analyses of the parent data indicate success in training the parents. At post testing, parents in the intervention group as compared to the control group increased their usage of the types of utterances targeted, namely, wh questions, back-channelling and open ended prompts. However, they did not decrease their use of yes/no questions which we had also aimed to do. What this tells us is that their style of talking with their children changed in important ways. By asking more wh and open ended questions and using more back-channelling, these parents are encouraging elaboration. Because yes/no questions (i.e., "Did you have fun"?, "Did you eat your peanuts"?) require only a one-word response they do not stimulate children to provide information to create longer narratives. Although intervention parents did not ask fewer yes/no questions over time, the proportion of all questions that were yes/no in form decreased since parents asked more wh and open-ended questions with time. An increase in the number of wh questions indicate that parents are now requesting more contextual information from their children (who, when, where, why and what object). This is important because the type of information that is requested from children early in development is the type of information they will later produce spontaneously (Peterson & McCabe , 1994). An increase in

open-ended prompts is important because they are indications for a child to continue and they encourage children to produce spontaneous information.

Overall, parents increased the sort of utterances that were targeted in our intervention, as we anticipated. The primary question now is whether this change in parental language had an impact on the child's language. When we review our analyses of the child data, the findings from the original study are not consistent with what we anticipated. The intervention group and the control group did not significantly differ on the length of their narratives, nor were there differences in the complexity of the narratives they produced. However, the PPVT scores of the children in the intervention group did increase from the pretest to the posttest, relative to the control group. This does suggest that the intervention children had gains in their receptive vocabulary.

In the follow up study it is unclear whether the intervention was effective. Examination of the means of the child measures in the follow-up assessment shows that the intervention may have had some effect since all the means are in the right direction. On average, the intervention children produced more narratives, their longest three narratives were longer and they produced more clauses during each conversational turn (Refer to Table 1). Also, they produced

more decontextualizing information (Refer to Table 3) and they provided more temporal terms (Refer to Table 4).

Decontextualized information analysis showed that the intervention group used orientation to both *when* and *where* significantly more than did the control group in the follow-up assessment. Providing contextual information is paramount in good story telling and is one of the defining features of narration. Narrative discourse must be understood by a listener who was not present at the time of the described event. This becomes increasingly important when children enter school since school-aged children are expected to talk about times other than the here and now to people who were unlikely to be present at these described events. By providing information about when (i.e., yesterday, on Sunday, last night) and where (i.e., at the playground, at daycare, at my nanny's house) in their narratives these children are using a form of decontextualized speech that can be understood without supporting context.

In addition to being informative and a form of decontextualized speech, narratives should also contain explicit simple and complex temporal relationships. The inclusion of such information indicates a chronologically organized and well patterned narrative. Analyses of temporal organization in the follow-up data showed that the means for the total number of complex terms were greater in the follow

up test for the intervention group but not for the control group. No differences were found for the total number of simple terms. This is consistent with Fivush (1991) who reported that most children can use simple temporal terms (i.e., then, and then, first, next and before) and that these do not differentiate children of elaborative parents who foster complex language skills from children of repetitive parents who do not foster such language skills. However, Fivush (1991) found that children who have mothers that are elaborative and encourage complex narratives early in development will produce more complex temporal links themselves (i.e., because, until, so, if and while).

We did not find changes in the factors that do not measure complexity, namely length of narratives and number of simple complex terms. We were interested in seeing a change in the quality, not the quantity of the narrative. While these findings were not made in the original study, the follow-up study suggests partial support. It appears that sleeper effects have occurred. According to Seitz (1981) it is possible that a behavioral treatment can have long term effects without having earlier ones (but see Clarke & Clarke, 1982). It is possible that if parents continued to use the intervention techniques, children exposed to these techniques at a later age may be more capable of learning the skills that

produce changes in the temporal organization of their narratives.

In summary, it seems that language intervention with economically disadvantaged children and their mothers can be successful. However, because we have a small number of subjects and large variability in scores we have only suggestive pilot data but it is encouraging. The implications of the current findings are substantial though since the children in the intervention group were more successful at providing decontextualized texts which is strongly linked to literacy acquisition.

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Table 1: Quantity and length of narratives produced by the children (and standard deviations)\*

Measure	Time of Test		
	Pretest	Posttest	Follow-up
# Narratives			
Control	9.8 (1.9)	8.9 (1.0)	11.6 (4.0)
Intervention	8.5 (1.3)	8.8 (1.5)	14.0(5.8)
Clauses/longest 3 narr.			
Control	6.9 (1.9)	7.0 (1.1)	10.5 (4.2)
Intervention	7.7 (2.0)	7.0 (1.5)	14.7 (9.1)
Clauses/turn at talk			
Control	5.4 (1.8)	5.3 (0.9)	6.0 (2.0)
Intervention	4.5 (2.0)	5.3 (2.1)	7.2 (3.3)

\*Note: the pretest and posttest means are from the entire sample of 20 children (10/group) whereas the follow-up means come from only 14 children (7/group).

Table 2: Mean number of unique units of information in the children's narratives (and standard deviations)\*

Measure	Time of Test		
	Pretest	Posttest	Follow-up
<b>Object</b>			
Control Group	10.3 (3.5)	11.1 (2.7)	25.7 (17.3)
Intervention Group	9.7 (2.8)	7.6 (3.2)	32.4 (17.1)
<b>Location</b>			
Control Group	5.9 (1.6)	7.1 (2.5)	7.0 (7.6)
Intervention Group	5.3 (2.6)	6.3 (2.5)	13.1 (6.9)
<b>Activity</b>			
Control Group	2.6 (1.7)	2.9 (1.6)	31.9 (25.1)
Intervention Group	2.6 (1.8)	2.5 (1.9)	49.0 (33.2)
<b>Person</b>			
Control Group	9.6 (2.5)	10.8 (2.4)	21.9 (11.0)
Intervention Group	8.3 (3.6)	8.6 (2.6)	32.7 (16.0)
<b>Attributes</b>			
<b>of Object</b>			
Control Group	1.2 (0.9)	1.8 (1.0)	19.1 (14.2)
Intervention Group	0.7 (0.3)	1.2 (1.0)	21.3 (14.5)
<b>of Person</b>			
Control Group	3.2 (1.7)	2.0 (1.3)	2.7 (2.8)
Intervention Group	3.8 (1.8)	1.0 (0.9)	5.9 (6.2)
<b>of State</b>			
Control Group	0.8 (0.9)	0.8 (0.9)	9.1 (6.1)
Intervention Group	1.0 (0.7)	0.7 (0.8)	16.0 (17.6)
<b>Total Unique Units</b>			
Control Group	33.6 (3.0)	36.1 (2.9)	117.9 (80.5)
Intervention Group	31.4 (3.0)	27.9 (4.0)	170.4 (102.8)

\*Note: the pretest and posttest means are from the entire sample of 20 children (10/group) whereas the follow-up means come from only 14 children (7/group).

Table 3: Amount of decontextualizing (where and when) information in the children's narratives (and standard deviations)\*

Measure	Time of Test		
	Pretest	Posttest	Follow-up
Spatial info. (where)			
Control Group	6.3 (2.5)	9.1 (2.5)	8.6 (10.4)
Intervention Group	7.3 (2.4)	8.7 (1.5)	15.4 (8.6)
Temporal info. (when)			
Control Group	2.8 (1.4)	4.4 (1.4)	2.6 (1.4)
Intervention Group	3.7 (2.2)	3.0 (2.2)	10.4 (9.8)
Total decontextualized info.			
Control Group	9.1 (2.2)	13.5 (2.7)	11.3 (10.8)
Intervention Group	11.0 (1.5)	11.7 (1.7)	25.8 (17.5)

\*Note: the pretest and posttest means are from the entire sample of 20 children (10/group) whereas the follow-up means come from only 14 children (7/group).



Table 4a: Mean number of simple temporal terms (and standard deviations)\*

Measure	Time of Test		
	Pretest	Posttest	Follow-up
<b>Then</b>			
Control Group	3.2 (3.0)	3.7 (2.6)	1.1 (1.2)
Intervention Group	4.2 (2.5)	3.9 (2.8)	1.7 (2.1)
<b>And then</b>			
Control Group	2.1 (1.4)	1.4 (1.5)	3.7 (8.5)
Intervention Group	1.6 (1.4)	1.7 (1.3)	5.0 (4.7)
<b>First</b>			
Control Group	0.8 (1.1)	0.9 (1.3)	0.3 (0.5)
Intervention Group	1.3 (1.4)	0.9 (1.3)	0.9 (1.2)
<b>Next</b>			
Control Group	0.7 (0.8)	0.4 (0.5)	0.3 (0.8)
Intervention Group	0.3 (0.7)	0.5 (0.7)	0.5 (0.8)
<b>Before</b>			
Control Group	0.2 (0.4)	0.4 (0.7)	0.7 (1.0)
Intervention Group	0.3 (0.5)	0.5 (0.7)	0.7 (1.1)
<b>Total simple terms</b>			
Control Group	7.0 (2.8)	6.8 (2.4)	6.1 (8.0)
Intervention Group	7.7 (1.9)	7.8 (3.0)	8.8 (5.1)

\*Note: the pretest and posttest means are from the entire sample of 20 children (10/group) whereas the follow-up means come from only 14 children (7/group).

Table 4b: Mean number of complex temporal terms (and standard deviations)\*

Measure	Time of Test		
	Pretest	Posttest	Follow-up
<b>Because</b>			
Control Group	4.7 (2.8)	5.3 (3.9)	2.3 (3.5)
Intervention Group	5.9 (2.3)	6.2 (3.7)	5.6 (6.0)
<b>Until</b>			
Control Group	0.3 (0.5)	0.5 (0.7)	0.0 (0.0)
Intervention Group	0.2 (0.4)	0.4 (0.7)	0.0 (0.0)
<b>So</b>			
Control Group	1.7 (2.1)	2.4 (2.0)	0.0 (0.0)
Intervention Group	2.7 (2.8)	2.5 (2.7)	3.0 (3.8)
<b>If</b>			
Control Group	1.3 (1.3)	2.5 (2.0)	0.0 (0.0)
Intervention Group	1.1 (0.7)	1.2 (0.9)	0.4 (0.8)
<b>While</b>			
Control Group	1.0 (1.8)	1.2 (1.9)	0.1 (0.4)
Intervention Group	0.7 (1.1)	0.6 (1.4)	0.1 (0.4)
<b>Total complex terms</b>			
Control Group	9.0 (2.9)	11.9 (4.0)	2.4 (3.5)
Intervention Group	10.6 (2.5)	10.9 (3.7)	9.1 (6.1)

\*Note: the pretest and posttest means are from the entire sample of 20 children (10/group) whereas the follow-up means come from only 14 children (7/group).

Table 5: Mean number of parent measures (and standard deviations)

Measure	Time of Test	
	Pretest	Posttest
Open-ended prompts		
Control Group	11.3 (6.4)	11.7 (4.1)
Intervention Group	9.7 (5.5)	14.4 (4.2)
Back-channelling		
Control Group	3.8 (2.9)	3.2 (2.7)
Intervention Group	3.0 (1.8)	4.9 (2.5)
wh-context questions		
Control Group	6.4 (4.3)	6.8 (4.1)
Intervention Group	4.5 (3.5)	8.5 (2.6)
Total of above 3		
Control Group	21.5 (7.2)	21.7 (6.9)
Intervention Group	17.2 (5.8)	28.2 (4.0)
Yes/no questions		
Control Group	9.2 (3.2)	10.2 (3.2)
Intervention Group	7.5 (3.7)	8.8 (2.7)







