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Maternal Mediation in a Young Child's Writing Activity: A Sociocultural Perspective

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In this chapter, we review two studies we conducted that focused on mother–child joint writing activity as a function of their sociocultural background and its relation to the child's literacy level in two age groups: kindergartners and second graders. In the first study with second graders, we compared two socioeconomic-status (SES) groups, high SES (HSES) and low SES (LSES), and in the second, with kindergartners, we delved deeper into the LSES by studying SES differences within the LSES group. The most important findings of the two studies described here are the links found between the quality of maternal mediation of writing and children's literacy. In the first study of second graders, LSES differed from HSES on maternal mediation and on children's literacy level. However, the correlations between these variables within each group—HSES and LSES—appeared only in the HSES group. In the second study, in which only LSES kindergartners were studied, these correlations were especially strong. Within this group, even after all sociocultural measures (SES, maternal exposure to children's and adults' books, and literacy-related materials at home), were controlled for, the link between the quality of maternal mediation of writing and the child's reading and writing skills is still substantial.

INTRODUCTION

In this chapter, development is conceived of as embedded in the sociocultural context. It claims that culture shapes the mind, that the original form of higher mental activity is external and social and is then appropriated by the individual in the course of activity in collaboration with more experienced others. This line of thinking is associated with the sociocultural theories of Vygotsky (1978), neo-Vygotskians like Rogoff (1990) and Wertsch (1984), cultural psychologists like Bruner (1996), and the contextual ecological theory of Bronfenbrenner (1979).

Reading and writing are essential cultural tools in modern, technologically oriented cultures. Parental mediation, through which children are introduced to this code, constitutes a central factor in literacy development (Kagicibasi, 1996; Rogoff, 1990). Differences in the quantity and quality of parental literacy mediation reportedly are related to differences in young children's

competencies in this area (Adams, 1991; Reese & Cox, 1999; Rogoff, 1990). Research on parental mediation in literacy-promoting contexts has focused mainly on the area of joint storybook reading (Allison & Watson, 1994; Burgess, 1997; DeBaryshe, 1993; DeBaryshe & Binder, 1994; Hale & Windecker, 1993; Mackler, Baker, & Sonnenschein, 1999; Reese & Cox, 1999; Sénéchal, 1997). Parent–child joint storybook reading (nature and amount) was assumed to set the stage for future differences in children's literacy and academic achievements (Teale, 1981).

Bus, van IJzendoorn, and Pellegrini (1995) and Scarborough and Dobrich (1994) reviewed more than three decades of empirical research pertaining to the relationship between storybook reading and the development of literacy skills. These authors concluded that reading to children accounted for 8% of the overall variance in language, emergent literacy, and literacy skills. From this finding, it is apparent that a large amount of the variance remains to be explained, and other factors, such as joint parent–child activities, could be critical. Children share with their parents a variety of literacy-related activities that may enhance their literacy skills (Teale, 1986; Tudge & Putnam, 1997), of which storybook reading is one. Scarborough and Dobrich (1994) suggest that further research may find that other early literacy experiences have a powerful relationship with literacy development.

This chapter reviews two studies that examined another early literacy-promoting activity: parent–child mutual writing. The first study involved second graders and their mothers from two socioeconomic-status (SES) groups engaged in a parent–child writing activity (see details in Korat & Levin, 2001, ~~in press).~~ The second study involved kindergartners and their mothers from only a low-SES (LSES) group, in a collaborative writing activity (see details in Aram & Levin, 2001, ~~in press).~~ Our purpose in these studies was to analyze the nature of maternal mediation during the joint writing activity as a function of sociocultural background and its relationship to the child's literacy level in the two age groups: kindergartners and second graders.

Preschoolers' experience with writing is important for cultivating literacy. Durkin (1966), who observed precocious readers, found that for many of them writing came before reading. She suggested that reading seemed almost a by-product of writing. When children write, they ask questions about the relationship between speech and print that can help them construct their knowledge about the written system. Observations in homes reveal that children engage in pretend writing, invent spelling, and question their parents about what their parents write (Baker, Fernandez-Fein, Scher, & Williams, 1998; Bissex, 1980; Harste, Woodward, & Burke, 1984; Tudge & Putnam, 1997).

Parental mediation of writing often occurs as an integral part of ongoing day-to-day activity rather than as a ritual, like storybook reading (Weinberger, 1996). Writing interactions among preschoolers are often initiated by children who wish to write and who spontaneously ask their parents how to write or by parents modeling or explaining the spelling of words. Yet the nature of parent–child writing transactions has hardly been studied.

Two case studies on emergent literacy development referred to children's writing interactions with family members, teachers, or age mates. In her seminal study, Bissex (1980) documented longitudinally her son Paul's development of writing at home between the ages of 5 and 11 years. Despite her deep interest in and consistent study of her son's writing, Bissex considered Paul to be his own teacher and she provided only sparse information about the support that she, and presumably her husband, provided for their son's early writing. Gundlach, McLane, Stott, and McNamee (1985), unlike Bissex, assumed that parents and older siblings play an active role in young children's writing development. They describe three case studies of young children beginning to write, emphasizing the social nature of their experience. The first case study is of a 4-year-old boy trying to write at home. The parents supported his writing activity and explained the nature of the written system. The second case study is of a 5-year-old girl writing with her mother and her 7-year-old sister. The role that the older sister plays in her younger sister's writing activities (as a model, a coach, a competitor, and a coconspirator) is emphasized.

The third study shifts the focus from writing at home to writing in a preschool setting, describing writing interactions of three preschoolers among themselves and with their teacher.

Two experimental studies analyzed parent–child joint writing. Burns and Casbergue (1992) examined collaborative writing among 3- to 5-year-olds and their parents. Parental mediation in which high levels of control were demonstrated was related to more conventional products and to parent–child exchanges that focused on spelling. Parental mediation in with lower levels of control was related to less conventional products and to a focus on the letters of the alphabet. DeBaryshe, Buell, and Binder (1996) observed 5- and 6-year-old children attempting to write a letter alone and with their mother's assistance. Children produced more sophisticated products with maternal mediation than in solo writing. Almost all mothers guided their children to use conventional spelling in the dyadic condition, irrespective of the child's solo level.

Compared with the ample research that exists on the role played by parent–child literate activities in emergent literacy, and particularly joint storybook reading, research observing parents assisting schoolchildren in literacy activities are rare. This type of observation is very important because parents of school beginners are highly involved with their children's reading and writing in functional or playful daily activities (Bissex, 1980; Clay, 1975; Heath, 1983; Taylor & Dorsey-Gaines, 1988) as well as in academic activities, such as homework support (Anderson, 1986; Cooper, 1989; Hoover-Dempsy, Bussler, & Burow, 1995; Levin et al., 1997). Yet we do not have a clear picture of the nature of parent–child joint reading or writing with young schoolchildren.

The two studies presented in detail in this chapter examine the sociocultural context of literacy development among young children, focusing on the unique role of mother–child collaborative writing. The sociocultural aspects that we refer to are SES, literacy environment at home, and maternal literacy. There is a stable, well-documented connection between SES and children's literacy. Children who come from a lower SES show a lower level of achievement on such literacy measures as phonological awareness, letter naming, word writing, word recognition, receptive vocabulary, and grammar (e.g., Bowey, 1995; Duncan, 1991; Feitelson & Goldstein, 1986; Lonigan, Burgess, Anthony, & Baker, 1998; Nicholson, 1999; Ogbu, 1990; Reese, 1995; Smith & Dixon, 1995; Walker, Greenwood, Hart, & Carta, 1994; Whitehurst, 1997). Children who have access to literacy-evocative materials and experiences (papers, pencils, books, blackboards, crayons, booklets, journals, dictionaries, cards, visits to the library, etc.) tend to become more proficient readers than children lacking such tools and activities (Hart & Risley, 1992; Neuman & Celano, 2001; Nicholson, 1999; Sonnenschein, Shmidt, & Mackler, 1999; Stuart, Dixon, Masterson, & Quinlan, 1998; Whitehurst, 1999). Mothers from different SES groups differ in their level of language, frequency of reading and writing in their everyday life, and the amount of pleasure they get from reading and writing. Some parents expose their children to positive models of reading; others do not (Heath, 1983; McCormick & Mason, 1986; Teale, 1986).

In our kindergarten sample, we focused on maternal guidance of the graphophonemic code and the child's autonomy in printing the letters and in writing unfamiliar words. In the second-grade sample, we examined child's autonomy in the writing activity while composing and printing a simple text, that is, a shopping list for a birthday party.

THE STUDIES

Study 1: Mothers' Mediation of Text Writing with Their Second-Grade Children: A Comparison Between Two SES Groups

In this study, we examined low-SES (LSES) and high-SES (HSES), second-grade children's independent writing, followed by mother–child collaborative writing of the same text: a shopping

list for the child's imaginary birthday party. Our purpose was to analyze the nature of parent–child mutual writing activity as a function of the child's family background and its relation to the child's independent writing level. Our focus was on the child's autonomy in the writing activity while composing and printing the text.

Young children, regardless of their social strata, are frequently exposed to the writing of shopping lists and are aware of their usage. Lists are usually written as a mnemonic device and require planning, organizing, and qualifying items according to the list's function. Young children have been reported to be involved in writing lists on their own or in collaboration with others even before they are of school age (Clay, 1975). Lists can be considered a particular genre. They include nouns, noun phrases, and, sometimes, descriptors rather than complete sentences. They are displayed as single items running from top to bottom rather than as complete lines or paragraphs.

A total of 40 second graders and their mothers took part in this study. They were recruited from two schools located in two urban neighborhoods in the greater area of Tel Aviv, Israel. One neighborhood was populated mainly by LSES families and the other by HSES families. Participants were solicited by letters sent to parents through the school system. From the 75% of the parents who returned permission forms, 10 boys and 10 girls and their mothers from each SES were randomly chosen and invited to participate. The two schools used a program of reading and writing instruction called "No Secrets" (in Hebrew *Bli Sodot*), which is employed by approximately 39% of elementary schools in Israel (Ministry of Education, 2001). "No Secrets" is an eclectic program with an emphasis on phonics, whole-word, and meaning instruction.

Most LSES mothers were Israeli born, with Asian or North African origins. Most HSES mothers were Israeli born, with European origins. In both groups most of the families were intact. The mothers and fathers in the two SES groups differed significantly in the number of school years: mothers, LSES $M = 11.4$ versus HSES $M = 16.7$, $t(38) = 5.63$, $p < .001$; fathers, LSES $M = 10.6$ versus HSES $M = 16.7$, $t(38) = 6.46$, $p < .001$. The LSES and HSES parental occupational levels, measured on a 4-point scale (Roe, 1956) adapted to the Israeli population (Meir, 1978), differed significantly: mothers, LSES $M = 2.3$ versus HSES $M = 3.7$, $t(38) = 7.37$, $p < .001$; fathers, LSES $M = 2.1$ versus HSES $M = 3.4$, $t(38) = 5.83$, $p < .001$. A significant difference between the two SES groups was also found in the number of rooms per apartment, LSES $M = 3.1$ versus HSES $M = 4.5$, $t(38) = 7.15$, $p < .001$, but not in the number of children per family, LSES $M = 2.6$ versus HSES $M = 2.7$; $t(38) = 0.31$, ns.

Data were collected in three sessions. In the first session, the child was invited to a quiet room in the school, given two blank sheets of paper, a pencil, and a set of thin markers, and asked to write a shopping list for a birthday party. The interviewer read out the following instructions: "Imagine that in a week's time you are going to have a birthday party. Please, write a shopping list for this party." The written instructions were left on the table in front of the child. No help was provided. In the second session, 3–4 days after the first session, the researcher visited the child's home for observations of mother–child interactions during the same writing activity. The mother–child collaborative writing occurred in the participants' chosen place at home (in the living room, in the child's room, or in the kitchen) and lasted, on average, for about 25 min ($M = 25$ min; range: 15–40 min). The interviewer gave the child the same writing materials and written instructions as in the independent writing activity. The mother was asked to sit next to the child and to provide help as she deemed fit. A VHS camcorder on a tripod, placed at the far end of the room, videotaped the session. The interviewer left the room while the mother and the child completed the task. In the third session, the researcher revisited the homes for gathering demographic and family literacy information from the mother.

Interviews with the mothers were used to assess the literacy environment at home and maternal exposure to books. The literacy environment at home was measured on a 10-point scale

that assessed the existence of literacy tools and activities (e.g., computer, tape recorders, video tapes, arithmetic games, daily newspaper, subscription to adults' and children's magazines, reading and writing activities, library visits). Maternal exposure to books was assessed by the Title Recognition Test (TRT; Stanovich & West, 1989). The checklist task is a proxy indicator of a person's exposure to print. This checklist method presents the participant with a list of book titles, some of which are real book titles and others are foils (fictitious names). Participants scan the list and check the book titles they recognize. The advantages of this measure are its immunity from social desirability, its low cognitive load, and the lack of a necessity for retrospective time judgments. The storybook exposure measure is sensitive to individuals' actual exposure to books. We presented the mothers with two checklists: an Adult's TRT (ATRT) and a Children's TRT (CTRT). The adults' lists predict an adult's vocabulary, verbal fluency, and reading comprehension (Cunningham & Stanovich, 1991; Stanovich & Cunningham, 1993). The children's list, when administered to parents, predicts their childs' language better than traditional self-report measures of storybook reading do (Sénéchal, LeFevre, Hudson, & Lawson, 1996; Sénéchal, LeFevre, Thomas, & Daley, 1998).

Mothers were presented with two lists: one of children's book titles and one of adults' book titles. Each list was composed of 30 titles: 20 recommended popular books and 10 foils that were verified as nonexistent titles in library databases. They were asked to read the lists and indicate the titles that they recognized. To obtain a total score on exposure to print, a correct recognition contributed 1 point and an incorrect one, deleted 2 points so that recognition of all books in the list would result in a zero score.

Results

Literacy Environment at Home and Maternal Books Exposure by SES. Comparisons between the two SES groups regarding literacy-related tools and activities and maternal exposure to adults' and children's books are presented in Table 42.1.

The upper part of Table 42.1 shows that LSES homes were significantly less affluent than HSES homes in literacy tools and activities. Furthermore, LSES mothers recognized significantly fewer children's and adults' books than did HSES mothers.

The child's independent writing of text in school—a shopping list—was scored on four aspects: (a) number of print signs (e.g., letters, numbers, punctuation marks); (b) number of genre elements (the number of products in the list); (c) percentage of spelling errors (calculated as number of spelling errors out of number of letters written in the text); and (d) number of linguistic elements of the written register (i.e., number of descriptors of the products such as tasty bubblegums, 10 bottles of Coca Cola, beautiful candles). The second part of Table 42.1 shows that LSES children produced significantly less advanced texts as measured by all four aspects of writing. These differences were especially large in the percentages of spelling errors.

Videotapes of the mother–child dyadic interactions during the same writing activity in the home were transcribed verbatim, and transcripts, videotapes, and the written texts were all examined together to code the interactions. The interaction was segmented into topic units, that is, the idea or the theme of the discourse (Diamond, 1996; Schiffrin, 1987). Whenever a new topic was raised, it was defined as the beginning of a new unit.

Within each unit, the child's level of autonomy was scored on a 5-point scale in which a score of 5 indicated that the child produced the text unit autonomously (e.g., the child wrote the name of a product in the list, the mother looked at the child's writing and said "very nice." Then the child started writing the next product); a score of 4 indicated that the child produced the text unit autonomously with some help from the mother (e.g., after writing a word the child asked the mother if the word was spelled correctly, and the mother responded to the child); a score of 3 indicated that both parties played an equal part in the text unit production (e.g., the mother asked a question of clarification and the child gave the right answer, which

TABLE 42.1
Means and Standard Deviations of Literacy Tools at Home, Maternal Exposure to Print, Child's Independent Text Level, Child's Autonomy, and Maternal Reinforcement and Criticism by SES

	Low SES	*High SES*			
	M (SD)	*M (SD)*	*df*	*t*	*p<*
Literacy tools at home and maternal exposure to print					
Literacy tools and activities at home (possible range of scores = 1–10)	6.5 (1.80)	8.7 (1.07)	38	4.82	.00
Maternal adults' books exposure (possible range of scores = −20–20)	2.60 (3.25)	12.80 (4.23)	38	8.54	.00
Maternal children's books exposure (possible range of of scores = −20–20)	1.35 (3.34)	6.20 (3.70)	38	4.35	.00
Child's independent text level					
No. of written signs	37.00 (21.04)	90.45 (71.70)	38	3.20	.00
No. of genre elements	4.35 (3.08)	8.35 (3.52)	38	3.82	.00
Percentage of spelling errors	17.90 (12.51)	2.46 (2.70)	38	5.39	.00
No. of linguistic elements	4.49 (3.36)	9.15 (5.19)	38	3.43	.00
Child's autonomy in the interaction					
Child's autonomy in the writing interaction (possible range of scores = 1–5)	2.93 (0.77)	3.94 (1.04)	37	3.39	.00
Maternal reinforcement and criticism in the interaction					
Maternal reinforcements	2.25 (2.75)	2.40 (4.06)	38	0.15	.97
Maternal criticism	0.55 (.87)	0.00 (0.00)	38	2.77	.01

progressed the text writing); a score of 2 indicated that the mother produced the text unit with some help from the child (e.g., the mother asked the child a question but she gave the answer herself after a very short try of the child, or the mother dictated to the child what to write); a score of 1 indicated that the mother produced the text unit autonomously (e.g., the mother wrote by herself the products in the list.) According to the third part in Table 42.1, LSES children were significantly less autonomous in text writing than were their HSES counterparts.

The affective aspects that were measured in the writing interaction included maternal reinforcement and criticism. Maternal reinforcements and criticisms were counted throughout the interaction. Maternal reinforcements included general remarks like "good," "very nice," "you are a good boy," as well as specific comments like "you wrote bubblegum beautifully." Maternal criticism included disapprovals related to the child's performance, like "you wrote it wrong" or "how many spelling mistakes do you have?" and discipline remarks like "sit still," "stop it", or "listen to me." The fourth part in Table 42.1 shows that mothers from the two SES groups did not differ in the frequency of reinforcing comments. However, only LSES mothers expressed critical remarks.

Correlational Analyses. Table 42.2 presents correlations between sociocultural measures, children's text level, children's autonomy, and maternal affective responses across SES groups. The intercorrelations among the sociocultural measures (literacy tools and activities at home and maternal exposure to adults' and children's books) are positive, moderate, and significant.

The intercorrelations among children's text measures range from low moderate to high, and significant. No correlations were found between measures of the mother–child interaction during the writing activity (i.e., child's autonomy and maternal affective responses). Moderate and significant correlations were found between child's autonomy and sociocultural measures and between child's autonomy and child's text level. Negative, low moderate, and significant correlations were found between sociocultural measures and maternal criticism but they were not correlated with maternal reinforcement.

Correlations within SES groups are not presented in the table. Most of them were insignificant. Still, correlations of child's text measures in both SES groups were positive, moderate to high, and significant. Thus correlations were found between number of written signs and number of genre elements (LSES: $r = .60$, $p < .01$; HSES: $r = .90$, $p < .001$); between number of written signs and number of linguistic elements (LSES: $r = .62$, $p < .001$, HSES: $r = .93$, $p < .001$) ; and between number of genre elements and linguistic elements (LSES: $r = .99$, $p < .001$; HSES: $r = .98$, $p < .001$).

Au: Which table no?

In the LSES group, child autonomy in the interaction was positively and significantly correlated with maternal reinforcements ($r = .47$, $p < .04$), and maternal reinforcements were also positively and significantly correlated with maternal criticism ($r = .54$, $p < .01$). In the HSES group, child's autonomy in the interaction with the mother was negatively and significantly correlated with child's independent spelling errors ($r = -.50$, $p < .01$); in the LSES group, maternal exposure to adults' and to children's books were positively and significantly correlated ($r = .56$, $p < .02$).

In sum, our findings demonstrate a clear difference between the two social groups in terms of home literacy environment, maternal exposure to books, children's independent text writing, children's autonomy in the collaborative writing activity with their mothers, and the amount of criticism that the mothers use throughout this activity. Our findings also indicate positive and significant correlations between most aspects across SES, but fewer correlations within SES groups.

To more fully illustrate the relationship between the sociocultural measures, child's independent text level and maternal mediation, we present here two protocols of mother–child interactions, one from each SES group. These protocols were selected for presentation because they were typical for their SES in terms of the interaction.

Ben and Omer.[1] Ben and Omer are second-grade boys. Ben lives in a LSES and Omer in a HSES neighborhood, both in the greater area of Tel Aviv. In his independent text, Ben listed four products: "presents, a cake, sweets, food," which was about the average number of items in the LSES group ($M = 4.35$, $SD = 3.08$). The independent text of Ben's list appears in upper left-hand panel of Fig. 42.1.

The list's display was not conventional in that it was written horizontally. It was composed of 16 written signs, which is substantially below the average number of signs in the LSES group ($M = 37$, $SD = 21.04$). Seven spelling errors emerged (43%, out of the total number of letters), which is higher than the average percentage in the LSES group ($M = 17.90\%$, $SD = 12.51$). No descriptors appeared in the list.

[1] All names are fictitious.

TABLE 42.2
Correlations Among Literacy Tools at Home, Maternal Exposure to Print, Child's Independent Text Level, Child's Autonomy, and Maternal Reinforcements and Criticism Across SES Levels

	Literacy Tools and Activities at Home	*Maternal Exposure to Adults' Books*	*Maternal Exposure to Children's Books*	*Child's Writing (No. of Signs)*	*Child's Writing (No. of Genre Elements)*	*Child's Writing (Spelling Errors)*	*Child's Writing (Linguistic Elements)*	*Child's Autonomy in the Interaction*	*Maternal Reinforcement*	*Maternal Criticism*
Literacy tools and activities at home										
Maternal exposure to adults' books	.56**									
Maternal exposure to children's books	.40*	.49**								
Child's writing no. of signs	.36*	.27	.32*							
Child's writing no. of genre elements	.35*	.34*	.43**	.82***						
Child's writing spelling errors	−.33*	−.60**	−.34*	−.38**	−.28					
Child's writing linguistic elements	.36*	.31*	.37*	.87**	.98**	−.27	−.27			
Child's autonomy in the interaction	.42*	.54**	.34*	.26	.40*	−.45**	−.45**	.37*		
Maternal reinforcement	.12	−.03	−.07	.08	.17	−.03	−.03	.18	.18	
Maternal criticism	−.32*	−.39*	−.19	−.20	−.15	.36**	−.15	.36**	−.06	.30

Note. $*p < .05$, $**p < .01$, $***p < .001$.

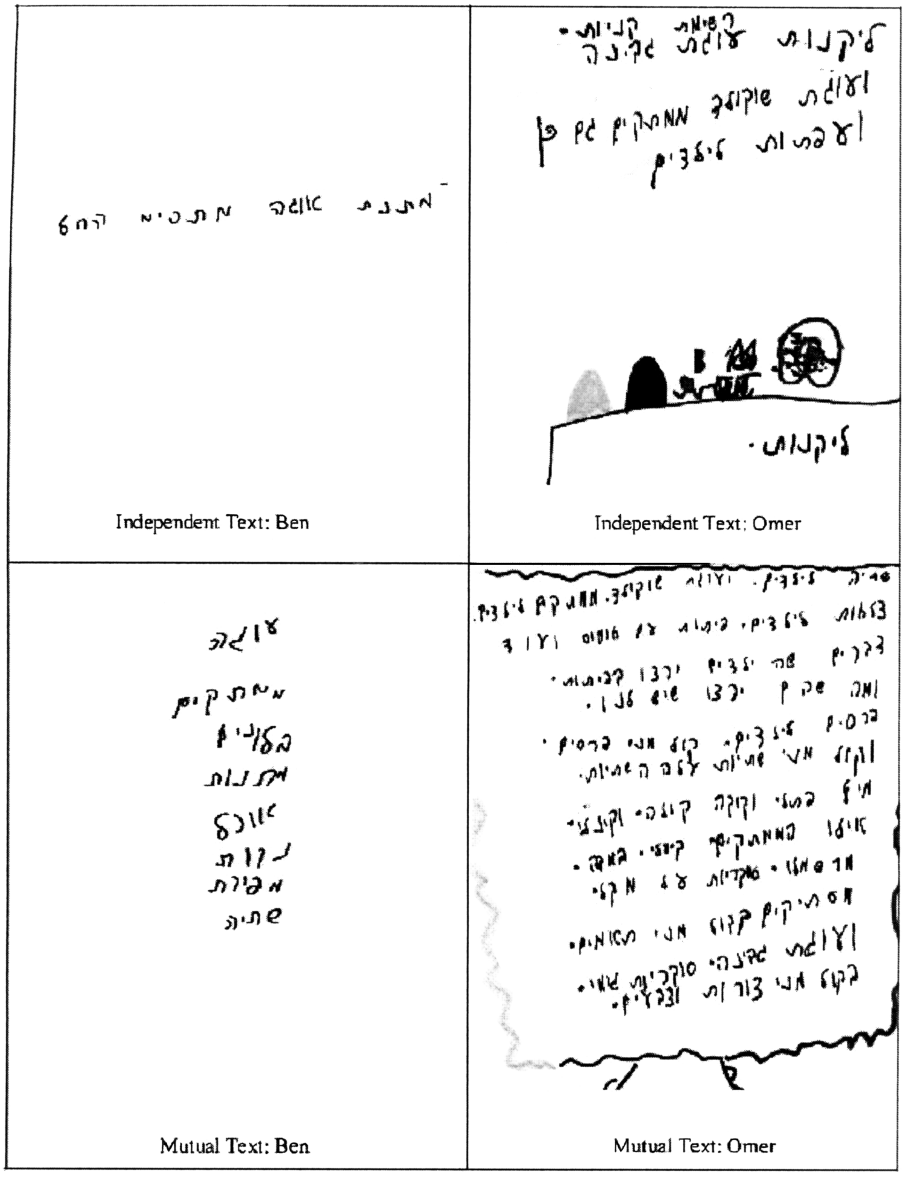

FIG. 42.1. Examples of independent and mutual texts.

Omer's list (in upper right-hand panel of Fig. 42.1) had a title, "Shopping List," and was also written horizontally. It was in a speech format rather than as names of single items, as required in a list. Omer mentioned four products: "To buy cheesecake and chocolate cake, sweets too and surprises for children." The list included fewer products than the average number in his HSES group ($M = 8.35$, $SD = 3.52$) and only 57 signs, substantially fewer than the average in his HSES group ($M = 90.45$, $SD = 71.70$). The list included four spelling errors (8.7 %), higher than the average percentage in his HSES group ($M = 2.46$, $SD = 2.70$), and three descriptors "cheesecake," "chocolate cake," and "surprises for children," which is below average in his HSES group ($M = 9.15$, $SD = 5.19$).

Ben is the eldest child in a family of two children. His mother completed 10 years of schooling and she is a housewife. His father completed 10 years of schooling and works as a printer. In Ben's home, there are few educational games, several videocassettes, 25 adults' books (about a fifth of the LSES average for number of adults' books, $M = 124.34$, $SD = 128.11$), 20 children's books (less than half the LSES average, $M = 51.47$, $SD = 51.47$), and no computer. Ben's family buys a daily newspaper and subscribes to one periodical for adults and no periodicals for children. The mother reported that her son is being read to about twice a week, mostly by her, and that they do not visit the local library. The mother's score on exposure to adults' books was 3 (about the same as the LSES average, $M = 2.60$, $SD = 3.25$) and exposure to children's books was 4 (higher than the LSES average, $M = 1.35$, $SD = 3.34$).

Omer has three brothers, two older and one younger than he. His mother completed 20 years of schooling and works as a social worker. His father completed 16 years of schooling and works as a computer engineer. In Omer's home there are many educational games, many videocassettes, a computer, about 300 adults' books (about same as the HSES average, $M = 308.75$, $SD = 196.28$) and about 50 children's books (less than the HSES average, $M = 86.25$, $SD = 49.49$).

Omer's family buys and reads the newspaper once a week and subscribes to two periodicals for adults and one for children. The child and his mother have visited the local library for the past 2 years. According to the mother's report, the child is being read to twice a week, usually by the father and sometimes by her. The mother's score on exposure to adults' books was 18 (above the HSES average, $M = 12.80$, $SD = 4.23$) and to children's books was 8 (above the HSES average, $M = 6.20$, $SD = 3.70$).

The mutual text of Ben and his mother included eight products (less than LSES average, $M = 10.65$, $SD = 4.62$) written vertically and was composed of 38 signs (less than LSES average, $M = 85.95$, $SD = 36.70$) with no spelling errors (that is, fewer errors than the LSES average, $M = 3.28$, $SD = 4.79$). No descriptors accompanied the products (much lower than the LSES average, $M = 11.35$, $SD = 5.53$).

Here is an excerpt from the protocol of this dyad's interaction[2]:

(After the first product was written in the list)

M: What else do we need to buy for the party?
C: *Mamtakim* [sweets].
M: Write *mamtakim*. Write it below the cake. *Mam-ta-kim.*
C: (Starts to write. One letter in the beginning of the word—*mɛm*—is missing.)
M: Add one more *mɛm* [the missing letter], do the *mɛm* here . . . *mɛm* . . . *mam-ta-kim.*
C: (Adds *mɛm*.)
M: (Dictates to him before he continues to write): *Yud* [a letter name] and write a final *mɛm* [*mɛm* at the final position of words has a different shape than a regular *mɛm* and is called 'final *mɛm*']
C: (Writes.)
M: What else do we need? What do you think?
C: *Balonim* [Balloons].
M: Write *balonim, ba-lo-nim*.
C: (Writes the two first letters.)
M: (Dictates the end of the word): *Yud* [letter name] and *final mɛm* [letter name].
C: (Writes.)
M: (Erases the first letter, which was not well formed.) Fix here the *bɛt* [letter name]. *Bɛt*. (Erases the letter *lamed* as well.) *Lamɛd*, write *lamɛd*. *Ba-lo-* . . . .

[2] Note that Hebrew words are spelled in International Phonetic Alphabetic symbols.

C: (Writes the letter *bɛt*.)
M: Now you need to write the letter *vav*.
C: (Writes.)
M: What else do you think? Try to think (does not wait for the child's answer). Write *matanot* [presents].
C: Yes. OK.
M: OK write, *mɛm*, *tɛt*, . . . (dictates letter names).

From this example we can see that the child suggests most of the items, with prompting from the mother, but that sometimes she proposes an item. She suggests writing the list vertically and he accepts her suggestion. She erases letters that she considers not well shaped and asks the child to rewrite them, which he does. She monitors and suggests corrections of spelling. The letters of some words are dictated by the mother to the child even without the child's requesting such help. Because correct spelling is important to her and because she knows that the child makes spelling errors, she prefers sometimes to dictate the letters to him rather than to allow him to work independently on his own spelling. Ben's mother does not express any critical remarks during the entire interaction. She provides five reinforcements, more than the average in their LSES group ($M = 2.25$, $SD = 4.06$). The child himself initiated almost nothing during their mutual writing activity but waited for his mother to push it forward. We got the impression that this child did not explore the writing process, neither in terms of composing the text nor in coping with spelling.

The mutual text of Omer and his mother included 17 products (more than the HSES average, $M = 13.85$, $SD = 7.95$) written vertically, with two or three products in a row. It was composed of 284 written signs (more than the HSES average, $M = 133.80$, $SD = 104.60$) and had four spelling errors (2%) (about the HSES average, $M = 1.99$, $SD = 2.41$). The text included 11 descriptors (less than the HSES average, $M = 15.60.65$, $SD = 10.04$).

Here is an excerpt from the protocol of this dyad's interaction:

(After the six first products in the list were written)

M: Do you have something else?
C: Prizes to the children (writes "prizes for the children").
M: (Looks at the text and laughs. It looks like she enjoys her son's ideas.)
C: (Makes a gesture that designates that he remembers something else. He writes, "different types of prizes.")
M: (Looks at the text and smiles). Of course.
C: (Writes, then stops. Looks as if he is contemplative. Goes on writing: "And different types of drinks.")
M: This is something! (says it proudly). In the next birthday party that we'll have, you are going to write the shopping list.
C: (He writes quietly, and suddenly he exclaims) Waw! I forgot something.
M: What?
C: (He writes *ptl* [red berry juice], Coka-cola and Kinley [Brand names for drinks].)
M: You are really something! What else? What did you have in your last birthday that you liked?
C: (Smiles) Oy!, How could I forget it? (He writes "a magician.")
M: But this. . . you don't buy. It does not seem . . . it is a different thing.
C: Aa Ha (accepts her remark and erases the word.) What else?

From this transcription we can see that Omer was the composer of the text and the scribe. Even if the mother asks, from time to time, "what else?" he actually does not need her

encouragement in order to move the text forward. The mother ignores the fact that her son is not writing the list in the conventional vertical direction. However, when the child includes in the shopping list an inappropriate item—a magician—she explains the error and her son accepts her comment. It is clear that the mother enjoys her son's ideas and expresses reinforcing comments. She did not use any critical remarks in the entire interaction and used nine reinforcements, substantially more than the average in their HSES group ($M = 2.40$, $SD = 4.06$). The child seems to feel responsible to move the text production forward and he seems enthusiastic and highly motivated about doing so. He enjoys his mother's support but he neither waits for her to provide guidance nor does he wait for her reaction to his emerging ideas.

Study 2: LSES Mothers' Mediation of Their Kindergartners' Writing of Single Unfamiliar Words

In this study, we examined the cultural context of emergent literacy among LSES kindergartners, focusing on the unique role of mother–child collaborative writing. The study's aims were to reveal the relationship between the cultural context (maternal writing mediation and sociocultural measures) and emergent literacy and to examine the unique relationship between the nature of mother–child joint writing and emergent literacy, controlling for the effects of the other sociocultural measures (SES, literacy-related tools at home, and maternal literacy level).

The sample included 41 children (19 boys and 22 girls) and their mothers, recruited from an Israeli "development town" whose residents are mainly of LSES (National Center for Statistics, 1997). Children were recruited from seven kindergartens in seven neighborhoods in the town. The neighborhoods were ranked on a 7-point scale from the lowest (1) to the highest (7) on their socioeconomic level by the head of the municipal welfare department and by the municipal educational superintendent, both of whom agreed on the assigned rankings. To control for the possible mediating effects of the children's age on children's literacy and on mother–child interaction, we restricted the age range, sampling children born between January and June. The children's average age was 5 years and 8 months ($M = 69.59$ months, $SD = 2.14$). From the 46 parents who received letters describing our study, 41 returned the permission forms and were invited to participate. The parents were Israeli born, with Asian or North African origins; most of the families were intact. The average number of children per family was 3.32 ($SD = 1.42$), which is higher than the national average of 2.20 (National Center for Statistics, 1999). All parents were schooled in Israel. The level of parental education was lower than the national average of their Israeli cohort. The mother's and the father's numbers of school yearswere 11.80 ($SD = 2.00$) and 11.05 ($SD = 2.54$), respectively. Profession and occupation were assessed on a scale adjusted to our sample, considering that, on a national scale (Meir, 1978), the variance of our sample was low and restricted to the low end of the scale. Thus a 5-point scale was developed to assess level of profession and occupation for our sample of parents. The 50 professions found in our study were ranked from highest to lowest by 13 middle-SES adult judges. Interjudge reliability was high (Cronbach $\alpha = .98$). According to their average rank, the professions were divided into five equal groups, based on their scores on the 5-point scale, For example, unemployed, housewife, housemaid, and industrial laborer were scored 1; carpenter, locksmith, and crane driver were scored 3; schoolteacher, practical engineer, and bookkeeper were scored 5.

The children's emergent literacy was assessed in the kindergarten in four sessions. In each of the four sessions, the children were first asked to write 4 pairs of words (for a total of 16 pairs of words); each pair was presented orally and illustrated by two drawings. Then the children were asked to recognize each pair by matching the two oral words to two printed words and to justify the recognition. The 16 pairs of words fell into four groups, each of which encompassed different aspects of children's emergent literacy. In the first group, the longer sounding word

in each pair denoted a bigger referent, for instance, *pil–nɛmala* [elephant–ant]. In the second group, the two words in each pair differed in their phonological length but did not differ clearly in the size of their referents, for instance, *ɛt–iparon* [pen–pencil]. We assumed that, in the second group, children would be less biased by the referential dimension than those in the first group, and hence would be more sensitive to phonological length. In the third group, the two words rhymed, for instance *tsinor–kinor* [violin–pipe], such that they differed only in their initial letter. In the fourth group, the two words differed in gender, such that male and female nouns were spelled the same, but the latter were suffixed with *hey*, for instance, *xatul–xatula* [cat (male)–cat (female)].

Each word that the children wrote was scored on a 9-point scale, adapted from Levin, Share, and Shatil (1996). The scale's range consisted of pseudoletters, random letters insensitive to phonological length, random letters sensitive to phonological length, and from basic through partial to advanced consonantal spelling, without and with vowels. The writing score was equal to the sum of the scores attributed to the 32 words comprising the 16 pairs of words (4 pairs [8 words] per each of four sessions).

The number of pairs matched correctly determined the score on word recognition. Their justifications for their recognition of each pair were scored on a 4-point scale to yield an explanation score, as follows: (1 point) prealphabetic explanation: when the child's explanation does not refer to the system of writing (e.g., "because I know," "I guessed"); (2 points) rudimentary incorrect alphabetic explanation: when the child's explanation refers to characteristics relevant to writing, by noting letter names or phonological length, but the child applies them erroneously; (3 points) partial alphabetic, mixed correct and incorrect explanation: when the child's explanation refers to characteristics relevant to writing, but the child applies them both correctly and incorrectly (e.g., provides a correct name to a letter, but derives the conclusion that it should be a word that actually is not spelled with that letter); and (4 points) correct alphabetic explanation: when the child's explanation correctly refers to the written system (e.g., the child maps the longer sounding word onto the longer written word and explains it by reference to phonology, or provides a correct letter name and derives the conclusion that it should be a word spelled with that letter). The explanation score was determined by an average of the scores for the 16 pairs of words. The correlation between word recognition and explanation was highly significant, $r = .84$, $p < 0.001$. The mean Z score served as the reading score.

Maternal writing mediation was assessed at home. The mothers and the children were videotaped in their homes while writing four pairs of unfamiliar words. The mother–child collaborative writing occurred in the participants' chosen place at home (in the living room, in the child's room, or in the kitchen) and lasted, on average, for about 16 min. The dyad was presented with four pairs of words that were presented orally and were illustrated by drawings on four cards (one pair per card). Each pair represented one of the four types of words that the children had been asked earlier to write independently in the kindergarten. The word pairs written with the mothers were not among the pairs written independently by the children. The eight words encompassed altogether 30 letters. The mother was asked to help her child write these words and to provide help as she deemed fit.

The videotapes were analyzed to reveal the mothers' graphophonemic mediation style, child's autonomy in printing the letters, and affective measures (mothers' reinforcements and criticism throughout the interaction).

Maternal Graphophonemic Mediation Scale: This 6-point scale reflects how the mother mediates the writing of letters to her child who attempts to represent a word presented orally in writing. The score reflects the level of mediation of the graphophonemic encoding process, which includes segmenting the word into sounds, connecting a segmented sound with a letter, retrieving the letter's shape, and printing it. The earlier the step in the graphophonemic

process that the mother mediates with her child, the higher the mediation score. The score reflects the mother's original mediation level, even when the child needs further assistance at a later step in the process.

A 6-point scale emerged from analyzing mother–child joint writing protocols: (1) mother writes down all the letters of the word for the child; (2) mother writes down all the letters of the word as a model for copying; (3) mother dictates a letter; (4) mother retrieves a phonological unit (syllable, subsyllable, or phoneme) and immediately dictates the required letter name; (5) mother retrieves a phonological unit (syllable, subsyllable, or phoneme) and encourages or helps the child to link this unit with a letter name; and (6) mother encourages or helps the child to retrieve a phonological unit (syllable, subsyllable, or phoneme) and to link it with a letter name. The mediation of each letter was scored, and the average score yielded the mother's graphophonemic mediation score.

Child's Autonomy in Printing the Letters Scale: This scale captured the child's autonomy in retrieving letter shapes and in printing the letters. A 4-point scale was used to score the printing of each letter: (1) mother wrote the letter on her own; (2) mother wrote and child copied the letter; (3) mother scaffolded the child in writing the letter (e.g., the mother commented that the letter appears in the child's name or in the name of a close friend; the mother gave the child spatial directions regarding the letter's shape); and (4) child wrote the letter independently, usually encouraged by mother. The production of each letter was scored according to this scale, and the average score across all the letters yielded the child's autonomy in printing score. Maternal reinforcements and criticisms were counted in the same manner as described previously for the first study and were scored for each pair of words.

The sociocultural factors were measured at home. SES was assessed on the basis of parents' education, profession and occupation, and a ranking of the family's residential area. The mean Z score across all constituents was highly reliable (Cronbach $\alpha = .92$) and served as the SES score.

Home literacy level was based on the Home Observation for Measurement of Environment (HOME) inventory for children ages 3–6 years (Bradley & Caldwell, 1979). We created an instrument for noting the presence of literacy-related materials in the home, the Games and Literacy-Related Materials (GLM). Accompanied by the child and the mother, the interviewer asked if she could look at each of the items on the following list: 10 books, cards for learning numbers, three puzzles, five children's audiocassettes, crayons and pencils, blocks, notebooks, readiness workbooks, and computer. After leaving the home, the interviewer completed a form indicating the presence or absence of each item.

Maternal exposure to adults' books and to children's books was assessed by a Hebrew adaptation of the exposure to adult and to children's TRTs the ATRT and the CTRT (Stanovich & West, 1989), as described previously for Study 1.

Results

Sociocultural Measures, Maternal Mediation, and Emergent Literacy. The upper part of Table 42.3 presents the correlations between each sociocultural measure and the children's writing and reading scores. All the correlations were of moderate strength and in the positive direction, and all of them but one (mother's exposure to adults' books and the child's writing) were significant. In our LSES sample, children who came from poorer homes in terms of SES, presence of games and literacy-related materials, and maternal exposure to adults' and children's books, scored lower on reading and writing.

The lower part of Table 42.3 presents the correlations between each maternal mediation measure and the children's writing and reading scores. High, positive, and significant correlations

TABLE 42.3
Correlations Between Scores on Sociocultural Measures and Maternal Writing Mediation and the Child's Emergent Literacy Measures ($N = 41$)

	Child's Literacy	
	Reading	*Writing*
Sociocultural measures		
SES	.42**	.48***
Games and literate materials	.45**	.46**
ATRT	.33*	.28
CTRT	.54***	.43**
Maternal writing mediation		
Graphophonemic mediation	.77***	.74***
Child's autonomy	.69***	.73***
Maternal reinforcements	.48**	.37*
Maternal criticisms	−.13	−.15

Note. $p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$

were found between both maternal graphophonemic mediation and the child's autonomy in printing the letters and the child's literacy achievement scores (reading and writing). As to the affective measures of the interactions, maternal reinforcement was significantly and positively correlated with the child's reading and writing scores. Maternal criticism was negatively correlated with the child's reading and writing, but the correlations were very low and did not reach significance. In our LSES sample, children whose mothers used higher mediation strategies scored higher on reading and writing.

Maternal Mediation Measures and Emergent Literacy, with the Sociocultural Measures Controlled. The significant correlations between both sociocultural measures on the one hand and maternal mediation measures on the other hand, with emergent literacy measures (reading and writing), raise questions regarding the unique contributions of maternal mediation measures to emergent literacy. To examine this unique relationship, a partial correlation between the maternal mediation measures and the child's reading and writing scores was calculated, with all sociocultural measures controlled for (SES, GLM, maternal exposure to adults' books and maternal exposure to children's books).

Table 42.4 reveals significant and moderately high partial correlations between the child's reading and writing scores and both maternal graphophonemic mediation as well as child's autonomy in printing the letters in the interaction, when all the sociocultural measures are controlled for. Maternal reinforcement was significantly and moderately correlated with reading but not with writing, when all the sociocultural measures are controlled for. Maternal criticism was not correlated to the child's reading and writing scores.

The findings demonstrate a strong linkage between sociocultural factors and emergent reading and writing within a LSES group, and a particularly strong relationship between maternal mediation of writing and the child's reading and writing achievement. When children's sociocultural measures are controlled for, maternal mediation measures still explain a substantial amount of variance in their children's emergent literacy.

To illustrate this linkage between sociocultural measures and emergent literacy within a LSES group, and to emphasize the unique contribution of maternal mediation to emergent

TABLE 42.4
Partial Correlations Between Maternal Writing Mediation and the Child's Emergent Literacy Measures, with Sociocultural Factors (SES, GLM, Maternal Exposure to Adults' Books and Maternal Exposure to Children's Books) Controlled

	Child's Literacy	
	Reading	*Writing*
Maternal writing mediation		
Graphophonemic mediation	.65***	.64***
Child's autonomy	.53***	.60***
Maternal reinforcements	.33*	.19
Maternal criticisms	−.05	−.04

Note. $N = 41$; $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

literacy above all the other sociocultural measures, we present the protocols of two children. Both children came from families that resembled each other in their sociocultural measures; however, one mother exhibited higher levels of mediation than the other, within her child's zone of proximal development (ZPD), and her child's literacy measures were higher. The other mother mediated below the child's level and the child's emergent literacy measures were lower.

Sharon and Adam

Sharon and Adam lived in the same neighborhood, which scored a 2 on the 7-point SES scale previously described, where 1 = lowest and 7 = highest SES level. They attended the same kindergarten. Both sets of parents shared the same education level. The two mothers had completed vocational high school and the fathers had completed 11 years of schooling (around the sample's average years of schooling; see previous section). Sharon's mother worked as a seamstress and Adam's mother worked as an industrial laborer, both professions ranking 1 on our 5-point professional ranking scale, where 1 = lowest to 5 = highest (maternal mean for the sample was $M = 2.48$, $SD = 1.60$). The fathers of the two children were carvers professionally, ranking 3 on our scale (the paternal sample average was $M = 2.90$, $SD = 1.24$). However, Sharon's father worked as an industrial labor (ranked 1) and Adam's father worked as a maintenance man in a factory (ranked 3). Both families had in their home about half of the cultural tools that were scored in our study. The two mothers recognized two adult's book titles, so their score for exposure to adult's books was 2 (lower than the sample average, $M = 3.85$, $SD = 3.78$). As to children's books, Sharon's mother's score was 9 and Adam's mother's score was 6 (the sample's average score was $M = 6.15$, $SD = 3.52$).

The two mothers differed in the dominant strategy that they used in mediating writing, as well as in the level of autonomy given to the child in printing letters. They also differed in their reinforcement and criticism toward their children's performance.

Sharon's mother frequently encouraged her daughter to segment the word into CV/C units and to provide the letter name (10 out of 30 letters). However, she also tended to segment the word and name the required letter right away, usually when the girl failed to come up

immediately with the required letter (16 out of 30 letters). Sharon's mother's score on the graphophonemic mediation (3.83) was higher than the sample's average ($M = 3.11$, $SD = 1.20$). Sharon's mother often expected her daughter to retrieve the letter shapes, and, indeed, many times Sharon succeeded in retrieving the letter shape and in writing it independently (18 out of 30 letters). When Sharon did not succeed, her mother usually wrote the letter on one side and let Sharon copy it (12 out of 30 letters). Her score on autonomy (2.27) was higher than the sample's average ($M = 1.61$, $SD = 0.83$). Sharon's mother used reinforcements frequently (23) and she sometimes criticized her daughter (12). Her reinforcements mean score for each pair of words (5.75) was higher than the sample's average ($M = 4.59$, $SD = 3.54$). Her criticisms mean score for each pair of words (3) also was higher than the sample's average ($M = 1.53$, $SD = 1.68$). Sharon's mother mediated writing within the girl's ZPD, as illustrated by the following example of writing the letters (yud, $dal\varepsilon t$) of *yad* [hand]:

M: Good, now you have to write *yad*. Which letters do we have in *yad*? *yad*—what do you hear?
Sharon: $Al\varepsilon ph$ [letter name].
M: /ya/ *yud* [letter name], not $al\varepsilon ph$, yud, yad.
Sharon: (writes the letter *yud*).
M: *yad*, what do you hear after the Yud?
Sharon: $Dal\varepsilon t$ [letter name]?
M: Very good.
Sharon: So will I do it alone, the way that I know to write $dal\varepsilon t$?
M: O.K, do it your way.
Sharon: (Writes a different letter.)
M: (Looks at the letter) $dal\varepsilon t$, Sharon, like in the word *kad* [jar].
Sharon: Ah, $dal\varepsilon t$, the first or the second letter in *kad*?
M: The second.
Sharon: (Writes $dal\varepsilon t$.)

Adam's mother wrote each pair of words on a sheet of paper and put it in front of him, asking him to copy the words. She used only this strategy during her writing mediation, disregarding Adam's understanding of the alphabetic system. She did not segment the words that Adam was copying, but while he was copying, she looked at his writing and sometimes mentioned the name of the letters that he was copying. Adam's mother's score on the graphophonemic mediation score (2) was lower than the samples' average ($M = 3.11$, $SD = 1.20$). Her score on autonomy (1.36) was about the same as the sample's average ($M = 1.61$, $SD = 0.83$). Adam's mother used frequent criticism (35) and few reinforcements (6). Her criticisms mean score for each pair of words (9.25), was much higher than the sample's average ($M = 1.53$, $SD = 1.68$). Her reinforcements mean score for each pair of words (1.50), was far lower than the sample's average ($M = 4.59$, $SD = 3.54$). She ignored his experience with printing letters and his emerging alphabetic awareness, as illustrated by the following example of writing the letters (*zayin*, *kuf*, *nun*) of $zak\varepsilon n$ [old man].

M: I will write to you and you will copy.
Adam: I don't want. I know (to do it) on my own.
Mother: (Writes the word on a paper and puts it in front of Adam). Write $zak\varepsilon n$ [old man] like this. Do you see Adam, $zak\varepsilon n$ [old man]? You have to be more cooperative. Copy it like this.
Adam: I want to do it alone.
Mother: Copy it!

Adam: (Copies the word.)
Mother: (Looks at him while he is writing and uttering the letters' names) *zakɛn*, *zayin*, *kuf*, *nun* [letter names].

Sharon and Adam achieved different emergent literacy scores. Out of 16 word pairs, Sharon recognized 13 pairs. When explaining her recognition, she usually gave a phonological explanation, noticing that one word sounded longer than the other or mapping letters onto sounds (11 out of 16). Yet she also used rudimentary incorrect alphabetic explanations (4) and one egocentric explanation (1). Her reading score (82.03) was higher than the sample average ($M = 61.97$, $SD = 22.01$). In her writing (see Fig. 42.2), Sharon used random letters in 75% of the words, but in 60% of these cases the longer sounding word was written with more letters. She used basic consonantal writing in six words: middle consonantal writing in five words, and complete consonantal writing in one word. Sharon did not use vowels in any of the 32 words. Her writing score (41.34) was higher than the sample average ($M = 34.82$, $SD = 20.66$).

Adam correctly recognized 7 pairs of words (out of 16), thereby performing within the chance level. Most of his explanations on word recognition were egocentric (12 out of 16) or rudimentary incorrect alphabetic (3). Still, one explanation was phonological. His reading score (38.28) was lower than the sample average ($M = 61.97$, $SD = 22.01$). Adam wrote most of the words with random letters (95%), and mostly with no indication of sensitivity to the phonological length of the words (60%) (see Fig. 42.2). However, he used basic consonantal writing in one word and middle consonantal writing in another word. His writing score (38.28) was about the same as the sample average ($M = 34.82$, $SD = 20.66$).

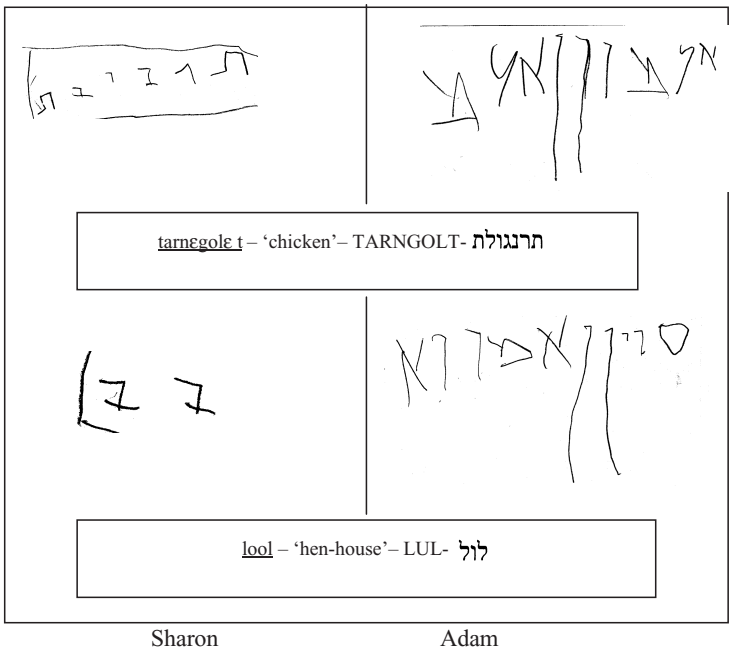

FIG. 42.2. Examples of Sharon's and Adam's independent word writing. Sharon wrote *tarnɛgolɛt* [chickhen] with three required consonants—the first two and the last one—and three random letters. She wrote the word *lul* [coop] with the same random letter twice (and a sign), explaining that she hears the same sound twice /lu/ /l/. Adam wrote both words with random letters. He used 9 and 10 letters for *tarnɛgolɛt* and *lul*, respectively, disregarding their phonological length.

The qualitative analyses demonstrated the broad range of maternal mediation strategies among these families from a low SES and their links with the children's emergent literacy. This range is illustrated by a case of mediation within the child's ZPD, building on the child's understanding of the written system, and a case of mediation below the ZPD, failing to utilize the child's knowledge.

DISCUSSION

In this chapter, we have reviewed two studies we conducted that focused on mother–child joint writing activity as a function of their sociocultural background and its relation to the child's literacy level in two age groups: kindergartners and second graders. In the first study, with second graders, we compared two SES groups, HSES and LSES, and in the second, with kindergartners, we delved deeper into the LSES by studying SES differences within the LSES group.

LSES mothers recognized fewer adults' book titles as well as fewer children's book titles. Their scores on maternal mediation, reflecting the extent of autonomy of the child, were lower and so was their children's literacy. Although parallel differences between SES groups do not prove a causal relationship between familial factors promoting literacy and the child's literacy level, they suggest the possibility that such a linkage exists. However, this approach may lead to conceiving of LSES cohorts as homogeneous (Holden, 1997; Pflaum, 1986).

To deal with this difficulty, the second study was restricted to LSES families. The focus on LSES families in an Israeli development town enabled us to shed light on differences that may be relevant to literacy development within a LSES group.

SES was assessed within LSES with the same variables typically used to measure discrepant SES groups, only with more finely graded scales. Thus the SES measures within LSES were parental education, profession and occupation, and the family residential area. Despite the narrow range of SES in this group from the general perspective of Israeli society, differences were found between the families on all of the sociocultural measures we used, supporting Renck-Jalongo's (1996) view that LSES cohorts should not be viewed as homogeneous.

Within our LSES group, stable significant correlations were found between the sociocultural measures and the child's emergent literacy. It should be noted that parallel relationships were found between sociocultural measures and children's' emergent literacy both within LSES (our second study) and in comparing LSES with HSES (our first study). In both studies, exposure of parents to print (adults' and children's book titles) and the presence of games and literacy tools at home were related to children's literacy. These findings are congruent with those of previous researchers who compared SES groups (e.g., Bus et al., 1995; Campbell & Ramey, 1994; Hart & Risley, 1992; Reese, 1995; Walker et al., 1994).

The most important finding of the two studies described here are the links found between the quality of maternal mediation of writing and children's literacy. In the first study of second graders, LSES differed from HSES on maternal mediation and on children's literacy. However, the correlations between these variables within each group—HSES and LSES—appeared only in the HSES group. In the second study, in which only one SES group was studied, among the LSES kindergartners, these correlations were especially strong. Within this group, even after all sociocultural measures (SES, maternal exposure to children's and to adults' books, and literacy-related materials at home) were controlled for, the link between quality of maternal mediation of writing and the child's reading and writing is still substantial.

Integrating the results of our two studies yielded three questions. First, why is the quality of mother–child joint writing more strongly related to child's literacy level in kindergarten than in second grade (see Tables 42.2 and 42.3)? Our interpretation is based on the assumption that

before formal schooling parents play an especially critical role in promoting their offspring's literacy or, even more broadly, their cognitive competencies. In this vein, Hiebert and Adams (1987) claim that parents are the first teachers of their children in literacy and Meisels (1998) concludes that beyond the many debates about the different ways to promote kindergartners' readiness to school, there is a general consensus that parents are the main mediators of young children's learning. When children enter first grade, school also starts to exert its influence. This is especially true in first grade, in which children intensively concentrate on reading and writing; as a consequence, their literacy is no longer fostered mainly by their parents. Rather, other influences enter the equation, in particular their interactions with their schoolteachers, their classmates, and the curricula they are exposed to (Crone, 1999).

The second question refers to second graders. Why is maternal mediation less related to children's writing level in the LSES group compared with the HSES group? This might be explained by the special contribution that some HSES parents make toward their children's literacy that goes beyond the massive contributions of school. In our interviews with them as well through our observations, it was evident that some HSES mothers exhibited profound knowledge about literacy development and about how to promote literacy in the joint activity with their children. In the long run, these mothers may foster their children's literacy development above and beyond the potent schooling effects. It may be the case that fewer LSES mothers are able to foster their children's development of literacy far beyond school in quite the same way as the HSES mothers.

The final question is pedagogical–educational. What is a good model for parental mediation of writing with kindergarten children and with second graders? From analyses of videotaped interactions collected in the two studies, we conclude that the nature of good models of mediation for children at these two different age levels have both common and different features. A good model in both age groups is characterized by highly autonomous children. Because the interaction is dyadic and hence determined by interplay between the two parties, the child's autonomy reflects the extent to which the mother allows or encourages the child to act autonomously and the extent to which the child is ready to act so or even to demand it.

In many dyads, the extent of autonomy given by the mother and that adopted by the child were balanced. However, in some cases, the child asked to lead the writing activity more than the mother allowed, and in others, the mother urged the child to take a more leading role. In the same vein, some mothers wanted to provide less help than their child asked for whereas some children asked the mother to take a more active role. For example, in one case, a LSES mother tried to convince her second-grade child to write the shopping list by herself, but the girl did not agree to do so. She helped the mother to compose part of the list but insisted on not printing the words in spite of her mother's encouragement throughout the entire interaction. In another case, a HSES mother suggested many shopping list items for the child to write, although the child wanted to do it on his own. This situation drove the child to react negatively to his mother. The same phenomenon occurred in our kindergarten LSES group: One mother encouraged her child to print the letter *zayin* (Z) independently, but her son insisted that she should print it, and eventually she did. In another case, a mother took control and printed letters for her girl to copy, and the child cried that she did not need the model and that she wanted to print the letters independently.

The difference between the good models in the two age groups stems from the distinction in the problem space that children struggle with when they try to write. Writing is a multifaceted activity, which involves meaning-focused and language-focused processes, including linguistic and genre elements. It also includes code-focused processes, such as spelling words, leaving spaces between them, and preserving direction of text and using punctuation marks. Among kindergartners, mother–child dyads focused on the written code, often working on mapping of graphemes onto phonemes. Among second graders, they focused on composing the text

and spelling conventionally. It remains an open question whether parents who function as good mediators of writing for their kindergarteners continue to be good mediators when their children enter grade school.

The children in our study were asked to write a list of words. Although second graders typically are able to write words, lists, short answers to written questions, as well as short stories, among the LSES mothers of second graders, there were mothers who composed and printed the list themselves or dictated items to their children, almost letter by letter, even though the children had not requested them to do so. This pattern emerged even though the writing task was deliberately addressed to the child, and the mother was asked only to help. Such a behavior may imply that the mother focuses on obtaining the conventional product, rather than on the child's process of production. Further, it may indicate that the mother underestimates her child's actual achievement level (Marcus & Corsini, 1978). Still, within the kindergarten LSES group, mothers differed in their sensitivity and accommodation to their children's level. Some had difficulty finding the appropriate way for enhancing their children's understanding and knowledge, as required by this specific task, whereas others mediated very skillfully.

The substantial correlations between maternal mediation of writing and children's emergent literacy deserve clarification (see Tables 42.3 and 42.4). Several different interpretations may be suggested. One might assume that the child's literate abilities were crucial in determining maternal level of mediation. This explanation is in line with studies that demonstrate how mothers alter their teaching strategies to adjust to the task demands as well as to their children's level of competencies (Kermani & Brenner, 2000; Kermani & Janes, 1999). DeBaryshe et al. (1996), who observed mother–child joint letter writing, found in a qualitative analysis that mothers were sensitive to their children's emergent literacy level in terms of the letter's length, genre elements, and conventions of punctuation, directionality, and spacing. They concluded that mothers adjust mediation to their children's literacy level.

An alternative explanation conceives the strong relationships between maternal mediation and the child's literacy mainly as a result of parental mediation affecting the child's growing literacy. The nature of parental mediation is considered the strongest predictor of the child's cognitive development. It is a proximal factor that affects children's development beyond all other sociocultural measures and has to be acknowledged as such (Klein, Weider, & Greenspan, 1987; Tzuriel, 1999).

A third explanation for the strong relationships between the nature of maternal mediation of writing and the child's literacy level integrates the former two explanations. Accordingly, mother–child joint writing is a two-way street in which both parties shape the interaction mutually and interactively, in a way that is shaped and reshaped dynamically over time.

However, we claim that the mother, as the expert, has the leading role. Her interaction style is molded by her previous experiences with her children, but not to a lesser extent by cultural beliefs and norms of behavior related to parenting (Lightfoot & Valsiner, 1992). Aram and Levin (2001) demonstrated, in qualitative analyses, that kindergartners who exhibited similar levels of literacy were mediated differently by their mothers. Some mothers were more sensitive to their child's ZPD whereas others were less sensitive. The demonstration suggested that the mothers who showed lower levels of mediation often mediated below their children's ZPD, disregarding their competencies. Mothers who showed higher levels of mediation often mediated beyond their children's actual level of literacy and tried to promote their children's understanding of the written system while affording them higher levels of autonomy.

The leading role of the mother in the interaction is not a local occurrence. We claim that a significant maternal role comprises an ongoing phenomenon affecting the trajectory of the child's literate development. Mothers who mediate literacy on a higher level, from the child's early age on, learn about the child's competencies and use this knowledge to shape their coming interactions. Consistently high-quality mediation is likely to promote children's literacy. This

may be a central explanation for the substantial contribution of mediation quality to the prediction of the child's literacy level. This explanation is consistent with the systematic finding that cognitively advanced children tend to have parents who are accurate in attributions of cognitive achievement to their children (Hiebert & Adams, 1987; Miller, Manhal, & Mee, 1991).

The design of the two studies presented in this chapter does not permit determining a causal direction of the relationships between maternal mediation and the child's literacy. Whitehurst and Lonigan (1998) reviewed intervention programs concerning different aspects of emergent literacy. None of these programs dealt with joint writing. Hence there is a need to carry out experimental studies in which parental writing mediation is manipulated and children's literacy performances are compared.

APPENDIX: WRITTEN FORMS OF HEBREW LETTERS TRANSLITERATED INTO LATIN LETTERS

א = alef	ב = bet	ג = gimmel	ד = dalet	ה = heh
ו = vav	ז = zayin	ח = het	ט = tet	י = yud
כ (f) ך = kaf	ל = lamed	מ = (f) ם mem	נ, (f) ן = nun	ס = samech
ע = a'yin	פ, (f) ף = peh	צ (f) ץ = zadik	ק = kuf	ר = reish
ש = sh or shin	ת = taf			

Note: *Shin* is noted by Sh when pronounced /sh/ and by S* when pronounced /s/. *Mem*, *nun*, *zadik*, *peh*, and *kaf* have two written forms: regular and final. Final letters are marked by (f).

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