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Stories, coupons, and the *TV Guide*: Relationships between home literacy experiences and emergent literacy knowledge

The purpose of this study was to document and describe the ways in which print is used in the homes of low-income U.S. families and to explore the relationships between these uses of print and the emergent literacy knowledges held by the young children in these homes. This study is an attempt to extend the findings of earlier studies (Purcell-Gates, 1995; Purcell-Gates & Dahl, 1991; Teale, 1986) and further explore the relationships between home/community learning and school learning by young children learning to read and write.

Theoretical frame

This study is framed by a theory of language learning resulting from a construction of knowledge within instances of *situated dialogue*. That is, learners develop their understandings, both implicit and explicit, of language systems through experience, by using that language in interaction with others within specified cultural contexts (Bakhtin, 1981, 1986; Gee, 1992; Vygotsky, 1962, 1978). This is as true for written language development as it is for oral. The situated, dialogic nature of language learning implies that literacy needs to be viewed as *cultural practice* (Gee, 1992) and that literacy development occurs wherever literacy practices are occurring. Thus, young children begin to learn about reading and writing initially in their homes and communities as they observe and participate in culturally situated literacy practices (Ferreiro & Teberosky, 1982; Harste, Woodward, & Burke, 1984; Taylor, 1982; Teale & Sulzby, 1986). Further implied by this theory of language learning is the requirement to study beginning literacy development within the cultural contexts in which it occurs—the home and community.

Relevant research

Emergent literacy research

A body of ethnographic and linguistic research has emerged over the last 20 years that paints an intriguing portrait of the ways in which children learn to read and write from the beginnings of development. Studying young children variously in their homes (Bissex, 1980; Heath, 1983; Scollon & Scollon, 1981; Taylor, 1982; Taylor & Dorsey-Gaines, 1988) and in school (Dyson, 1984, 1989; Purcell-Gates & Dahl, 1991), ethnographers have described how critical literacy concepts, knowledges, and skills have developed in both contexts.

As a body, this literature portrays young children as learning (implicitly, not necessarily explicitly) about written language within roughly three dimensions, each constraining and defining the other (Purcell-Gates, 1986, 1995). First, everything they learn about written language is constrained by what they learn through experience about its functions and the values placed on its various forms within their particular sociocultural communities

Stories, coupons, and the TV Guide*: Relationships between home literacy experiences and emergent literacy knowledge*

THIS DESCRIPTIVE study documented the range and frequency of literacy practices in 20 low-socioeconomic-status homes over an aggregated week of observation and measured the emergent literacy knowledges held by 24 children, ages 4 to 6, in these homes. The analysis focused on the social domains mediated by print as well as the linguistic unit and complexity of discourse text read and/or written by the participants in the homes. The analysis also examined relationships between the types and frequencies of literacy events and the emergent literacy knowledges held by the focal children. Results revealed a description of literacy practice and literacy learning which included great variability in type and frequency of literacy events across the 20 homes. The results also suggested the following patterns of relationships between home literacy practices and emergent literacy knowledge: (a) children's understanding of the intentionality of print is related to both the frequency of literacy events in the home and to their personal focus and involvement in the literacy events, (b) children knew more about the alphabetic principle and the specific forms of written language more in homes where literate members read and wrote at more complex levels of discourse for their own entertainment and leisure, and (c) parents' intentional involvement in their children's literacy learning was higher when their children began formal literacy instruction in school. Reflections on literacy as cultural practice and the ways in which school and home learning can build upon each other are discussed.

Historias, cupones y la guía de TV: Relaciones entre las experiencias de alfabetización en el hogar y el conocimiento emergente de la lectoescritura

ESTE ESTUDIO descriptivo documentó el rango y la frecuencia de las prácticas de alfabetización en 20 hogares de nivel socioeconómico bajo a lo largo de una semana de observación y midió los conocimientos emergentes sobre la lectoescritura de 24 ni os de 4 a 6 a os provenientes de estos hogares. El análisis puso el acento en los dominios sociales mediatizados por la escritura, así como en el tipo de unidad lingüística y la complejidad discursiva de los textos leídos y/o escritos por los participantes en los hogares. El análisis también examinó las relaciones entre los tipos y frecuencia de los eventos de alfabetización y los conocimientos emergentes sobre la lectoescritura de los ni os del estudio. Los resultados revelaron una descripción de las prácticas de alfabetización y el aprendizaje de la lectoescritura que incluía una gran variación en el tipo y la frecuencia de los eventos en los 20 hogares. Los resultados también sugirieron los siguientes patrones de relaciones entre las prácticas de alfabetización en el hogar y los conocimientos emergentes sobre la lectoescritura: (a) la comprensión por parte de los ni os de la intencionalidad de la escritura está relacionada con la frecuencia de los eventos de alfabetización en el hogar y con sus intereses personales y compromiso con dichos eventos, (b) los ni os que sabían más acerca del principio alfabético y las formas específicas del lenguaje escrito pertenecían a hogares en los que los miembros alfabetizados leían y escribían en niveles complejos del discurso y con propósitos de entretenimento y placer y (c) el compromiso intencional de los padres con los aprendizajes de sus hijos era más alto cuando los ni os comenzaban el aprendizaje formal en la escuela. Se discuten reflexiones sobre la alfabetización como práctica cultural y las formas en que el aprendizaje en la escuela y el hogar pueden enriquecerse mutuamente.

Geschichten, Einkaufskupons und das illustrierte Fernsehprogramm: Zusammenhänge zwischen Literarisierungserfahrungen in der Familie und den daraus hervorgehenden Lese- und Schreibkenntnissen

DIESE BESCHREIBENDE Studie dokumentiert Umfang und Häufigkeit von Lese- und Schreibpraktiken in 20 Familien mit niedrigem sozialökonomischen Status im Zeitraum einer ganzen Woche, wobei die daraus hervorgehenden Kenntnisse im Lesen und Schreiben an 24 Kindern im Alter von vier bis sechs Jahren gemessen wurden. Die Analyse konzentrierte sich auf die sozialen Interaktionen, die eingeleitet wurden durch gedruckte wie gesprochene Einheiten, und auf den Umfang von Gesprächen über einen von den Teilnehmern gelesenen und/oder geschriebenen Text. Die Analyse untersuchte auch die Zusammenhänge zwischen den Textsorten und der Häufigkeit von literarisierenden Erlebnissen und den daraus sich ergebenden Fähigkeiten, die sich die Zielgruppe aneignete. Die Ergebnisse erbrachten einen Zusammenhang zwischen den Tätigkeiten der Lese- und Schreibpraxis und dem Lesenlernen, wobei eine große Bandbreite an Formen und in der Häufigkeit von Lese- wie Schreibanlässen in den 20 Familien sichtbar wurde. Die Ergebnisse legen die folgenden Beziehungsmuster in der vorschulischen Literarisierung und den sich daraus ergebenden Fähigkeiten nahe: a) Das Verständnis der Kinder für die Botschaft von etwas Gedrucktem hängt zusammen mit der Häufigkeit von Textangeboten in der Familie, mit dem persönlichen Interesse wie mit dem persönlichen Beteiligungsgrad an dem literarisierenden Ereignis. b) Kinder wußten eher Bescheid über alphabetische Prinzipien und die spezifischen Formen der geschriebenen Sprache in solchen Familien, deren alphabetisierte Mitglieder sich einer höheren, komplexeren Sprachebene beim Lesen und Schreiben zu ihrer Unterhaltung und zur Entspannung bedienten. c) Das Interesse der Eltern an der Literarisierung ihrer Kinder war größer zu dem Zeitpunkt, als ihre Kinder in der Schule offiziell lesen und schreiben lernten. Besprochen werden Überlegungen hinsichtlich der Literarisierung als einer Kulturtechnik und hinsichtlich der Möglichkeiten, inwiefern familiäre und schulische Lese- und Schreiblernprozesse aufeinander aufbauen können.

物語、クーポン券、テレビガイド：家庭での読み書き経験とそこから生じる読み書き知識との関係

この記述研究では、２０軒の低所得世帯における読み書き活動の長さや頻度を総計１週間にわたって観察し、４才から６才までの２４人の子供たちに生じた読み書き知識を測定した。家の人たちによって読んだり書かれたりした談話テキストの言葉のまとまりや複雑さ、及び印刷物によって扱われた社会的領域に分析のポイントが置かれた。さらに読み書き活動の種類や頻度が対象児童たちに生じた読み書き知識とどう関連するのかが分析された。その結果、読み書き活動の種類や頻度において２０世帯間での非常に変化に富んだ読み書き活動や学習の実態が明らかになった。さらに結果として家庭での読み書き活動とそこから生じる読み書き知識との関連について次のようなパターンも明らかになった。それは (a)子供たちが印刷物の意図をどれだけ理解するかは家庭での読み書き活動の頻度、及び読み書き活動への個人的な興味や取り組みに関係している,(b)既に読み書きのできる家族が余暇や娯楽のために複雑な談話レベルで読んだり書いたりしているような家庭の子供たちの方がアルファベットの原則やある特定の形式の書き言葉についてよく知っている,(c)子供たちが学校で正規の読み書き指導を受け始めると、親が子供の読み書き学習に意図的に関わる度合いがより高くなる、といったことである。文化的活動としての読み書き能力への影響、及び学校や家で共に作り上げることのできる学習方法が議論されている。

Histoires, coupons, et journaux de télévision: relations entre situations de lecture-écriture à la maison et émergence des connaissances relatives à la langue écrite

CETTE RECHERCHE descriptive s'est intéressée à l'étendue et à la fréquence des pratiques de lecture-écriture dans 20 familles de milieu défavorisé, en se basant sur les données recueillies au cours d'une semaine d'observation, et a mesuré l'émergence des connaissances relatives à la langue écrite ainsi acquises à la maison par 24 enfants de 4 à 6 ans. L'analyse s'est centrée sur les domaines sociaux dont l'écrit est le médiateur ainsi que sur l'unité linguistique privilégiée et la complexité du discours des textes lus ou écrits par les différents partenaires à la maison. L'analyse a également examiné les relations entre le type et la fréquence des situations de langue écrite en rapport avec l'émergence des connaissances des enfants relatives à la langue écrite. Les résultats permettent de décrire des pratiques de langue écrite et d'apprentissage de la lecture-écriture qui comportent une grande variabilité d'une famille à l'autre du type et de la fréquence des situations de lecture-écriture. Les résultats suggèrent également les patrons de relations suivants entre pratiques de lecture-écriture à la maison et émergence des connaissances en lecture-écriture: (a) la compréhension qu'ont les enfants des fonctions de l'écriture est liée à la fois à la fréquence des situations de lecture-écriture dans la famille et à la centration et à l'implication personnelles du sujet dans ces situations; (b) les enfants ont fait davantage d'acquisitions sur le principe alphabétique et les formes spécifiques de la langue écrite dans les familles dont les membres sachant lire et écrire ont lu et écrit à de plus hauts niveaux de discours pour leur distraction et leurs loisirs; (c) l'implication volontaire des parents dans l'apprentissage de la lecture-écriture de leurs enfants est plus forte quand l'enseignement formel de la lecture-écriture a commencé à l'école. La discussion porte sur la lecture-écriture comme pratique culturelle et les modalités suivant lesquelles l'école et la famille peuvent s'appuyer l'une sur l'autre.

(Anderson & Stokes, 1984; Clay, cited in Goodman & Goodman, 1976; Heath, 1982; Purcell-Gates, 1995; Scheiffelin & Cochran-Smith, 1984; Taylor, 1982; Taylor & Dorsey-Gaines, 1988). Within this frame, they learn that print signifies language and about the natures, characteristics, and language forms of the written language that they experience (Butler & Clay, 1979; Cox & Sulzby, 1984; Harste, Woodward, & Burke, 1984; Holdaway, 1979; Purcell-Gates, 1988, 1991, 1992; Snow & Ninio, 1986; Sulzby, 1985). As young children participate in literacy events utilizing particular forms of written language, they learn the ways in which print, as a language signifier, maps onto speech (Bissex, 1980; Dyson, 1989; Ferreiro & Teberosky, 1982; Read, 1971).

This research documents that literacy knowledge construction takes place both at home and at school. A question critical to educators is the relationship between that knowledge constructed at home before the onset of formal, school-based literacy instruction and the knowledge constructed in school through participation in literacy instruction. In a study of three focal learners in first grade, Dyson (1984) described how children with differing conceptions of writing interpreted the beginning writing instruction in their classroom differently and appeared more and less successful at literacy learning to their teacher. Assuming that their conceptions of writing resulted from their experiences with literacy practices in their homes and communities before they began school, home literacy thus assumes a major role in the success of children in school literacy.

However, Purcell-Gates and Dahl (1991), focusing directly on this issue, concluded that success with school-based literacy was related to personal learner stances taken by children as they transacted with their formal literacy instruction during the early school years as well as their knowledges of written language constructed from home literacy practices and brought to school as conceptual bases. These researchers followed 35 children from low-socioeconomic-status (SES) homes in three different schools for 2 years, from the beginning of their kindergarten year to the end of their first-grade year. They measured the children's knowledges of written language at the beginning of the study and at the end. During the 2 years, they closely observed 12 focal children, randomly selected from the larger sample, as they participated in the beginning reading and writing instruction in their classrooms. They also included in their analysis the 35 children's scores on an array of emergent literacy assessments, standardized achievement tests given at the end of kindergarten and first grade, and their teachers' assessments of their progress.

Purcell-Gates and Dahl concluded that those children who entered kindergarten knowing more about print and its functions in the world were generally more successful with the formal literacy instruction they encountered in school, performed higher on achievement tests, and were judged as more advanced readers and writers by their teachers. They also found that the children who had begun school scoring low on the array of measures used to assess knowledge of written language constructed significantly more of this knowledge *during* their 2 years in school. In addition, the results of this study also showed that learner success at beginning reading and writing in school reflected individual transactional stances taken by the learners as well. Thus, factors other than home literacy experiences influence literacy development.

Several earlier influential studies have documented that literacy is woven into the lives of low-SES homes as well as middle-class ones. Taylor and Dorsey-Gaines (1988) conducted an ethnography of the family lives of five low-SES families whose children were successful in school. They described the ways in which the young children in these homes participated in story and Bible reading events, and observed their parents writing in journals, reading newspapers and magazines, and communicating through writing with various social service agencies and with their children's schools. Teale (1986), in a more descriptive study, documented the many ways in which low-SES families used print. He concluded that his findings "should prompt a reconsideration of traditional wisdom which has it that children from low-SES backgrounds come to school with a dearth of literacy experience" (p. 192). He found that some children in the homes studied had a great deal of contact with literacy before they began school and others relatively little. Neither Taylor and Dorsey-Gaines nor Teale attempted to assess the written language knowledges held by the young children in their samples, focusing instead on the literacy practices within the homes.

The present study was designed to provide the piece of the picture missing from the Purcell-Gates and Dahl (1991), Taylor and Dorsey-Gaines (1988), and Teale (1986) studies: the relationships between types of home literacy practices and the different written language knowledges brought to school by young children. The decision was made to stay within the demographic group of low-SES homes both to better connect with the previous studies and to provide more information about this group of children who have consistently performed lower on literacy measures than their middle-class counterparts (Kaestle, Damon-Moore, Stedman, Tinsley, & Trollinger, 1991). Because the sample for this study included children who had begun formal literacy instruction, as well as those who had not, information about

the relative roles of home and school in emergent literacy knowledge construction was also made available.

Written language characteristics

Another body of research is relevant to this study, and knowledge of its findings is necessary to the comprehension of some of the measures used to assess the written language knowledge held by the young children in the sample and the linguistic characterization of the texts written and read in the homes. Linguists and psycholinguists have described and detailed the ways in which written language differs from oral speech, and these findings are relevant to any study of literacy development because one learns to read and write written language, not speech written down. So, while written language is language just as speech is, and is related and similar to it in many fundamental ways, it can take recognizably different forms and is marked by different linguistic features as it serves different communicative functions.

As contrasted to oral speech, we use written language to communicate over time and space. Thus, written language must be shaped so that meaning is conveyed in the absence of a shared physical context between writer and reader (Rubin, 1978). We also use written language to make thoughts and emotions permanent, and while writing down these thoughts and feelings, we have much more time to encode our language than we do when we speak. All of these factors contribute to the differential usage and employment of linguistic markers such as vocabulary, syntax, and reference conventions. In general, and varying along a continuum that reflects relative distance from writer to reader and relative degrees of involvement between writer and reader (Tannen, 1982), written language, in contrast to oral speech, employs vocabulary that can be termed *literary* (e.g., *entrance* instead of *door*), syntax that is more integrated and complex, and only endophoric (within-text) references (Chafe & Danielewicz, 1987; Horowitz & Samuels, 1987; Perfetti, 1987; Rubin, 1978). Further, the language of written English text is coded alphabetically, using written symbols to represent speech at the phoneme level.

Research questions

The following research questions framed the data collection and analysis for this descriptive study:

1. What are the different ways in which people in these homes use print and how frequently do they do so?
2. What knowledges of written language are held by the young children in these homes?
3. What is the relationship between the home literacy practices (both in type and frequency) and the types and degrees of written language knowledge held by the children?

Method

Design

This was a 1-year, descriptive study in in-home uses of print and its relation to emergent literacy knowledge of young children. The design of this study is best termed *descriptive* because the field researchers were instructed to focus exclusively on literacy events occurring in the home. Kamil, Langer, and Shanahan (1985) distinguish *descriptive* studies from *ethnographies* by the presence of significant categories of interest prior to the collection of data. The decision to employ in-home observations to answer the research questions was made in response to the very serious problems with self-report methods of research into adult literacy levels and uses (Fingeret, 1987; Newman & Beverstock, 1990). Only by entering the homes of the informants as participant observers could the field researchers observe naturally occurring instances of literacy use.

Participants

Informants were considered for the study if they met the following criteria: (a) they qualified according to federal guidelines as low socioeconomic status, (b) they had at least one child in the home between the ages of 4 and 6, and (c) English was the primary language spoken in the home. Twenty low-income families, including 24 children, participated in this study. Ten of the families were African American, 7 families were Caucasian, 2 were Hispanic, and 1 was Asian American. This ethnic composition roughly represents the racial mix of the Boston/Cambridge metropolitan area where the study was conducted, with the exception of immigrant populations who speak languages other than English. All of the participating families spoke a dialect of American English in the home, and all of the children spoke it from birth. Non-English speakers and ESL children were purposely excluded from consideration for the study in order to avoid confounding the literacy measures with other-than-English language/cultural issues.

The families were located through an intensive search for participants involving both family literacy and adult education programs and word-of-mouth communication. All families were volunteers, and each was compensated US$200 for its participation. The project was described as a study of the ways in which young children learn in the home and family before they begin formal schooling. Care was taken not to mention reading and writing as the focus of the observation.

Table 1 Descriptions of participating families and focal children

Family name**	Ethnicity	Parent literacy	Focal child/age	Focal child school	Other children/age
Ambruster	Caucasian	Literate	Female/4 years	First grade	Female/3 years
Anderson	African American	Literate	Female/6 years	No school	Male/10 years
Augustine	African American	Literate	Female/6 years	First grade	Male/13 years Male/10 years Male/9 years Female/1 year
Black	African American	Literate	Female/5 years Male/5 years	Kindergarten Kindergarten	Male/9 years Male/7 years
Bourne	Caucasian	Literate	Female/4 years	Preschool	Male/2 years
Cook	African American	Literate	Female/6 years Female/5 years	Kindergarten Preschool	Male/9 years
Cummings	African American	Low literate	Male/5 years	Kindergarten	Female/3 years Female/1 year
Ervin	Caucasian	Literate	Male/5 years	Preschool	Female/7 years* Female/2 years* Male/6 months*
Ferris	Caucasian	Low literate	Male/6 years Female/5 years Male/4 years	Kindergarten Kindergarten Preschool	Female/2 years
Hart	Caucasian	Literate	Male/5 years	Kindergarten	
Howe	Asian-American	Literate	Male/4 years	Preschool	Male/15 years
Jones	African American	Low literate	Male/5 years	Kindergarten	Female/15 years
Kasten	Caucasian	Literate	Female/5 years	Kindergarten	Male/3 years
Larsen	Caucasian	Literate	Male/6 years	Kindergarten	Male/3 years
Lawrence	Hispanic	Literate	Male/6 years	Kindergarten	Female/11 years Male/3 years
Morley	African American	Literate	Male/5 years	Kindergarten	
Prince	African American	Literate	Female/6 years	Kindergarten	Male/21 years Male/18 years
Small	African American	Literate	Female/4 years	Preschool	
Valeri	Hispanic	Literate	Female/5 years	Preschool	Male/7 years
Williams	African American	Literate	Female/4 years	Kindergarten	Female/2 years Male/3 years Male/newborn

** Pseudonyms
* Children of sister of participating parent. Sister and children also lived in the home.

Literacy levels of the parents ranged from low literate (n = 3) to functionally literate (n = 17). *Functionally literate* was defined according to a sociocultural perspective, using Kintgen, Kroll, and Rose's (1988) definition of functional literacy: "possession of, or access to, the competencies and information required to accomplish transactions entailing reading and writing {in} which an individual wishes—or is compelled—to engage" (p. 263). Thus, the term refers to those persons who can read and write at whichever level they need to and want to. It does not refer only to those literacy practices that are considered basic (i.e., *functional*) like using a bus schedule or reading an electricity bill. Persons were considered *low literate* if they could not read and/or write well enough to participate in their daily social lives or to participate in their workplaces. However, they were considered *functionally literate* if they could transact with daily affairs and within a job but wished to extend their literacy to another field such as nursing that required learning different reading and writing genres. Literacy levels were ascertained by (a) observation, (b) self-report, and (c) background information from adult education or family literacy programs.

The 24 children in the sample represent the children in the 20 families whose ages ranged from 4–6 during the course of the study. The families included other children who were either younger or older than the focal children. Of the focal children, one 4-year-old did not participate in any school program; 7 children were in some type of day care/preschool for part of each day; 14

were in kindergarten; and 2 were in first grade. Table 1 lists characteristics of each family, focal children, and other family members.

The low SES of the families was primarily established through self-report, with additional validation coming from observable factors such as residence in public housing projects, qualification for Aid to Families with Dependent Children payments, and/or the qualification of their children for Head Start or free lunch. All of the families resided in the greater Boston metropolitan area. The majority of the families lived in federally subsidized housing projects. One Caucasian family lived in a homeless shelter for part of the observation period. Often, households consisted of extended families, including grandparents of the focal children, grown siblings and their children, and, on a rotating basis, cousins and live-in partners.

Procedure

Data collection

Uses of print. To ascertain the uses of print occurring within the family context, researchers observed daily life activity within the homes. Each family was assigned one graduate student research assistant as its researcher/observer. In each case, the researcher was of the same ethnic heritage as the family to which s/he was assigned. This was purposely done to eliminate the additional discomfort associated with cultural incongruence between researcher and family and to increase the validation of the data collection and interpretation (Purcell-Gates, 1993). A total of six research assistants were responsible for the family observations.

Prior to data collection, each researcher visited the home from 2–5 times, engaging in the same types of participant observation activities they would for the duration of the study. Notes made during these visits were not included in the data set. When the researchers had determined that the families were familiar with them, had ceased to treat them as visitors, and had halted all performance behaviors, the subsequent field notes were treated as data. This getting-acquainted time varied according to family and researcher. Each of the researchers reported a deep level of attained comfort with all of her families. The families accepted the researchers in different ways. Following the leads and/or cues of the individual parents, some researchers were left to follow the focal child around while the parents went about their activities on their own. Other researchers found themselves visiting neighbors and keeping an eye on the focal child while visiting with the parents or participating in their activities within the home. Other researchers reported a blend of these roles.

Observation for each family was spread over the hours of the day during which both the adults and children were awake and home and over the days of the week. The goal was to represent an aggregated typical week of activity for each family (i.e., each of the 7 days of the week, from wake-up time to bedtime). None of the observations were completed in a sequential manner. Rather, the observations were spread over several months as observation times were scheduled to fit both researcher and family availability. The length of each observation varied also according to researcher and family availability.

Because our focus was on the literacy events experienced by the focal children, observations took place only when the focal child was present and awake. Most of the children were enrolled in some type of school program, preschool through first grade. The amount of time they were away from home for these programs varied, which resulted in a variable total amount of observation across families. The mean total observation time in minutes per family was 2,076.75 (SD = 706.86).

The researchers assumed the role of participant observers in the homes, interfering as little as possible in the normal activities of the families while not assuming a completely passive posture (Spradley, 1980). Observations focused on all functional uses of literacy within the home context. This context was defined to include excursions to outside sites such as stores and social agencies whenever children accompanied the adult(s). One researcher accompanied her family to church, riding with them to and from church. Several other researchers accompanied their focal children as they went to relatives and babysitters.

Researchers, in particular, did not *initiate* literacy events. At times, though, just their presence, along with the paper and pencils they brought with them to take notes, was enough to initiate requests from the children for paper and pencil for writing. Requests such as these, along with requests for bookreading by the children, were granted. However, the activities were not counted as data in the ensuing analysis.

During the observations, the researchers noted all instances of uses of print by all those present in the home. They noted all activity that included print: reading, writing, looking at print (with no clear evidence that it was being read), and talking about print (e.g., talking about what a book had been about or reporting information previously found in a magazine). They also noted evidence of reading and writing by members of the family done at times prior to the observation. An example of this might be a letter ready to be mailed to a relative lying on the table. Through interactions with the adult(s) in the home, the researcher would attempt to ascertain

who had written it. This information would be recorded in the field notes.

Along with each observed literacy event, the researchers also noted the *participant structure* of the event—who was involved and the roles each participant played. After an initial trial, all attempts to note time spent on literacy activities were dropped due to the impossibility of accurately measuring time (without appearing like a time keeper at a track and field event) and the inclusion in the data of evidence of literacy events that were not directly observed and, thus, could not be timed.

Researchers also made note of all materials found in the home context that were related to literacy. These included books, printed notices, bills, signs, environmental print on household products, television guides, and writing materials. Any instance of print in the home was documented. In addition, any print used by family members during the excursions outside of the homes was noted. Field notes comprised the main method of data collection. Samples of writing, drawing, or scribbling done by the focal child were also collected as artifacts to be used to help answer the second research question regarding knowledges about print held by the children.

Written language knowledge of focal children. To ascertain the extent and type of written language knowledge held by the focal children in the families, the researchers administered to each focal child a set of Written Language Assessment tasks (Purcell-Gates & Dahl, 1991). These tasks assess knowledge that has been shown to be related to success at learning to read and write in school and were designed to be used with children of this age and level of school experience. They were the same tasks used in the Purcell-Gates and Dahl study (1991) with the following exceptions: (a) no story structure task was administered due to the evidence that children's schemata for good stories is culturally related and not necessarily related to written language knowledge (McCabe, 1992); (b) the wordless book for the Written Register task was different because the original was out of print, and we needed six of them for the six researchers; and (c) the items for the Environmental Print task were changed to reflect the items found in the homes and neighborhoods of the children in this particular study. Following are the tasks administered, along with descriptions of their scoring:

(a) *Intentionality.* Do the children understand that written language is a symbol system with linguistic meaning accessible to them (Harste, Woodward, & Burke, 1984)? To assess this, each child was presented with a sheet of 8 1/2" × 11" paper on which was typed in primary type the following sentence from a children's book: *A long time ago there was an old man.* The children were asked the following questions: (a) Is there something on this paper? (b) What do you think it is? (c) What do you think it could be for? (d) Why do you think it could be there? (e) If the child answered with "writing," "words," or "letters" but did not answer the other question, the researcher probed with "Have you ever seen writing (or words, or letters) before? What do you think it was for? Why do you think we have writing?"

The children's responses to this task were rated according to categories of response established by Purcell-Gates and Dahl (1991):

> 1 = No Evidence of Concept (letter-label response, e.g., naming letters or saying they were letters with unsatisfactory or no response to probes)
>
> 2 = School-Related Objects (responses reflecting a limited functional view of writing as something that belongs in school, much like desks or chairs, e.g., when asked for reasons for "letters" or "words," they replied that they are for school, for teachers, to learn how to go to school, to know the alphabet, etc.)
>
> 3 = Names as Labels (responses that indicated a limited, personal functional view of writing—writing is for writing names)
>
> 4 = Marks Seen on Objects in the Environment (responses that reflected a broader functional view of writing but still one mainly as labels or markers, e.g., "for toys and games" or "at the store")
>
> 5 = Print Is Meaningful or Evidence of Concept of Intentionality of Written Language (responses containing examples of functions of print such as writing a letter or giving directions, or reading attempts)

(b) *Written register knowledge.* Do the children possess implicit schemata for the syntax, vocabulary, and reference characteristics of written narrative (Purcell-Gates, 1988) that is distinct from that they hold for oral speech? To determine this, the children were asked to provide two types of language samples: (a) an oral narrative resulting from telling the researcher all about their latest birthday or other event, and (b) a written register narrative resulting from a pretend reading of a wordless picture book to a doll who is imagined to be a 5-year old child being read to by the parent (the focal child). The children were offered a choice of a human girl doll or a teddy bear for the boy doll (we were unable to locate human boy dolls). African American children were given Black girl dolls, and other children were given White girl dolls. The children were allowed to look through the book first to see what the story was as portrayed by the pictures. The researchers always read the title of the book to the children and helped them to begin with their pretend reading with the prompt, "Once

upon a time...." They were reminded several times to "make it (the pretend reading) sound like a book story."

The book chosen for this study was *Lost!* by David McPhail (1990). The story is set in Boston and is about a young boy who on his way to school befriends a very large bear who is lost. Together, they wander through familiar parts of Boston until the boy finally leads the bear back to the forest. The book was chosen because it is composed of page-sized pictures that tell the story. The few words on several pages were masked with white tape to make it a wordless book. A wordless picture narrative was needed for this task to forestall refusals by young children who, upon seeing words, state that they cannot read yet.

The children's responses to this task were scored according the protocol established by Purcell-Gates (1988) and used for several subsequent studies (Dahl & Freppon, 1995; Purcell-Gates & Dahl, 1991). Transcripts of the two elicited narratives (oral and written registers) for each child were prepared and coded for features associated with differences between oral and written narratives. These features were (a) participles, (b) attributive adjectives, (c) conjoined phrases, (d) series, (e) sequences of prepositional phrases, (f) relative clauses, (g) adverbial clauses, (h) -ly adverbs, (i) literary words and phrases, (j) literary word order, (k) direct quotes, (l) sound effects, and (m) exophoric reference (references outside of the text, particularly deictic forms such as "*that* bear *there*"). All of these features except exophoric reference have been found to occur with greater frequency in written text, while exophoric references are permissible only in oral exchange. Scoring resulted in a total score for each child that represented both frequency of use of written narrative features and number of features showing the expected increase or decrease (depth and breadth of knowledge).

(c) *Alphabetic principle knowledge*—Do the children understand that written English maps onto oral language alphabetically (embodies a grapheme/phoneme relationship)? This knowledge was measured by a variety of reading and writing tasks. A version of an environmental print reading task (Harste, Woodward, & Burke, 1984) was administered. Ten words were selected from salient environmental print in the homes and neighborhoods of the children and prepared in three different conditions: (a) full context (i.e., an actual box of laundry detergent); (b) two-dimensional, partial context (photo of the stylized print with immediate context of logo); and (c) completely decontextualized and typed onto a 5" × 8" index card in primary type. The three conditions of presentation were presented on separate days and in different orders. The words used for this task were (a) *Band-aid*, (b) *Burger King*, (c) *Coca-Cola*, (d) *Crest*, (e) *Doritos*, (f) *For Rent*, (g) *Hershey's*, (h) *Ivory*, (g) *Milk*, and (i) *Tide*.

Alphabetic Principle knowledge was also measured through a Write Your Name and Anything Else You Can task. The children were asked to write their names and anything else they could by the researcher, who provided paper and pencil. They were then asked to read what they had written to the researcher, who made note of their reading responses.

Finally, Alphabetic Principle knowledge was also measured via a short spelling task. The children were asked to spell 10 words reflecting simple consonant and vowel correspondences on paper provided by the researcher. The words they were asked to spell were *bump, pink, drip, ask, bend, trap, net, chin, flop*, and *last*.

The reading and writing attempts by the children for these tasks were scored on a 3-point scale to reflect the understanding that print in English is coded at the phonemic level. We looked for a correspondence between grapheme and phoneme. We were not looking at accuracy (i.e., spelling or decoding ability), but rather we were looking for evidence of the *concept* of a phoneme-grapheme correspondence to print.

1 = No Evidence of the Alphabetic Principle

2 = Some Evidence (2–3 instances within the data)

3 = A Consistent Pattern (4 or more instances)

Each task protocol received a score, and scores were averaged across the three assessments to result in one total score for this concept.

(d) *Concepts of writing*. How do the children conceptualize writing as a system (i.e., when asked to write anything they can, do they draw lines around the edges of the paper, draw pictures, write letters, or write words)? Data for measurement of this concept came from the Write Your Name and Anything Else You Can task. The children's responses to this task were scored with the following scale, reflecting the nature of their conceptualization of writing as a system and how close that conceptualization is to conventional.

1 = Writing Is Drawing (line borders, picture-like scribbles, pictures, shapes)

2 = Writing Is Scribbles (writing-like scribble, scribbles)

3 = Writing Involves Letter-like and Number-like Forms (scribbles with letters, letter-like, and number-like forms)

4 = Writing Is Letters Mixed with Numbers (pictures with embedded print, letters with numbers, strings of numbers)

5 = Writing Is Making Letters (ungrouped letters, letter strings)

6 = Writing Is Making Words (pseudowords, words, both marked by spaces between words)
A total score was attained for each child for this concept by scoring each writing display and averaging the scores.

(e) *Concepts about Print.* Do the children know the various conventions for reading and writing such as: (a) front of book; (b) print, not pictures, tell the story; (c) first letters in a word; (d) big and little letters; (e) directionality; (f) concepts of *letter* and *word*; and (g) identification and functions of punctuation marks? Clay's Concepts about Print Test (1979) was administered to measure this knowledge. For this task, the children sat by the researcher who read a simple children's book to them, asking them questions relevant to the various Concepts about Print during the course of the reading. This task was scored according to Clay's standardized procedures (1979).

For each child, the Intentionality task was the first administered to avoid teaching the concept through the other tasks. All task administration sessions were audiotaped and transcripts derived for the analysis.

In addition to the above formal measures of written language knowledge, all instances and resulting samples of naturally occurring literacy events involving the focal children, and noted by the researcher, were considered data for this research question. Thus, for example, if a child spontaneously jotted a message onto a piece of paper as part of a literacy event, this writing was used to assess the knowledge domains of Intentionality, Alphabetic Principle, and Concepts of Writing.

Accounting for school curriculum. Since all but one of the focal children were involved in some form of schooling, we contacted their teachers for a verbal description of the literacy concepts taught in the different programs. In addition, a field researcher observed 5 of the 23 children in school programs in their classrooms, noting activities and materials related to literacy. Finally, all of the field notes were combed at the end of the data collection period for evidence of school-based literacy activities. While it clearly would have been best to observe all of the children in their schools as well as their homes in order to account for the influence of school-based literacy activities on the written language knowledges assessed by us, this was beyond the scope of this 1-year, highly labor-intensive study. We could, instead, look at the assessed knowledges of the children in light of their school level and of the teacher-reported literacy curriculums and draw informed inferences regarding the influence of school on their emergent literacy knowledge.

Multisite management. To ensure uniformity of data collection procedures across the 20 family sites, weekly research meetings were held for the duration of the data-collection period. At these meetings, we developed language to be used in common for explaining the purpose of the observations and to answer queries from participating families. Ways of responding to threats to the validity of the data (such as requests from children for literacy materials) were developed and agreed upon. Data-collection problems were solicited and solutions were arrived at together, with the expectation that all of the researchers would apply those solutions if similar problems arose. What counted as data (i.e., what counted as a literacy event) was defined and expanded upon until the issue no longer arose. Protocols for administering the written language knowledge tasks were presented and explained to all researchers.

Data analysis

Coding

Literacy events. Coding of the field notes began near the end of the data-collection period. Codes were derived directly from the data. I, in concert with the six field researchers, first created a list of all types of literacy events observed across the families by all of the researchers. We then worked as a group to collapse the discrete types into larger categories. For example, *Reading Print on Valentine's Card* and *Reading Print on Birthday Card* events were distilled to the category of *Reading Print on Greeting Cards.* Each of the resulting codes was preceded with a letter that stood for the activities (a) *Read* (R), (b) *Write* (W), (c) *Talk* (T), (d) *Choose* (Ch), (e) *Draw* (D), (f) *Look At* (L), (g) *Play With* (P), or (h) *On the Phone* (Ph).

The rationale for including events that went beyond actual reading and writing was to remain as true as possible to real-world activities with which print is interwoven. *Drawing* by young children was considered a form of literacy event, reflecting the theoretical stance that drawing and pictures are the earlier symbolic systems that developmentally precede the representation of linear language with print (Dyson, 1989). As described later, not all of these codes were used for all levels of analysis.

Participant structures. A family-relationship tree map was created for each family illustrating relationships of all family members mentioned in the field notes. Codes were then created that denoted the relationship of each person involved in a literacy event to the focal child. Thus, for example, we had *Mother* (M), *Father Residing in the Focal Child's Home* (Fr), *Father Visiting at the Focal Child's Home* (Fv), *Cousin* (C), or *Friend of Focal Child* (FOC). Each literacy event was coded for participant structure. These codes reflected the partici-

pants in the event, with the first code marking the initiating participant, followed by a slash mark and the other participants (coded).

Data narratives. Researchers were also asked to prepare a data narrative of each of their families that described the family/home as a place for literacy. These data narratives served as holistic versions of the data on the family level which were subsequently broken up by the coding.

Following the establishment of the codes, all field note data were coded for (a) literacy event type and (b) participant structure. Three graduate students coded the field notes, after training and practice with the principal researcher. None of the coders were involved in the collection of data, as the term had ended and five of the field researchers had graduated and the sixth was still collecting data. Although most of the graduated field researchers had left the area, one remained and continued to collect data. Thus, two field researchers were available to the coders for confirmation on field notes and input regarding contextual factors.

Following the event type coding, the literacy events were coded along two other dimensions: (a) social domain mediated by the literacy event and (b) text level involved in the literacy event. For these last two dimensions, only those literacy events involving actual reading and writing were considered and coded.

Social domain. The categories of social domains mediated by the literacy events were taken from Teale's (1986) study of low-income families in San Diego, California, USA, and the ways in which print mediated their everyday lives. In order to build upon the Teale study and to compare across studies, we coded our literacy events according to the domains of social activity he found in his homes. We found that they were inclusive for all of the literacy events we identified, also. The domains include:

Daily living routines: Shopping, cooking, paying bills, maintaining welfare assistance, washing clothes, getting autos and other items repaired, traveling from one place to another.

Entertainment: Reading a novel, doing a crossword, reading a TV guide, reading rules for a game, reading print on TV screen, reading ads for a movie.

School-related activity: School communications, homework, playing school, reading the school lunch menu in the newspaper.

Work: Literacy for performing one's actual job, for maintaining or securing a job.

Religion: Bible reading, Bible study guides, reading pamphlets brought home from church or Sunday school, reading Bible stories.

Interpersonal communication: Sending cards, writing and reading letters.

Participating in an information network: Reading to gain information that might be used later in discussions with people.

Storybook time: Reading a story and/or book to a child.

Literacy for the sake of teaching/learning literacy: Helping another person learn to read and write (which is not part of homework).

Text level. Finally, the level of text read or written within each literacy event was coded to examine a possible relationship between the complexity and degree of *writtenness* of the print being read and children's acquisition of written language concepts. This analysis was performed in an attempt to move beyond a simple counting of literacy events to a more qualitative differentiation of types of reading and writing activities.

Previous studies (Taylor & Dorsey-Gaines, 1988; Teale, 1986) have documented that children from low-income homes experience many uses of print in their daily lives. However, they, as a group, continue to achieve at lower levels of literacy skill than do children from higher income homes. One of the factors differentiating the two socioeconomic groups is degree of education of the parents. This would presumably affect the nature of the print being read and written in the homes since it is related to literacy skill (i.e., the more literate one is, the more one is able to, and inclined to, read more complex written language). Teale, in fact, found that the low-SES parents in his study read and wrote mainly as part of their daily living routines and did relatively little storybook reading. Taylor (1982), in her study of middle-class, educated families, found a plethora of reading and writing of complex texts such as storybooks, magazines, encyclopedias, and word-related texts.

To establish codes for the text level analysis, we placed the texts being read or written along a continuum of size of linguistic unit, and the complexity and intensity of features commonly associated with written, as compared to oral, language (Chafe & Danielewicz, 1987; Rubin, 1978; Tannen, 1982).

The resulting categories arose directly from the data for this study. The first three categories of text level reflected language limited to the clausal level or smaller/less. The next four categories were classified as levels of *discourse*, defined as language texts, or units, which extend beyond the level of the sentence or single clause (Stubbs, 1983). Within the discourse levels, the texts were categorized according to the following: (a) *Degree of distance between writer and intended reader*: For this feature we considered: (1) the nature of the relationship between the writer and the reader, including

whether they were known to each other and, if so, if their relationship was close and/or familial (e.g., a note between siblings) or known but more distanced (e.g., a letter from the church Sunday school teacher); and (2) the physical proximity of the writer to the reader as this factor related to physical access of reader to writer to clarify meaning (e.g., a letter to a relative who lives out of town would require more linguistic specification within the written text than a letter to a friend one would see the next day); (b) *Degree to which the written text must carry the linguistic message*: For this feature we considered the degree to which the print was accompanied by pictures and the degree to which the pictures played semantic roles for the text; (c) *Degree of syntactic complexity of the written text*: For this feature (which reflects linguistically the preceding pragmatic factors), we considered the degree to which sentences were syntactically integrated, employing complex structures; (d) *Degree of usage of literary vocabulary*: For this feature we considered how many lexical items reflected consideration of written style (e.g., the writer chose to use the word *employ* rather than *use*, or *bicycle* instead of bike; and, (e) *Degree of exclusive use of endophoric reference*: For this feature, we noted how many linguistic references relied on exophoric and/or deictic terms. Those that did not were considered more written than those that did. Again, this feature reflects the pragmatic factors of author/reader distance and physical proximity.

The following codes, from smaller to larger linguistic unit, for text level resulted: (a) *Letter* (individual alphabet letters), (b) *Word* (individual words, including individual names), and (c) *Clausal/phrasal* (individual phrases and/or clauses, including single sentences. These are often found on coupons, in classified ads, and on food packaging). Within the discourse levels, from less written-like to most written-like, the following text level codes were used: (a) *Discourse 1* (Personal and/or physical closeness between communicants allows more oral than written features for text. Thus, literacy events coded at this level included personal letters, memos, notes.); (b) Discourse 2 (These included comic books and cartoons. With these types of texts, the communicants are personally/physically distant but pictures mediate the meanings to a high degree, allowing for more oral features for printed texts.); (c) *Discourse 3* (These included the reading of children's storybooks and some text on food containers. This is considered more written than the preceding levels because the communicants are personally/physically distant and there are fewer pictures than with comics, leading to more written textual features. Further, the syntactic complexity is less than for *Discourse 4* but greater than for comic books and cartoons.); and, (d) *Discourse 4* (These literacy events involved adult books, magazine articles, newpaper articles, nonpersonal business/institutional letters, and documents. This is the most written of the levels because the communicants are personally/physically distant, the pictures are nonexistent, or, if they occur, they mediate less of the meaning than for the previous levels, and the syntactic complexity and literate vocabulary are greater than for the previous levels.)

For this round of coding, all literacy events coded as *pretend reading*, *reading scribbles*, and *writing scribbles* were eliminated. We also eliminated print that constituted part of school homework because we were trying to capture reading and writing that was personally functional and independently engaged in by family members—not assigned.

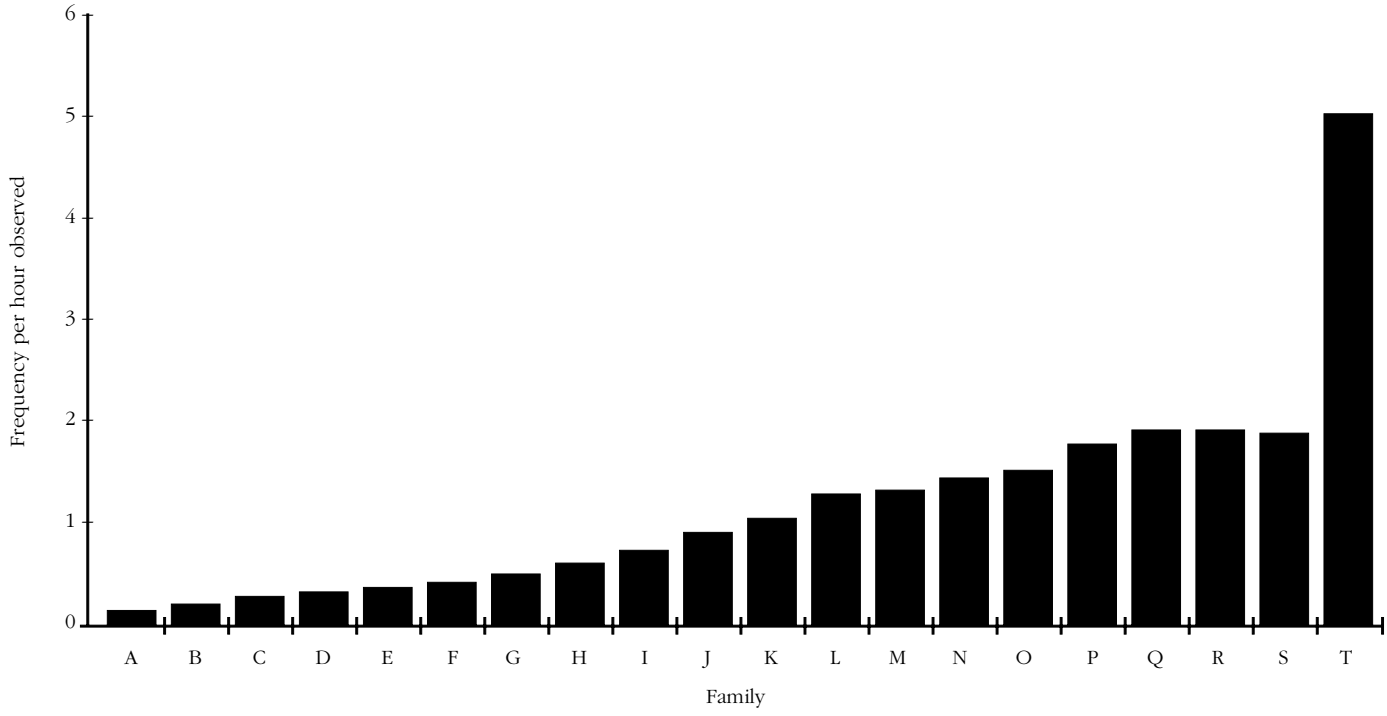
Reliability of coding. Reliability of coding for literacy event type and for participant structure was assessed by recoding each field note by a second coder and calculating the degree of agreement between first and second coder. Interrater agreement was 85% for literacy events and 85% for participant structures. The text level coding was done by two research assistants (one of whom had a degree in linguistics and one of whom had been trained in the topic of oral/written features) and the principal researcher. We resolved all differences to a 100% agreement.

Written language knowledge

In addition to the scoring of the Written Language Knowledge tasks, we accounted for knowledge that was apparent in naturally occurring literacy events. Following the scoring of the task data, all of the field notes were reviewed for literacy events involving the focal child. These events were judged for evidence of any of the concepts about written language accounted for in the tasks. If the event was judged to display knowledge of a particular concept, then a decision was made as to the score that child would receive (see levels of scoring described in *Data collection*) for this concept based on the evidence in the field note. This procedure was particularly effective in raising the scores of many children for the Intentionality concept. Other concepts affected by this procedure for some children were Alphabetic Principle (evidence garnered mainly from literacy artifacts) and Concepts About Writing.

Reliability of task scoring. Reliability for scoring of the written language tasks, as well as the evidence found in the field notes, was accomplished by two research assistants and the principal researcher scoring the tasks together, resolving all differences to a 100% agreement. The exception to this was the scoring of the Written Register transcripts, which was done by the principal researcher alone. One third of the transcripts were then

Figure 1 Range of frequency of total literacy events per hour across all families



randomly chosen and rescored by a trained colleague. Agreement was checked with a Pearson-Product Moment Test with $r = .91$.

Relationships between uses of print in home and children's knowledge of written language

To facilitate the analysis of the relationships between uses of print in the home and children's knowledge of written language, all of the data were entered into a computer spreadsheet program. Factors entered into the database were (a) family; (b) parent literacy level; (c) parent involvement in an adult basic education program, family literacy program, or no program; (d) focal child; (e) education level of focal child; (f) literacy events; (g) domains; (h) text levels; and (i) task scores. Each family's total minutes of observation were calculated and entered into the database. Frequencies of literacy event occurrences as well as domains and text levels were then calculated as proportions according to total minutes observed.

Total and average frequencies and standard deviations were computed for literacy events, domains, and text levels. Mean scores and standard deviations were also calculated for the Written Language Knowledge concepts. Simple correlations were run for relationships between task scores and literacy events, domains, and text levels. We also manipulated the correlation calculations to reflect child's schooling level and parent literacy level.

Following this quantitative analysis, I examined the data qualitatively using another spreadsheet program, looking for patterns and trends in the data. I then examined the results and, using both quantitative and qualitative findings, aggregated the findings into categories that reflected similar patterns related to the focus of the study; (i.e., the relationships between home literacy practices and children's emergent literacy knowledges). These final patterns, along with descriptive quantitative results, are presented in the following sections.

Results

Literacy event frequencies across families

The average occurrence rate for all literacy events, as defined previously, was 1.16 per hour of observation

Table 2 Frequencies of literacy events and average proportions of occurrences of literacy events per hour observed for social domains as compared to Teale's (1986) findings

	Study				
	Purcell-Gates (N = 24)			Teale (N = 22)	
Domain	*M*	*SD*	%	*M*	%
Entertainment	.178	.179	25.8	.157	23.8
Daily living routines	.174	.122	32.3	.168	25.5
Literacy for sake of teaching/ learning literacy	.113	.254	9.1	.130	19.8
School-related	.097	.121	12.3	.074	11.2
Storybook time	.086	.219	5.8	.006	.9
Interpersonal communication	.068	.053	10.5	.023	3.5
Religion	.036	.021	2.1	.025	3.8
Information network	.014	.021	1.5	.060	9.1
Work	.004	.012	.8	.015	2.3

across all of the 20 families. For actual reading and writing events, the average rate per hour of observation was .76.

The range of total literacy events in these low-SES homes ranged from a low of .17 per hour observed to a high of 5.07 per hour observed. For reading and writing events only, the range was from .04 to 4.21. Figure 1 graphically displays the range in frequencies for literacy events for each of the 20 families. A report of this range of literacy event frequency has been published previously (Purcell-Gates, L'Allier, & Smith, 1995).

Social domains mediated by print

Using the social domains found by Teale (1986) to be mediated by print in the low-SES families he studied, I found, for the most part, only slightly different distributions and proportions across the domains. We both identified the same two domains—*Entertainment* and *Daily Living Routines*—as those most frequently mediated by print. An important difference between the two studies lies in the amount of storybook reading in the homes. Teale found this domain to be the least frequently occurring (X = .006), while we found more (X = .086). See Table 2 for the means and standard deviations of the reading- and writing-only frequency calculations for the present study as compared to the means for the Teale study (his standard deviations were not available).

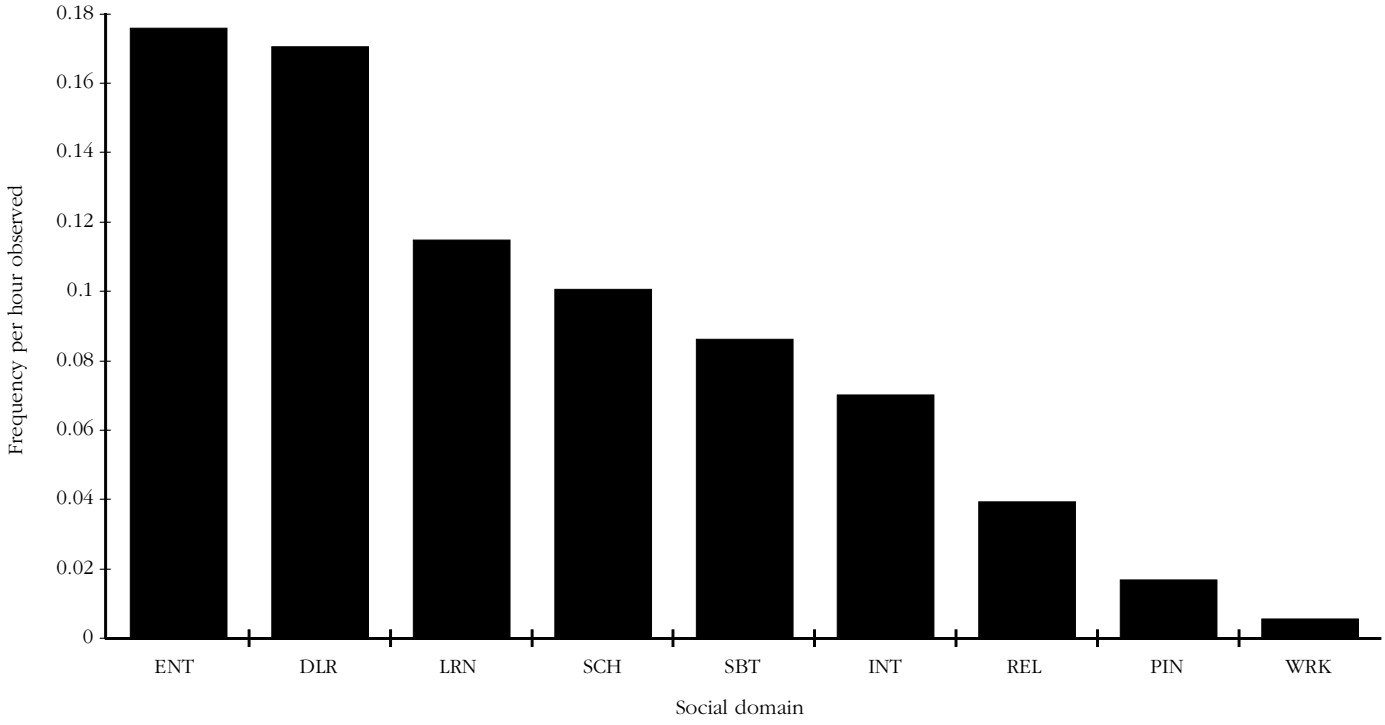
Figure 2 displays the range of average occurrences of reading and writing events across the domains from this study. The families in this study utilized print the most often as they pursued entertainment (e.g., consulted television guides, sought movie information in the newspaper, played board games that required reading game cards, or read books or magazines for pleasure) and as they went about their daily routines such as cooking, cleaning, or shopping. The families in this study rarely brought their work home with them in any way that involved reading or writing.

Text levels across families

From the analysis for the level of texts being used in the homes, we get a picture of people reading and writing mainly at the word and clausal/phrasal level. These were the levels involved in coupons, ads, some container text, and so on. The next most heavily utilized level is that of Discourse 4, the most complex and most written of the texts. We found the least number of instances at the Discourse 2 level. Table 3 displays the means and standard deviations for the text level analysis across families.

Figure 3 graphically portrays the ways in which the uses of the different text levels broke down across families. The heavy use of text at the word and clausal/phrasal levels maps onto the social domain findings, reflecting the types of text found on food packaging, coupons, and in movie ads—text used for purposes of daily living routines and as part of entertainment activities. The word level also reflects the relatively high involvement the young children had with writing their names. Figure 3 also helps us see that the adults in this study (and in some cases older siblings or relatives) read storybooks to the focal children (Discourse 3) to basically the same degree that they read books, magazines, and

Figure 2 Range of average occurrences of reading and writing events across social domains



ENT = Entertainment; DLR = Daily living routines; LRN = Literacy for the sake of teaching/learning literacy; SCH = School-related activity; SBT = Storybook time; INT = Interpersonal communication; REL = Religion; PIN = Participating in an information network; WRK = Work

Table 3 Means and standard deviations of occurrences of text levels employed in reading and writing events ($N = 24$)

Text level	*M*	*SD*
Letter	.033	.058
Word	.207	.338
Clausal/phrasal	.209	.141
Discourse 1	.034	.047
Discourse 2	.005	.011
Discourse 3	.137	.378
Discourse 4	.142	.113

newspapers, as well as impersonal letters and documents, for themselves.

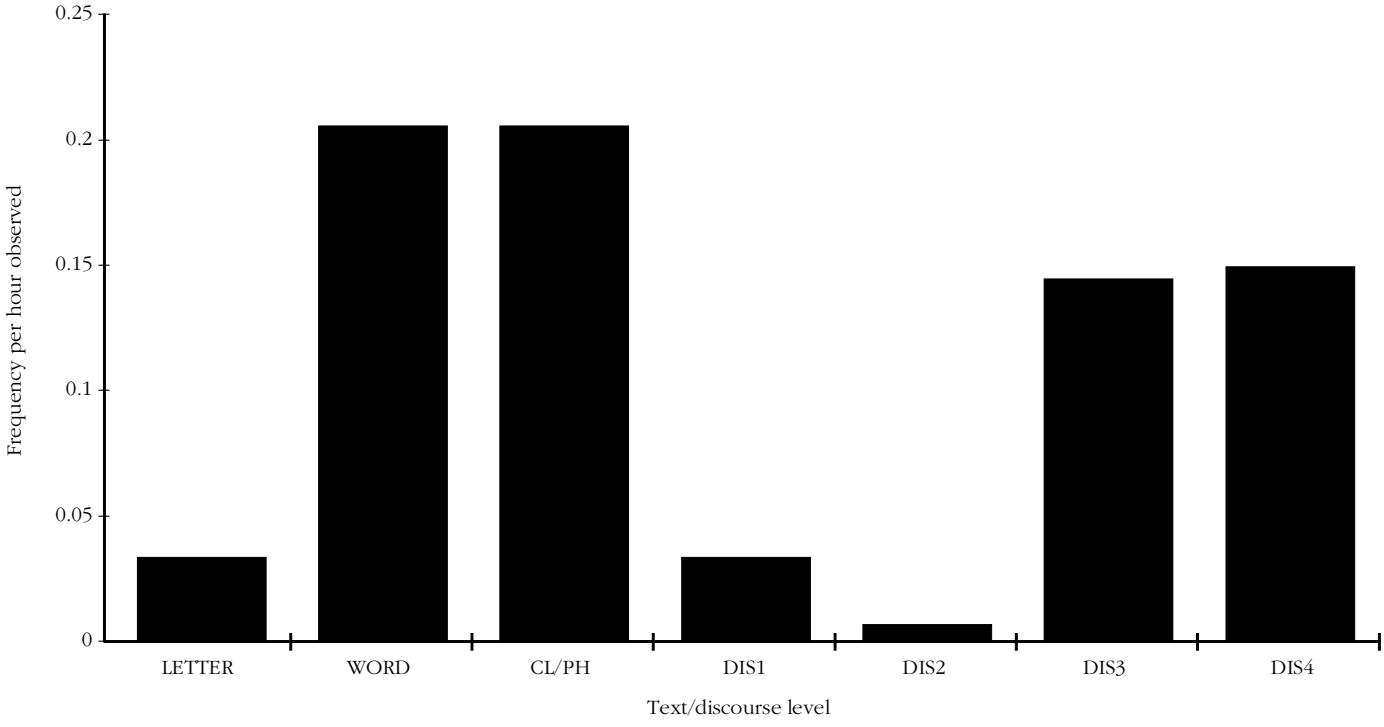
Written language knowledge of children

Results of the written language knowledge tasks can be seen in Table 4. Across the families, the profile reveals a near complete understanding that print is linguistically meaningful (Intentionality). The children had some inkling that print maps onto speech at the phoneme level (Alphabetic Principle), but they had not fully grasped this concept yet. They knew that the syntax, vocabulary, and reference conventions (to reflect the decontextualized nature of written language) of written storybook language are different from speech on a simple level. However, they did not possess the depth and breadth of this knowledge as did an earlier sample of well-read-to children (Purcell-Gates, 1988), whose average score was 42.55 (Purcell-Gates & Dahl, 1991). The children's average score of 24.53 was similar to those of other low-SES children on this task in the Purcell-Gates and Dahl (1991) study and the Dahl and Freppon (1995) study. The children, on average, scored below average in Concepts about Print knowledge, and they, overall, did not totally grasp the notion of writing as composed of letters arranged in a linear fashion.

Correlations between tasks

The intercorrelation between the different tasks used in the study are presented in Table 5. It appears

Figure 3 Frequencies of reading and writing events at different text levels across all families



CL/PH = Clausal/phrasal; DIS1 = Discourse 1; DIS2 = Discourse 2; DIS3 = Discourse 3; DIS4 = Discourse 4

Table 4 Means and standard deviations of scores for the tasks measuring written language knowledge held by the focal children (N =24)

Task	*M*	*SD*
Intentionality (Range = 1–5)	4.35	.76
Alphabetic Principle (Range = 1–3)	1.46	.68
Written Register (Sample range = 0–64)	24.53	14.52
Concepts about Print raw score (Range = 0–24)	8.13	4.99
Concepts about Print stanine (Range = 1–9)	3.58	1.50
Concepts of Writing (Range = 1–6)	4.17	1.19

Table 5 Intercorrelations between the scores on the measures of written language knowledge (N = 24)

Measures	2	3	4	5
1. Intentionality	.07	.24	.34	.43**
2. Written Register		.09	.42**	.25
3. Alphabetic Principle			.35	.51*
4. Concepts of Writing				.71*
5. Concepts about Print				

* Significant at $p < .05$
** Significant at $p < .10$, one-tailed test

clear from this analysis that Clay's (1979) Concepts about Print assessment captures many of the written language concepts—at least to some degree—measured by the other tasks, the only exception being the Written Register task that requires the child to produce evidence of a discourse-level knowledge of written narrative.

School curricula

The data collected on the literacy-related activities contained in the school curricula revealed an ever-increasing instructional focus on the inner workings of print from preschool to first grade. Table 6 lists the types of literacy activities by grade reported by the children's teachers, observed by the field researchers, and/or noted in the field notes. One can see that the activities represented here would allow the children the opportunities to develop the knowledges measured by our tasks, mov-

Table 6 Literacy activities in the school curricula for the focal children as reported by teachers

Preschool	Kindergarten	First grade
Alphabet letter writing	Being surrounded with print	Sounding out/decoding
Listening to stories	Writing and reading alphabet letters	Reading/writing sight words
Identifying beginning sounds (orally)	Listening to stories	Reading literature in basal
Copying print	Spelling inventively	Spelling correctly (i.e., spelling tests)
Spelling inventively	Pretend reading	Writing storybooks
Making word books	Writing in journal	Spelling inventively
Making storybooks	Listening for sounds	Reading simple trade books
Reading memorized text	Rhyming	
Writing name	Reading predictable texts	
	Writing stories	
	Reading/writing different types of texts	
	Copying sentences	
	Copying words	
	Reading/writing name	
	Reading/writing sight words	
	Dictating stories	
	Reading dictated stories	
	Reading simple books	

ing from experiences that would imply the Intentionality of written language in preschool to experiences that require an increasingly specific knowledge of the Alphabetic Principle in first grade. Given this, we had to account for these experiences in our analyses of relationships between home literacy activities and written language knowledge. Further, the results presented here must be interpreted with these school curricula in mind.

Relationships between knowledge scores and schooling

The children's scores on the written language knowledge measures, with the exception of Intentionality, were positively related to the years they had experienced formal literacy instruction. Scores on the Alphabetic Principle and Concepts about Print tasks were related to the children's levels of schooling at $p < .001$; scores on the Concepts of Writing task were related to levels of schooling at $p < .001$.

Relationships between home literacy and children's knowledge about written language

Using the results of the analyses described previously, as well as the descriptive statistics and simple correlations presented in the previous section, we can begin to see the ways in which the literacy practices in the homes, at times interacting with the literacy practices in the schools, affected the emergent literacy knowledges of the children in this study. Three clear patterns emerged from the analysis that capture the intricate relationships between the children's emerging knowledges of written language and the home literacy contexts in which they developed.

The big picture from degree of exposure and involvement

Grasping the signifying nature of print and the many ways in which it can function in the lives of people has been called *the big picture* (Purcell-Gates & Dahl, 1991) and is basic to any further knowledge about the forms and conventions of written language. This knowledge appeared to be learned more by children in homes in which print was used to a greater degree (average of 1.2 literacy events per hour observed) and who experienced more interactions with their mothers around print (average of .71 mother/focal child interactions per all literacy events observed), regardless of experience with formal literacy instruction. The parents of the children with lower scores on the Intentionality task (scores of 3 and 4) engaged in fewer interactions with their children around print (averages of .02 and .32 of all literacy events observed, respectively). The literacy events per hour observed in these families averaged .91 and .98, also respectively.

The Ambruster and Black families typified the high scoring group. Mrs. Ambruster lived with her husband and their two children in federally subsidized housing and attended a local community college 2 nights a week. She also sporadically attended classes at a nearby family learning program. She devoted time each day to helping her daughter with her schoolwork, particularly her spelling. She read books, magazines, and newspapers when her children were asleep or at their grandmother's as well as the print on containers and games in the home. Mr. Ambruster would often sit with a newspaper on his lap while he watched TV, alternating reading and watching. Once the researcher observed him reading a

medical form, and several times saw him reading for information about the dinner he was preparing. The children were read to by both parents as well as by various houseguests and visiting relatives.

Mrs. Black lived with her four children, two of whom were 5-year-old twins who were focal children for the study. The children's father visited the home often as did Mrs. Black's brother. The field researcher described this family as seemingly "always involved in literacy." The home was filled with posters with print, baseball cards, children's books (around 100), greeting cards, magnetic letters on the refrigerator door, sewing patterns, notebooks for each of the children to write and draw in, and literature related to the assignment Mrs. Black had as the Sunday school church secretary. Mrs. Black was often observed helping her children with their homework, spelling words aloud in response to different children's requests, helping one child print letters, and reading baseball cards with her son. The family attended church every Sunday, and, while there, the children listened while their mother read to them from a religious poster outside their Sunday school door, listened and watched while the Bible was read, and observed the taking and recording of attendance and various events involving writing. They also practiced writing their names.

In contrast to these families are those with relatively low use of print and few, if any, interactions between mothers and the focal children around print. Two of the children who demonstrated limited understanding of the ways in which print signifies and functions in the world came from the Ferris family. Mrs. Ferris attended, sporadically, a family learning program near the projects where she lived with her three children and her husband. She was working toward her General Education Development test, and this work constituted a large portion of the literacy events observed in her home. They were few, however, according to the field researcher: "I did observe her to occasionally read through a GED book and subsequently write down the answers to particular questions. Once, I observed her writing an essay." There were no children's books in the home and only occasionally was there blank paper available for the children to draw and write on. The television set was almost constantly on, and the children occasionally paid attention to it during their play, described as "running around and playing, laughing, screaming and/or crying." The researcher never saw a story read aloud to the children, "at bedtime or any other time during the day." Environmental print such as that on soda cans and cereal boxes did exist in the home, but few instances of its use were observed and none of these involved the children.

Another child with limited understanding of the big picture lived in a home with two siblings and her mother and father, both of whom were literate. Mrs. Cook dropped out of school in the 11th grade when she became pregnant with her first child. Mr. and Mrs. Cook both read and wrote to accomplish the daily tasks such as paying their bills, looking for advertisements in the newspaper, and reading and writing to communicate with the school that one of their children attended. The family, though, spent most of its time at home watching music videos and situation comedies on television. The children routinely went to bed with the television on in their room, and the field researcher reported that "They usually fall asleep while trying to watch the shows that come on at 8:30 p.m." She reported that she never saw either of the parents read to the children.

How written language works and looks from complex text and entertainment

A second pattern to emerge from the analysis was the suggestion that children begin to learn about the natures and forms of written language as well as its alphabetic nature as they experience their parents and other literate persons in the home reading and writing more complex text, both for their own purposes and for their children's (such as during storybook time). Because of the influence of formal literacy instruction (schooling) on children's written language knowledge, the patterns prevalent in the preschool group will be highlighted within this pattern to aid this focus on the home. Preschoolers whose home lives included more instances of people reading and writing texts at the more written level of discourse demonstrated more conventional concepts of writing as a system (r = .88) and Concepts about Print (r =.67). They also showed a higher degree of knowledge of written narrative register the more their parents read to them (r = .51). Children's storybook text was considered the second most complex text for this study. Kindergarten and first-grade children who experienced people in their home and community lives reading and writing at the most written level of discourse also demonstrated a more advanced understanding of writing as a system (r = .43).

People reading and writing for their own entertainment was also related to the children's understanding of the Alphabetic Principle across the entire sample (r = .60). So simply by living and participating in home contexts that included people reading books and magazines, reading the *TV Guide* for program information, and reading the rules for a board game (as examples of literacy that mediate entertainment activities), young children could begin to construct knowledge about written language and how it works to signify linguistically.

The Augustine home is an example of those which include many instances of people reading and writing at

the more written text levels and for their own entertainment. Ms. Augustine is a single mother of five children, living on welfare and in subsidized housing. She graduated from high school and attended one semester of college. She and the three children older than the focal child were observed many times reading newspapers and magazines and trade books as well as doing homework. The children in the home were described by the field researcher as "surrounded by written materials in every room in the apartment."

In contrast to the Augustines, the Howes employed relatively little print for entertainment purposes, with literacy mediating their daily living routines for the most part. Mrs. Howe lived for most of the time alone with her 4-year-old son. At times, her 15-year-old son was present in the home. Mrs. Howe was working toward her GED at a local adult education program. She was unemployed and recently divorced. At home, Mrs. Howe usually either conversed on the phone with friends or worked on her homework. During the observation period, she consulted a newspaper only to read classified ads for a new car. With the exception of a few instances of reading to the focal child and her homework, Mrs. Howe read text mainly at the level of clauses and phrases present on coupons, greeting cards, food containers, and in the phone book.

School entrance initiates parental involvement with literacy learning

The third pattern that became apparent was one of children experiencing instruction about written language in school and the simultaneous onset of parental involvement in their learning. The parents in this sample with children who had begun formal literacy instruction (kindergarten and first grade) were documented as engaging in four times as many literacy events that focused on the teaching and learning of literacy as compared to parents of preschoolers, and this was reflected in a threefold increase in the frequency of mother/focal child interactions around print. In addition, the parents of kindergartners and first graders were observed reading to their children 10 times more than the parents of preschoolers. These activities were all significantly correlated with the children's knowledge of the Alphabetic Principle (with Learning About Literacy, $r = .55$; with Storybook Time, $r = .56$), and Concepts about Print (with Learning About Literacy, $r = .62$). This parental focus on print for the sake of helping their children learn about it and on reading to their children was also reflected in the significant relationships between the children's knowledge of the Alphabetic Principle and Concepts about Print, and the frequencies of parents' utilization of text at the letter level (with Alphabetic Principle, $r = .37$; with Concepts about Print, $r = .45$) and word level (with Alphabetic Principle, $r = .62$), as well as the discourse level of children's books (with Alphabetic Principle, $r = .63$). While some of the instances of focusing on words and letters for the sake of learning them occurred within storybook reading events, others arose as homework was worked on, invitations were printed, or children simply spontaneously asked how to spell certain words or names.

The Hart family stands out in the sample as the family that most incorporated parent/child interactions around print (as well as the highest frequencies overall). Mrs. Hart lived alone with her 5-year-old son in an apartment, but they were visited often by her son's father and by Mrs. Hart's mother, Mrs. Hart's sister, and a girlfriend. Mrs. Hart worked full time as a secretary, and her son was in daycare each day following his kindergarten class.

When Mrs. Hart and her son would arrive at home each evening, almost every minute of her time would revolve around interactions with her son, and these more often than not included literacy. With her son, she played letter games, wrote words and letters, decoded words and letters, and read many children's books and children's Bible stories (Mrs. Hart was a born-again Christian). She helped him with his homework, helped him spell words, and played with alphabet cards, given to him by his father, with him. She also spent time talking to her son about stories she had read to him.

Her son was often the initiator in these activities and often would play on his own with magnetic letters, alphabet cards, and sports trading cards. He would initiate writing games with his mother in which he, for example, would request that she spell words aloud and he would write them or he would copy words from writing she had produced. He often led games with his children's books and children's Bible stories. In these games, he would talk about the stories, request certain portions to be read to him and locate particular words. In addition to her interactions with her son, Mrs. Hart also read and wrote for her own purposes texts at the most written level of discourse. The Harts' apartment included many children's books, several Bibles, an assortment of self-help books, evangelical training manuals, school correspondence, newsletters, schoolwork, notes, alphabet letters on the wall, clothing and bedding with print on them, brochures, pamphlets, catalogues, phone directories, coupons, magnetic alphabet letters, alphabet letters puzzles, and print-related activity books.

The Larson family, on the other hand, stands in contrast to the Harts and is illustrative of those families with few instances of helping their children learn about print or of storybook reading. Mr. and Mrs. Larson and

their two children lived in a federally financed housing project. Mrs. Larson attended a local community college 2 evenings a week and worked in an internship at a hospital 3 to 5 afternoons a week as part of one of her courses. Her oldest son, the focal child, was in kindergarten. Mrs. Larson was actually quite involved with her children during the day, either getting them ready for school, feeding them, disciplining them, playing board games with them, or playing video games with the focal child. Only a few of these activities, however, involved print, and of those, none included interactions directly involving the print. For example, one of the board games Mrs. Larson played with her children was Uncle Wiggly. This game involved her reading some of the cards and messages on the game board aloud to the boys. She never, however, pointed out words or talked about how the print encoded certain sounds or words as she did this. Mr. Larson also interacted regularly with the children, but these interactions primarily involved his hugging them affectionately, throwing a football with them, or talking with them while they were all watching hockey on TV together. Neither parent was ever observed reading to either of the boys.

Discussion

Before any discussion and reflection on the results of this study, we need to be clear as to what we have and do not have, given the methodology and data set. I will begin with what we do not have. The main drawback of this study is the lack of a truly representative sample of the low-SES population in the United States. The only way to achieve this is through a truly random sample of the entire population. As part of this, the sample should be larger to improve generalizability of results. Thus, the results are skewed toward a brighter picture than perhaps would exist, given a representative sample. These families were all interested in their children's learning and were comfortable enough with themselves as people and as parents to allow us into their homes; many were self-motivated enough to enroll in literacy programs for themselves. In addition, the results of the correlational tests are limited by the small sample and resulting lack of distribution and variance. The fact that the participants were paid for their efforts and time does not, in my opinion, limit the results of the study. If anything, it mitigates the skewing resulting from the limited and special nature of the sample in that families who would agree to such invasive procedures for time periods of 2 to 3 months without pay would be even more special among the low-SES population.

Given the limitations just described, the investigations of this study give us more empirical data about the relationships between young children's emergent literacy conceptualizations and the specific activities and interactions around print that occur within their homes than ever before, allowing us not only to confirm previously held beliefs about these relationships, but also to flesh out the picture by providing detail and complexity to it. Never have this many young children and their families been observed so closely in their homes over this length of time and tested for knowledge deemed important for learning to read and write. This information has been gathered in as ecologically valid a manner as is possible, strengthening the validity of the findings.

An interesting and complex picture of print use and literacy development arises from the descriptive results of this study. Clearly, the families in this study all used print for various purposes as they went about their daily activities and pursuits, confirming previous accounts of literacy practice in low-SES homes (Anderson & Stokes, 1984; Heath, 1983; Taylor & Dorsey-Gaines, 1988; Teale, 1986). However, the great variability of print use found across these 20 homes confirms Teale's findings that "Although there are no normative data by which to judge...these figures indicate that there was, compared to the overall population of the U.S., a great deal of reading and writing going on in some of these homes and very little in others" (p. 180). Overall, the average of less than one instance of actual reading and writing (.76) per hour in the present study challenges the notion that literacy is literally interwoven into all people's lives in a literate society such as ours. Some families in this study, in fact, lived busy and satisfying lives with very little mediation by print.

We also get from this study a more specific picture of the type of print employed by these families. Text at the phrasal/clausal level was most frequently read and written by the members of these families. This means that the majority of the print use in the homes involved, for example, reading container text (e.g., cereal boxes, milk cartons), flyers, coupons, advertisements, movie or TV notices, writing grocery and to-do lists, and signing names.

While it would be possible to attribute the overall lower literacy achievement of low-SES children to both scarcity of (a) experience with print, in general, and (b) complex print language, in particular, the analyses conducted for this study suggest a more complex picture. Different types of emergent literacy knowledge appeared to be related to different aspects of home and school literacy experiences for the children in this study.

These descriptive results suggest that the big picture, documented by the Purcell-Gates and Dahl (1991) study to be most predictive of early literacy success in school for low-SES children, *is* affected by frequency of

print use in the home. By living and participating in an environment in which others use print for various purposes, children infer the semiotic and functional nature of written language. These results also indicate that direct mother-child interactions around print also contribute to the construction of these understandings. The nature of this study, with its small sample size and nonrandom selection of subjects, precludes the teasing apart of these variables of frequency of literacy event and of mother-child interactions. We can infer that children who experience many uses of written language *to which they attend and personally experience* have more opportunities to build the important conceptual basis of literacy development—that print is symbolic and serves communicative purposes.

The big picture had been grasped by most of the children in this study, which utilized volunteer participants. Not all of these children, however, understood yet the ways in which print worked to signify, measured in this study by the Concepts about Print, Written Register, and Alphabetic Principle tasks. This type of knowledge was held more by the children who experienced print-embedded activities that were either directed to them or were engaged in by literate others involving text at the more complex levels of written discourse found in storybooks, novels, magazine articles, and newspapers. While this knowledge was widely acquired in school, the impact of the home activities was apparent in the strong correlations found for the preschoolers. We can assume, therefore, that the preschoolers who began to construct knowledge about the forms and concepts of print of written English and its alphabetic nature will begin formal literacy instruction in school with schemata for literacy which puts them at an advantage over their peers who have yet to begin this learning.

These findings call into some question the common-sense notion that children begin to learn about how print works, including a grasp of the Alphabetic Principle, from exposure to environmental print such as store signs and container print. The text analysis in this study allowed us to see that, for in-home literacy experiences, children are better served by observing and experiencing the reading and writing of connected discourse decontextualized from physical (such as signs and containers) and pictorial contexts. We can speculate that with such contextual support, the signification of the print is so embedded in the overall signification of the object on which it appears that young children do not notice it as a separate entity and thus do not focus on its nature as a signifier. Ehri and Wilce (1985), in fact, found that children do not begin to understand the phonemic basis of printed English until they move from a visual strategy of reading environmental print to a more phonemic one gained by attempts to encode and decode letters and words. This conclusion is further supported by the work of Burns and Collins (1987) who found that opportunities in the home that allowed children to interact directly with word-related concepts, such as letter names, letter sounds, words, and sentences, were more directly associated with accelerated reading abilities for intellectually superior children than experiences involving print in the environment.

Finally, the results of this descriptive study shed more light on the relationships between home and school learning and, in particular, inform our conceptions of the ways in which low-SES parents do and do not participate in their children's literacy learning. The findings strongly suggest that, at least for the children in this study, formal schooling plays a significant role in the construction of important literacy concepts by low-SES children. With the exception of the big picture, all of the measures of written language knowledge were significantly related to participation in and level of schooling. While this is somewhat unsurprising, the relationships between *home literacy activity* and schooling that emerged in the analysis are interesting and previously little discussed for this population.

Many studies that have attempted to examine the ways in which low-SES parents interact with their children's schools have described situations wherein parents feel alienated from the schools and assume a hands-off stance toward their children's education (Chall, Jacobs, & Baldwin, 1990; Goldenberg, 1995; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991). However, it was clear from this descriptive data that these parents, regardless of literacy level and home literacy event frequency, found the onset of formal literacy instruction as the appropriate time *to begin or to increase* their involvement in their children's literacy learning. At this time, parents began explicit teaching of letters and words. They also began reading to their children. They began to interact directly with their children around print, responding to questions as well as providing information. Thus, we see a complex pattern of schooling influence with literacy knowledge emanating directly from the school instruction and activities as well as from home-based activities that were put into increased play by the onset of schooling.

The explicit teaching of literacy concepts by the parents was significantly related to the literacy knowledge held by these children. This is an interesting comment on the belief by some educators that explicit letter and word teaching in the home is inappropriate within a developmental model of literacy development. The responses of educators like Delpit (1986, 1988) and Goldenberg (1995) that minority populations consider di-

rect teaching like this to be both culturally appropriate and effective are affirmed by these findings.

This study, by viewing out-of-school literacy as cultural practice, provides us with a picture of young children and their parents engaging in specific and varying types of literacy practices, each of which contribute to the children's emergent literacy development in different and particular ways. I believe that we can conclude from the descriptions that result from this study that children from low-SES homes, despite their relatively low showing on reading/writing achievement measures as they progress through school, *are learners and do learn* about the ways in which written language functions to the degree to which they experience it in their lives. To the degree to which they experience others reading and writing text for different purposes and at complex, as well as simple, levels of complexity, and to the degree to which they are personally focused upon and involved with print and the reading and writing of it, young children from low-SES homes will acquire critical emergent literacy knowledges and build firm foundations for future literacy development. The issue is not, thus, getting them ready to learn, but rather creating literacy environments within which the learning that they already do on an ongoing basis includes the different emergent literacy concepts needed for school success.

Further research should focus on the ways in which school and home learning can build on and complement each other. Entering school children's conceptions of reading/writing and written language as a symbolic system can be assessed, and instruction can be planned that includes those types of experiences around print that have been shown to be effective in building print concepts. This instruction needs to be congruent with the children's previous experiences in both content and style while expanding their literacy horizons. Descriptive and longitudinal research that documents these instructional applications will allow us to best facilitate children's literacy development and to gain insights into the ways in which culture, literacy, and schooling interact.

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