It's all in the name : early writing: from imitating print to phonetic writing

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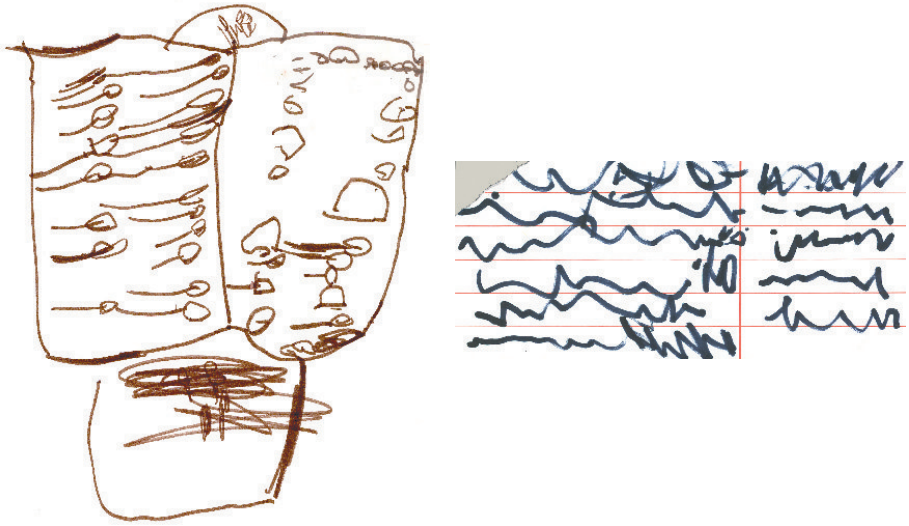
1 EARLY WRITING: GRASPING THE CONCEPT

Introduction

"Mommy, what does it say?" asked four-year-old Iman, pointing to a series of letters that she had written down. Her mother sounded the letters out and blended them resulting in a non-word that made Iman laugh. From a very young age children show such behavior thus imitating literate people and provoking adult responses. The term *emergent literacy* is introduced to refer to young children's reading and writing behavior. A main assumption is that the acquisition of literacy is best conceptualized as a developmental continuum: Young children's knowledge about reading and writing results from continuous exposure to written text in their environment and to adults who read and write. This dissertation builds on the idea that long before children are able to read and write conventionally, they enter the complex and fascinating world of literacy and that their knowledge goes beyond imitation (Bus, 1995; Teale & Sulzby, 1986).

Growing up in a literate environment children familiarize themselves with the form and function of writing (Levin & Bus, 2003). Consulting the literature I came across numerous striking examples of behavior that implies knowledge about the function of written language. For instance, Neuman and Roskos (1997) observed a little girl sitting at the phone commenting: "I have to write it down, otherwise I will forget." Even the youngest kindergarten children seem to have acquired some knowledge about the written form. For instance, playing restaurant, police station or post office young children imitate writing-like forms, e.g. at home Nena (4;1) wrote a menu and Djamilo (4;11) a ticket, see Figure 1. With increasing age, children's knowledge goes beyond imitation of the written form as is illustrated by Djamilo (5; 2 year old). It confuses him that his mother's first letter (Twirre) is the same as his father's first letter (Taco) and one day he wondered if 't' from Taco is the same as 't' from Twirre. This child is no longer just imitating superficial aspects of literate behavior but seems to understand that letters, and particularly first letters of the name, symbolize meaning; he tries to figure out how letters relate to meaning and puzzling circumstances such as different persons with the same letter can then be solved.



Nena's (4;1) menu

Djamilo's (4;11) ticket.

Figure 1

Writing is a cultural tool, invented to represent non-figurative contents like proper names and abstract ideas (Zali, 1997). Some archaeological findings suggest that from the beginning sound features were used to represent abstract ideas. In about 3000 BC the Sumerian for instance represented 'ti' ('life') by drawing an arrow because 'arrow' and 'life' were homonyms in Sumerian language. Likewise the writing of proper names elicited other strategies than iconic representations and "the need for adequate representation of proper names finally led to the development of phonetization" (Gelb as cited in Ferreiro & Teberosky, 1982). So the ontogeny of writing looks diametrically opposed to the phylogeny. Children are familiar with form features of writing from a very early age prior to having any clue about their meaning or how these form features relate to a referent (Levin & Bus, 2003). They draw the two-dimensional object 'text' as they draw 'tomato' or 'mama' but their writing is not related to a referent. Children are not aware of "the double face" of letters, namely that letters represented by simple patterns of ink on paper, at the same time point at something beyond them" (Sebeok, as cited in Tolchinsky, 2003, p.5).

Once Young had figured out which parts of the text on the Rosetta stone were proper names he gained a clear understanding of phonetic features of hieroglyphics (Freeman Institute, 1985, Photo Gallery section). Afterwards Champollion was able to decipher the written code with the help of these proper names: 'Cleopatra,' 'Alexandrus' and 'Ptolemeus.' In a different way proper names may play an active part in young children's early writing development. For instance, in a longitudinal interpretative case study of her daughter Sarah in the age range of 2-5, Martens (1999) described the role and significance of the girl's name in getting to a deeper understanding of written language. Imitating

and memorizing her name, Sarah learned upper- and lower-case letters and she discovered the relationship between the orthographic and phonological features. Such seminal findings inspired me to study whether young children are able to write their name better than any other words, whether name writing improves more rapidly than word writing, and whether symbolic and phonetic writing is primarily prompted by the letters of children's own name.

Studies into early writing

Long before children enter school and formal instruction begins, children seem to have some insight in our written system. At the very beginning their writing may not go beyond mere imitation, generation of appropriate action plans and writing their proper name. Around age 4 children are able to sort correctly (their own) writing and drawing products (Bialystok 1995; Lavine, 1977; Levin & Bus, 2003; Tolchinky-Landsmann & Karmiloff Smith, 1992). Moreover, adult judges are able to sort children's activity as drawing or writing by looking at the type of pen motions. Smooth, circular motions indicate drawing, whereas writing consists of (predominantly) short, small strokes (Brenneman, Massey, Machado, & Gelman, 1996; Burrows, 1994). Children gradually familiarize with graphic features that are typical for writing and that make children's writing recognizable as writing. Building on previous writing studies (Brenneman et al., 1996; Lavine, 1977; Gombert & Fayol, 1992; Tolchinsky Landsmann & Levin, 1985), Levin and Bus (2003) developed a writing scale that includes basic *form* features such as small form, linearity and variety up to advanced *symbolic* features such as conventional letters and letters that represent phonetic features of writing. Fifty-two percent of the 2½ to 4½ -year-old children in their study "drew" writing by representing rudimentary form features such as small form; 34% also produced writing features such as segmentation, three or more units, complex form and variation; and 14% (mostly 4 year and over) used conventional symbols (letters or numbers) and letters that were phonetically used. The results supported earlier findings indicating an increase in representing linearity, segmentation, small form, a fixed number of units, letter-like forms, and conventional letters in the age range of 4½ and over (Gombert & Fayol, 1992; Tolchinsky-Landsmann & Levin, 1985).

Do children perceive writing as another notation system to convey meaning? Or do they continue to draw print as they draw 'flower' or 'rabbit' not intending to represent meaning till formal instruction in writing begins? Levin and Bus (2003) concluded that scores in a group of 2- to 4-year-olds on writing and drawing were substantially correlated, also when age was partialed out, suggesting that when children start drawing objects referentially they write by drawing "print", and that progress in object drawing involves progress in drawing print, so that their writing looks more like conventional writing. Children unable to communicate meaning by writing spontaneously resort to drawing or drawing-like devices, indicating the primacy of drawing as a representational-communicative system. Sorsby and Martlew (1994) reported similar results for a group of 4 -year-olds making notes on the outside of envelopes in order to memorize their content. Children resort to drawing and neglect features of writing that they are aware of. Taking

these results together, the hypothesis is supported that children of this young age group face an irreconcilable dilemma - to represent the meaning of the word or to represent 'print.' This dilemma is sometimes solved creatively by confounding the two notational systems in conserving the features of writing and introducing drawing-like representations such as number of signs or color. Exploring the writing of pre-literate children at the start of the 20 th century, Luria (Luria, 1929/ 1983) presented some case studies demonstrating that kindergarten children (6-year-olds) add drawing features such as colour or size to their writing of dictated sentences contrasting in meaning; the task was to memorize sentences. In his dictations Luria had interwoven contrasts in colour (black smoke), shape (the column is high), number (Lilya has two ears versus Lilya has one head), and size (the big hen and 4 little chicks) resulting in heavy black lines representing black smoke, a long vertical line for a high column, a long stroke versus a short stroke representing two ears versus one head, and one big line and four small ones for a big hen versus four little chicks. Ferreiro and Teberosky (1982) described that children represent size and number in writing; for instance, one girl assumes that her name becomes longer after her birthday. In contrast to Luria, these Argentinean researchers did not find evidence for shape or colour interwoven in written forms. Dictating words and sentences referring to colour ('a red flower'), form ('house' versus 'a child playing with a ball') and size (sky), Tolchinsky-Landsmann and Levin (1985) found effects of colour, number and form on writing products in a group of children aged 3½ - 5½. Their results indicate that children round 4½ added drawing features to their writings. Tolchinsky-Landsmann (2003) argues that *thus* children use writing as a system to represent meaning. How can it be explained that in Tolchinsky-Landsmann and Levin's study the oldest group, the 5-year-olds, added fewer drawing features to writing features than younger children although the drawing skills had improved?

Levin and Korat (1993) argued that preference for a semantic representation (i.e., longer letter strings for bigger objects) is most prominent among children who do not write invented spelling. They dictated word pairs composed of longer –sounding words denoting more objects versus word pairs composed of longer –sounding words denoting lesser objects. The 6-year-olds were the only group that represented word length correctly despite of a referent's meaning: They wrote 'zer' (bouquet) shorter than' pe'ax' (flower). Five-year-olds, on the other hand, did not succeed in representing word length correctly; words referring to more objects (e.g., zer) were written with more letters than words referring to one object (e.g., pe'ax). Results from Levin and Tolchinsky-Landsmann's (1989) study were similar; only six-year-olds represented the length of the word correctly.Five-year-olds did represent the length of words with more letters if in word pairs the longer word included the shorter one, i.e. sapar versus saparit (hair-hairdresser). Children keep representing number (for instance, three in three flowers) by repeating the same written string of letters or pseudo-letters three times well into the stage of phonetic writing, probably because this strategy is compatible with the form of writing. Kalid, a 6-year-old boy who was already aware that letters

relate to sounds in words, wrote for the word roda (= wheel) 'oa', and repeated this letter string four times when the request was to write four wheels (Tolchinsky-Landsmann, 2003). Ferreiro and Teberosky (1982) observed that children use letters of their own name to write new words, rearranging the order of letters. Children seem to understand that letters symbolize meaning preceding the stage that they produce phonetic writing. Are children inclined to write phonetically especially when tasks underscore the sound of words?

In a dictation of word pairs overlapping in sound (for instance, ta – mita), five- and six-year-olds represented this overlap. Half of the 5-year-olds and most 6-year-olds (about 75%) represented the overlap in orthography by selecting similar but not necessarily correct signs. The difference in word length was represented by 59% of the 6-year-olds and only 39% of the 5-year-olds. Four-year-olds made the same or completely different letter strings, drawings or characters that could not be unequivocally judged as either similar or different (Tolchinsky-Landsmann & Levin, 1987). In a similar study, Kamii and Manning (1999) dictated word pairs like water-watermelon. Over a period of five months, representation of overlapping word (parts) and word length increased but only a small proportion of the children selecting the correct phonetic letters. Children often selected wrong but similar letters for overlapping segments in word pairs which may indicate that children are aware of a relationship of writing and the sound of speech. On the other hand, this outcome can be accidental considering that children pick from a small stock of known letters (e.g., the letters of their name); as a consequence they often select the same letters.

In short the finding that children are able to differentiate between drawing and writing from a young age, and to produce some of the features of the written form, made researchers look for signals of developing knowledge of writing as a symbolic system. Iconic features in writing or representation of semantic features of dictated words tied together with writing features may indicate that children understand writing as a symbolic system (Kamii & Manning, 1999; Tolchinsky-Landsmann, 2003; Tolchinsky-Landsmann & Levin, 1987). Other researchers (e.g., Levin & Bus, 2003; Sorsby & Martlew, 1994) argued that young children's knowledge of writing is limited to implicit, procedural knowledge learned by imitation. Iconic features in writing (color, number or size) indicate that young children's writing and drawing are intertwined. In other words, writing is imitating the *form* of writing; children draw the two-dimensional object 'text' like they draw 'tomato' or more abstract referents like 'landscape'. At some point emergent writers make a shift from drawing writing to *symbolic writing*; they *redefine* writing (a phrasing introduced by Karmiloff–Smith, 1992). Following Tomasello (1999), I suppose that children make this shift from writing as a form of imitation toward writing as a symbolic representation when, as a result of social interactions between parents and children, children take a grown-up's perspective of their own behavior and cognition. Adults' comments like "Look, your letter" may draw children's attention to the symbolic features of writing. Young children internalize such implicit instructions through grown ups making

them conscious of a connection between letters and meaning. As a result, young children begin to understand the symbolic facets of writing and start to use these conventional symbols in a dictation (Treiman, Kessler, & Bourassa, 2001).

Studies into name writing

Young children first familiarize with the sound and written form of their name. Infants from 4½ months old recognize the sound patterns of their own name (Mandel, Jusczyk, & Pisoni, 1995). The proper name is also the first word children attempt to write (Clay, 1975; Temple, Nathan, Burris, & Temple, 1988). Ferreiro and Teberosky (1982) reported that middle SES Argentinean children, 4- to 6-year-old, (70%, $N = 47$) and some low SES children (21%, $N = 29$) wrote their name conventionally before they entered school. In the following section I will further explore: *1.* the development of the writing of the proper name,*2.* proper names as a source of letter knowledge, and *3.* the use of name letters in new words.

The writing of proper names may gradually evolve from rudimentary form features to conventional writing (Ferreiro & Teberosky, 1982). In a longitudinal case study, Martens (1999) illustrated how her daughter Sarah learned from her name. After a period in which she wrote her name as a logogram, Sarah began inventing her name. She wrote for instance her name as CAYI, (perhaps indicating that she attributed sounds to letters based on the letter names, such as C for /s) . Likewise Zilva wrote 'LLZ' sounding out her name, months after she had started to write her name correctly. From interviewing children about their name writing, Ferreiro and Teberosky (1982) concluded thatchildren could learn to write their name conventionally, treating this fixed string of letters as a whole composed of various parts, without understanding the reasons behind the order or selection of symbols. In line with this assumption, Villaume and Wilson (1989) reported that young children memorize the letter forms before they name the letters. Dictating their name children did not name the letters but they describe the form of the letters. They may, for instance, comment while writing: "...first a stick with a circle, then...." Do children's experiences with their own name boost knowledge about the letters of their name?

Researchers explored the hypothesis that preschoolers' name writing reflects emergent print knowledge and phonological awareness. Ferreiro and Teberosky (1982) suggested that children made "an extremely important shift" when they look for the correspondence between individual letters of the name and parts of the spoken name. For instance: 5-year-old Lorena wrote her name correctly. Confronted with a changed order of the letters in her name i.e. LOERNA, she said that '...it doesn't say Lorena, but this little piece (LO) says lo-re." I saw that five-year-old Djamilo read his name correctly but hesitated and read 'Djami' when only DJAMI was visible. Ferreiro and Teberosky did not report effects of name writing on other, not practiced words. Welsch, Sullivan and Justice (2003) concluded that successful name writing predominantly reflects alphabet knowledge and print concepts but not phonological awareness. Likewise, Australian first graders, U.S. kindergartners and U.S. preschoolers showed a significant superiority in knowledge of the initial letter of their own first name in tests of letter names,

but not in tests of letter sounds (Treiman & Broderick, 1998, Treiman & Kessler, 2003). In line with these findings Aram and Levin (2004) reported that Israeli kindergarten children named the letters of their name more often correctly than other letters of the alphabet. They found a similar superiority in knowledge for nearly all letters of the child's name and not just for the first letter. They concluded that the Hebrew-speaking children in their study gained more from their name than the English-speaking children in the study by Treiman and colleague's because Hebrew names differ from English names in two ways:1. As Hebrew script has no capital letters the first name letter in Hebrew is not distinct in size from the other letters; see also Treiman & Kessler (2004) reporting that the uppercase letters inserted by kindergartners in a non-initial position were the initial letter of children's first name *2.* Hebrew names are shorter than English names. In a letter knowledge task, Serpell and colleagues (Serpell, Baker, & Sonnenschein, 2005) determined that knowledge of name letters is greater than knowledge of letters in general. When the children were in pre-kindergarten, 55% of them correctly identified the first letter of their name, and this figure jumped to 95% by the end of kindergarten. Bloodgood (1999) examined the letters that thirty 4- and 5-year-old children used in spontaneous writings over the span of a school year. Name letters comprised about half of the letters (41%) among the 4818 characters in 349 stories written by those children who used only random letters (i.e., letters that do not match to sounds in words). Comparing the proportion of name letters in children's writings, she tested for 4 letters (R, L, N, S) whether children who did have one of these letters in their first name, used these letter more frequently than children who did not have one of these letters in the first name. For each of the 4 letters she reported significant differences indicating that children with one of these letters in their name used this letter two times as often as children who did not. Other studies (Aram & Levin, 2001; Treiman, Kessler, & Bourassa, 2001) replicated and extended Bloodgood's results. They reported a similar effect for all letters of the alphabet, and not just for a small selection of letters.

Analyzing 8 studies Shanahan and colleagues (2005) reported substantial correlations ($r = 50$) between name writing and decoding and, based on three studies, a moderate correlation ($r = 36$) between name writing and spelling. In a longitudinal study, Dunsmuir and Blatchford (2004), exploring predictors of writing competence in a group of 4- to 7-year-old children, reported that name writing at school entry was significantly associated with writing at 7 years.
Does phonetic writing start with the letters of a child's own name? Do children use name letters not only randomly but also phonetically motivated? Are the sounds of the letters from the own name among the first they recognize in new words? So far the literature does not give a favorable answer to these questions. Results reported by Treiman and colleagues (2001) contradicted the suggestion that phonetic writing starts with letters from the proper name. They found that phonetic spellings were not confined to letters from the name but included other letters as well. Treiman and colleagues (2001) compared children whose name contained a particular letter with children without the letter in their name.

Alternatively, one could calculate which proportion of letters in children's writing of new words is derived from their proper name and which letters are used phonetically or randomly.

Objectives and outline of the dissertation

As a result of continuous exposure to reading and writing in their environment and participation in literate activities, children develop knowledge of the form and content of written language long before they enter school (Teale & Sulzby, 1986). The studies presented here were designed to study the impact of two activities related to writing text, namely drawing and name writing, on young children's writing skills. In a series of studies we explored young children's knowledge about writing as a form and writing as a symbolic system to represent meaning.

Hypotheses for separate studies. The first study described in Chapter 2 reports how children of three different age groups (3½-4, 4-4½, 4½-5) wrote two sets of 8 words, one set with a particular purpose (making labels to memorize the content of boxes) and the other without (dictated words). In line with Levin and Bus (2003) We hypothesized that drawing and writing are closely intertwined for young children. When it is emphasized that writing should denote meaning children may focus less on representing the two-dimensional object print and more on representing the referent's meaning. As a consequence they may often resort to drawing thus neglecting features of writing of which they are aware, and as a result the distinction between writing and drawing dilutes.

The second study described in Chapter 3 tested the same hypotheses by secondary analyses of the data. Adults with no knowledge of the children's age and how the product was created sorted and named the writings produced in the first study. We expected that as a result of an emphasis on the readability of children's notes, an adult's ability to sort their products as writing or drawing will be distorted but these features may support adults' ability to name the products.

The third study, described in Chapter 4 reports the difference in name writing and writing dictated words in samples of children ranging from 2-5 years of age, with Hebrew or Dutch as their 1st language, and recruited from low- to high SES families. Many children are exposed to their written name at an early age and are encouraged to copy their names, to try to write them on their own, to name the letters in them, and so on. As a result we supposed that name writing is advanced compared with writing of dictated words.

The fourth study described in Chapter 5 reports how familiarity with the proper name influenced spellings of new words. Grown-ups provide children with fairly substantial amounts of direct instruction about letters as symbols talking about children's own or other people's letters and how they sound in words: "look, that's your letter" or "that's 'm' for mama."As a result, we expected, children may become aware of letters as symbols and use these letters ('my a') when they write other unpracticed words. More advanced children may start to use the letters of their name phonetically.

The fifth study described in Chapter 6 is a replication of the fourth study with somewhat older children fromlow SES families. Chapter 7 is a general discussion

of the results of the five studies. Chapter 8 describes which writing activities take place at home and at school.
Expected benefits: The studies reported here may help parents and teachers to interpret and react to children's concepts about writing. This series of studies highlights children's developing concepts of writing before formal instruction starts and the special contribution of proper names to this development.

Letters written by a 4;8-years-old girl.