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

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5 NAME WRITING: A FIRST STAP TO PHONETIC WRITING?[1]

Abstract

This study aimed to test how name writing affects young children's writing. In the analyses we focused on a subgroup of Study 1 (see for description of subjects and tasks Chapter 2): We selected children producing strings of conventional letters (N = 35). All children wrote their name as well as a set of 16 mostly unpracticed words like baby and flower. Testing how familiarity with the proper name influenced spellings of unpracticed words, it appeared that most letters used to represent these new words (52%) were letters from the proper name and, more importantly, the first letter of the name was the first one to be written phonetically.

[1] If quoting the research in this chapter, please refer to: Both–de Vries, A. C. & Bus, A. G. (2006). *Name Writing: A First Step to Phonetic Writing? Does the name have a special role in understanding the symbolic function of writing?* Manuscript submitted for publication.

Introduction

Children develop knowledge about writing from an early age. When asked to write a word or sentence young children do not hesitate to make some writing-like scribbles. Ferreiro and Teberosky (1982) were among the first to show that children develop knowledge of the form and content of written language, presumably as a result of continuous exposure to writing and reading in their environment. This study aimed to test how increasing familiarity with their proper name affects the way children write unpracticed words. We tested *1.* whether children use letters of the name more often than other letters in random letter strings and *2.* whether letters from the name more than other letters are first used phonetically.

Taking into account that name writing in the preschool stage is one of the best predictors of conventional literacy in school age one may expect the name to play a special role in understanding the referential function of writing (Strickland & Shanahan, 2004). Many children first familiarize with their proper name. Prior to other words, children's writing of their own names is identifiable as writing (Levin, Both-de Vries, Aram, & Bus, 2005). Furthermore, their proper name is among the first words that children can write conventionally (Levin et al., 2005). However, writing the proper name does not automatically imply understanding of the alphabetic principle i.e. grasping the idea that the letters of printed language stand for the individual sounds of spoken language (Byrne, 1998). The first letter of the name or the complete letter pattern is often memorized as a logogram. "Does a David live here?" asked four-year-old David when he saw a name target with a ´D´ on a front door. Dictating their name children may not name the letters but describe the letters' form. They may, for instance, say "first a stick with a circle." Young children memorize the letter forms before they name the letters (Villaume & Wilson, 1989).

The way grown-ups react to name writing (for instance, recognizing the name and reading it aloud) may stimulate a shift in children's procedural knowledge of writing, eventually resulting in phonetic writing (Levin & Aram, 2004). In joint attentional scenes like name writing grown-ups stimulate children to reflect on their rudimentary writing activities, which may improve children's understanding of basic concepts of writing (Tomasello, 1999). As grown-ups read the name, children begin to reflect on what makes writing readable and they may isolate features of their performance relevant to that success. As a result, children may become aware of letters as symbols and use these letters ('my a') when they write other unpracticed words. We hypothesize therefore that children's understanding of writing as a symbolic device starts with letters from their name. Grown-ups also 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 the 'm' from mama" (Levin & Aram, 2004; Welsch, Sullivan, & Justice, 2003). Grown-ups unintentionally instruct children on how letters of the name sound in words, thus stimulating phonemic awareness with letters from the name (Ehri & Wilce, 1989; Frost, 2001). We hypothesize therefore that phonetic writing starts with the letters

of a child's own name, whatever those letters are. However, so far the literature does not provide unanimous support for this hypothesis. Treiman and Broderick (1998) found that English-speaking children do not necessarily know the letter sound for the first letter of their own name, even when they show a relatively good knowledge of the conventional label of this letter. That is, a child named Victor is likely to be better than a child named Susan at saying the letter name V, but not at saying the corresponding sound /v/. This leads to the prediction that Victor wouldn't spell /v/ better than other letters when making attempts to write words. On the other hand, another study found that young speakers of Hebrew show elevated levels of letter-sound knowledge for the first letter of their own name (Levin & Aram, 2004). This would predict that spelling might be better for that letter. In a group of kindergartners and first and second graders, Treiman and colleagues (2001) found that early phonetic spellings not only include letters from the name but other letters to the same extent. We guess that phonetic writing starts with letters of the name but that it is only for a short period restricted to those letters. In Treiman's sample (Treiman et al., 2001), an effect of name letters may not have become manifest because children just starting to write phonetically were mixed with a somewhat more advanced group.

Several studies reported that young children select letters from their own name when they compose texts or write down words that are dictated (Aram & Levin, 2001; Bloodgood, 1999; Treiman, Kessler, & Bourassa, 2001). Bloodgood (1999), for instance, reported that 41% of the letters written by 30 kindergarten children in 349 texts were letters from their own name. Children may prefer these letters to other letters from the alphabet because they are aware that the letters from the name symbolize meaning (Sulzby, Barnhart, & Hieshima, 1989). For instance, children may have experienced grown-ups being able to recognize their name writing. Another possibility is that the sounds of name letters are recognized in spoken words prior to other letter sounds because children often practice rhyming with names and sounding out name letters. Grown-ups may sound out letters of the name more often than any other letter: that's 'p' of Peter. However, as letters from the name are known to be selected randomly it is hard to decide whether these letters are used phonetically. Letters of the name may indeed match sounds of dictated words but their selection to represent a referent can be purely accidental. Treiman and colleagues (2001) characterized those letters therefore as being used *ambiguously* thus leaving open the possibility that letters from the name were selected by chance even though their sounds matched sounds in words.

This study was designed to test whether symbolic writing (using conventional symbols such as letters or numbers) and phonetic writing (some letters represent sounds audible in the spoken referent) are prompted by the letters of children's own name. Studies into effects of name writing on young children's writing predominantly examine whether representing the first letter of the name in spellings of words that contain that letter is more common for children whose names indeed begin with that letter. However, studying phonetic writing in this way it is overlooked what Treiman and colleagues named ambiguous use of name

letters. For example, when Peter adds a 'p' to all dictated words it is plausible that his writing of 'p' in words with this sound is by chance and not because the sound of the letter was recognized in the spoken word. Therefore, to test the effect of name letters on phonetic writing we preferred an alternative strategy. Per child we calculated *1.* which proportion of letters was derived from their own name and *2.* which proportion of those letters was used ambiguously (the letter is indeed part of the correct spelling but the child may have selected the letter randomly) and which proportion randomly (the letter is selected though it is not part of the correct spelling). As name letters are as often used ambiguously as randomly, it is plausible that these letters were not selected because children had recognized the sound in the spoken words. By contrast, if ambiguous use of letters from the name statistically significantly exceeds random use we can make a reasonable case for the assumption that the letters of the name are mostly not selected by chance but because children have recognized the sound in the focal word. Hence we coded for each child random and ambiguous use of letters. For instance, when Oliver adds 'o' to a letter string that represents one of two dictated words that indeed include 'o' ('zon' or 'tomaat') the percentage of ambiguous 'o''s is 50%. The same child produces 'o' in the letter strings meant to represent 14 other words without 'o' (e.g., baby, man). His score on random 'o''s is therefore100%. We tested: *1.* whether children used proportionally more name letters than letters not from the name; *2.* whether the proportion of ambiguously written name letters exceeded the proportion of randomly written name letters; and *3.* whether the proportion of ambiguously written letters not from the name exceeded the proportion of randomly written letters not from the name. If symbolic writing (using conventional letters or numbers to represent a referent) starts with letters from the name we can expect in a group rarely producing phonetic writing that symbolic writing includes a substantial number of letters from the name. If phonetic writing starts with letters from the name we can expect that these letters are, contrary to other non-name letters, more frequently ambiguous than random. This hypothesis was tested in a group that had started to produce phonetic writing but only sparsely (one phonetic letter in a few dictated words). This effect may be restricted to the first letter of the name, because that letter is named and sounded out in daily life more often than other letters (Levin & Aram, 2004). As children thus grasp that letters relate to sounds the number of phonetically used letters widens at a great pace and this name effect soon disappears.

Method

Participants

We selected 35 children in the age range of 46-61 months ($M = 55.0$, $SD = 3.4$) from Study I (see Chapter 2) that included 96 children from 3½ to 5 years of age. In this study the youngest children were recruited from three playgroups and children 48 months and older from kindergarten classrooms in 4 different schools (in the Netherlands kindergarten starts on the day the child becomes 4 years old). As usual in Dutch kindergartens, formal teaching of reading or writing including instruction of letters was not part of the curriculum. All children were

from middle to high socio-economic status families. When the teacher suspected that a child was developmentally delayed, the child was excluded. The 35 selected children used conventional symbols in more than half of the 16 dictated words but the products rarely were conventional or readable invented spellings.

Stimuli

Besides their proper name children wrote and drew 16 unpracticed words: liquorices, snow, rabbit, man, ball, book, flower, three flowers, tomato, sun, baby, mother, wheel, box, tree, and three trees.

Procedure

Assessments were spread over 4 sessions of 20 minutes. During the sessions the examiner met each child individually in a separate room. Each child drew and/or wrote 8 words per session, in all they produced 16 products of writing and 16 products of drawing. In the dictation the examiner asked the child to write or draw a word avoiding indefinite articles: "write/draw baby." We will not report about the results of drawing. In the first session children also wrote their name.

Coding

For the name and each of 16 dictated words we coded the number of words in which children had used conventional symbols and the number of words in which one or more letters were correct. Agreement between two coders (both authors) on one or more conventional symbols,' 'one correct symbol,' and 'two or more correct symbols' was .99, .94 .93, respectively.

Next we coded per child and per conventional symbol: *1.* if the letter was a (first) letter from the name or any other letter (below referred to as: non-name letter); and *2.* if the letters were used randomly or ambiguously. We calculated in percentages how often children had used a (first) letter of their name ambiguously or randomly by dividing the number of words in which children had used a (first) letter of their name ambiguously or randomly by the number of words that did or did not include the first letter. This resulted in two scores per name and non-name letter: random use and ambiguous use. The same calculation was done for non-name letters that appeared in children's writing. For example: Sandra's used the first letter of her name in her written representation of two out of four words that indeed includes an s/z-sound (i.e., dropjes [liquorices], sneeuw [snow], doos [box], and zon [sun]). This score resulted in a 50% score for *ambiguous* use of the first letter of the name. Sandra also used 's' in ten of the twelve other words that do not include 's' (e.g., moeder [mother], baby [baby], etc.) resulting in a 83 % score on *random* use of the letter 's.' The same coding was done for each of the other letters in Sandra's name, i.e., for 'a,' 'n,' 'd,' and 'r ,'and for the letters 'm,' 'o' and 'f' that are not letters from her name but that she used as well in her written representations of dictated words. We tested the difference between ambiguous and random use of letters for *1.* the first letter of the name (here: s), *2.* the other letters of the name (here: a, n, d, and r), and *3.* non-name letters (here: m, o, and f). Testing the difference between ambiguous and random use we took the

average scores for name letters other than the first letter and the average scores for non-name letters.

For a selection of five children two independent coders (both authors) agreed substantially on the number of words that included the first letter of the name, other letters of the name and non-name letters; agreements for first letter, other name letters and non-name letters were $r = .83$, $r = .87$, and $r = .89$, respectively.

Results

Level of writing

We discerned children not yet writing phonetically from those who had just started to produce some phonetic spelling and tested ambiguous versus random use of letters for both levels separately. *Level 1*, the lowest level ($N = 17$), mainly made random letter strings rarely selecting correct letters (they wrote at most one correct letter in two out of 16 dictated words). *Level 2* ($N = 18$), by contrast, chose one (17 children) or more correct letters (1 child) in three or more words. On average children of level 2 wrote 3.4 ($SD = 1.9$) words with 1 or more correct letters whereas children of level 1 wrote .4 ($SD = .7$) words including 1 correct letter. Apart from very few exceptions even level 2 children did not produce readable invented spellings. Level 2 children were more advanced in name writing than those at level 1. At level two 65% wrote almost all letters of their name correctly, whereas about three-quarters of level 1 children (76%) wrote only one or two letters correctly. Children at both levels were on average 4 years and 6 months old.

Proportion of name letters in dictated words

Writing dictated words children used a small number of different letters. We tallied name letters and letters not from the name (letters more than once appearing in *one* word were tallied one time). About half of the letters was derived from children's name: at level one 58% ($SD = 18$) and at level two 46% ($SD = 22$). In so far they used letters not from the name there was not much variety; at level 1 they used 20% ($SD = 11$) of alphabet letters not in their name, at level two 33% ($SD = 11$). Simple forms like 'o' and 'i' were the most frequently used non-name letters. Children scoring at level 2 wrote 'o' or 'i' in about half of the 16 words (in 44% and 47%, respectively) children at level 1 used 'o' in one quarter (26%) and 'i' in 12% of all words.

Did all letters from the name occur to the same extent in dictated words or did the first letter predominate? We tallied the number of words that included the first letter of children's name; for each other letter of children's names we tallied the number of words that included that specific letter and averaged the number of words written with one of the other letters from children's names. Next we tested whether the percentage of words written with the first letter of children's name exceeded the percentage of words that included other letters from the name. According to a significant matched-pair Wilcoxon test, *level 1* children produced more words that included the first letter of their name ($M = 39\%$, $SD = 30$) than words with other letters from the name ($M = 22\%$, $SD = 22$), $Z = -1.97$, $p<.05$,

$N = 17$. By contrast, children at a higher level of writing (*level 2*) did not prefer the first letter from their name to other letters from their name. About as many words included first letters ($M = 39\%$, $SD = 37$) as other letters from the name ($M = 52\%$, $SD = 30$). According to a matched-pair Wilcoxon test the difference was not statistically significant.

Ambiguous and random letters from the name

Are children who selected quite a few correct letters using the letters from their name and other letters by chance or because they recognize sounds of these letters in dictated words? Children scoring at *level 2* wrote the first letter of the name more often ambiguously ($M = 55\%$, $SD = 40$) than randomly ($M = 38\%$, $SD = 37$); see Table 1. According to a matched-pair Wilcoxon test the difference between ambiguous use of first letters of the name and random use of first letters was statistically significant, $Z = -2.16$, $p < .03$, $N = 17$ (two-tailed). In other words, it is not merely chance that children use the first letter of their name phonetically. However, they wrote other letters from the name as often randomly as ambiguously, 34% ($SD = 21$) versus 36% ($SD = 19$), suggesting that they recognize the sound of the first letter of the name in the dictated words but not the sounds of other letters from their name. By way of contrast, the difference between random and ambiguous first letters of the name was not statistically significant at *level 1*. These children used the first letter of their name as often randomly as ambiguously (see Table 1), which indicates that at this writing level correctly selected letters from the name were chance hits and not chosen by the child because he or she had recognized the sound in the spoken word (cf. Treiman et al., 2001). They also wrote the other letters from their proper name as often randomly as ambiguously; 18% ($SD = 16$) versus 18% ($SD = 18$).

Table 1. *Proportion (SD) of ambiguous versus random written name letters and non-name letters used to represent 16 words by writing level (level 1 = score 7.5-8.5 on the writing scale; level 2 = score 8.6-9.5 on the writing scale)*

		% First Letter of Name			% Other Letters of Name		% Non-Name Letters	
Group	N[a]	Ambiguous[b]	Random	N	Ambiguous	Random	Ambiguous	Random
Writing level 1	15	34.5 (33.2)	38.7 (33.8)	17	17.6 (17.9)	17.9 (16.1)	3.4 (4.1)	7.7 (5.6)
Writing level 2	17	55.4* (39.9)	37.5 (37.3)	18	35.8 (18.3)	34.8 (19.3)	20.3 (15.8)	15.5 (8.9)

[a] Because of the limited set of letters appearing in the 16 dictated words not all children could be included. [b]Letters match sounds in words but children may have chosen the letters by chance.
* $p < .05$.

Ambiguous and random letters, not from the name

Is the finding that the first letter of the name is more often used ambiguously than randomly unique for the first letter or can it be replicated with non-name letters?

The present results support the hypothesis that phonetic writing starts with the first letter of the child's own name. Children scoring at writing *level 2* wrote on average in 88% (SD = 18) of the dictated words one or more non-name letters, but these letters were as often used randomly (M = 16%, SD = 9) as ambiguously (M = 20%, SD = 17); see Table 1. Children scoring at *level 1* wrote less non-name letters (M = 53%, SD = 30) but here as well the difference between ambiguous (M = 5%, SD = 6) and random letters (M = 8%, SD = 6) was not statistically significant.

Discussion

Symbolic writing starts with letters from one's own name. When children make letter strings they often select letters from their proper name (M = 52%, SD = 21) probably because they are most familiar with their forms or because they are aware that these letters are symbols for a referent. Children producing random letter strings more often use the first letter of the name (in 37% of all dictated words) than other letters from the name (for all name letters on average in 22% of all dictated words) or non-name letters (for all alphabet letters on average in 6% of all dictated words). Our results also lend plausibility to the idea that phonetic writing begins with the first letter of the name probably because children are more familiar with the sound of this letter than with the sound of any other letter. They succeed to recognize the sound of the first letter of the name in unpracticed words preceding any other letter. When children start to write phonetically (the level 2 children in this study) the percentage of ambiguous use of first letters from the name exceeds the percentage of random use. Hence the ambiguous first letters are not chance hits but indicate that children often select the first letter of the name because it represents a sound in the word. These children also select one of the other name letters to represent dictated words (in 50% of the dictated words) but for those letters ambiguous and random use does not differ. Apparently, the other name letters are known as written symbols but children do not know how they sound in words and use them purely randomly. The same is true for non-name letters. Children often write 'o' and 'i' but it is not plausible that they select these letters because they recognize the sound in spoken words. An objection to this conclusion may be that phonetic use of some frequently appearing letters was obscured because scores for letters from the name and for non-name letters were averaged. Thus we cannot rule out that one or two letters other than the first letter of the name were used phonetically as well. To test this hypothesis we selected per child the letter that most frequently appeared in the 16 words. It could be a non-name letter or a name letter apart from the first letter of the name. Post hoc testing revealed that the thus selected letter was as often ambiguous as random; the difference between phonetic and random use was not statistically significant.

In other words, these findings suggest that phonetic writing starts with the first letter from the name whatever it is. Ahead of all other letters, children are able to recognize the sound of this letter in dictated words and to correctly represent this letter in the spellings that they make up to represent referents. It is not plausible that children select the first letters of the name because they are

easy letters. Inspecting the set of first letters it is striking that this set includes most letters of the alphabet (18 out of 26) and not just "easy forms" like O and I or acrophonic letters like P or T where letter names facilitate acquisition of letter sounds (Foulin, 2005). It makes sense that the first letter of the name was used phonetically preceding other name letters when we consider that the first letter of the name is practiced more than any other letter not only as a written form but also as a form that relates to a name or sound. Note that grown-ups often say: "that's your letter, the 't' from Twirre." In other words, we hypothesize that children start using letters phonetically not until they are instructed in how these letters sound in words. Is instruction over time limited to the first letter of the name? It is imaginable that instruction first expands to other letters from the name. When supporting their children as they try to write unpracticed words mothers may use other letters from the name as cues: 'It's r like in Peterrr' (Aram & Levin, 2001). Alternatively, children with an emerging understanding of the alphabetic-phonetic principle (they are able to recognize the first letter of the name in spoken words) may ask grown-ups how to represent other phonemes while trying to write unpracticed words thus expanding their letter knowledge beyond letters from their own name. While writing unpracticed words they may wonder how to represent other unknown sounds. Children may thus elicit instruction in non-name letters and sounds. In the present study children who were just starting phonetic writing, wrote other letters from their name twice as often as non-name letters, but phonetic writing of these other name letters was a chance hit. We wondered if somewhat more advanced children first expand phonetic writing to other letters from their name. Do they use the other letters from their name phonetically and more often than non-name letters?