



## *Writing Development in Early Childhood*

DEBORAH WELLS ROWE  
*Vanderbilt University*

This chapter is about the beginnings of writing in early childhood. It describes what writing looked like and how it developed for one group of children between the ages of 2½ and 6 years of age. The portrait of young writers presented in this chapter is built on the foundation provided by emergent-literacy research, but also expanded and reframed using sociocultural perspectives on writing development.

Until recently, most of what we know about writing in early childhood was shaped by the emergent-literacy perspective (Teale & Sulzby, 1986b). Prior to the 1960s, researchers working from a readiness perspective assumed that young children began to learn literacy through school instruction, and further assumed that learning to read preceded learning to write (see Teale & Sulzby, 1986a). From this vantage point, there was little reason to take note of children's mark-making activities prior to the start of formal schooling.

Early childhood writing became an important focus for researchers and educators only when the beginnings of reading and writing were retheorized from an "emergent literacy" perspective (Teale & Sulzby, 1986b). Emergent-literacy researchers provided evidence that young children began to learn about literacy very early in life through informal interactions with parents, siblings, peers, and teachers. Whereas readiness perspectives focused primarily on reading as the precursor to writing, this new perspective broadened the focus to "literacy" and argued that reading and writing were interrelated and learned concurrently. Emergent-

literacy researchers broadened the focus further by documenting children's flexible interweaving of semiotic systems, especially art and language, leading them to recognize the multimodal nature of early childhood composing (e.g., Dyson, 1989; Harste, Woodward, & Burke, 1984).

Whereas readiness perspectives had assumed that adults transmitted literacy knowledge to children through planned instruction, emergent-literacy researchers proposed the metaphor of hypothesis testing. They suggested that much as they do in oral language learning, children constructed and tested hypotheses about writing and reading as part of their everyday activities at home and at school.

Whereas the readiness perspective had tied the beginnings of reading and writing to the start of conventional decoding and spelling, emergent-literacy researchers took a radically different stance. They proposed that *intention* rather than *convention* was the defining feature of writing (Harste et al., 1984; Sulzby, 1985b). They acknowledged that young children approached writing with different print hypotheses, but suggested that their processes were not fundamentally different from those of older writers. From this perspective, writing began when children showed intentionality—the understanding that their marks could represent meaning. In her work on the “roots of literacy,” Yetta Goodman (1986) defined reading and writing as “human interaction with print when the reader and writer *believe* [emphasis added] that they are making sense of and through written language” (p. 6). From an emergent-literacy perspective, young children's characteristically unconventional marks were not “prewriting” but instead were the beginning of the real thing. As Teale and Sulzby (1986b) wrote in their seminal volume, *Emergent Literacy*, “[T]he first years of the child's life represent a period when legitimate reading and writing development are taking place. These behaviors and knowledges are not *pre-* anything, as the term *prereading* suggests. . . . At whatever point we look, we see children *in the process of becoming* literate, as the term *emergent* indicates” (italics in original, p. xix). They described writing development as a process in which children constructed and refined their print hypotheses and strategies. The emergent-literacy perspective pro-

vided a new storyline for explaining the development of writing in early childhood.

This work has forever changed what I and other early literacy educators can see when we look at young children's writing. Products I threw away as meaningless scribbles when I was teaching kindergarten in the late 1970s I now analyze and understand using the categories generated by this line of research. Despite the continuing importance of these understandings for my everyday work with young children and for my research, I have found that the emergent-literacy perspective's focus on individual learners and their writing intentions can also be limiting. In my own work, I have found that using intentionality as the litmus test for the beginnings of writing can constrain our understandings of young writers. Ironically, I found that the focus on children's individual textual intentions pushed children's earliest experiences with writing to the side. Some children were too limited in their oral language to verbalize their intentions. Others were too inexperienced with writing to make connections between their marks and linguistic messages on their own, though they participated actively with adults in writing events. The image of early writing as an individual, in-head phenomenon seemed to account for only part of the process through which children learned to write.

The need to better account for the very beginnings of writing development has encouraged me to consider how we might expand the developmental storyline to include what children learn as they participate with others in writing events. Researchers working from sociocultural perspectives (Bloome, Carter, Christian, Otto, & Shuart-Faris, 2005; Gee, 2003) have challenged views that focus attention only on writing as an individual mental act, suggesting instead that writing is a collaborative process occurring between people as they negotiate authoring processes, meanings, and textual forms during their everyday activities. When writing is viewed as a social practice shared with other members of children's writing communities, the defining feature of writing is *participation* in literacy events.

Applied to my own research, these perspectives have shaped the contexts in which I choose to observe young writers and how I have framed the developmental storyline presented in this

chapter. To illustrate, I introduce 2-year-old Javani, a participant in the Write Start! study (Rowe & Neitzel, 2010; Rowe & Wilson, 2015). In the fall of the preschool year, I invited him to write his name and a caption for a photo showing him playing in his classroom. His photo page (Figure 3.1), along with those authored by his classmates, was to be included in a coauthored class book. This photo-caption task is the context in which most of the data reported in this chapter were collected and was purposefully designed as an opportunity to observe changes in children's participation as writers over time. A portion of Javani's composing event is presented in Example 3.1. In Figure 3.1, numerals have been superimposed on the image of his completed product to indicate the beginning point for the marks described in the transcript.

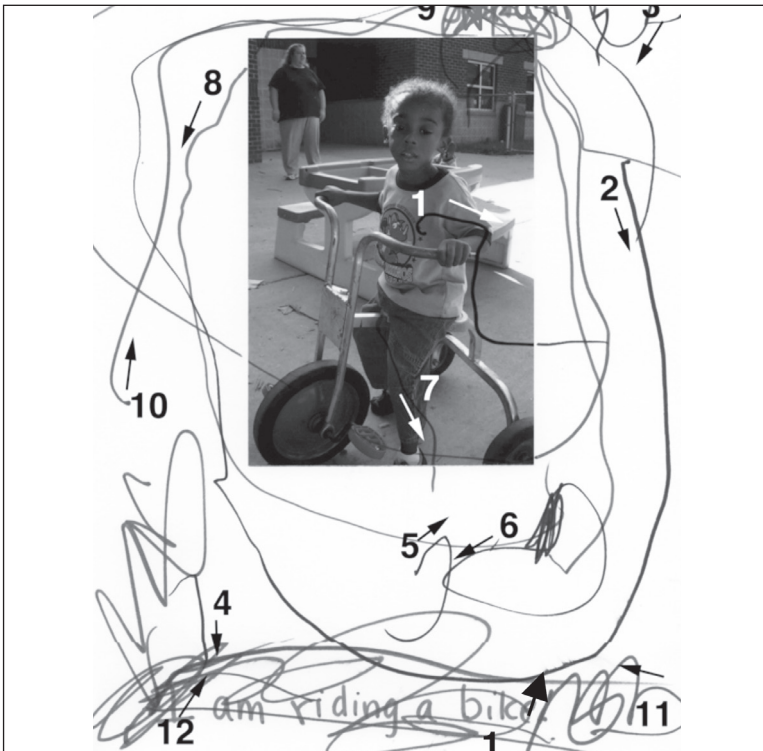


FIGURE 3.1. *Javani's photo page (age 2:11).*

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EXAMPLE 3.1. Javani writes his name and a photo caption.

Rowe	1. “What are you doing in the picture?”
Javani	2. “I’m riding.”
Rowe	3. “You’re riding the <u>bike</u> ! You were outside riding the <u>bike</u> !” [touches the bike in the photo].
Rowe	4. “OK, take a marker” [points to marker basket], “and I want you to write your name at the top” [points, left to right, across top of page above the photo].
Javani	5. Javani picks up the marker and takes the cap off.
Rowe	6. “. . . and you can write what you’re doing and we can put that in our book!”
Javani	7. Javani makes a mark on top of the photo at #1.
Rowe	8. [gently pushing his hand away]: “Write up here on your paper. Write up here on your paper,” [taps three times on the page above the photo] “so we can see what you’re doing!”
Javani	9. Javani begins marking at the right side of the photo at #2.
Rowe	10. [Spoken as Javani draws the line down beside the photo at #2]: “Good for you.”
Javani	11. Javani completes a circle around the entire photo.
Rowe	12. “Oh, you drew a big circle around there. Yeah!” [taps the circle around the photo] “Tell me what that says?”
Javani	13. Javani looks at the page. He looks away from Rowe and gazes at the marker he is holding in his left hand. With his right hand, he uses his index and middle fingers together to make a small jabbing point at the bottom right corner of the page. He doesn’t say anything.
Rowe	14. “Can you write Javani?” [runs her finger, left to right, above the photo several times.] “Write your name right up here.”
Javani	15. Javani makes marks beginning in the upper right corner at #3.
Rowe	16. “Very good writing! Excellent!” [moves the page a bit, and points to the left side of the white space below picture]. “Now down here, write us something and tell us what you were doing.”
Javani	17. Javani is already making the black mark seen at #4.
Rowe	18. “I am riding a bike” [offered as a suggestion for the message].
Javani	19. While Rowe talks, Javani continues marking in the center of the page at #5 and then #6 [moving to the right with scribble units, each in its own white space].

*continued on next page*

*Example 3.1 continued*

Rowe	20. Rowe reaches for a marker and pulls the page into her workspace, angling it toward her: "I'm gonna take a red marker and I'm gonna write in adult writing . . . I'm gonna write <i>J A V A N I</i> " [spells out the letters as she writes the letters in his name at the top of the page].
Rowe	21. Rowe moves her hand to the bottom left to touch the mark at #4: "And here's where you wrote" . . . [sweeps her hand across the marks to the right] "I am riding a bike." [Rowe begins to write this message below, reading slowly, word by word, as she writes.] "I . . . am . . . riding . . . a . . . bike."
Javani	22. As Rowe writes, Javani selects a thin red marker from the basket. He makes a red mark at #7 on the photo, then begins another photo circle in red at #8. When he completes the circle, he draws a scribble at #9, over the top of the print where Rowe has written his name.
Rowe	23. "Good for you!"
Javani	31. Javani starts to make marks at the left side of the space below the photo on top of Rowe's writing, but stops and revises his plan. He moves his marker to the right side of the page: "Look at me!"
Rowe	32. Rowe runs her hand across his #11 marks: " <u>Read</u> that to me."
Javani	33. Javani points at the left side of the marks, holding the marker in his right hand.
Rowe	34. "Tell me what that <u>says</u> . . . in <u>brown</u> ."
Javani	35. Javani bends closer to the page and makes one brown mark at #12. He uses some force at the end of the mark and raises the marker from the page with a whole arm movement. He verbalizes one unintelligible word.
Rowe	36. "Yeah? Does it say, 'I am riding a bike'?"
Javani	37. Javani is adding brown scribbles at the right bottom of the page at #13. [He makes no verbal response. His marks are his response.]

Theory matters. It frames what we observe when working with young children and shapes the developmental storyline we derive from research observations. When this event is analyzed with a focus on Javani's individual writing intentions, there is relatively little to say, as he provides little understandable information about the meaning of his graphic activity. The marks have few, if any, printlike features that would allow the viewer

to infer his hypotheses about print, and it is difficult to infer intentionality since he does not verbally assign meanings to his marks. Seen from a traditional emergent-literacy perspective, Javani is a literacy “have not.” Since he does not provide evidence that he knows about conventional print features and he does not show evidence of intentionality, the emergent-literacy perspective provides little guidance for understanding this event as part of his development as a writer.

However, when the research lens is broadened to include the-child-engaged-in-practice as the unit of analysis (Rogoff, 2003), it is possible to see Javani as an active and responsive participant in writing. As expected by the adults in his classroom, he participates graphically, and uses both marking (e.g., turns 7, 9) and gesture (turn 13) as his turns in the ongoing adult-child interaction around the page. His bid for my attention at turn 31 (“Look at me!”) shows he is socially engaged and wants to ensure we are establishing joint attention to his marks. I use talk and gesture to demonstrate key features of expected writing practices, including where the writing should be placed on the page (e.g., turns 4, 14) and a linguistic message appropriate for this writing task (turn 36). Though Javani is not yet orally assigning meaning to his marks, his participation in these writing events provides scaffolded opportunities to learn about writing processes, messages, and purposes.

If we assume learning to write begins as soon as children like Javani begin to participate, however peripherally, in the writing practices of their homes, schools, and communities (Lave & Wenger, 1991), it is possible to study writing development long before children independently form textual intentions. In this chapter, I adopt a sociocultural perspective on development (Lave & Wenger, 1991; Miller & Goodnow, 1995; Vygotsky, 1978) that assumes that “human development is a process of *people’s changing participation in sociocultural activities of their communities*” [italics in original] (Rogoff, 2003, p. 52). Instead of viewing individual development as separate from cultural variables, a sociocultural perspective suggests that individual and cultural processes are mutually constituting: “[P]eople develop as they participate in and contribute to cultural activities that they themselves develop with the involvement of other people

in successive generations” (Rogoff, 2003, p. 52). Individuals are not separate from the kinds of materials, activities, and institutions that make up the social practices in which they participate (Vygotsky, 1978).

When viewed through this theoretical lens, Javani’s participation in Example 3.1 can be analyzed as part of the beginnings of his developmental trajectory as a writer—a path that is situated in and shaped by local writing practices in his classroom (and the photo-caption task) where adults encouraged collaborative and playful adult-child interactions and valued unconventional forms of writing. As Rogoff (2003) suggests, developmental research conducted from sociocultural perspectives necessarily foregrounds the child as the unit of analysis, but also interprets developmental patterns against the background of the particular social practices in which young children participate. The resulting storyline is one of situated development.

### **Writing Development in Early Childhood: Developmental Storylines and Unresolved Issues**

Researchers working from a developmental perspective have been concerned with the ways that children’s writing hypotheses (Ferreiro & Teberosky, 1982) and participation in writing events (Rowe, 2008b) change across time. A good deal of attention has been devoted to establishing that children’s writing becomes more sophisticated and conventional across the preschool years, even without formal school lessons. Cross-sectional research has shown that group means for preschoolers’ aggregate writing scores increase with age (Gombert & Fayol, 1992; Levin & Bus, 2003), and also that, as a group, older preschoolers use more sophisticated writing forms, directional patterns, and message content than younger children (Tolchinsky-Landsmann & Levin, 1985). Recent longitudinal work (Molfese et al., 2011) with 4- and 5-year-olds has shown progression in scores for name writing, letter writing, and letter formation across time. Overall, when measures of central tendency are used to describe age-group patterns in early writing, they have produced a developmental



storyline that highlights progress toward convention during the preschool years.

At the same time, many researchers have presented data to show that there is wide variation in children's writing and related skills at any particular age (Dyson, 1985; Hildreth, 1936; Sulzby, 1985b). For example, taking a component skills approach, Molfese and her colleagues (Molfese et al., 2011) conducted a longitudinal study of relationships between children's alphabetic knowledge, name writing, and letter writing at three time points (i.e., fall and spring of preschool, fall of kindergarten). Descriptive data showed that almost the full range of possible scores was observed for each measure at each time point. Describing features of children's holistic writing performances, Clay (1975) also reported great variability in the writing of same-age peers. In her words: "[W]hat one child discovers about print at 4:11 another equally intelligent child may not learn until 6:0" (p. 7).

In addition to the interindividual variability reported at various age points, researchers have also described intraindividual differences of two types. First, children often concurrently use more and less sophisticated writing strategies (Gombert & Fayol, 1992). For example, Bus and her colleagues (2001) reported that even after children demonstrated the alphabetic principle, they continued to use less sophisticated writing strategies such as letter-like forms. Second, individuals' levels of development differ across writing features. For example, Dyson (1985) reported that some children wrote sophisticated stories and messages using unconventional marks, while others used conventional letters but expressed less conventional content.

Finally, still under debate is whether early writing development involves a linear sequence of phases and whether there is a developmental ordering of categories for writing forms, directional patterns, and other features of writing. Researchers observing young writers in the context of controlled tasks involving dictation of researcher-selected words have more often argued for an ordered sequence of phases through which children pass as they learn to write. An example of this perspective is Ferreiro and Teberosky's (1982) five successive levels of writing, each organized by a central hypothesis about orthography. Several

studies contend that children's understandings of general features of print common to many languages (e.g., units, linearity) develop first, and then are followed by learning about language-specific features such as directional patterns and letter shapes (Puranik & Lonigan, 2011; Tolchinsky-Landsmann & Levin, 1985).

Alternately, researchers observing children's writing in more open-ended situations have often argued against a strict linear sequence of writing development. For example, Sulzby (1985b) reported individual variation in the sequence in which kindergartners tested hypotheses about writing. Similarly, Dyson (1985) described kindergartners writing as a recursive process involving the coordination of overlapping features of writing. Her longitudinal case studies showed that the sequence in which children noticed and explored various features of print was influenced by their personal interests, styles of approaching writing, willingness to take risks, and purposes for writing. Luria (1978/1929) described writing development as a dialectical process marked both by gradual improvement in the kinds of writing characterizing each stage, and by setbacks occurring as children transitioned to new writing techniques. These seeming regressions are also reflected in the concurrent use of more and less sophisticated strategies (Bus et al., 2001; Gombert & Fayol, 1992).

To sum up, regardless of research approach, it appears that there is general consensus that, when young children are viewed as a group, their writing becomes more conventional across the preschool years. However, beyond this general observation, researchers' views about other aspects of early writing development are less settled. Despite many observations of the wide variation in children's writing patterns, the role of variability is undertheorized in current models of early writing development. Similarly, researchers continue to debate whether learning to write involves a sequential progression through a set of ordered hypotheses, or whether children's learning paths are more recursive and individually ordered. In this chapter, I consider these developmental issues from the vantage points provided by two time scales and two analytic approaches. I describe one group of preschoolers' writing seen from the vantage point of six-month intervals, but also zoom in to describe their approaches to writing within individual writing events. I conduct cross-sectional

analyses of the writing of larger groups of same-age peers, and then follow a smaller subgroup of children longitudinally from 2½ to 6 years of age. With this data, I first describe how writing performances changed across the preschool years for one group of children who had frequent opportunities to engage in emergent writing with adults. My goal is to consider how these data may contribute to a more nuanced storyline describing early childhood writing development.

### ***Data Source: The Write Start! Study***

This chapter examines age-related patterns in the writing of 139 children aged 2:6 to 5:11 who participated in the Write Start! study (Rowe & Wilson, 2015) for one to three years. Children attended two high-quality childcare centers serving mostly African American families living in a low-income urban area of a mid-sized city in the southern United States. In their childcare or prekindergarten classrooms, children were frequently asked by researchers and teachers to write their own messages and the resulting texts were valued, regardless of their conventional correctness. In addition to observing the children at their classroom's writing center, in the fall and spring of each year all children completed a researcher-developed, standard writing task—the Write Start! Writing Assessment (Rowe & Wilson, 2009)—for which we asked children to write a caption for a photograph of themselves playing at school, and then to write their names. The photo-caption genre was selected because it was both meaningful and manageable for 2-year-olds, but also open enough that older children could respond with longer texts if they chose. Further, the task was designed to reflect local purposes for writing and patterns of interaction in classroom writing events. Figure 3.1, seen earlier, shows an example of a child's completed photo page.

The categories used to describe children's writing responses were initially based on existing research and then expanded to describe the full range of variation seen in the Write Start! sample. Categories describing four features of the children's writing—form, directionality, intentionality, and message content (Tables 3.1–3.4)—were sequenced from least to most sophisticated. This sequence was determined based on the usual order in which the

larger group of children displayed these writing performances in the Write Start! study. The ordering was subsequently confirmed with growth-curve analysis (Rowe & Wilson, 2015). Though children often used a variety of forms, directional patterns, and so on, in each writing event, for the purpose of most analyses reported in this chapter children's writing is described in terms of the most sophisticated feature used in each event. Scoring the most sophisticated writing features made it possible to track the introduction of "new," more advanced writing features over time, thereby providing a view of the growing edge of children's writing performances. To create a group profile of writing development, the children's Write Start! assessment data have been divided into six-month age bands and examined cross-sectionally. To explore children's individual developmental trajectories, I conducted a longitudinal analysis of the ten children who began the study in Year 1 and continued through Year 3. I refer to these students as the longitudinal sample. Children's participation in photo caption events is interpreted using ethnographic understandings of local writing practices formed through long-term participation and observation in the children's classrooms. In this chapter, children's ages are presented in the year:month format and I refer to the Write Start! categories by the numbers assigned in the left-hand columns of Tables 3.1–3.4. (For additional details about methods used in the Write Start! study, see Rowe and Wilson, 2015).

## **What Develops? Describing Early Writing Development**

In the next sections, I present categories developed to describe the writing of the young children who participated in the Write Start! study. Though these categories reflect the writing of one group of children who had frequent opportunities to participate in emergent writing, many of the writing patterns described in the following sections have also been reported in other studies. The last column in Tables 3.1–3.4 reports the concordance between the Write Start! categories used in this chapter and those identified in previous studies of preschool writing (Rowe & Wilson, 2015).

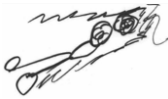

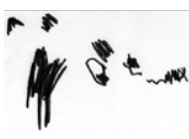
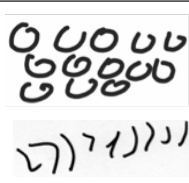
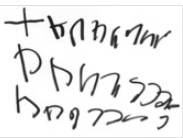
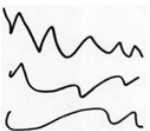
### ***Writing Form Categories***

The unconventional graphic forms of preschool writing are the most thoroughly described features of early childhood writing. Research has shown that children speaking a variety of alphabetic languages explore visual features of print such as complexity of forms (Levin & Bus, 2003), linearity (Levin & Bus, 2003; Tolchinsky-Landsmann & Levin, 1985), units (Levin & Bus, 2003; Tolchinsky-Landsmann & Levin, 1985), small unit size (Tolchinsky-Landsmann & Levin, 1985), quantity of characters (Ferreiro & Teberosky, 1982; Levin & Bus, 2003; Tolchinsky-Landsmann & Levin, 1985), and variety of characters (Clay, 1975; Levin & Bus, 2003; Tolchinsky-Landsmann & Levin, 1985). The categories illustrated in Table 3.1 were built on previous research and then refined to account for the writing responses generated by the 2- to 6-year-olds in the Write Start! study.

The forms preschoolers use in their writing provide important clues to their understanding of foundational principles about written language including: print is visually composed of marks surrounded by white space; alphabet letters have conventionally determined shapes and names; writing involves attention to both the sounds in spoken language and the marks on the page; and letters represent the sounds of spoken language. When children put pen to paper, they leave visible traces from which we can infer their current understandings of these principles (Tolchinsky, 2003). Children's unconventional writing provides a window on their learning and application of graphic transcription strategies, alphabet knowledge, and the alphabetic principle—understandings widely seen as important targets for beginning literacy instruction (National Reading Panel, 2000).

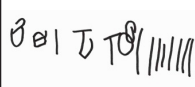
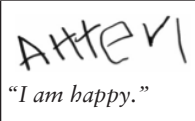
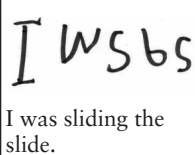
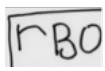
As seen in Table 3.1, children in our study used distinctly different kinds of writing forms in response to the learning problems posed by writing a photo caption. To participate as writers, children had to construct understandings about what writing marks look like and how writers choose which kinds of marks to make. In our study, some children initially renegotiated the writing task by drawing a recognizable picture of an object or person (F-1). Our qualitative observations suggested that drawing was sometimes used as an informed refusal (Sulzby, 1990);

TABLE 3.1. Write Start! Writing Assessment: Writing Form Categories

Score	Category	Description	Example	Key Study Concordance <sup>a</sup>
F-0	No marks	Child makes no marks		
F-1	Drawing only	Child draws a picture instead of writing; marks are clearly identifiable as a picture.		
F-2	Uncontrolled motor activity with a pen	Marks are unintentional; accidental swipes at paper with marker		
F-3	Scribbles	Purposefully makes marks; large mass of undifferentiated scribbles; uses forearm movements to create large scribbles		1, 4, 5, 6, 7, 8, 9
F-4	Scribble units	Small patches of scribbles separated from one another with space; usually created with wrist and hand movements		
F-5	Individual stroke units	Many repeated lines, circles, or curve strokes, usually of the same type; only one type of stroke in each unit		1, 4, 6, 7, 9, 10, 11
F-6a	Personal manuscript	Letter-like forms; combinations of strokes within the same unit; no behavioral evidence that child intended to write as a conventional letter		1, 2, 3, 4, 5, 6, 7, 8, 12, 13
OR				
F-6b	Personal cursive	Horizontal runs of loops, or zig-zags		1, 2, 3, 4, 5, 6, 7, 8, 10, 12


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Table 3.1 continued

F-7	Conventional letters plus inventions	Child writes at least one recognizable letter, but it may be upside down or backwards; the remaining marks may be letter-like forms, scribbles, etc.		1, 2, 3, 4, 5, 6, 7, 8, 12, 13
F-8	Conventional letters (no letter/sound correspondence)	Upper or lower case, may be mixed; reversals are OK; recognizable by others as letters; no letter/sound correspondence.	 "I am happy."	2, 4, 6, 9, 10, 11, 13
F-9	Conventional letters, memorized words	Child uses conventional letters and words, but writes something memorized like her name or "I love you."	Child writes name.	
F-10	Invented spelling: First letter sound	First letter sound of word or syllable is represented; may not use conventional letter: c for "seal"; may contain other random letters; must have evidence that child is intentionally generating a spelling with letter/sound correspondence	 I was sliding the slide.	2, 9, 12, 13, 15
F-11	Invented Spelling: First and last	First and last letter sounds of word or syllables; many sounds left out	"rainbow" 	

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Table 3.1 continued

F-12	Invented spelling: Most sounds represented	Attempts to sound out most sounds in the syllable or word; Letter choices may not be correct	“ship” 	9, 13, 15
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<sup>a</sup>Note: Numbers indicate key studies reporting a similar type of writing behavior, though the category name used in the key study may differ from the category name used for the purposes of this study: 1 = (Clay, 1975); 2 = (Dyson, 1985); 3 = (Ferreiro & Teberosky, 1982); 4 = (Gombert & Fayol, 1992); 5 = (Harste, Woodward, & Burke, 1984); 6 = (Hildreth, 1936); 7 = (Kenner, 2000); 8 = (Levin, Both-de Vries, Aram, & Bus, 2005); 9 = (Levin & Bus, 2003); 10 = (Luria, 1978/1929); 11 = (Martlew & Sorsby, 1995); 12 = (Sulzby, 1985b); 13 = (Sulzby, 1990); 14 = (Tolchinsky-Landsmann & Levin, 1985); 15 = (Tolchinsky & Teberosky, 1998).

that is, children sometimes told us they could not write, and then shifted to drawing as a way of participating in the photo-caption event. Most children, however, did participate as writers, despite the relative difficulty of the task.

Briefly, most children producing undifferentiated scribbles (F-3) made marks without any of the features usually associated with print such as linearity or small, individual units. Though some of the same physical-motor schemes were used to produce scribble units (F-4), the smaller size of the scribble marks and their placement on the page surrounded by white space showed initial attention to individually bounded units of print. Other categories demonstrated increasingly fine-grained observations of the visual details of print including the kinds, variations, and combinations of strokes characteristic of English alphabet letters. When producing stroke units (F-5), children wrote with strings of small, individual lines, circles, and curves. In personal manuscript (F-6a), these strokes were combined within the same unit, creating marks with even more resemblance to alphabet letters. Children who wrote using long wavy lines of personal cursive (F-6b) demonstrated attention to the linearity of writing. Personal cursive usually appeared concurrently with personal manuscript in our sample and so both forms were assigned the same ordinal score. The appearance of alphabet letters (F-7, F-8, F-9) showed children's increasing recognition that writing



required the use of a particular set of conventional notational elements (Tolchinsky, 2003). Finally, with the shift to invented spelling (F-10, F-11, F-12), children approached writing with an increasingly fine-grained ability to segment words into phonemes, and to use letter-sound correspondence as the basis for deciding which alphabet letters to write.


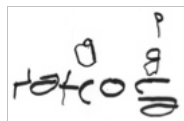
From these descriptive observations, we infer that, while children initially participated in writing events using their existing physical-motor and gestural schemes, with experience they also began to attend to the visual details of print, then to the specific configurations of alphabet letters, and finally to selecting letters based on letter-sound correspondence.

### *Directionality Categories*

In the preschool years, children are also learning about the layout of print on the page, the left-to-right sequence, and return-down-and-left directional patterns used for English print. Table 3.2 presents the Write Start! categories describing directional patterns in young children's writing. Observation of the directional patterns in children's writing provided additional clues to their understandings about the visual/temporal sequence of print and how they organized the motor activities of writing, and may also give clues to the visual scanning patterns they used for reading. Like other features of writing, children's global hypotheses about page layout and directionality were eventually replaced by more specific ones.

Initially, some children understood that the expected location for marks was on paper rather than on the table, but placed their marks randomly on the page (D-1). Others made a more specific observation that marks were arranged in lines, but produced unconventional linear arrangements (D-2) moving from right to left, or from the top to bottom of the page. Reversals of the directional patterns often occurred when children used unconventional right-side-of-page starting points (see Clay, 1991). Once they chose this incorrect starting point, they not only placed marks on the page in right-to-left order, but often flipped the orientation of individual letters to a mirror image. (See Tanera's name writing above her photos at ages 4:0, 4:6, and 5:0 in Table 3.9.)

TABLE 3.2. Write Start! Writing Assessment: Directionality Categories

Score	Category	Description	Example	Key Study Concordance <sup>a</sup>
D-0	No writing marks made or a single dot, scribble unit, letter unit, or large scribble. Or, if child makes a clearly identifiable picture or drawing.	If picture, must be clearly identifiable as a picture (strict). Only a dot counts here; any small mark that is bigger than a dot should be scored below.		
D-1	Random placement of multiple units, letter-like forms, or letters	Child places writing marks without discernable pattern. Assumes multiple units are present.	Wil-yhum 	1, 2, 12
D-2	Unconventional placement: linear	Child places writing marks in linear pattern with unconventional directionality: Right to Left Top to Bottom Bottom to Top, Mixed directions within same line, etc. Marks may not be conventional letters.	Breontez 	1, 2, 15
D-3	Conventional linear placement, first line; other lines unconventional	Line 1 marks are placed left to right; after line 1 an unconventional directional pattern is used; marks may not be conventional letters.		1, 2, 15
D-4	Conventional linear placement, all lines	All lines are produced left to right; marks may or may not be conventional letters.		1, 2

<sup>a</sup>Note: Numbers indicate key studies reporting a similar type of writing behavior, though the category names used in the key study may differ from the names used for the Write Start! categories: 1 = (Clay, 1975); 2 = (Dyson, 1985); 3 = (Ferreiro & Teberosky, 1982); 4 = (Gombert & Fayol, 1992); 5 = (Harste, Woodward, & Burke, 1984); 6 = (Hildreth, 1936); 7 = (Kenner, 2000); 8 = (Levin, Both-de Vries, Aram, & Bus, 2005); 9 = (Levin & Bus, 2003); 10 = (Luria, 1978/1929); 11 = (Martlew & Sorsby, 1995); 12 = (Sulzby, 1985b); 13 = (Sulzby, 1990); 14 = (Tolchinsky-Landsmann & Levin, 1985); 15 = (Tolchinsky & Teberosky, 1998).

With more experience, children began to use conventional left-to-right directional patterns some of the time (D-4). They often established the first part of the left-to-right directional pattern, but used random or unconventional linear patterns when they reached the end of the line or otherwise ran out of space. Karim's photo label in Figure 3.2 is a good example. As seen by the numbers superimposed on his page, his first line of print, starting with a large *P*, was arranged in a left-to-right pattern. However, when he ran out of space, he continued vertically up the right side of the page, extended a run of personal cursive from right to left across the top of the page, and then finished with a series of circular stroke units vertically placed from top to bottom down the left side of the photo. Finally, children begin to use conventional, left-to-right, return-down-left directional arrangements for all lines of print (D-4). (See Javani's caption [age 5:7]—*I love to eat jelly.*—in Table 3.9.)

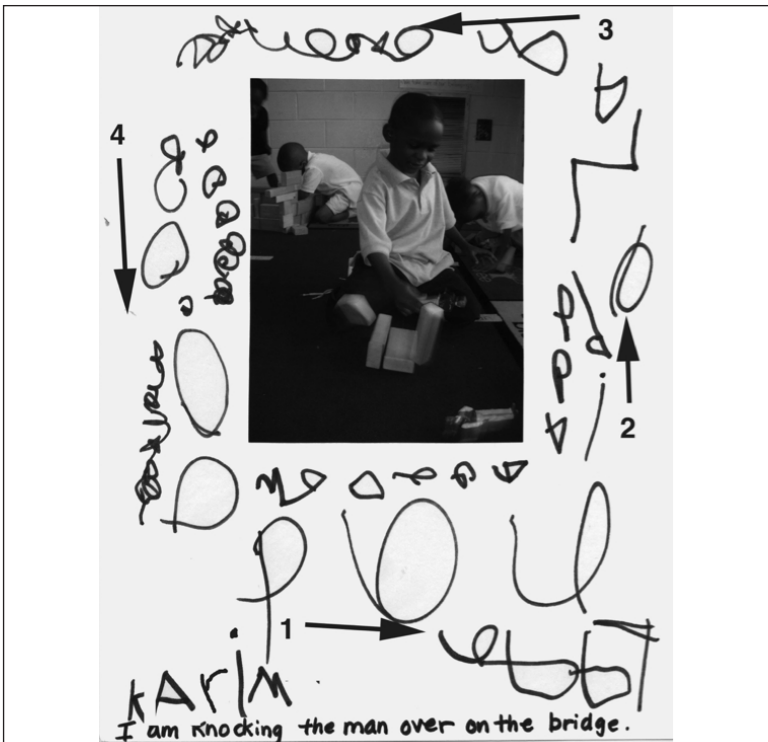


FIGURE 3.2. Karim's photo page.

### *Intentionality Categories*

Intentionality involves children's understandings that their marks can represent linguistic messages and their willingness to assign meaning to their marks (Harste, Woodward, and Burke, 1984). I have argued elsewhere (Rowe, 2008b) that when children demonstrate the message concept (Clay, 1975), the willingness to assign a linguistic message to their unconventional marks, they have reached a watershed point in early literacy learning. Once children see themselves as the kinds of persons who can express their meanings with marks, they have additional incentive to notice how print works in the demonstrations provided by people and texts in their environment. Observations of children's intentionality strategies provide cues to the ways they see themselves as writers and their understandings about how print represents meanings.

Intentionality does not come into being all at once. Like other understandings about writing, it is socially constructed through many moments of face-to-face participation in writing events (Rowe, 2008a). The Write Start! intentionality categories describe a developmental progression from global to more specific hypotheses for assigning meaning to marks.

In the Write Start! photo-labeling task, intentionality was observed by recording the messages children voiced during composing, and the messages they read in response to the adult request: "Read it to me." Initially, some children made marks, but did not read them (I-1). (See Table 3.3.) Some children responded to the request to read their marks with silence or by taking their turn with more writing, as Javani did in Example 3.1 at Turn 35. In a second nonverbal pattern, children responded by pointing to their marks, but offered no oral interpretation. In a third nonverbal pattern, children produced mumble reading; that is, children who otherwise conversed effectively with me purposefully responded with oral productions that were too quiet to be heard or that were mumbled so their messages were not understandable. These children appeared to understand that the request to read their marks required a linguistic response, but were unsure or uncomfortable in responding. Silence, making marks, pointing, and mumble reading were important ways of participating in emergent-writing events when no linguistic message was produced. In a fourth type

TABLE 3.3. Write Start! Writing Assessment: Intentionality Categories

Score	Category	Description	Example	Key Study Concordance <sup>a</sup>
I-0	No marks	Child does not make marks		12
I-1	Marks/ no interpretation	Intentionally makes marks, but does not interpret them as a linguistic message	Refuses to read (“I can’t; I don’t know what it says”) Gestures only (Points to marks, but does not provide oral reading) Mumble Reading (Child provides mumbled oral interpretation that is purposefully too quiet or is unintelligible)	12, 14
I-2	Sign concept	Writes/draws, hoping to create something, but without any idea of what the message might be	Writes, then asks assessor, “What did I write?”	1, 2
I-3	Intends message, no conventional correspondence	Reads message orally, but no correct letters are used; no speech/print match	No visible attempt at letter/sound correspondence. No evidence of matching speech units to marks.	10, 12, 13
I-4	Intends message/global speech/print match; No letter/sound correspondence	Reads message orally; must match voice or finger pointing to specific marks (usually syllables or words) to get credit. No evidence of letter/sound correspondence.	Uses voice pointing or finger pointing to show match between talk and specific marks. May match beginning/end of oral message to beginning/end of printed marks.	4, 7, 10, 13
I-5	Intends message/ some letter/sound correspondence	Reads message orally; at least one letter indicates attempt at letter/sound correspondence.	There is direct evidence (sounding out; child’s verbal statement) that child has chosen at least one letter with a purposeful attempt to match speech to sound.	2, 9, 14, 15, 5

<sup>a</sup>Note: Numbers indicate key studies reporting a similar type of writing behavior, though the category name used in the key study may differ from the category name used for the Write Start! categories: 1 = (Clay, 1975); 2 = (Dyson, 1985); 3 = (Ferreiro & Teberosky, 1982); 4 = (Gombert & Fayol, 1992); 5 = (Harste, Woodward, & Burke, 1984); 6 = (Hildreth, 1936); 7 = (Kenner, 2000); 8 = (Levin, Both-de Vries, Aram, & Bus, 2005); 9 = (Levin & Bus, 2003); 10 = (Luria, 1978/1929); 11 = (Martlew & Sorsby, 1995); 12 = (Sulzby, 1985b); 13 = (Sulzby, 1990); 14 = (Tolchinsky-Landsmann & Levin, 1985); 15 = (Tolchinsky & Teberosky, 1998).

of nonverbal response, some children refused to read their marks, stating that they didn't know how to read. These informed refusals were most often made by older preschoolers unwilling to risk producing unconventional responses.

Beginning with category I-2, the sign concept (Clay, 1975), children demonstrated that they believed their marks represented meaning. Children displayed the sign concept when they asked an adult to read their marks. Clay has noted that children who make this request understand that their marks can represent a message, but do not believe they are capable of reading it. On the other hand, children who read their own marks demonstrated the message concept (I-3), showing both that they understood the semiotic potential of their marks and that they saw themselves as capable of taking up the roles of writer and reader (Rowe, 2008a). When children read their messages, some provided no indication of how the message was matched to the unconventional marks on the page (I-3). Others created a global link between marks and the oral message by pointing to print or by voice pointing (i.e., matching the cadence of their oral message to the cadence of writing) but without any attempt to use letter-sound correspondence (I-4). A final strategy for assigning meaning to marks involved reading the message based on some letter-sound correspondence (I-5).

### *Message Content Categories: Task-Message Match*

Preschoolers are not only learning how the print system works, they are also learning about writing purposes, genres, and the style and content of messages expected in different social situations. When we asked children to write captions for their photos, they faced problems not only of writing form, directionality, and intentionality, but also of composing appropriate content for their written messages. Observing how children matched the content of their captions to the writing task allowed us to track their understandings about social purposes for writing. Because children composed their own messages, we were also able to observe the complexity of their messages.

The content of children's written messages is the least-studied aspect of early writing. For the Write Start! Writing Assessment's photo-labeling task, messages were described using categories

that considered both the appropriateness of the message content and the complexity of the language used in the message (i.e., word, phrase, or sentence). (See Table 3.4.) Observations of task-message match were based on the content of the oral messages children read aloud during composing or in response to the adult's request to read their writing. Therefore, task-message match categories describe the oral message apart from judgments about the marks used to represent it.

Even when children began to demonstrate intentionality by assigning meaning to their marks, the content of their messages was sometimes related to neither the social event underway nor the image on the page (TM-1). For example, one child read the message, "I love my mommy and my brother," as the caption for a photo showing her playing with plastic alphabet letters in the classroom. Children appeared to understand that reading their marks meant saying something verbally, but they did not fully understand how to connect their messages to social and material cues present in the writing event. Some children showed a global understanding that texts should be matched to the larger social situation (i.e., school) by producing a conventional school literacy performance (TM-2: reciting the alphabet or counting). Reagan used this strategy when he read "One, two, three, four" for his marks below a photo showing him driving a toy car on the playground. Beginning with category TM-3, global relations to writing materials, functions, or processes, children showed awareness that the message should in some way relate to the writing event underway. These messages described the social function (e.g., "I'm gonna take it home.") or material features of the writing event (e.g., "It's blue.") or provided a global description of the writing process (e.g., "I went around and around."). The final four categories showed awareness that the caption should relate to the items pictured in the photo. Some children generated messages that globally described the photo (TM-4: "It's about my class."), often sounding more like oral comments to the adult than a written caption. Finally, children created conventional captions describing objects and actions pictured in the photos in the form of a word, phrase, or sentence (TM-5, TM-6, TM-7).

TABLE 3.4. Write Start! Writing Assessment: Task-Message Match (Message Content) Categories

Score	Category	Description	Example	Key Study Concordance <sup>a</sup>
TM-0	No understandable oral or written message	No message assigned to marks		14
TM-1	Message unrelated to photo labeling task	Child reads a message, but it is not related to photo content, or to the writing materials, processes, or functions of the photo-labeling task		2, 14
TM-2	Message unrelated to photo-labeling task/other conventional message	Child reads message not related to photo or task. Only “standard” messages like those in the example would score here; otherwise, score as 1.	“I Love You” “A, B, C, D” Names of family/friends (not pictured)	1, 14, 13
TM-3a	Global relation to writing materials  OR	Child reads message that describes characteristics of writing materials in use; often sounds like oral language directed at assessor rather than a written label.	“It’s red.”  <i>To describe marker.</i>	14
TM-3b	Global relation to writing functions  OR	Child reads message that describes social function of writing product; often sounds like oral language directed at assessor rather than a written label.	“It’s for you. I’m gonna take it home.”	
TM-3c	Global relation to writing processes	Child reads message that describes processes used in writing marks; often sounds like oral language directed at assessor rather than a written label.	“I went around and around.”  <i>To describe use of pen.</i>	14



Table 3.4 continued

TM-4	Global relation to photo content	Child reads message that is related to items pictured in photo; often sounds like oral language directed at assessor rather than a written label.	“It’s about dinosaurs.”	2
TM-5	Photo label/word	Child reads message as word that serves as a label for items or actions in photo	“Bike” (The child is on the playground riding a bike.)	1, 2
TM-6	Photo label/phrase	Child reads message as phrase that serves as a label for items or actions in photo.	“My new shoes” (Photo shows child wearing new shoes.)	1, 2
TM-7	Photo label/sentence	Child reads message as sentence that serves as a label for items or actions in photo.	“I am playing with Aran.” (Photo shows child playing with Aran.)	1, 2

<sup>a</sup>Note: Numbers indicate key studies reporting a similar type of writing behavior, though the category names used in the key study may differ from the names used for the Write Start! categories: 1 = (Clay, 1975); 2 = (Dyson, 1985); 3 = (Ferreiro & Teberosky, 1982); 4 = (Gombert & Fayol, 1992); 5 = (Harste, Woodward, & Burke, 1984); 6 = (Hildreth, 1936); 7 = (Kenner, 2000); 8 = (Levin, Both-de Vries, Aram, & Bus, 2005); 9 = (Levin & Bus, 2003); 10 = (Luria, 1978/1929); 11 = (Martlew & Sorsby, 1995); 12 = (Sulzby, 1985b); 13 = (Sulzby, 1990); 14 = (Tolchinsky-Landsmann & Levin, 1985); 15 = (Tolchinsky & Teberosky, 1998).

### **Writing Development over Time: Age-Group Patterns in Writing**

Cross-sectional analyses were used as a first approach to describing age-related developmental changes in writing between 2½ and 6 years of age. Children’s Write Start! assessment scores, recording the most advanced category observed for each writing feature, were grouped into six-month age bands. To make cross-age comparisons easier, in this chapter, results are reported as relative frequencies—percentages of children receiving each score in the age band.

WRITING FORMS

Previous research has consistently shown that children’s marks become more conventional with age (e.g., Gombert & Fayol, 1992; Levin & Bus, 2003; Tolchinsky-Landsmann & Levin, 1985)—a pattern that was also confirmed by cross-sectional analysis of the Write Start! data. Table 3.5 displays the relative frequency of writing forms used by each age group of Write Start! participants. The bolded entries are the most frequent (modal) writing forms used by children in each age band. The group’s age-related progress toward convention is easily seen by the way boldfaced, typical performances are mostly arranged from left to right across the table’s columns, mirroring the table’s left-to-right ordering of categories from less to more sophisticated.

For the youngest age band, 2:6 to 2:11, scribbles (F-3) and scribble units (F-4) predominated. Three-year-olds most often produced personal manuscript (F-6). Four-year-olds typically

TABLE 3.5. Relative Frequency of Form Scores for the Photo-Caption Task

Age in years:months	No. of children	Drawing	Scribbles	Scribble units	Stroke units	Personal manuscript/cursive	Conventional letters + invention	Conventional letters	Memorized word	Invented spelling: First sound	Invented Spelling: First/last sounds
2:6-2:11	18	0.0	<b>27.8</b>	<b>27.8</b>	22.2	22.2	0.0	0.0	0.0	0.0	0.0
3:0-3:5	40	0.0	25.0	10.0	22.5	<b>30.0</b>	7.5	5.0	0.0	0.0	0.0
3:6-3:11	48	2.1	8.3	4.2	8.3	<b>41.7</b>	22.9	12.5	0.0	0.0	0.0
4:0-4:5	65	1.5	3.1	0.0	9.2	16.9	<b>41.5</b>	18.5	7.7	1.5	0.0
4:6-4:11	73	0.0	0.0	1.4	1.4	12.3	<b>39.7</b>	20.5	11.0	12.3	1.4
5:0-5:5	42	0.0	0.0	0.0	0.0	9.5	26.2	<b>31.0</b>	14.3	16.7	2.4
5:6-5:11	13	0.0	0.0	0.0	0.0	0.0	<b>30.8</b>	23.1	23.1	23.1	0.0

Note. Data are reported as a percentage of children in the age band receiving each score. Boldface entries are modal forms for each age band.

produced a mixture of conventional letters and invented forms (F-7). For young 5-year-olds, conventional letters chosen without letter-sound correspondence (F-8) were the most frequent writing form, while the smaller sample of 5½-year-olds most often combined conventional letters with invented forms (F-7).

While the progress-toward-convention narrative works well to describe the typical writing forms used by different age groups, it tells only part of the story. Table 3.5 also shows that, for each age band, there was also considerable variation in the forms children used when writing. Same-age peers wrote with many different forms. The range of normal writing variation is visible in the percentages scores arrayed to the left or right of modal responses for each age band. For example, for 2½-year-olds, though scribbles (F-3) and scribble units (F-4) were most common, the children's writing performances also showed attention to the visual details of letters. Nearly as many 2½-year-olds produced stroke units (F-5), or personal manuscript and personal cursive (F-6). Examination of forms used by 3-, 4-, and 5-year-olds shows similar variability within age bands.

To further explore these patterns of variability, we followed the age-related trajectories of *writing form categories*. Reading down the columns of Table 3.5, it is apparent that not all writing forms were used at every age. The use of some form categories increased with age, while others decreased. As new, more advanced writing forms were added to the group's repertoire, some less advanced forms ceased to be used as the most advanced category.

Forms used by the youngest children in our study were those that focused on physical-motor (F-3: scribbles) and visual details of writing (F-4: scribble units, F-5: stroke units). Though some of these forms continued to be used by a few children as old as four, the relative frequencies for each of these categories followed a rapidly declining trajectory and reached zero for the oldest age groups.

While the use of these less advanced forms was declining, new, more advanced writing forms were added to the group's writing repertoire. Writing forms containing conventional letters (F-7: conventional letters plus invented forms, F-8: conventional letters chosen without letter-sound correspondence) first appeared in low frequencies in the writing of children in the 3:0–3:5 age

band and then followed a rapidly increasing trajectory. Writing forms produced with attention to letter-sound correspondence (F-10: invented spellings of first sounds) first appeared in low frequencies at age four, and then increased slowly for children in the 4:0–4:5 age band and beyond.

Not all categories followed simple increasing or decreasing trajectories, however. Personal manuscript and personal cursive (F-6) are such a case. Relative frequency increased sharply for 3- and 3½-year olds, for whom it was the most frequent category. However, as 4-year-olds began to more frequently use conventional letters, the use of personal manuscript decreased sharply, then continued a more gradual decrease thereafter.

To sum up, examination of age-related changes in modal writing forms showed a clear pattern of progress toward more conventional forms with increasing age. However, there was considerable variability in the writing forms used by same-age peers that was not captured in the modal analysis. Progress toward convention not only occurred as children in each age group added new and more advanced forms to their repertoires, but also in the decreasing frequency of less conventional forms.

## DIRECTIONALITY

At least within the constraints of the photo-labeling task, group patterns showed that many children controlled conventional directional patterns relatively early, even before they were typically using conventional letters in their writing—a conclusion also supported by two recent studies (Puranik & Lonigan, 2011; Treiman, Mulqueeny, & Kessler, 2015). Two-and-a-half-year-olds and young 3-year-olds typically arranged marks randomly on the page. (See Table 3.6.) Beginning at 3½ years of age, children most frequently used conventional directional patterns for all lines of writing, though random arrangement continued to be used by some children from all age bands. The percentage of children using conventional directional patterns increased steadily across the age bands, reaching 76.9% for 5-year-olds.

Though analysis of modal patterns in directionality categories showed a bimodal distribution of either random or conventional

TABLE 3.6. Relative Frequency of Directionality Scores for the Photo-Caption Task

Age in years:months	Number of children	Single mark, scribbles or drawing <sup>a</sup>	Random placement	Unconventional linear	Conventional Line 1, then unconventional	Conventional, all lines
2:6-2:11	18	27.8	<b>44.4</b>	11.1	16.7	0.0
3:0-3:5	40	10.0	<b>50.0</b>	15.0	5.0	20.0
3:6-3:11	48	10.4	29.2	18.8	6.3	<b>35.4</b>
4:0-4:5	65	6.2	16.9	18.5	12.3	<b>46.2</b>
4:6-4:11	73	1.4	12.3	6.8	13.7	<b>65.8</b>
5:0-5:5	42	0.0	9.5	2.4	11.9	<b>76.2</b>
5:6-5:11	13	0.0	15.4	0.0	7.7	<b>76.9</b>

Note. Data are reported as a percentage of children in the age band receiving each score. Bolded entries are modal patterns for the age band.

<sup>a</sup> Directional patterns could not be determined when children used a single mark or mass of scribbles, or when they drew a picture.

directional patterns, not all children moved so quickly to conventional. Examination of the full range of variability in directionality scores showed that some children in most age groups used unconventional linear arrangements (D-2) and partially conventional arrangements (D-3), but at lower frequencies than the modal categories. The trajectories of change for these categories were relatively flat with small increases followed by small decreases. Our qualitative observations suggested that a small group of children used unconventional spatial arrangements for a longer period. Some children, who continued to reverse the directional principles, seemed to be influenced by individual factors such as persistent preference for an incorrect starting point on the right side of the page (Clay, 1991).

When compared to writing forms, these data showed, conventional directional principles began to be established earlier in the preschool years. It is possible that directional principles were easier to learn for two reasons. First, directional patterns were en-

tirely visible in the actions of other writers, and adults frequently demonstrated left-to-right directionality as they touched marks on the child's page. (See Example 3.1, turns 4, 14, 21, and 32.) There were no unstated principles to be inferred, as in the case of understanding how letters are chosen to represent sounds. Second, the conventional directional principles for arranging print on the page were less complex than the many visual details and representational principles children had to consider when writing with alphabet letters.

### INTENTIONALITY

Age-related patterns in the ways children assigned meaning to their marks showed that 2- and 3-year-olds typically were willing to read their marks, but did not indicate how the messages were linked to the marks (see Table 3.7). Still, for both the 2½- and young 3-year-olds, 27.8% to 22.5% of children did not read a message when asked. The percentage of children who were unwilling to read their marks declined to only 10.4% for the older

TABLE 3.7. Relative Frequency of Intentionality Scores for the Photo-Caption Task

Age in years:months	Number of children	Doesn't read	Sign concept	Reads, no conventional correspondence	Global match, voice point	Read with letter/sound correspondence
2:6-2:11	18	27.8	0.0	<b>61.1</b>	11.1	0.0
3:0-3:5	40	22.5	0.0	<b>60.0</b>	17.5	0.0
3:6-3:11	48	10.4	0.0	<b>66.7</b>	22.9	0.0
4:0-4:5	65	4.6	0.0	33.8	<b>55.4</b>	6.2
4:6-4:11	73	2.7	0.0	37.0	<b>43.8</b>	16.4
5:0-5:5	42	2.4	0.0	31.0	<b>38.1</b>	28.6
5:6-5:11	13	0.0	7.7	0.0	<b>53.8</b>	38.5

*Note.* Data are reported as a percentage of children in the age band receiving each score. Boldface entries are modal patterns for each age band.

3-year-olds. For 2½ - and 3-year-olds, the leading edge of development involved reading messages using finger or voice pointing to indicate a global match between speech and print. For 4- and 5-year-olds, almost all children were willing to assign a meaning to their marks, typically creating a global match between speech and print using finger or voice pointing.

Examination of age-related trajectories of intentionality categories provided a more nuanced understanding of the development of intentionality. Group data showed that substantial numbers of 2½- and 3-year-olds did not read a message when asked (I-1), but that this category declined rapidly in subsequent age groups and disappeared entirely for the 5½-year-olds. Reading messages with global speech-print match was part of the repertoire of even the youngest age group, and followed an increasing trajectory, becoming the modal response for 4- and 5-year-olds. A more advanced intentionality strategy, reading messages by matching speech to print with some letter-sound correspondence (I-5), was first seen in the 4:0–4:5 age band and increased across the next three age bands.

#### MESSAGE CONTENT (TASK-MESSAGE MATCH)

More than other writing features, children's scores tended to be widely distributed across message content categories, with the percentage of students composing a topically related sentence growing larger across the age bands. As seen in Table 3.8, the most frequent pattern for 2½-year-olds was "no message." Children in this age band also produced messages totally unrelated to the task at hand, unrelated conventional school performances such as reciting alphabet letters or numbers in sequence, and general comments about some aspect of the ongoing event (see Table 3.8). Altogether, 61.2% of 2½-year-olds' responses were scored in categories where message content was unrelated to the photo. This pattern suggests that many children had yet to form conventional understandings of the meaning-based functions of their writing.

Young 3-year-olds produced equal numbers of refusals to read and sentence-length photo labels. Similar to those of the 2½-year-olds, 57.5% of the responses produced by young

TABLE 3.8. Relative Frequency of Task-Message Match Scores for the Photo-Caption Task

Age in years:months	Number of children	No message	Message unrelated to task	Message unrelated/conventional	Global relation to materials, process function	Global relation to photo content	Photo label/word	Photo label/phrase	Photo label/sentence
2:6-2:11	18	<b>27.8</b>	5.6	5.6	22.2	0.0	5.6	11.1	22.2
3:0-3:5	40	<b>22.5</b>	5.0	12.5	17.5	10.0	5.0	7.5	20.0
3:6-3:11	50	8.3	2.1	25.0	8.3	2.1	12.5	6.3	<b>35.4</b>
4:0-4:5	65	4.6	4.6	18.5	3.1	1.5	13.8	15.4	<b>38.5</b>
4:6-4:11	73	1.4	2.7	12.3	1.4	0.0	15.1	5.5	<b>61.6</b>
5:0-5:5	42	2.4	2.4	2.4	0.0	0.0	9.5	2.4	<b>81.0</b>
5:6-5:11	13	0.0	15.4	7.7	0.0	0.0	7.7	0.0	<b>69.2</b>

Note. Data are reported as a percentage of children in the age band receiving each score. Boldface entries are modal patterns for the age band.

3-year-olds were unrelated to the photo. For older 3s, this pattern reversed, with 43.7% of responses unrelated to photo content, and 56.3% globally or specifically related to the photos. By the time children reached 5 years of age, more than 80% of children composed sentence-length labels directly related to photo content.

Examination of the full range of variability for each age band showed children's message types tended to be widely distributed across many different content categories. Children between the ages of 2:6 and 4:11 produced almost the full range of message types in each age band. These message content categories had different trajectories of change. Viewing the data in this way confirmed the decreasing trajectory of the "no response" category (TM-0) and the increasing trajectory for photo-caption sentences (TM-7). However, it also provided a more complex view of children's approaches to message content. For example, in all age bands, children continued to produce messages unrelated to the task (TM-1), but the trajectory of change remained



fairly flat. The relative frequency of messages globally related to writing materials, processes, and function (TM-3a, 3b, 3c) was fairly high for 2½- and 3-year-olds, and then declined as children began to more frequently produce captions with topically related words, phrases, and sentences. Another interesting pattern was seen in the increasing trajectory and then decline of conventional literacy performances unrelated to the task (TM-2). This trajectory showed that a good number of 3½- and 4-year-olds used well-learned literacy and numeracy routines to solve the problem of composing their own written messages.

#### **STRENGTHS AND LIMITATIONS OF DEVELOPMENTAL STORYLINES BASED ON MEASURES OF CENTRAL TENDENCY**

Descriptions of early writing development built on measures of central tendency provide a picture of age-related patterns in writing that supports a progress narrative. When writing is measured at longer intervals, in this case four to six months, there appears to be a sequential ordering (from less to more sophisticated) in the *typical* ways children add new, more sophisticated writing strategies to their repertoires. Ordered categories of the type created for the Write Start! study can be helpful introductions for adults who work with groups of young children. However, models of early writing development based on measures of central tendency provide only a partial understanding of the ways that writing develops. When the developmental storyline is built on single indicators of age-typical writing, the result is often an idealized progress narrative that models children's learning as a steady progression toward more sophisticated understandings about all features of writing. My data suggest that children are making progress in their understandings about writing across the preschool years, but that progress is marked by variability between children and within individuals.

### **Individual Trajectories in Learning to Write**

To create a more nuanced developmental storyline and to further explore children's individual developmental trajectories, I con-

ducted a longitudinal analysis of the Write Start! photo-caption sessions of the ten children who continued as participants in the study from year 1 to year 3. As in the cross-sectional analysis, I tracked the children's developing understandings about writing forms, directional patterns, intentionality, and message content. My interpretations of the photo-caption sessions were supported by ethnographic data collected as I and my research assistants wrote with these children throughout each school year. Tracking individuals over time allowed me to compare their patterns to the typical profiles resulting from cross-case analysis and also to describe developmental patterns not visible in the group data. In this section, I focus on both progress and variability as seen in the writing of individual children over time. First, I describe how children's writing became more conventional between ages of 2:6 and 5:11. Second, I focus on variability between and within individuals.




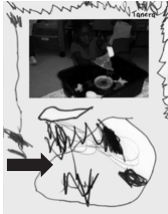
To provide an anchor for this discussion, Table 3.9 presents the photo pages written by two children from the longitudinal sample. Javani's and Tanera's texts are arranged in columns reflecting the age bands used in the cross-sectional analysis. The messages they read for their marks are provided below each image, along with the child's age at the time of the assessment. Below each writing sample, I present the child's Write Start! scores for his or her photo caption (cf. Tables 3.1–3.4.). To facilitate discussion of the children's photo captions, arrows have been added to indicate the location where the child began writing his/her caption.

### *Progress toward Convention*

Before turning to a discussion of variability, it is important to acknowledge that, as shown by cross-sectional analysis of group data, the progress narrative describes important patterns in the writing trajectories of individual children in the longitudinal sample. When looking at children's trajectories over time, it is clear that they moved from global to more specific and conventional understandings of all features of print. To illustrate this pattern, some of the children's individual learning trajectories for print forms are graphed in Figure 3.3. I have graphed the trajectories for only six of the children (Tanera, Javani, and four





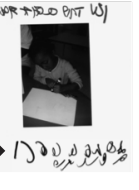
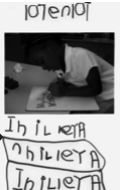

Writing Development in Early Childhood

TABLE 3.9. Write Start! Scores for Four Writing Features: Multidimensional Profiles for Javani and Tanera

		Age Band		
		2:6-2:11	3:0-3:5	3:6-3:11
Javani	 No understandable message 			 "It says my name."
	Age: 2:11 F-3: Scribble D-0: Scribble I-1: Doesn't read message TM-0: No understandable message			Age: 3:7 F-3: Scribble D-1: Random placement I-3: Reads, no conventional correspondence TM-4: Global relation to photo content
Tanera	 No understandable message			
		Age 3:0 F-6b: Personal cursive D-2: Unconventional linear I-1: Doesn't read message TM-0: No understandable message		

continued on next page

Table 3.9 continued

	4:0-4:5	4:6-4:11	5:0-5:5	5:6-5:11
Javani	 <p>“A Y, like J Y”</p>	 <p>“I am playing with animals.”</p>		 <p>“I love to eat jelly.”</p>
	<p>Age 4:0 F-8: Conventional letters/ no letter sound correspondence D-0: Single letter I-3: Reads, no conventional correspondence TM-2: Message unrelated to photo content/ conventional</p>	<p>Age 4:6 F-8: Conventional letters/no letter sound correspondence D-4: Conventional, all lines I-3: Reads, no conventional correspondence TM-7: Photo caption/sentence</p>		<p>Age 5:7 F-10: Invented spelling/first sound correspondence D-4: Conventional, all lines I-5: Reads with some letter/sound correspondence TM-4: Global relation to photo content</p>
Tanera	 <p>“I am doing picking up flowers”</p>	 <p>“I’m is doing a puzzle.”</p>	 <p>“I write something.”</p>	 <p>“I was playing with markers at the table.”</p>
	<p>Age 4:0 F-7: Conventional letters plus inventions D-2: Unconventional linear I-4: Reads with global match TM-7: Photo caption/sentence</p>	<p>Age 4:6 F-6a: Personal manuscript D-3: Conventional Line 1, then unconventional I-3: Reads, no conventional correspondence TM-7: Photo caption/sentence</p>	<p>Age 5:0 F-8: Conventional letters, no letter sound D-4: Conventional, all lines I-4: Reads with global match/ points to print TM-7: Photo caption/sentence</p>	<p>Age 5:7 F-9: Conventional letters, memorized word D-4: Conventional, all lines I-5: Reads with some letter/sound correspondence TM-7: Photo caption/sentence</p>

Note: Images show the photo pages produced by Javani and Tanera in response to the Write Start! photo-caption task. Black arrows show the starting point for the child’s photo caption. Scores below the images correspond to Write Start! categories for writing form (F), directionality (D), intentionality (I), and task/message match (message content) (TM).

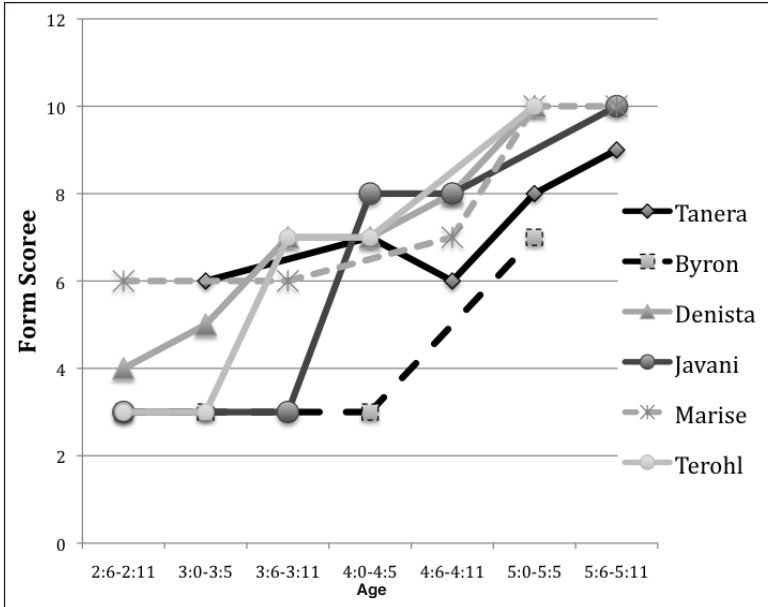


FIGURE 3.3. Individual trajectories in writing forms for six children in the longitudinal sample.

of their peers) to increase the readability of the display. Though children’s individual trajectories were clearly different, as seen by the differing paths of their line graphs, their trajectories show an overall trend toward higher scores.

Javani’s and Tanera’s photo pages, presented in Table 3.9, show overall patterns of progress in message content, form, directional patterns, and intentionality. For example, at ages 2:11 and 3:7, Javani wrote using scribbles. At ages 4:0 and 4:6 he transitioned to writing conventional letters without letter-sound correspondence, and at age 5:7 he used the alphabetic principle to invent spellings representing the first letter sounds of words. With regard to directional principles, he began with a single mass of scribbles at age 2:11, located several sets of scribbles randomly on the page at age 3:7, and again produced a single scribble at 4:0. By age 4:6 and 5:7, he used conventional directional patterns for multiple lines of print. With regard to intentionality strategies,

Javani did not read a message at age 2:11, but at 3:7, 4:0, and 4:6 read his message without any indication of matching speech to print. By 5:7, he read his message using some conventional letter-sound correspondence. The trajectory of Javani's messages is uneven, but over time he shifted from not reading his marks (age 2:11) to reading messages globally (ages 3:7, 5:7) or specifically related to the photo (age 4:6). Javani and Tanera's patterns are typical of the longitudinal sample in that most features show a clear trend toward more conventional understandings over time.

### *Interindividual Variability in Writing Development*

While progress toward convention appeared to be an important part of writing development between 2½ and 6 years of age, variation among individuals' personal trajectories was also typical. Tracking individuals' writing over time provided additional insight into the variability seen within age groups in the cross-sectional analysis. Two patterns are especially evident when comparing the developmental trajectories of the children in the longitudinal sample. First, whether we discuss writing forms, directional patterns, intentionality strategies, or message content, children start from different points as 2½-year-olds. Second, the timing of children's transitions from one hypothesis to the next varies widely.

#### DIFFERENTIAL STARTING POINTS

As 2½-year-olds, the Write Start! children already approached writing quite differently. In Table 3.9, we see that Javani used scribbles as his most sophisticated writing form through the end of his third year. Tanera, on the other hand, was already producing personal cursive at age 3:0. Figure 3.3 illustrates the variable starting points for writing forms of six of the children in the longitudinal sample, reminding us that children in the same age band have varying levels of experience with writing, and that children's personal interests encourage them to focus on different facets of writing.

### ***Differential Pacing***

The pacing of children's learning also varies. For example, the differential timing of children's transitions to new print forms can be seen in Figure 3.3 in the differing slopes of the lines. For example, of the three children who were inventing spellings with first letter-sound correspondence by the end of the study (F-10), two (Javani and Terohl) continued to use scribbles (F-3) for an extended period into their third year. Denista, on the other hand, as a 3-year-old already produced forms with printlike features such as stroke units (F-5) and personal cursive (F-6). Children like Javani and Terohl scribbled for a longer time than some of their peers, but by age 5 they were using the alphabetic principle to invent spellings.

For each of the four features of writing discussed here, variability between children's individual trajectories was the norm. Children's developmental paths were characterized not only by different starting points, but also by different pacing. Differences between children were especially evident in the timing of transitions to new forms. Some children took longer than others to begin to use more conventional forms, but sometimes made large jumps in the conventionality of their writing forms in the four to six months elapsing between assessment points, allowing them to "catch up" with peers whose progress was more evenly distributed across the preschool years.

### ***Intraindividual Variability in Early Writing Development***

Describing the unique developmental paths of individual children also requires attention to variability *within* each child's learning. Viewed over time, young children's learning paths are characterized by seesaw trajectories, concurrent use of more and less sophisticated hypotheses, and unevenness in their learning about different features of writing.

#### **SEESAW TRAJECTORIES**

Though the general developmental trend for children in the longitudinal sample was toward more conventional understandings,

many children seesawed back and forth between more and less sophisticated hypotheses for one or more features of writing. As seen in Table 3.9, Javani's writing showed a seesaw trajectory for message content. As a 4-year-old he composed a conventional message focusing on the specific actions pictured in the photo: "I am playing with animals" (TM-7). As a 5-year-old his message was only globally related to the photo (TM-4). He read, "I love to eat jelly" for a photo that showed him playing in the pretend kitchen of the dramatic play center. Tanera's writing showed a seesaw trajectory for writing forms and intentionality. At 4:0 years of age, she used a conventional letter *T* plus invented forms of personal cursive (F-7). However, at age 4:6, she used personal manuscript and no conventional letters (F-8). At 4:0 she read her message using the intentionality strategy of pointing globally to the print (I-4), while at the next assessment point she read her marks without indicating any speech-print correspondence (I-3).

For individuals, writing development does not appear to proceed as an even stepwise progression through a series of ordered hypotheses. Confirming previous research (e.g., Luria, 1978/1929), children who at a previous assessment point had displayed a more advanced writing feature sometimes used a less advanced feature six months later—a pattern also observed for all four writing features tracked in the Write Start! study.

#### DIFFERENCES ACROSS WRITING FEATURES

Children also displayed variability in their control of different features of writing. Confirming previous research (Dyson, 1985), the Write Start! children's understandings about writing forms, directionality, intentionality, and message content were not always equally well developed. While the conventionality of children's writing forms is often the basis on which adults judge their writing, data from this study suggest that this kind of one-dimensional judgment is not a good reflection of writing development. In particular, children who used the most conventional writing forms did not always produce the most sophisticated messages, and vice versa.

Take, for example, Jaron and Denista, two 4-year-olds whose photo-labeling pages are shown in Figures 3.4 and 3.5.



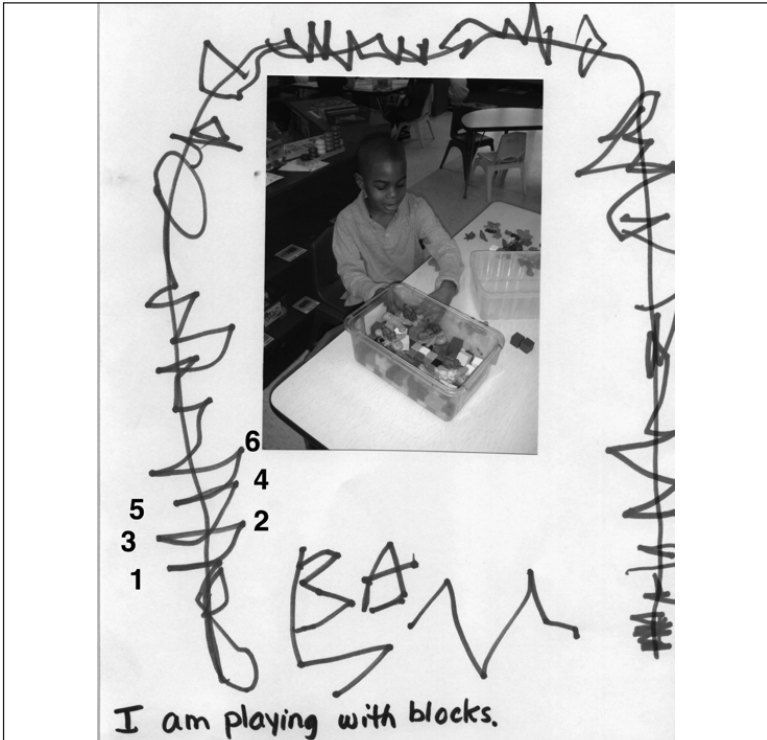


FIGURE 3.4. *Jaron's photo page.*

The numbers superimposed on Figure 3.4 show the sequence and direction for the child's writing. Visually, Jaron's writing is less sophisticated than Denista's. He has used personal cursive arranged in both conventional and unconventional directional patterns. Denista, on the other hand, has written her caption using randomly selected letters arranged in a conventional, horizontal, left-to-right sequence. Both children, however, created sentences with content that matched the photo, and both used voice pointing to indicate the match between marks and syllables in their messages. Jaron, for example, slowed and segmented his oral message into syllables, "I – am – play – ing – with – blocks," writing one up or down stroke of personal cursive for each syllable (Figure 3.4). Denista read her message, orally segmenting it into syllables and writing a letter below the photo as each syl-

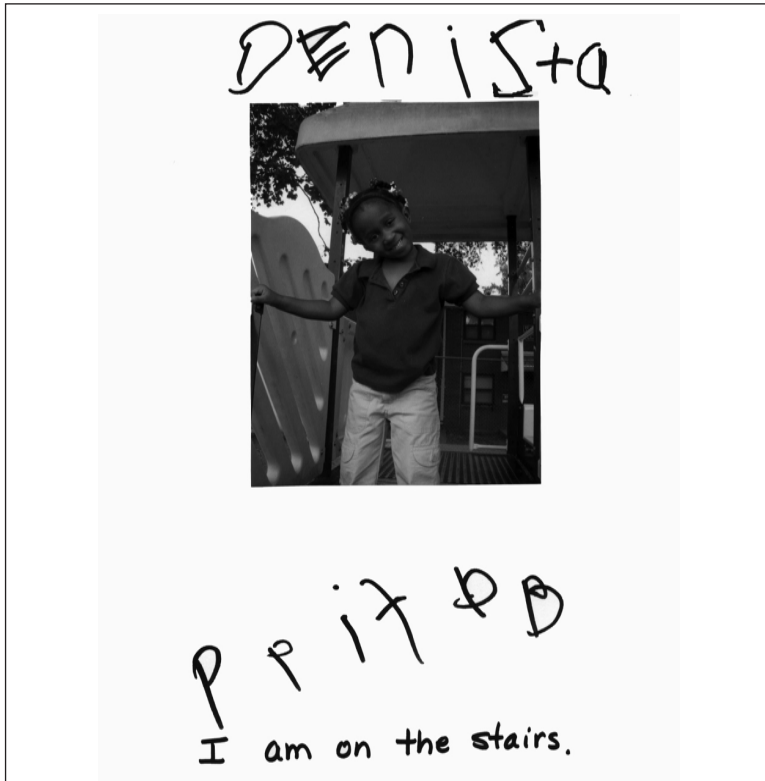


FIGURE 3.5. *Denista's photo page.*

lable was pronounced, breaking the last word into two syllables: “I – am – on – the – sta – irs.” (See Figure 3.5.) While Denista’s writing forms were clearly more sophisticated than Jaron’s, both children displayed sophisticated understandings of expected message content and ways of assigning meaning to marks. Overall, examination of the individual children’s writing showed that often their understandings were not equally sophisticated in all areas.

#### CONCURRENT HYPOTHESES

It is important to understand that the Write Start! scoring protocol produced a single score for each writing event reflecting the most sophisticated writing features used by the child. While this approach provided an indicator of children’s changing ap-

proaches to writing, it did not capture their tendency to retain less mature forms in their repertoire and to continue to use them in combination with their more sophisticated forms—a pattern also observed in previous research (Dyson, 1985; Sulzby, 1985a).

To explore the question of whether Write Start! children concurrently used more and less sophisticated writing forms within a single writing event, I examined all of the photo-caption sessions of children in the longitudinal sample, recording all of the forms children used in each composing session. Forty-eight percent of the photo captions were constructed using multiple writing forms. Table 3.9 shows typical examples where, at age 3:0, Tanera uses both personal cursive (F-6) and scribble units (F-4) to produce her photo label, and at age 4:0 uses both conventional letters and personal cursive (F-7) to write her message below the photo. Overall, these findings are an important reminder that, for individuals, writing was not conducted with a single hypothesis about each feature of writing, but, instead, children often drew on a wider repertoire of more and less sophisticated hypotheses as they wrote.

## **Insights about Early Writing Development**

In this chapter, my goal has been to describe age-related patterns in the writing of one group of children from 2:6 to 5:11 years of age. These patterns of participation were produced in a context where children had frequent opportunities to engage in emergent writing with adults who encouraged them to use their unconventional writing to compose their own messages. Given recent research (Gerde, Bingham, & Pendergast, 2015; Pelatti, Piasta, Justice, & O’Connell, 2014; Zhang, Hur, Diamond, & Powell, 2014) showing wide variation in the amount and types of writing experiences US children have in preschool classrooms, it is important to remember the situated nature of the developmental patterns reported in this chapter. While many of the writing patterns have previously been observed by researchers studying children learning to write in English and other alphabetic languages (see the key study concordances in Tables 3.1–3.4), more research is needed to understand how patterns of development are

shaped by differing social practices and opportunities for young children's participation in writing. Nevertheless, this study provides data that are helpful in addressing the long-standing debate about whether early writing development is best characterized as sequenced and progressive (e.g., Ferreiro, 1990) or variable and individually patterned (e.g., Clay, 1991; Dyson, 1985; Sulzby, 1991). Results of the current study suggest it is both.

### *Sequences in Learning to Write*

There is no evidence from this study to support a strictly invariant sequence in children's production of the forms, directional patterns, intentionality strategies, and types of messages described by the Write Start! categories. Instead, our data show that variability is a central characteristic of writing development for both individuals and groups. Nevertheless, when children's writing behaviors were observed at six-month intervals, as in the current analyses, the overall path of change for the group showed movement from less to more advanced writing categories. The Write Start! categories have been ordered to reflect the group trajectories observed in this study. Data supporting the match between the sequence of the Write Start! categories and children's trajectories over time included changes in modal writing categories with increasing age, the order in which the group added new, more advanced categories to their writing repertoires, and the changing relative frequencies of more and less advanced categories. Growth curve analyses showed that children's scores increased with age—a finding that could only be obtained if the order of categories was well matched to the actual trajectory of change (Rowe & Wilson, 2015).

### **Rethinking the Developmental Storyline for Writing in Early Childhood: Making a Place for Progress and Variability**

Confirming previous research (e.g., Gombert & Fayol, 1992; Levin & Bus, 2003; Tolchinsky-Landsmann & Levin, 1985), all of the data examined here, whether cross-sectional comparisons

of age-group patterns or longitudinal analyses of individuals, showed that, over time, children moved from global to more specific and conventional understandings of each of the print features studied. Though not a new observation, this finding underscores the importance of early writing experience as a venue for print learning (Levin, Share, & Shatil, 1996; Martlew & Sorsby, 1995; National Early Literacy Panel, 2008; Puranik & Lonigan, 2011).

Data patterns also showed that variability was the rule rather than the exception. Interindividual variability was seen in children's differential starting points and in the timing and pacing of transitions from one category to the next. Children of the same age exhibited a wide range of normal variation in their hypotheses about print, regardless of which of the four writing features was examined.

Intraindividual variability was also a key feature of the developmental paths of individual children in our study. Viewed over time, children's learning paths were characterized by back-and-forth movement where they seesawed between more and less sophisticated hypotheses for one or more features of writing. Variability also occurred as children concurrently used more and less sophisticated hypotheses in the same writing event. Writing was not accomplished with a single hypothesis about each feature of writing. Instead, children drew on a wider repertoire of more and less sophisticated hypotheses as they wrote.

Variability within individuals' personal developmental paths was particularly evident when looking at children's differential control of forms, intentionality strategies, directionality, and message content. Children's understandings of these features were not always equally well developed. The timing of children's learning about different writing features and their way of integrating them appeared to be more individually patterned than might be expected when looking at the ordered sequences of categories for each feature. While, for each feature, there remained a general progression toward more conventional understandings, all features were not attended to in the same way or at the same pace. Children pursued learning paths that our ethnographic observations suggested may have been influenced by their personal approaches to print, their interests, and their interactions with more experienced writers (Rowe & Neitzel, 2010).

The current study is not the first to find normal variability in young children's writing. As early as 1936, Hildreth reported wide variation in the writing of same-age peers:

When the samples within any age level were arranged in order of excellence, considerable overlapping in the samples of any age group with the next was found. The least mature writers in the group 5.0 to 5.5, for example, were not so mature as the best writers in the age group 4.6 to 4.11. This was true for practically every age group for whom samples were collected. (p. 292)

However, after acknowledging the age-related variability in her participants' writing performances, Hildreth suggested that median writing performances should be viewed as age-group norms against which children's writing could be compared. In this way, she launched a developmental narrative that highlighted central tendencies and progress toward convention, and defined variable writing performances as outside the norm. This developmental storyline continues to guide current research and assessment of early writing.

Data from the current study have encouraged me to reconsider whether the simple version of the progress-toward-convention narrative, with its emphasis on representing age groups with typical (modal) performances, is the best fit for the writing development of the children in the Write Start! study. I have concluded that developmental narratives built primarily on measures of central tendency and the resulting descriptions of progress toward convention are useful as a general picture of learning to write. However, they are less useful for describing the expected learning paths of individual children because they obscure the great range of normal variation within and between children that is present in our data. Models of early writing built exclusively on measures of central tendency for groups tend to render the kinds of variability seen in this study invisible, and at worst define it as outside the norm. I argue, instead, that the field needs a more nuanced developmental storyline. Portraits of early writing that fail to capture both progress and variability run the risk of describing everyone in general and no one in particular.

## ***Overlapping Waves of Writing Development***

To account for the patterns reported here, a description of writing development in early childhood needs to forefront the normal variation in children's writing, while at the same time recognizing that young writers do, over time, form hypotheses that bring their personal understandings of writing in closer alignment with those of their communities. Siegler's (2000, 2006, 2007) overlapping-waves theory of cognitive development is a theoretical approach that is helpful for reconciling the role of progress and variability in the Write Start! data. Consistent with the findings presented in this chapter, Siegler (2000) has argued that, at any time point, children typically use a variety of ways of thinking, rather than a single one. Both more and less advanced strategies coexist in children's repertoires over long periods of time (Yaden & Tsai, 2012). Variability in development is seen in the changing relative frequencies with which children rely on particular strategies across time, and also in children's movement back and forth between more and less advanced strategies in their immediate attempts to solve problems. For Siegler, progress in development is visible as children construct new and increasingly more effective strategies over time, rely increasingly on relatively more advanced strategies, and decrease their use of less advanced ones. Though the trajectory of change involves a move toward more advanced ways of thinking, when viewed over longer timeframes the path of progress "reflects a back and forth competition, rather than a forward march" (Siegler, 2007, p. 105). He concludes that there is often a good deal of consistency in the order in which children construct new, more advanced strategies, with sequences most visible when measured at longer intervals and variability most clearly observed within events or between events recorded at close intervals.

Applied to the Write Start! data, Siegler's overlapping-waves theory (2000, 2006, 2007) supports our finding of a broad sequence with which children constructed new, more advanced writing performance. However, rather than stopping with a simple progress narrative, the overlapping-waves metaphor portrays early writing development as a complex process in which young literacy learners simultaneously add more advanced writing

strategies to their repertoires, reduce the use of less sophisticated strategies, and draw on both more and less sophisticated strategies to participate in writing events. This metaphor of overlapping waves foregrounds variability, while at the same time recognizing that children's writing performances do on the whole become more sophisticated over time.

## Implications for Early Education Policy and Assessment Practices

A major question addressed in this chapter is how writing changes with age and experience. Parents, teachers, and researchers are equally interested in understanding the kinds of writing they might expect to see from children of different ages—a question that is rooted in broader cultural models that recognize age as an important marker of development in early childhood (Rogoff, 2003).

In *The Cultural Nature of Human Development*, Rogoff (2003) points out that while many adults in Western industrialized cultures see time-since-birth as a central measure of child development, this is not the case in all cultures. The practice of dividing the human lifespan according to age is relatively new, fitting with industrial societies' goals for efficient management of schools and other institutions. One way this concern about age-related developmental progressions has been expressed is in questions about whether children are at, above, or below typical patterns for their same-aged peers. In the United States, this concern is at the forefront of current political discourse around educational standards that can be used to determine whether children's academic skills are "on grade level" (Common Core State Standards Initiative, 2010). In fact, Rogoff reports that age-related benchmarking is so associated with US cultural perspectives that it was called "the American question" when she studied at Piaget's Swiss institute.

In the United States, age takes on special importance in the early childhood years since it is a central criterion determining whether children are eligible to attend publicly funded educational programs, and for assigning age-eligible children to classes. While there are exceptions, many teachers find themselves working with



children in a fairly narrow age band. In this cultural and institutional context, where age is a central organizing construct for cultural models of child development, adults need information on age-related patterns in early childhood literacy.

Even so, the results reported in this chapter suggest that age-related writing norms developed from measures of central tendency must be interpreted with caution. Users of early writing assessments should avoid judging children's writing progress based on its match to modal norms. Instead, educators need to consider young children's writing performances in relation to the wider array of normal variability seen within their age group. Though there appear to be typical progressions in writing development, variations from these age-related progressions are as much a part of the picture as are the progressions themselves. Educators need both an understanding of typical paths and progressions, and a keen eye for observing and supporting children's individual paths of development.

## **Taking a Lifespan View of Early Writing Development**

In this volume, we have collaboratively taken up the challenge of examining writing development across the lifespan. In Chapter 2, we presented a set of principles intended to inform a model of writing development across the lifespan, starting with preschoolers' unconventional scribbles and continuing through the increasingly sophisticated texts produced by adolescents and adults. Despite the great differences in the textual and life worlds of writers across the lifespan, this chapter's portrait of the very beginnings of writing underscores continuity in writing development that begins with children's earliest explorations of writing.

The Write Start! data provide a strong argument for our first and eighth principles: the impact of *context* and *curriculum* on the beginnings of children's writing development. The children enrolled in Write Start! classrooms were surrounded by print at home and at school, and had easy access to writing materials in the classroom. Perhaps even more important, their development was shaped by an emergent-literacy curriculum where adults

invited even the youngest children to write, and positioned them as persons capable of making meaning with marks—regardless of the conventionality of their texts. Emergent-literacy environments of this sort launch children on a developmental course framed by the social press to take up roles as writers (Rowe, 2008a). Development could look quite different in contexts where examples of writing were scarce or where adults equated good writing with conventional spellings.

Our second principle foregrounds the *complexity* of writing development in early childhood. Though writing a photo caption seems a simple task from an adult perspective, for preschoolers it required exploring and coordinating multiple facets of writing including their understandings of writing forms, intentionality strategies, directional patterns, and task-appropriate message content. Of course there are other kinds of understandings not analyzed here, as well. To participate appropriately as writers, children also needed to coordinate a complex set of interactive skills through which they negotiated access to space, materials, and attention and interaction with adults and peers. Like older writers, preschoolers are learning to coordinate many different facets of writing knowledge in order to take part in writing events.

Our third principle, *variability* in writing development, is a central pattern for the preschool writers in this study. While age is an organizing structure for many early childhood and elementary education programs, the Write Start! data suggest that educators and parents must expect and be prepared to respond to normal variability in the writing development of same-age peers. Young writers also display a good deal of intraindividual variability. Different facets of writing develop at different speeds, creating a complex pattern of overlapping waves of writing development. Though the source of variability in children's writing is not explored directly in this chapter, it is likely that children's interests and personal histories with writing, as well as their cognitive skills, are involved.

Our fourth principle foregrounds the impact of *writing resources and technologies*. The developmental trajectories described here were shaped by the page-based resources and technologies children used as they wrote at preschool. Children

were exploring ways the small size and portability of the page facilitated certain types of mobility and social interaction around products. They were developing their skills in writing and drawing by hand. In the future, as children more often compose with touchscreen tablets and other digital tools, trajectories for writing development will also be shaped by the increased multimodality and mobility of these technologies.

Finally, the current study demonstrates how preschoolers were *reconfiguring general language functions and processes* in the service of writing—our fifth principle. Though these youngsters were still developing their oral language skills, they arrived at the writing table with considerable ability to express their ideas and interests through conversation and gesture. As they began to record their ideas in writing, their attention was turned to language as an object. Children formed increasingly more specific understandings of the ways speech is represented in writing—an understanding reflected in increased sophistication of their writing forms and intentionality strategies.

Overall, these principles of lifespan writing development serve to highlight what can and cannot be expected of a model of writing development in early childhood. Because writing development begins in early childhood with a highly contextualized trajectory, we cannot expect to have one simple set of benchmark accomplishments for young writers. We need to resist the urge to simplify the developmental picture by pushing contextual, curricular, and technological contexts to the background. Instead, we need to more fully describe local patterns of writing development as they occur in different social, curricular, and technological contexts.

Because writing development begins with a highly complex trajectory involving overlapping waves of learning about many different dimensions of writing, we cannot expect that a single facet of writing can be used as an indicator of the whole of a child's writing development. We need to resist the urge to simplify by tracing only the aspects of writing that are easiest to measure. Instead we need to continue to press for multidimensional portraits of children that can assist teachers in building from children's strengths, while recognizing where instructional nudges are needed to support learning of other facets of writing.

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