This article describes integrated reading, writing, and language behaviors characteristic of 18-month-old children. Two children, a boy and a girl, were given books to examine and the researcher simply observed their behavior. Books were selected from the children's own collections. The writing tasks were handled the same way. Pens and markers were provided and behavior noted. In addition, the child was administered a print awareness test. Behaviors observed included playful learning; self-initiated, controlled, and terminated activity; exploratory and discovery behaviors; responses and behaviors that are multi-sensory in nature; and specific behaviors associated with reading and writing activities. Concerning reading, it was found that (1) parents respond positively to the child's reading and writing attempts; (2) the language arts are integrated even at this early age; (3) the child's reading and writing behaviors are context-dependent; (4) the child's early attempts are approximations which are continually refined; (5) reading and writing concepts are defined in active behaviors, such as pointing, touching, looking, glancing, etc.; and (6) family literacy events stimulate the child's interest in reading and writing. Implications for researchers studying the literacy competencies of toddlers are indicated. (RH)
Abstract

Toddlers utilize environmental cues as they develop their own unique literacy competencies. This article presents a description of integrated reading, writing, and language behaviors characteristic of 18 month old children.
An Exploration

An Exploration of Environmental Correlates of Early Childhood Literacy

Reading researchers have studied aspects of reading and in particular have focused on the acquisition of preschool literacy (Chafel, 1982; Ferreiro, 1984; Goodman & Altwerger, 1981). Early reading ability may be defined in different ways as occurring in kindergarten (Durkin, 1959; Torry, 1969), during the preschool years of three to five (Goodall, 1984; Hiebert, 1981), or earlier (Doman, 1964; Krippner, 1963; Reger, 1966; Soderbergh, 1971). The age of a child is apparently not a hindrance to learning to read early as long as s/he is ready to read. Children themselves through awareness of and manipulation of environmental print demonstrate their readiness to read in unique ways.

Literacy Behaviors

Don Holdaway’s (1979) concept of literacy set motivated the present study’s intent to examine literary behaviors in very young children, especially those who have not yet been exposed to the formality inherent in the nursery school experience. Just how early in life do children begin hypothesizing and interacting with their environment? Two children, a boy, 17 months old, and a girl, 18 months old, were chosen with the expectation that both would exhibit behaviors indicative of natural cognitive and environmental learnings as well as developmental characteristics of familial socialization practices. Too often we undervalue and underestimate children’s cognitive processes and their ability to control their own learning and never more so than at this early age. It is a somewhat novel but powerful idea to accept the principle that children are perfectly capable of teaching themselves (Bissex, 1984;
Exploration (Holdaway, 1979) and of selecting just the right balance of environmental components necessary for learning to occur.

**Environmental Aspects**

Four recurring environmental factors in the literature are summarized by Teale (1978) as follows: 1) access to and extent of print; 2) modeling by parents and others; 3) opportunities for child interaction with literacy tools; and 4) positive response from significant persons in the child's environment. Of the four characteristics, probably the last one is the most important not only from a literacy and linguistic standpoint, but also from a total concept of child development. Parents are the primary agents of holistic and effective child environmental interactions. Response is not synonymous with formal instruction although the actual result is unplanned individualized instruction. Parents are important to the child on four points: 1) formation of attitudes and expectations about reading; 2) serving as reading models; 3) participating in the child's literacy activities; and 4) consciously teaching.

Generally speaking, most parents are aware that they are an important part of their child's learning to read on a theoretical level, but they are not consciously aware of their role as reading teachers within the family environment. Manipulation of environmental factors, first by parents and later by teachers, encourages children to engage in increasingly independent literacy behaviors such as reading aloud to others, looking at books, pretend reading, and scribbling (King, 1977; Leicher, 1984; Loughlin, 1982; Sheehan & Cole, 1983). The experiences provided by parents are the ordinary ones of daily life, but these simple events are the very ones that define literacy parameters for the child.
Home response, in Holdaway's (1979, p. 39) opinion must be "a simple giving and taking of pleasure in which a parent makes no demands on the child, but is deeply gratified by the lively responses and questions that normally arise." The home environment is marked by the quality of the interactions, an attitude of acceptance and non-correction; in short, by loving attention.

Description of Tasks

The tasks for both children focused on reading-like and writing-like behaviors because of the children's ages and also because of language development. At 18 months of age children are just beginning to talk and are able to say only a few words, principally nouns. Both children were given books to look at and the researcher simply observed their behavior. Books were selected from the children's own collections. The writing task was handled the same way. Paper and markers were provided and behavior noted. It was intended to administer a print awareness test (Goodman & Altwerger, 1981) utilizing materials collected previously, but the test could not be given to both children. Only Ryan, the boy, was given the print awareness test as he was tested in the morning. Marcia, the 18 month old girl, was tested in the evening around 5:30 p.m.; she tired after about 45 minutes and wanted her supper so the print awareness test was eliminated.

Observed Behavior and Interpretation

Ryan

The writing task was split into two sections at Ryan's "request." He played with the marking pens (regular size), removed the caps, exchanged them, dropped them, etc. After about three minutes of this
activity, he lost interest in the pens and obviously didn't want to scribble on the paper provided. We went on to the print awareness and book tasks before coming back to the writing. The second time Ryan's mother printed his name on the paper, pointed to it and Ryan began writing.

The most interesting thing that happened during the session was that Ryan got ink on his fingers, apparently for the first time. He was surprised, turned his hands this way and that, showed them to his sister, Stacy, and reexamined them. He was so fascinated with his hands that he refused to have them cleaned.

When he continued his writing, he used the pointed tip of the pen's cap to write with and finally handed the sheets to his mother. She asked him, "Are you going to write any more?" He replied, "Down" (down), so his sister put him down on the floor. As he was getting down, he knocked the papers on the floor, said "Oh, oh," picked them up, and re-plied them on the table. Then he handed the written papers to his mother seeking approval for what he had done. His sense of product was beginning.

I drew a flower on another sheet of paper. Ryan fiddled with the pens in front of him. The sequence was as follows: he had a cap, reached for another cap which didn't fit on the pen he had because it was already capped. He reached for the uncapped pen, put the cap on, examined his inky hands, took off the cap again and put it on his forefinger. In the meantime, I had drawn a smiling face next to the flower. Ryan touched the smiling face and then traced over it and the flower with the pen but very lightly. Then he put the pen in his mouth because his back teeth were cutting. I played the spider game with him; he hesitated at
first, then smiled and finally laughed.

The two drawings/writings attached show an awareness of print even at this early age. I refer specifically to the clear directionality evident in the writing samples. Were he exposed to print that is not linear, see Harste, Burke, and Woodward (1981, p. 106) for examples of Hebrew and Arabic scribbles, I am sure his writing would probably exhibit other characteristics more like the print he encountered in his environment. The scribbling he did for me is right on target for his age group. It is clearly imitative of a line which is typical of 18 month-old children. This indicates developing directionality so important in learning to read and write spontaneously. Scribbling is part of the adaptive behavior anticipated from 17-18 month-olds.

Most of Ryan’s behavior reflected his interest in the writing instruments available to him. No crayons or pencils were evident possibly because at the time of the observation the family was living in a motel while the mother went to school. Ryan had his books, paper, and narrow marking pens. All of the behavior associated with the marking pens is exploratory and developmental in nature. He was engaged in finding out for himself what markers do, which end is for writing, whether or not the caps write, whether the cap of one pen fits another pen, etc. Active participation makes the child aware of the functions of reading and writing (Bissell, 1981; Robeck & Wiseman, 1980; Smith, 1982).

Another interesting detail was the language used. At first, it seemed restrictive but soon the age of the child and what could be expected developmentally became apparent. Fry (1972) states that 18-month-old children on the average have a vocabulary of as many as ten
words. Ryan's words follow: "Oh, oh," "Mama," "crer" (cracker), "baby," "pretty," "ki-cat" (kitty cat), "horsie," "duck," "sna" (snake), "ball," "here," "Dir" (daddy), "dow" (down), and "please." Note the principle of approximation at work in the development of oral language production. This principle refers to the continuous self-initiated, self-monitored, and self-corrected attempts by the child to master his communicative environment. Social interaction is stimulated by family members who all know what the child's approximations mean and who are non-critical of his attempts.

A third developmental task noted by the Scale is the ability to carry out two separate oral instructions which Ryan was able to do. His mother told him to bring me an advertisement that had come in the mail and he also was asked to hand me certain things in the room. There is an increasing amount of evidence suggesting that reading and writing do not develop in linear but rather in parallel fashion (Clay, 1977; De Ford, 1981; Holdaway, 1979; Kane, 1982; Robey & Wiseman, 1980). Ultimately, the language arts are not mutually exclusive, but each reinforces the others to varying degrees and leads the child to new challenges in literacy development.

The Print Awareness Task. One of those challenges is increasing competence in deciphering everyday print. Only two of the four conditions of Goodman & Altwerger's test were used because of the very young age of the child. These conditions were: 1) condition 1, two-dimensional print in context (the actual label itself with distinctive color, size, shape, etc.), and 2) condition 2, black and white xeroxed copies of two-dimensional print.
During the print awareness task, Ryan was shown a total of twelve labels and gave positive responses to six of them. Only two positive responses occurred once the print was placed in condition 2. These were to the Doritos and Kool-Aid bags. The positive responses were to the following stimuli: a Doritos bag, a Hershey wrapper, a Kool-Aid package, a Ruffles bag, a Ritz cracker box, and a coke can. Previously, positive responses were defined verbally; that is, as an oral reading of some of the print on the label or an oral identification of the contents in a generic sense as in chips for Ruffles or candy for Hershey.

Now, however, because of the developmental language level of the child, positive responses were redefined as actions: 1) pointing; 2) touching the label; 3) obvious interest; 4) eye movements; 5) looking at the label as opposed to glancing; 6) hesitation in looking at the object; 7) reaching toward the stimulus; 8) vocalization (whether or not it was intelligible; 9) expression of any emotion; or 10) facial expression. Negative responses were defined as: 1) no flicker of interest at all; 2) failure to look at the stimulus; 3) turning the head away; 4) falling back on his pillow; and 5) total lack of response.

Judging from the pattern of positive and negative responses, it is clear that children of this age can and do react to environmental print as long as the print is displayed in condition 1 and/or condition 2; that is, in a two-dimensional print context. The six positive responses to print with familiar accompanying color, size, shape, texture, or script decreased to two positive ones once the accompanying features characteristic of the print were removed.

The two positive responses in condition 2 were to Doritos and
Kool-Aid bags. There are two possible reasons for these reactions. The first one is developmental in nature; that is to say, the child is not bounded by a static ceiling on what he recognizes printwise. He is simply more facile in condition 1 and is initiating the transition to condition 2. The two responses may also be attributable to nothing more than familiarity with the products through usage, the springboard to the world of literacy.

The most outstanding example of the meshing of verbal, motor, affective, and cognitive responses occurred when Ryan was presented with the Doritos bag as a stimulus. He looked at it, reached for it, touched it, played with it, and opened it up to see what was inside. He knew what it was supposed to contain because he looked disappointed and became angry when he realized it was empty. Vocalization was emphatic, to say the least! Finally, his mother gave him a chip from another bag and he was happy and ready to continue with the book task.

The Book Task. The book task consisted of observing Ryan handling his books and noting his reading-like behaviors. Most of Ryan's books are of the hardback variety, both the covers and the pages. Significant behaviors are listed below.

The most important characteristic of the familial environment is the interaction between the child, his parents and older siblings. The studies cited previously concur that the home environment should be interactive, warm, loving, and accepting of any behavior exhibited by the child. Ryan would not look at any books until his mother or sister held him on their laps. By his actions Ryan showed unequivocally that he wanted adult attention as he offered the book to each of them.
individually, bounced around, reached for them, etc.

The book was handed to Ryan upside down and while he was making sure that all adults were paying attention, he didn't notice that it was upside down. He sat down anyway and began turning the pages forwards and backwards. Apparently, in this task as in the writing task, he is at approximately the same level of development. He is sorting out the very beginnings of print directionality in both reading and writing-like behaviors. This observation supports the idea of the language arts co-developing and, if so at this early age, why not more so as the child gets older?

Another reading-like behavior that Ryan showed was a deliberate insistence on voice reading. The researcher had asked his mother just to hold him on her lap, do nothing, and let his actions be observed. Mothers, however, must be so programmed to mother-child interaction, that she began turning the pages for him, but she didn't read aloud. It didn't take long for that to pall before Ryan made his expectation known by saying "book." The book he had was his favorite one, but it quickly lost its appeal when it wasn't being read aloud. He repeated "book" as his request for oral reading, but when no reading occurred, he closed the book and tossed it up over his right shoulder. In other words, it was clear that if no one was going to read aloud to him, the story was over as far as he was concerned.

Two instances of story prediction (Bridges, Winograd, & Haley, 1983; Holdaway, 1979; Rhodes, 1981; Tompkins & Webeler, 1983) occurred during the session. Both were during the reading of a book on baby animals. Before his mother could read the text, Ryan supplied "ki-cat"
for "kitty cat" thus demonstrating the familiarity principle so stressed by all the researchers on preschool reading. Further on, his mother said, "Baby ___" and Ryan supplied "duck."

The last principle to be discussed is that of self-selection of books. Once again, because of the child's age, adult concepts, in this case interest, had to be redefined in terms of active behavior. Ryan very neatly assisted in the redefinition by the flurry of activity he demonstrated. He handled all the books individually, turned each one backwards and forwards and over and over, offered various books to his mother or sister, said "Here" as he handed the author three books that were obviously not under consideration, and finally decided on a book. Once the selection was made, he climbed on the bed next to his mother, assumed an appropriate sitting posture, and began turning the pages. Even though the book was upside down, he was enjoying "reading" the book himself. This re-enacting behavior is more sophisticated than the reading-listening behavior described earlier.

**Observed Behavior and Interpretation**

**Marcia**

**The Writing Task.** For the writing task, Marcia, like Ryan, was given paper and a large marker. Her scribbling shows both horizontal, vertical, and circular characteristics and the volume, of course, is noteworthy. Do girls "talk" more at this age than boys? Developmentalists claim that girls do, in fact, achieve oral fluency much more rapidly than boys do. From the variety of writing strokes demonstrated, it seems reasonable that Marcia is a little further along developmentally than Ryan although still well within the normal range for this
One relevant factor in Marcia's case is that her mother said that Marcia was extremely interested whenever she (the mother) was writing her college papers. The mother also said that Marcia was so interested that she began writing instruction with her, but stopped after two days because she felt that she was pushing Marcia too far too fast.

The self-regulation principle prevails in home writing instruction as well as in reading. This instruction probably explains the clear visible on the sample.

Marcia exhibited exploratory behavior similar to Ryan's with regard to the writing instruments available. The author's pencils were extremely attractive to Marcia and she showed excellent motor control for her age. The writing sample, however, does not show evidence of this control because she placed the paper on the couch as she experimented with the pencils.

The writing sample shows that Marcia is very aware of the edges of the paper and of the space that she thinks should be filled. Clay, 1979, links reading and writing when she says lack of parent and child book sharing may cause the child to perceive and consequently to manipulate two-dimensional space ineptly. Even with an oral reading background, the child must grapple with the differences in figurative (pictures, drawing) and spatial (print, writing) relationships (Ferreiro, 1978, 1984).

There are probably several interpretations of Marcia's space utilization: 1) She has probably not yet divorced the picture/print concepts and since her books' pages are full, so is her writing sample;
The mother reported that Marcia is very conscious that she is not supposed to mark on the furniture; hence, her precocious conceptual development of paper's available space; 3) As was suggested above, perhaps she simply has more to "say" whatever the form of that expression may be.

Again, as did Ryan, Marcia exhibited cohesive motor, verbal, affective, and cognitive behavior when she was playing with the pens and pencils in the author's purse. From playing with the pencils, she progressed to opening the purse and examining its contents. She didn't want to give up when told by her mother to stop. The only way to stop her was to divert her with the markers, but then the same thing occurred with them. She didn't want to put away the markers when we wanted to move on to the book task. Children of this age have an extensive period of concentration when the task engages their interest and is self-initiated. They certainly do show an abbreviated form of Holdaway's idea regarding the tension line of challenge and relaxation, tension and reward in respect to the learning tasks they have set for themselves (1979, p. 96).

The vocabulary level is comparable to Ryan's and equivalent to the level set by the Language Evaluation Scale. Marcia's words are "agua," "water," "oops," "cinco" (five), "ya ya" (a hurt), "Butterball," (the name of the dog), "pi pi" (a chicken), "moo," "book," "ya no" (no more), "papa" (supper), "venga" (come here) and so forth. I am sure that she has much more vocabulary in Spanish than she does in English because she is with a Nicaraguan baby sitter all day while her parents are gone. Contrary to what some writers have indicated, bilingualism
at this age has not hurt her acquisition of English vocabulary.

The Print Awareness Task. The book test was more difficult than anticipated. After the lengthy writing task, the play with the purse and the markers, Marcia was not overly interested in looking at books. The problem was further complicated by Rosita, the live-in sitter, who was trying to help the child perform. Marcia would be given a book upside down to watch her behavior, but the sitter would turn it right side up, begin turning the pages for her, and asking her questions in Spanish, such as "Como se llama el guau guau?" ("What's the dog's name?").

One interesting behavior did manifest, however, when her mother was saying "Let's look at the horsie." Marcia responded with the appropriate sound effects for horse, cow, and dog (Cataldo, 1983, p. 212). This vocalization was interpreted as a beginning attempt to define words through the use of onomatopoeia.

When Marcia finally did consent to looking at books, the previously stated principles also applied. Her mother or the sitter were part of the interactive environment as they read to her daily. Marcia finally exhibited some reading-like behavior when her mother handed her a book to look at. She went to the couch, assumed a reading position, put the book between her legs, and began turning the pages the normal way from right to left. She did not turn pages backwards, as Ryan did, but instead closed the book when she reached the end which was interpreted as a clear conception of "story's end" since the behavior was consistent. After about five minutes of solo book activity, she moved closer to her mother for reassurance and patted her face and arm.
An Exploration.

Then the phone rang and Marcia followed her mother to answer it. When they got back, Marcia went to turn on "la tele" (the television) and was told to turn it off. When the mother said "Here's your book," Marcia responded with "Ya no" (no more) and became more adamant about "papa" (supper) so the session was terminated.

**Summary and Implications**

Some of the difficulties encountered in studying children at this early age were the following:

1. The age of the child and the level of language development meant that the researcher must devise new interpretative criteria to explain the child's behavior.

2. The researcher must depend more on his/her own "feel" for the children, for what is normal, developmental behavior, and for what can reasonably be expected from the child.

3. The researcher must be extremely sensitive to the child and his/her attempts to interact with the adults in his/her environment.

4. The age of the child, i.e., the younger the child, means that the researcher's time with that child may not be as extended as with an older subject.

5. The need at this age for parental (and/or significant others) interaction and support frequently means that the researcher cannot carry out the tasks as planned.

Some observed developmental behaviors at 17-18 months of age were:

1. Playful learning.

2. Self-initiated, controlled, and terminated activity.
3. Exploratory and discovery behaviors.

4. Responses and behaviors are multi-sensory in nature.

5. Book-reading behaviors:
   a. Page turning.
   b. Sitting in a certain position.
   c. Clear indication of story's end.
   d. Spontaneous naming of pictures in the book.
   e. Handling of books and book selection.
   f. Solo looking at books for a brief timespan.

6. Writing behaviors:
   a. Directionality.
   b. Horizontal, vertical, and circular forms.
   c. Handling and experimenting with different writing instruments.
   d. Sense of a written product.

Major reading principles elicited were:

1. Parents respond positively to the child's reading and writing attempts.

2. The language arts are integrated even at this early age.

3. The child's reading and writing behaviors are context-dependent.

4. The child's early attempts are approximations which are continually refined.

5. Reading and writing concepts are defined in active behaviors; re, pointing, touching, looking, glancing, etc.

6. Family literacy events stimulate the child's interest in
reading and writing.

The most positive conclusion as a result of the study is a new awareness of the volume, as well as the quality of the material, to be gained from children of this age group. Their innate ability to direct their learning processes in intelligent ways is more impressive than ever and opens up new areas of study with important day care and school implications.
References


Goodall, M. "Can Four Year Olds 'Read' Words In The Environment?" The Reading Teacher 37 (1984): 478-482.


An Exploration


Ryan
Ryan
Note attempt to trace the smiley face.