An Investigation of Emergent Readers’ Hypotheses-Making about Print in Environmental Messages

Karen Lentz-Durrick

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AN INVESTIGATION OF EMERGENT READERS' HYPOTHESES-MAKING ABOUT PRINT IN ENVIRONMENTAL MESSAGES

THESIS

Submitted to the Graduate Committee of the Department of Education and Human Development
State University of New York
College at Brockport
in Partial Fulfillment of the Requirements for the Degree of Master of Science in Education

by
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February 1994
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ABSTRACT

In this study, the researcher investigated the hypothesis generating process that emergent readers apply when encountering environmental messages. A debate has arisen concerning the transition period when emergent readers begin to see the significance of print around them. The step from reading messages using all cues to reliance only on print was first seen as a natural occurrence, but recent research has been unable to prove or disprove this. Using familiar, unfamiliar, correct and altered logos and labels the researcher questioned preschoolers about the stimuli's meanings and what part of the stimuli gave them that information. The researcher then used the same stimuli and discussed the difference of reading before and after starting school with second graders.

The researcher concluded that emergent readers, although they rely heavily on all cuing systems know that print is meaningful. The emergent readers took the messages at face value; the print simply "said" the message. They did not seem aware of the abstract sound system the print represented. When asked to reproduce stimuli, the preschoolers focused on the print rather
than pictures, colors or other cues. The hypotheses that the preschoolers held were constantly changing, as witnessed through the interviews. The emergent readers felt they were reading. The second graders could not explain why their attitudes changed, but they remembered being able to read the stimuli before going to school. They felt they read it differently having been in school.

The researcher did find a marked decline in the confidence level between the preschoolers and second graders. The simple wholeness of the messages seemed to be lost. What was retained was that the print in the environment is the meaning giving part of all messages and that is what needs to be focused on and mastered in order to read. No evidence was given to support that a child will naturally learn how to read from exposure to environmental messages. Although they can declare the print as having meaning, it is only the whole message that they know. They have no awareness that words are letters and letters are symbols for sounds. They simply know that the word Mc Donald's is a restaurant serving burgers and fries. They do not see the need to know more.
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Chapter I

Statement of the Problem

The recent compilation of emergent literacy research by Yetta Goodman (1988) indicates that the common root for all children learning how to read is the awareness of environmental messages including the surrounding supportive cues whatever they may be. Yet, research by Masonheimer, Drum and Ehri (1984) found that the progression from environmental messages to discovering print as a symbolic communication system is not "natural." When shown the label in its full visual context, the preschool subjects read the labels correctly 81 percent of the time. When alterations to the print or lettering were performed, the changes were not noted by the subjects. Even when presented with the altered logo next to the correct one and asked if they could find any difference, 65 per cent of the time they could not.

A debate has arisen between the natural holistic view of early literacy and the skills oriented view. While early exposure to print may have great significance, researchers can not decide exactly what it is. An
answer may be found if this early step in learning to read is investigated. What is it that drives a young child to search out the letters and begin forming hypotheses about the print’s significance and use in the environment and written language?

**Purpose**

The primary purpose of this study was to investigate the early transition period when readers move from seeing arbitrary marks in environmental messages, which need supporting contextual cues to be read, to distinguishing print as having significant value.

**Question**

What hypotheses are young children using when they begin to distinguish print from all other contextual cues in environmental messages? How are these hypotheses resolved or changed?
Need For Study

In the novel, Tarzan teaches himself to read. Burroughs (1912) describes Tarzan's first encounter with print.

The boats, and trains, and cows and horses were quite meaningless to him, but not quite so baffling as the odd little figures which appeared beneath and between the colored pictures—some strange kind of bug he thought... (p. 54)

So what is it that makes these "bugs" crawling across the page take hold and gain valuable meaning? Haussler (1982 as noted in Cosgrove 1988) suggests that some children who interact with environmental print do not realize it is reading. Marilyn Adams (1990) goes to great length discussing this question. The visual memory must be operable, the discriminatory ability must be present and the child must attend to the print as being "a sequence of discrete, individual, and individually identifiable letters..." (p. 346). Although she does not touch on the child's perception of the why and how, she does comment that the configuration of print makes it abstract and has no prior significance for a young child learning to read.

Goodall (1984) supported a hypothesis that four year olds are developing proficiency in interpreting
words around them. Yet, a study by Woodens (1984) also concluded that children can and do respond to environmental messages as long as they are displayed in context. The correctness of the response was reduced when the surrounding contextual cues were removed.

To debate that point Goodman and Altwerger (1981, as noted in Cosgrove, 1988) indicated that the subjects they studied knew that it was the print that carried the message and not the surrounding features.

As teachers of reading it is imperative to understand what the child is thinking each time these "bugs" are encountered. The importance for children to distinguish print from other environmental cues is clear to the adult and research world. What is not clear is what makes it important to an emerging reader.

**Definition of Terms**

The following definitions were operational throughout this study:

*Print awareness* is the young children’s understanding of the functions of print and its difference from
surrounding visual cues found in the full context of an environmental message. Environmental messages are signs or abstract representations which carry conventional or collected meaning. Labels, advertisements, traffic signs, billboards, television and other message carriers are examples.

Reading and writing are defined as "human interaction with print when the reader and writer believe that they are making sense of and through written language" (Goodman, 1988, p. 6).

Emergent readers are young children who have just begun the process of learning how to read. They range from 3 to 5 years old depending on the individual and their progress.

Early readers are those children who have not received school instruction in reading but are able to recognize a majority of words and derive meaning from simple or more complex texts.

Limitations of the study

This study, because of its depth, was limited to 20
preschoolers and 8 second graders. The subjects were aware of being filmed and may have performed.

Summary

Research has indicated that preschool children are aware of and respond to environmental print in their contextual settings. The view that the early readers are not gaining the meaning of the message from the print and are not even aware of alterations to the print is also supported. Yet, there are indications that the awareness of print in the environment is necessary to the reading process and that children show some awareness of the importance of the print. Further research is needed to determine the transitional stage of print awareness from contextual dependent to contextual independent.
Chapter II

Review of the Literature

Introduction

"Everyday living beats the drums for reading with a bombardment no reading program could ever achieve" (Hymes, 1958 p. 31). Most children yearn to begin school so they can learn to read. Reading has great sales appeal, for it pays off immediately. A young child in a literate society sees reading as a natural and necessary activity. No healthy child wants to stay a non-reader a moment longer then he has to. What is terrific is that reading is not for Adults Only. Or is it? This chapter will review the literature related to this study in the following format: review of the history of early literacy, the transition to a serious look at early literacy, review of recent related research, research on children as language hypothesis makers and finally the importance of environmental print to early literacy.
Reviewing the History of Early Literacy Research

The theory that children had to reach a certain age before they could learn about reading was once popular. Preschool literacy was neglected up through the second decade of the 20th century. The general belief was that literacy development began with formal instruction at school. In the 1920's the idea of reading readiness took root and blossomed. Educators began looking for the factor or factors that enabled children to be "prepared" mentally for reading. Gesell, as mentioned in Teale and Sulzby (1988) saw development as being controlled by maturation. Hymes (1958) defined reading readiness as...

the child has now developed so that the required brain power, thinking power, memory power, seeing power muscle power--whatever the job takes--are his. {Reading readiness means that} now the child is in the best position to learn. Now he can learn efficiently without waste of time and energy and motion. Essential conditions have been achieved. Now the child can make good use of instruction. (p. 7)

This is valid, except the maturation theorist did not think the child was ready until most factors that made a mature reader were in place; so the testing began. In a study done on first-grade children in 1928, Morphett and
Washburne tested 141 children with the Stanford-Binet and the Detroit First Grade Intelligence Test. The students' mental age was calculated for the beginning of the year. Then reading achievement was tested in February and June of 1929. Satisfactory progress in reading was defined as completing a minimum of 13 of 21 progress steps in the beginning reading materials and having a sight vocabulary of at least 37 words. Correlation ratios showed that children entering school with the mental age of at least 6 years and 6 months achieved best on the reading tests. The conclusion was simple. Don't even bother working with children before that age (Teale & Sulzby, 1988).

Changes in social awareness began in the 1950s through 60s. Early environmental factors were being investigated for lasting effects on children's success or failure. Disadvantaged homes were being targeted as poor starts for children and this led to early intervention (Durkin, 1966). Through the intervention process, observation of young children was begun. What was observed did not meet the maturation model. Children were seen as active participants in learning and not statues waiting for the correct maturation moment. The cognitive sciences moved into
childhood years. In 1964, Bloom analyzed a multitude of longitudinal studies of development and concluded that the majority of human intellectual development takes place before the age of five. Children began being viewed as hypothesis generators and problem solvers rather than passive recipients of information (Baghban, 1984; Payton, 1984; Robeck & Wiseman, 1980). Language researchers began to look towards the acquisition of the many forms of language and the strategies employed while learning and using language.

Today, educators interested in early readers have begun to hear a new term, "emergent literacy." The term was first used by Marie Clay in 1966 (Teale & Sulzby, 1986). Proponents of emergent literacy assume that children acquire information about all facets of language, including reading and writing even before entering the formal school years. The dynamic relationship between the forms of communication leads one to influence another. In everyday living contexts, the child is exposed to language in its multiple forms constantly. This interaction is why Teale and Sulzby (1988) used "literacy" in the title of their collection of research articles on early reading. To isolate one element of the communication process is artificial.
Understanding writing will aid in understanding reading and vice-versa. Chomsky (1971) determined that the learning processes are connected.

Emergent connotes development rather than stasis. It is a process of becoming literate (Goodman, 1988). Literacy is not "pre" anything for there is no set time when a child's literacy begins. It is part of him. Children's perception of literacy reflects this. "They may not be literate in the skilled or conventional way that adults are, (but) they have knowledge about literacy which has implications" (Morrow & Smith, 1990, p. 2). Children appear to be constantly adding new understanding about literacy. There seems to be no hierarchical order in their learning but there are patterns of development on a progressive track (Sulzby, 1990).

Recent Early Literacy Research

Research has blossomed with the new look at emergent literacy (Clay, 1966; Clay, 1991; Durkin, 1966; Ehri & Wilce, 1985; Goodman & Goodman, 1979; Smith, 1976; Thomas, 1985; Ylisto, 1977). Mac Ginitie cautioned against an "all or nothing" approach in evaluating children's reading readiness. Because they haven't
mastered all the skills, it is not evidence they know nothing about print (Hiebert, 1981). "More than the mere presence of print and more than just reading to children, early literacy depends on the **how and what** that goes on in the environment of print." (Thomas, 1985, p. 474). Thomas goes on to explain that the how and what of emergent literacy involves "exhausting hours of social interaction." (p. 474). Surprisingly, the parents in this study and others seem not to have noticed the exhausting hours of literacy training (Durkin, 1966; Goodman & Goodman 1979, as quoted in Thomas, 1985; Masonheimer, Drum & Ehri, 1984). Parents don't formally sit and instruct early readers on the value of print, but much like oral language acquisition, they serve as models, answer questions and reward approximations. They follow the child's line of interest and support what the child is trying to figure out. This follows Marie Clay's suggestion in her book *Becoming Literate: The Construction of Inner Control* (1991).

The results of many studies support the emergent literacy theory. One of the first was Durkin's study (1966) of preschool children, when she observed them in their own environments. She noted literacy interaction
was extremely high between adults and children. The everyday natural settings in which young children encounter print provided many clues about written language (Clay, 1977; Smith, 1976). The learning which results is an interrelated holistic process. Smith (1976) states that "children probably begin to read from the moment they become aware of print in any meaningful way" (p. 299). A study by Ken and Yetta Goodman (1979) began the use of the term "natural" reading acquisition. Although the term has been disputed as misleading, the researchers did not imply the child was to be left alone with print, but that a great deal of social interaction should take place. The conclusions did imply that children do not enter kindergarten completely unaware of the written language. Clay (1977, as noted in Cosgrove, 1988) studied children entering kindergarten in New Zealand. She suggests that children are print aware when they ask, "What's that say?" in response to print in their environment, or when reading a story they might say, "I can't read all the words, but I know what they say." (p. 26)

Teale (1978) examined the literature on early reading and identified four environmental factors forming a trend in early readers.
1. An availability and range of printed materials in the environment.

2. Reading was practiced in the environment so that the function of print was realized.

3. There was an availability of paper and pencil for opportunities to write.

4. The reader received feedback and interacted with a significant person in regard to written language.

In a triangulation of studies Goodman (1988) also found some surprising trends in the emergent readers themselves.

1. Almost all subjects say they can write.

2. 50% of 3 year olds make letters or symbols which look like letters in addition to scribble forms.

3. Subjects produce different kinds of representations when asked to draw and write.

4. Subjects can discuss the functions of writing to a greater degree than functions of reading.

5. On the average 50% of 4 and 5 year olds are able to read print in partial context (when entire text is not presented).

6. In most cases, subjects do not consider their interaction with print as a reading event. 75% said they could not read.
7. There were no differences in reading environmental print based on ethnic, geographic, racial or linguistic backgrounds.

**Emergent Readers as Hypotheses Makers**

Many of the studies looked for patterns found in emergent readers. It was found that they are constantly creating hypothesis about written language and then accepting the hypothesis if it is proven true or rejecting it to make new hypothesis (Baghban, 1984; Payton, 1984). Baghban (1984) found, while tracing her daughter's reading and writing development from birth to three, that "Each of Giti's communicative processes began with attempts at reproducing linguistic models which later resulted in a basic schema for processing appropriate linguistic input. Giti tested hypotheses by labeling, then associating and categorizing raw data she experienced in her environment" (p. 97). After observing her daughter's literacy development, Payton (1984) concluded that children are hypothesizers, active in their own growth. Roebeck and Wiseman (1980) investigated the metalinguistic knowledge children have acquired from their environment prior to formal instruction. It was concluded that "even very young
children who have not been exposed to formal training are learning from incidental events in their environment important concepts related to reading and writing” (p. 9). In summary, Baghban stated that “hypotheses continued to be tested in order to refine schemata. The schemata continued to influence her [Giti’s] information processing strategies and ... language interactions” (p.98).

**The Importance of Environmental Print**

Goodman (1988) uncovered another interesting trend in her review of early literacy research. She found, conclusively, that the beginning of the reading process is in the reading of environmental messages that fill the subjects' experiences. She stated that 60% of all 3 year olds can read environmental print when embedded in context, while 80% of 4 and 5 year olds can read the printed message. All the subjects were reading by exact information related to the print, by stating a generic term for the specific names such as toothpaste for Crest, or by stating the item’s function in society such as "good for you" for milk. Rarely would a statement be made that was unrelated to the item. She concluded that
young readers were able to decode, categorize and relate items to life's experiences. These are all recognized as reading skills.

Some authorities assume the ability to identify print in their environments is the beginning of reading for young children (Goodman & Altwerger, 1981; Goodman & Goodman, 1970 as noted in Masonheimer, Drum & Ehri, 1984).

Masonheimer, et al. summarize.

Acquisition of these print-meaning associations provides the foundation which enables children to begin learning about the graphic system. First, children become aware that print is distinctively different from nonprint cues.... Gradually, as a result of repeated exposure to these labels and signs, the print itself becomes familiar and can be recognized outside of its characteristic environment. At this point, the children have achieved enough competence with the graphic system to be ready to begin reading printed words encountered in books and accompanied by minimal nonprint contextual cues. (p. 258)

One theme was repeatedly found: the importance of discovering print during the environmental reading stage of the emergent reader. Ehri and Sweet (1991) completed a study on the skills needed for successful fingerpoint reading. The study suggests for children to advance they first needed to know what print was and then other related knowledge such as segmentation and a few primer words. Hiebert (1981) studied early readers
and found that children learn conventional reading readiness skills concurrently with concepts of reading. Both of these approaches begin with environmental print having meaning. In a two year study of children's knowledge of letters and printed words, Mason (1980) concluded that seeing letters as discriminable patterns was a basis for further knowledge. This is not easy, for Clay (1991) comments that to a young child, print must look as the abstract patterns created by the branches of a tree momentarily silhouetted against the sky.

Goodman and Altwerger (1981 as noted in Goodman, 1984) explored preschoolers' awareness and responses to environmental print. The subjects demonstrated some awareness of environmental print and acknowledge that the print, not the supporting contextual features communicated the message. In 1985, Ehri and Wilce did a study searching for the first stage of word learning. Their question was whether it was visual or phonetic. Their findings suggest that children must be able to process print in a different manner to move from being environmental readers, using all clues, to print attendant readers. It is important for them to be
familiar with print as symbols for oral language, even if they aren't able to name specific letters. General letter knowledge is a precursor to more skilled reading.

**Summary**

The philosophy that educators hold about early literacy changed as research found that young children are beginning the reading process without formal reading instruction. The concept of emergent literacy is being accepted. Research is now centered on young readers and the developmental process they are actively engaged in, as they are seeking new information to add to existing language schema. Some commonalties of early literacy and the reading process are being found. One of the most important is that all children read print in environmental contexts on a daily basis. The process then moves the child from the reliance on supporting contextual cues found in environmental messages to the print. How, why and when this happens is being explored.
Chapter III

Design of the Study

Purpose

The primary purpose of this study was to investigate the early transition period when readers move from seeing arbitrary marks in environmental messages, which need supporting contextual cues to be read, to distinguishing print as having meaning and significant value.

Subjects

The study used twenty 3 and 4 year olds attending a common rural nursery school in western New York. The study also used ten second graders attending a common elementary school. The subjects represented a wide range of environmental literacy backgrounds and abilities.

Materials

Samples of familiar environmental print pieces--labels, signs, boxes, logos--many provided by parents. The alphabet in block letters on index cards.
White construction paper.
Crayons or markers.
Audio and/or video recorders.
Parental permission and informational letter.
Parent Survey.

Methodology

The procedures were adapted from previous studies. Yetta Goodman (1988) utilizes the metaphor of tree roots to discuss the many factors in emerging literacy. She has designed research models for each. For the purpose of this study the environmental print, metacognitive and metalinguistic methods were adapted. Robeck and Wiseman (1980) also investigated the metalinguistic aspect of emergent readers. Clay's work (1991) in the reading/writing connection justified the subjects producing a writing sample for analysis.

One of the places we can get a guide to what features of print the child is noticing is in their early attempts to produce features in their writing. At least what they produce must have caught their attention. (p. 39)

The tasks used in this study were constructed to be as concrete as possible to match the child's operative
level. The methodology was also designed in a child centered manner, allowing the child to lead when possible. For example, the children could choose stimuli in any order or if their interests were aroused by a question or stimulus, the researcher would dwell on that instead of moving along in a prescribed fashion. Some stimuli were more relevant then others because they were more familiar with it and a child would grab it or wish to discuss it further. These allowances were made.

This section of the methodology is organized into two parts. the first part will describe the procedures used with the preschoolers, the second will then describe the procedures used with the second graders.

Preschoolers

A survey completed by the parent of each child helped to determine the literacy development of the child. There were general questions about demographics and the home literary environment. More specific questions asked for reading behaviors and how parents responded to literacy questions. (See Appendix A).

The researcher met twice with subjects who could not demonstrate knowledge in the environmental messages as determined by observation by researcher and data from
nursery school instructor. The second meeting was used for follow up on the intervention procedures used during first meeting. She met with the further advanced subjects once.

**First meeting**

Labels that were familiar in the subjects' environment were presented as stimuli. The actually front of cereal boxes and labels off cans were used. The entire packaging was not presented to avoid the subjects getting off the task. Each subject was asked to read the stimulus. Subjects who refused to read were asked to tell anything about the item they could. Subjects were then asked to show the researcher what part of the stimulus provided the information.

If print was pointed out, the subject was asked why that was read rather then other parts. Why did they know to read that part rather then the rest? How is that part different and how did they know? If print was not pointed out, the subject was asked if there was anything different about the parts of the label. They were also asked, "If a person could read, what parts do they think the reader would use." The researcher had a list of questions to refer to, so even
though the child was leading, the questions would be as standardized as possible.

All subjects were asked to produce a replication of the environmental message of their choice using the supplies provided. They were given the time they desired within appropriate limits. They were able to use any of the colored markers they wished. The subject could also use the label if they wished.

A letter recognition task was presented at the end of the session to determine the emergent reader's competence in recognizing letters.

Video or audio recordings were made for further analysis.

**Intervention**

The intervention procedures were extremely child-centered. The researcher acted only as a facilitator leading the subject towards the awareness that print is the most significant part of the environmental messages. This was done by asking the child to indicate different parts of the label and the researcher offering information about the part. Similar letters were indicated by the researcher to demonstrate the repetition and importance. This repetition could be in
one label or involve several. The subjects were also asked if they had any questions about the label. The child's body posture and language were also used as cues for interest level.

Subjects that showed the least amount of print awareness participated in an activity where the print was discussed in each stimuli. The researcher followed the child's lead to answer any questions and facilitate the understanding of print as being significant and different from the other environmental cues. The researcher encouraged the subject to look for print in the messages around them. This session's length was determined by the child's lead. The sessions ranged from two to five minutes.

Second meeting

Subjects were presented the same stimuli and asked to read them. New stimuli were also presented with the same questions as before. Subjects were presented with their original drawing of an environmental message. They were given the opportunity to change anything or make a new one.

Subjects were presented with altered versions of the stimuli and asked to read them. If they could not
read it, the researcher provided the original non-altered stimuli and the subject was asked if the altered version seemed like one of the originals. The researcher asked why they could not, if it proved difficult.

Subjects who had the intervention with researcher were asked if they had noticed more print in their environment since the first session. If they had, the researcher asked for descriptions of where and the meaning of the message.

Another letter recognition task was presented at the end of the session.

**Second graders**

Ten second graders were also interviewed. They responded to the same label and logo type stimuli but were questioned differently. The researcher probed for their perception of how the reading process had changed from reading environmental messages as a preschooler to now when they had had formal instruction in school.

The subjects were shown a stimulus and asked to read it. Then they were asked, if they could remember reading it before they came to school. When a subject
would answer positively the researcher attempted to draw out some comparisons of how the process was different. Questions about how they thought that younger children read were also asked. Again, the research was child-centered with the subjects having choices and the researcher using their comments to expand the discussion.

**Analysis of Data**

The recordings of the sessions were reviewed by the researcher. When the same idea or comment was generated by two or three subjects, it was noted. Behavioral responses that were repeated by several subjects were also noted. The researcher then analyzed the interviews again attempting to target the trends noted in the reviews to support or expand on them.

Comparisons were made between the preschoolers' and second graders' perceptions of the process used in environmental message reading. Ideas or comments that paralleled each other from the two age groups were also noted.
Summary

The methods in this study were adapted from previous research and revised for the present study. The subjects were twenty preschoolers and ten second graders. Following the children's lead, the researcher had the subjects read stimuli and respond to questions about the perceptions and process of environmental message reading.

An analysis of the subjects' comments, ideas and behaviors was completed to find trends that exist in emergent readers.
Chapter IV

Findings and Interpretations of Data

The primary purpose of this study was to investigate the early transition period when readers move from seeing arbitrary marks in environmental messages, which need supporting contextual cues to be read, to distinguishing print as having significant value.

Organization of Data

This chapter will refer to the three and four year olds as preschoolers and the second graders just as that, second graders. The data from the parental surveys will be given first, followed by the data from meeting with the preschoolers. The information gained by meeting with the second graders will be presented last. These data are not given in any priority. The organization is based on clarity and efficiency.
Preschoolers' Parental Survey Trends

The preschoolers' parental survey results indicated several patterns. The percentages for the response to each question can be found in Appendix C. All parents felt their children responded to the environmental messages. However, only one of the children would ask for information about the messages. Most of the parents would respond to any questions by stating what the print "said." Only one parent would go as far as to indicate the print, offer the letter names and the letter/sound relationship. This was the only preschooler who knew all the letter names correctly. Very few, only four of the children, would read some messages exactly as written. Following that trend, only two of the preschoolers would refer to the print in any manner with only one referring to the letters themselves.

None of the parents indicated formal reading training. Only one child could name all the letters, although ten parents felt their child knew at least half of them.
Preschoolers' Interview Data: Trends

The major trend that emerged throughout the research was the confidence with which the preschoolers read the environmental messages. They had no hesitation in giving whatever information they felt was appropriate for that particular stimulus. The researcher would receive curious glances and even questions when she asked questions about the print or the message. The preschoolers had the presence of mature readers. They read the message, gained meaning from it and that was that.

The following example of an interview session between researcher and subject demonstrates the confidence and enthusiasm the preschoolers exhibited.

[Shown the Frosted Wheats box front.]

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does this say?</td>
<td>* Cereal</td>
</tr>
<tr>
<td>Where does it say that?</td>
<td>* Right here (indicating the word &quot;Wheats&quot;)</td>
</tr>
<tr>
<td>Are you sure that means cereal?</td>
<td>* Yes</td>
</tr>
<tr>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>
Did someone tell you? * No, I learned it myself

[Shown the M&Ms box front.]
What does this mean? * Ohhh chocolate!
What part says chocolate? * This (pointing to the
* letters M&M)
How did you know that? * Because it always does
(pointing to letters) *
This means chocolate? *

* (Subject grabbed Snickers box) See, this says
* chocolate too!

Another comment that a preschooler told the researcher that demonstrates the confidence and maturity of the preschoolers reading was "It says it here, because it says it at home!" This comment was made in a condescending fashion because the researcher actually questioned the child's ability to read the message correctly. This following demonstration was not part of the planned data gathering method, but shows the awareness of print so the researcher feels it is valid.

Opening the book to a page, the researcher questioned why the book was not desirable.

"Because, look, there are no words in that book!"

What the researcher saw was a page full of print. The print was found on the sides of trucks, road signs, buildings and an airplane's banner. What the subject saw was something else entirely. The researcher quickly turned to the page of the "wordless book" with the publishing information typed in a more traditional pattern for books.

"Are there words on this page?" the unhappy subject was asked.

"Oh yes," was the response. When asked to indicate where the print was located, the subject immediately pointed to the traditional book style print giving the publication information. He still ignored the print on the side of a truck above the regular print. The book was discarded and another found.

This subject's frustration with the "wordless book" demonstrates one trend found through the research. It seems emergent readers have an expectation that print will be found in the environment and a sense of the form the print should have depending on the situation and
location of the message. As shown above, the book was to have block print found on the page in a single location, not spread across the page on trucks and signs. When the road signs were shown to this subject, he indicated an expectation and approval for the print in that situation. This was supported when another subject informed the researcher that it was okay to have big colored letters on the cereal boxes but we should write small with a pencil.

The expectation of print was repeated when the subjects were shown the plain brown piece of an M&M box or a portion of a cereal box with the print removed. The researcher was accused of removing the print. One subject was very upset and said, "It has words on it at home!" This high expectation of print was found in 18 of the preschoolers. The subjects would respond that they could not give any information about the message because there was no print. Several of these stimuli were altered so the product or message was clear. The picture seemed to hold no meaning if there was no print accompanying it. Several of the subjects had been informed by their parents that the research was about print, letters and even labels. The parents seemed to
have been anxious and told the subjects. The researcher learned this directly from the subjects.

All the preschoolers indicated to the print in response to the question where the information came from. None of the preschoolers would admit to using the pictures or other contextual clues even when an unfamiliar message was shown. The print was "the best place to read" the researcher was told.

The preschoolers' perception of how they knew where the print was and why it held the message fell into two categories. Three out of twenty said an adult had told them. The other seventeen were adamant that they just knew. The preschoolers seemed to want to give very little thought to the hows and whys of learning to read.

With further probing about the context of environmental messages, none of the preschoolers said anything about the size or location of the print making it more important than the rest of the context. They appeared to accept the fact that print has different forms according to the purpose or situation. The researcher asked the preschoolers to indicate all the print found on two cereal boxes. Every preschooler was able to indicate all the print whether it was stylized or block, on the top or bottom and no matter what color.
When the researcher met the second time with the intervention subjects, they were just as perplexed about where their awareness of print came from as they were the first time. They felt no difference in their awareness having had the session with the researcher. They just knew it already. As one preschooler put it, "It is everywhere!" However, six out of the eight subjects that received the intervention did read the environmental messages with more correctness. They that they read two more messages with better accuracy and supplying more related information.

Another noteworthy trend was that the preschoolers took print at face value. There was no hidden message or code. Whatever they felt the message said (whether their perception was correct or not) they were sure that was all there was to it. Even the one preschooler whose mother offered the name and sound of each letter, felt that the message was read by knowing what the message said, not what the letters were.

The quality or sophistication of the print awareness did change. The determining factor was the number of letters the preschoolers could name. The more letters they knew the more they were aware of the fact
that it took all the print to "get" the message. The preschoolers with no letter recognition would sweep their hand or finger across the print and appeared to view it as a whole. The more sophisticated preschoolers (a group of three) would either indicate words or letters, showing an awareness that they all carried bits of the information. They would also "read" slower, tending to draw the reading out to match all the print they were pointing to. This group of three would refer to the print as words or letters more often, while the rest would have no term for the print or often say "signs." (The researcher suspects many parents told the child they would be working on signs and that became the word of the day.) The three preschoolers could not verbalize why they knew all the print was needed and clarified different parts of the information.

Another form of sophistication resulted in being familiar with the stimuli. The subjects gave more information according to the familiarity of the stimuli. A subject who was not familiar with the stimuli would read in a generic sense. They would give cereal as a message instead of the specific brand. When the stimuli were familiar they would give the specific name and/or
add that "it is good for you" or "put milk on it."

The analysis of the preschoolers' drawings were supportive of the trends stated above. All subjects included some form of print in their drawings. Examples of drawings are given in Appendix D. One subject is particular knew only one letter X. He chose to draw a Rice Chex box (Which was a new stimuli and he could not "read" it), because it had an X on it. In his drawing (Appendix D, sample 1) he made only the X and could not be convinced to draw more. "That says that cereal. You don't need more." was the comment. The subjects did not feel the need to reproduce the colors, style of print, drawing or picture in the environmental message. According to Clay (1991), these features did not "catch their attention." (p.29) The print did, although the preschooler could not have read the message without the entire context.

Second Graders' Interview Data: Trends

Where the preschoolers were relaxed and had the presence of readers, the second graders were tentative and anxious about the reading process. They seemed to
have lost that confidence in themselves. Their composure would be shaken with questions. Where the preschoolers thought the researcher a nuisance when they were questioned, the second graders would go back and reread and sound out or second guess. Even labels they recognized immediately would be reread and sounded out slowly.

The second graders did have a high expectancy of print. It was voiced by all the second graders. The second graders were not as upset as the preschoolers when there was no print in the stimuli. They would be able to give some information from the contextual clues still left. They did not refuse to try as the preschoolers. They also agreed with the preschoolers that the meaning comes from the print. The second graders were more perceptive and would comment that they had used the pictures before learning to read the letters. They said the preschoolers did not know the difference because they had not been in school.

When asked where the knowledge of letters and the reading process came from, the second graders were not able to respond with more insight then the
preschoolers. The common response was that before school they knew it because that was what it was, and now they know because they can "sound it out" or "read it." They were still reluctant to verbalize that someone taught them. Out of the ten second graders, three commented in a vague way that a teacher showed then that letters had sounds. The rest of the second 39 graders felt they learned it themselves.

When the second graders were questioned about the process of finding the print in an environmental message, they commented that the print was always bigger and colored different than the whole context or background so they knew it was important even before they went to school.

Unlike the preschoolers, the second graders did not take print at face value. They seemed to view it as complex and needing much work to "figure out." The letters were more then they even taught at school. The second graders felt that little kids can read without sounds, but it was better to have the sounds when there are no pictures. When the researcher asked the second graders about an unknown stimulus, four out of the ten tried to sound it out, while the rest relied immediately
on the contextual clues. All of them, however, said they read the words and did not use the picture or other clues. The researcher's observation of their reading process indicated the contextual clues were definitely being used. All of the second graders were aware that it took the combination of the letters and words to create the entire message.

When the second graders were given unfamiliar stimuli, they would be confused and read incorrectly but they knew the more print there was the more information was being offered, and so they attempted to give more.
Chapter V

Conclusions and Implications

Purpose

The primary purpose of this study was to investigate the early transition period when readers move from seeing arbitrary marks in environmental messages, which need supporting contextual cues to be read, to distinguishing print as having significant value.

Conclusions

Findings suggest that movement into reading requires children to process print in a qualitatively different manner from that done as prereaders. As such, movement into reading cannot be regarded as evolving "naturally" out of encounters with print in the environment. Some sort of intervention is needed to make this move. Parents in this study seemed to view environmental message reading as a natural act, but did little to expand on the process at this point. The subjects also viewed the process as being natural.
Their expectation of print and reading acquisition were taken for granted.

The data retrieved from the second graders indicate that the process may be "natural" in a sense but is not independent. It seems that facilitation is needed for the emergent reader to move from the simplicity of the contextual reading to the sophistication and complexity of a mature reader. Unlike Tarzan, who phantomed the meaning of print and learned to read through letter pattern and pictures, the emergent readers needed encouragement, support and direction.

While being able to read words on signs and labels is not generally recognized as "reading...{it does} serve as a precursor to more skilled reading." (Ehri, 1985, p.221) This study supports Ehri's observations, the importance of reading environmental messages should not be reduced because the assumed "natural" evolution of reading does not take place. It should be regarded as an important initial step in reading for it "naturally" is creating a child that understands the uses of print and can gain meaning from it on their particular level. Although most of the subjects could not name letters nor distinguish one letter from
another, the configuration of print in any stylized form
drew their attention. They were fully aware that those
"signs," "letters," "words," "print," "bugs" were the
meaning giving portion of the message. The preschoolers
were also sure that a "reader" would use just the print
to gain the meaning even though they needed the entire
context.

Imagine a child who did not grasp the concept that
print involved a meaningful message. The child would
have no idea why they were learning letters, sounds or
words. The entire basis of reading is to gain meaning
through print. It is a difficult concept with many
subconcepts. Emergent readers have grasped the umbrella
overlying all the reading because of success in reading
environmental messages; they need time, experience and
greater cognitive powers to fill all the subconcepts in.
These arbitrary marks carry a deep meaning. Although
emergent readers cannot fully realize the depth of the
marks, they do understand the great purpose; to gain
meaning for personal satisfaction and use.

Except in special cases of delay, physical handicap
or emotional problems, most young children learn to talk
in what we view a "natural" method. Yet to gain all the
functions of speech such as singing, storytelling, inflection, jokes, riddles, speech giving and poetry, the child needs time, experience and greater cognitive powers. This study indicates that reading follows in much the same manner. The emergent reader learns the enveloping purpose and importance of reading print as an infant learns the purpose and importance of speech.

Another conclusion that could be made from the research is most preschoolers are not ready for formal reading instruction. They are concrete in their understanding and extremely confident in the fact they are already reading. Any instruction that is beyond their immediate questions is seen as unimportant and is disregarded. The second graders agreed that they felt they were reading at the preschool age. Both the preschoolers and second graders were reluctant to give credit to whatever instruction they had received. This study did not find a reason for this attitude.

This study also supports the theory that letter learning is essential in learning to read (Adams, 1990; Mason, 1980; Masonheimer, et al., 1984). The subjects knowing more letters gave more exact information about the messages. This would be swayed by the familiarity
of the message. The ability to recognize letters and to associate them with certain messages is a priority as determined by this study.

This study also supports Clay's work (9191) in associating writing and reading. The study was designed to use writing as an indicator of what was being used to read the environmental messages. Through listening to the subjects' comments and analyzing their work the researcher came to the conclusion that they also learn more about reading by writing. The drawings centered around the print instead of logos, pictures or even colors. The conclusion that the preschoolers saw the print as being the most important portion of the message paralleled their verbal responses. Having the subjects reinforce the fact that they know the print is the meaning giving factor in their drawings allows educators and parents to assume they are reading at an early age.

The study also supports the well established theory that reading is a process. The various levels of sophistication determined by the exactness and amount of information given by the subjects leads to the conclusion that there is a process in progress. The second graders, in looking back to how they used to
read, were obtaining glimpses of the process they were involved in. This process of learning to read was different in every individual in the study. This leads to the wider conclusion that all individuals learn to read at their own pace and using their own sequence.

The study supports the conclusion of the importance of reading environmental messages. The effect it has on the emergent readers is undeniable. The amount of knowledge the children gain about reading gives them a basis and purpose to continue on with the process. They internalize the need to read. The more they know about environmental message reading the more sophisticated the motivation and desire.

As a final conclusion, the research found that the need to read is very high in emergent readers. They want to be able to do what everyone else is doing. They mimic mature readers to the best of their ability. Emergent readers are constantly on the watch for new information to be added to their schema about reading. They want others to think they are readers.
Implications for Educators

As this study indicates, emergent readers are extremely sure that they are reading the environmental messages correctly. They have no reason to doubt themselves or their abilities because of all the support found in the environment. They also gain immediate reinforcement through parents and natural occurrences. They do not bother to second guess an answer or idea as they plunge ahead and form a hypothesis to test in the intake of a breath. This confidence and momentum seems to be lost when they enter school. On meeting with the second graders the researcher found the emergent enthusiasm is daunted when the fuller realization of the letters' function becomes clearer. They feel that what they were doing as emergent readers of environmental messages was not reading. The new students need a smoother transition from one to the other. They were reading before, even if not by the method presented in the classroom. The skills they have gained to read in the environment need to be used and reinforced in the classroom. Perhaps educators could use the high expectation that emergent readers have for print to set
up lessons that lead into more the complex matter of decoding.

Along with the high expectation of print that the emergent readers have, they also are very aware of the functions of print especially in familiar messages and situations. Educators could bring this awareness to full use. The second graders seemed overwhelmed with the "sounding out" and had forgotten the ease with which they read a message by just knowing the situation and probable function. Writing the daily routine and lunch menu are ways the educator may teach reading using functional knowledge the emergent readers have, instead of having then look at it as all new learning.

The emergent reader is also very concrete. Perhaps the learning of letters could be pulled from familiar messages instead of the arbitrary order of ABC. Whatever "we know about how children learn written language can help us to develop curriculum involving written language." (Goodman, 1988 p.13) A rigorous curriculum needs to be developed based on all that is known about the emergent reading process. Educators need to recognize the beginnings of learning to read to support the continuation of the process. If it is
working for the child, why change it? If the child sees the classroom learning is no different then what he has already has had success in, he or she will develop their own search for meaning.

Lastly, if instruction is to be a natural continuation from what the emergent readers already know, teachers need to recognize the achievements they have already made. The emergent readers bring a great amount of learning to school, so teachers need to become good observers and listeners. The teacher then can use the knowledge already there to build and expand upon.

Implications for Parents

Parental involvement is undeniably important for the emergent reader. This study's insight lead to implications for the parents, since they are the leading facilitator for the preschool child.

The first implication would be that good reading habits should always be modeled. The emergent reader can only emulate mature reading if they see it constantly at home. Another implication follows closely. Parents should do anything possible to help the emergent
reader to view and think of themselves as readers. They will realize that they are not reading on the same level as their parents, but they are reading exactly the way a 3 or 4 year should. This concept of themselves as a reader is far reaching into the years as the reading process continues.

Parents can also use the reader's confidence to teach more about reading. If they know McDonalds as the golden arches, begin to associate the arches with the letter M which begins the word. If they quickly recognize the toothpaste tube, begin to say that you use Crest as your toothpaste. This tube says "Crest toothpaste." The examples are as endless as the benefits.

Parents can also take time to listen and observe their emergent reader. The emergent reader is always looking to revise or add to the developing schemas they have. By using every opportunity possible the parent is facilitating the connections needed for more complex reading activities. Parents can easily take the child's lead and develop the schema of reading instead of using artificial aids or programs.
Further Research

One question that was revealed through this study, was why there was such a discrepancy between the subjects' actual abilities and the level of abilities that the parents thought they had. The parents were assuming much more than the children were actually capable of doing. Perhaps parents normally have high expectations. If parents are always expecting more, does this create a motivating force or one that shows the children that they can never quite make the grade? Are parents really observing and listening to the children or are they casually making assumptions about the emergent readers' abilities?

Further research should also be conducted to see what happens to the enthusiasm and confidence that seems to pour from the preschool emergent reader. Why are they so timid and begin to see themselves not as readers but as learners with no prior experience or knowledge? Is this backward step in confidence part of the process and necessary? The second graders did not seem able to describe what happened to change their attitude when they began school. Perhaps a first grader may be able to, but it could be that young children are not able to verbalize the change. Other methods may
need to be developed to investigate this phenomena. Another question is why the preschoolers and second graders alike were so reluctant to admit to having help in learning to read? They really want to stand on their own and accept the rewards for learning.

Final Statements
This study was an attempt to determine the connection between the environmental message reading that emergent readers do and the method involving decoding that readers in primary school do. The debate whether the first one led into the other "naturally" with no intervention is not over. This study does conclude there are strong connections and although they do not concern letter recognition, they do concern the overlaying concept of what reading is all about and the image that children have of themselves as readers. This early step in reading may as powerful as learning what the letters symbolize. The forming of a correct hypothesis for the purpose in reading and an image of oneself as a successful reader give purpose and meaning to the decoding to be learned later in the process.
References


Appendix A

Battery Of Core Questions Used In Research

When a child was presented with a message to read the researcher would attempt to secure the same information through questioning and observing. The order of these questions was random as the child would show interest in a stimulus or wish to discuss a question more in depth. The researcher would also change the wording to match the vocabulary of the child.

Preschoolers' questions
Have you ever seen this before?
Where did you see it?
Does it mean anything any to you?
Why do you think it means that?
Point or show where you gained your information from.
Is there anything else that you can gain meaning from?
Why do you know that this means___________?
Who taught you?
Can you show me where things are different on this?
If you could read this what part do you think you would read?

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Second graders' questions

The questions listed above.
Do you remember being able to read this before you came to school?
What is different with the way you read now and the way you read then?
Do you think younger children are reading?
What makes print so special that even 3 year olds can find it in their world?
Appendix B
Preschool Parental Survey

Child’s name_________________________Birthdate__________

Sex_________ Number of older siblings_____younger____

Date_________________________ Subject code__________

Directions: For each question, please circle the response that comes closest to describing your child’s behavior.

1. Does your child notice logos, cereal boxes, labels?
   - seldom
   - occasionally
   - very often

2. Does your child give any information about the above?
   - seldom
   - occasionally
   - very often

3. How many labels does your child seem to recognize?
   - less than 5
   - about 10
   - almost all

4. Does your child read the label exactly?
   - seldom
   - occasionally
   - very often

5. Does your child ask information about new labels?
   - seldom
   - occasionally
   - very often

6. Does your child refer to the print in any way?
   - seldom
   - occasionally
   - very often

7. Does your child ask about specific letters in the print?
   - seldom
   - occasionally
   - very often

8. If your child draws or writes does he indicate that some of the work in picture and some print or letters?
   - seldom
   - occasionally
   - very often

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9. Does your child point out and name letters of the alphabet when playing alone or with a peer?

seldom  occasionally  very often

10. How many alphabet letters do you think your child can recognize?

less than 5  about 10  more than 15  all

11. Has your child received formal reading instruction?

seldom  occasionally  very often

12. How often is the child read to at home per week?

less than 1/2 hr.  about 1 hr.  more than 2 hrs.

13. How would you most often respond to your child's questions about print? ____________________________

14. What labels, logos, cereal boxes, or other types of print in the environment is your child most familiar with?

15. Is there anything else about your child's awareness of print in their environment that you would like to share?

______ Thank-you for your time and help.

Please save samples of the labels, logos and signs that your child is familiar with for my use.

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Appendix C

Preschool Parental Survey Results

1. Does your child notice logos, cereal boxes, labels?
   - seldom
   - occasionally
   - very often
   20

2. Does your child give any information about the above?
   - seldom
   - occasionally
   - very often
   13

3. How many labels does your child seem to recognize?
   - less than 5
   - about 10
   - almost all
   16

4. Does your child read the label exactly?
   - seldom
   - occasionally
   - very often
   2

5. Does your child ask information about new labels?
   - seldom
   - occasionally
   - very often
   1

6. Does your child refer to the print in any way?
   - seldom
   - occasionally
   - very often
   2

7. Does your child ask about specific letters in the print?
   - seldom
   - occasionally
   - very often
   1

8. If your child draws or writes does he indicate that some of the work is print or letters?
   - seldom
   - occasionally
   - very often
   12

9. Does your child point out and name letters of the alphabet when playing alone or with a peer?
   - seldom
   - occasionally
   - very often
   0

10. How many alphabet letters do you think your child can recognize?
    - less than 5-10
    - about 10-6
    - more than 15-3
    - all-1
    pp. 62
11. Has your child received formal reading instruction?  
seldom 18  occasionally 2  very often 0  

12. How often is the child read to at home per week?  
less than 1/2 hr.-1 about 1 hr.-2 more than 2 hrs.-17  

13. How would you most often respond to your child’s  
questions about print?  “Tell him/her what it says” Only  
2 parents pointed to the print. Only 1 parent would  
give the letter name and/or sound relationship.  

14. What labels, logos, cereal boxes, or other types of  
print in the environment is your child familiar with?  

A wide variety of answers were given.  

15. Is there any thing else about your child’s awareness  
of print in their environment that you would like to  
share?  

Very few parents offered more information and it was  
not related to the research.
APPENDIX D

Children's Reproductions of Environmental Messages

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Sample 2

Burger King
Sample 4
Pepsi
Sample 5
Swiss Miss