Environmental Print in Kindergarten: How Reading One's Surroundings Influences Early Literacy Development

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Environmental Print in Kindergarten:
How Reading One's Surroundings Influences Early Literacy Development

by

Lisa Burgin

August 2009

A thesis submitted to the
Department of Education and Human Development of
The College at Brockport, State University of New York
in partial fulfillment of the requirements for the degree of
Master of Science in Education.
Environmental Print in Kindergarten:

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Chapter One: Introduction

Background to the Study

While looking out the school bus window on a field trip, one of my kindergarten students points to a bank building and announces, “That’s where my mom works!”

“This bag is from Wegmans,” another kindergartener calls out while holding up our class’s art smock storage container.

Another student exclaims, “He has a Pokemon shirt!” about a student passing in the hallway.

As these examples illustrate, young children are constantly observing, recognizing, and making connections to the print that surrounds them in various environments. In my work as a kindergarten teacher, I witness such discoveries taking place in and out of my classroom on a daily basis.

Environmental print is “the labels, signs, and other kinds of print children see around them” (Horner, 2005, p.113). Educators recognize how relating new information and skills to one’s prior knowledge greatly supports the learning process. Psychologists describe the concept of previously learned information supporting incoming new information as “positive transfer” (Snowman & Biehler, 2003, p. 327).

It is this positive transfer associated with aspects of environmental print that was the focus of this research study. Throughout the study, I drew upon my students’
knowledge of and experience with environmental print. Specifically, I explored the research question: How does environmental print impact kindergarteners' literacy development? I also explored the following sub questions:

How does environmental print impact students' oral language development, and their reading and writing abilities?

How do students of different reading levels use environmental print?

How does a school-home connection (based on environmental print) impact students' literacy development?

How does awareness of environmental print impact how students view themselves as readers?

Rationale

During my classroom observations as an education student and in the past few years as a teacher, I have witnessed how many students recognize print, symbols and logos in their environment. However, I had not yet made this significant vehicle of literacy development an instructional focus in my current classroom, nor had I witnessed it being integrated into other early childhood classrooms. I had incorporated environmental print into one dramatic play project that I created for a preschool class and was excited to see one student write "Band Aids" as he composed a doctor's note. This and other similar experiences, then, led me to include dramatic play in this study in hopes of gaining information about how children spontaneously
use environmental print.

In the subsequent chapter, I explore a large body of research that supports the use of environmental print in literacy instruction. Reutzel, Fawson, Young, Morrison, and Wilcox (2003), for example, discovered a positive relationship between interpreting environmental print and specific reading skills. And Horner (2005) discussed how using environmental print that is familiar to students in activities and lessons can increase motivation. Yet there is little information about the specific ways students interact and use environmental print with and without direct instruction, the main focus of my study.

The purpose of the study, then, was to explore how my students' spontaneously used environmental print as well as how they responded to activities I initiated. I hoped to learn more about if and how my students’ use of environmental print influenced their views of themselves as readers and writers. I was also curious to learn if and how using aspects of environmental print to build and support home school connections impacted my students’ literacy development.

**Overview of the Study**

To answer the research questions, I incorporated multiple forms of environmental print into my kindergarten classroom. I used these items and others brought in by my students to supplement a literacy unit focused on environmental print. I carried out lessons and discussions with the students so that they might learn
about each other’s experiences with and previous knowledge of environmental print. I displayed the environmental print in the classroom and placed items in the dramatic play area for students to independently interact with and use in ways they felt appropriate. In order to gain a full understanding of my students’ understanding and use of environmental print, I used both implicit and explicit environmental print activities. All lessons, discussions, and activities were based on my observations of students’ reactions and responses to the environmental print.

Throughout the study, I observed student behaviors, noted their interactions and conversations about environmental print, and held informal interviews to learn more about their understandings and perceptions. I also invited the parents of my students to participate in the unit. I began by sending home a letter (see Appendix D) about the environmental print literacy unit, in which I asked parents to send in environmental print items to our classroom. I also asked parents to complete a survey (see Appendix E) about their child’s recognition and use of environmental print at home. I sorted and categorize my observations, looking for patterns and themes that not only helped answer the study’s questions, but will also help shape my future instruction, which I anticipated will greatly benefit my students’ literacy development.
Definition of Terms

I used several specific terms throughout the study. They are defined here to ensure clarity and consistency.

-Implicit activities: Activities during which students can refer to and use environmental print, but are not directed to do so.

-Explicit activities: Activities during which students directly interact with and use various forms of environmental print.
Chapter Two: Literature Review

We are all constantly interacting with and using environmental print. It is a part of our everyday lives as we work, travel, and shop. We encounter signs in restaurants and logos in stores that offer messages and information. There is some debate, however, over whether this form of visual representation, communication, and understanding is truly reading. In this chapter, I will review both sides of this dispute. I also will look deeper into studies that find environmental print to be a form of reading to examine what kinds of environmental print, teaching approaches, and classroom activities are found to be most beneficial. Because my research study will look at students use environmental print throughout the school day, including playtime, I will also explore studies that look at the benefits of play.

Is Understanding Environmental Print Truly Reading?

Environmental print is currently at the middle of a debate in the world of literacy education (Ehri, 1987; Share & Gur, 1999; Cronin, Farrell, & Delaney, 1999; Reutzel, Fawson, Young, Morrison, & Wilcox, 2003). Several studies that question whether or not engaging with this form of print can be considered reading or even a step on the path towards reading have long circulated within the educational research community.
Critics of the Significance of Environmental Print

Several researchers have carried out studies to see to which view their findings lead them. Linnea C. Ehri (1987), for example, investigated the factors that influence how children learn to read and spell. The purpose of her study was not specifically to determine whether or not to support certain instructional practices, but rather to learn more about the skills that lead to reading. A main aspect of her study was the role of environmental print.

One hundred two three to five year olds participated in two environmental print portions of Ehri's 1987 study. All of the children were students in a California preschool. They were chosen from two hundred twenty eight children based on their ability to identify at least eight out of ten given photographs of environmental print on a pretest. Examples include a Pepsi bottle label and a McDonald’s restaurant sign.

In the first portion, Ehri took ten words from the form, but left the context clues—the arches for McDonalds and the red and blue circle for Pepsi. She also removed the logos from the words to form a different set of words that were still “stylized” but without context cues. She left the words in their original font, but took away the arches and circle. The children were asked to read each set of words. The children were also tested on their knowledge of the names of upper and lower case letters.

Ehri’s findings showed that 94 percent of the participants read few or no words in manuscript form while 6 percent read most or all of the words. Ehri used this assessment to consider the participants as readers or nonreaders. Those
considered readers named 98 percent of the letters while nonreaders named 62 percent of the letters. Results of the stylized words showed that readers could read the words with or without logos. However, the nonreaders read only 23 percent of the words without logos. Ehri explained that the findings from this portion of the study proved that the words in environmental print are typically ignored while the logos and context are used to find meaning.

In the second portion of the environmental print study, Ehri called back all one hundred two participants from the first portion. For this assessment, she kept the ten environmental print, but changed one letter in each to a different shaped letter. For example, in the Pepsi logo, she changed the P to an X to form Xepsi. The children were shown each altered label and asked to read it. When a child did not recognize a mistake, the researcher asked if he/she saw anything "wrong" with the label. Finally, she showed each participant the actual label next to the manipulated one and asked again if the two were the same and if there was something wrong. Consistent with the findings of the first portion, the nonreaders noticed only a "few" of the mistakes initially and about one third of the mistakes initially when the original labels were presented next to the manipulated ones. Ehri explained that the results of her study demonstrated that there is "little support for the view that children move closer to acquiring reading skill after they have accumulated substantial experience with environmental print" (p. 3).

The work of other educational authors and researchers support Ehri's findings
by using quotation marks around the word reading when referring to student use of environmental print. For example, in her article Developing Concept of Word: The work of emergent readers Susan E. Gately (2004) warns that teachers “should be cautious in using environmental print to promote reading” (p.17) and that other approaches, such as using symbols or word and picture puzzles, would be more beneficial and appropriate.

Supporters of the Significance of Environmental Print

Virginia Cronin, Denise Farrell and Mary Delaney (1999) cite Ehri’s research to describe the opposing findings of environmental print’s role in literacy development than they found in their research. Cronin, Farrell, and Delaney used the environmental print debate as a basis for their study by investigating what skills and knowledge lead to word reading, looking specifically at phonology versus environmental print. The researchers explained that the theory that environmental print is not reading also deems phonology knowledge as a necessary requirement to consider if a child is actually reading. Therefore, the focus of their study was to determine if phonology is essential when reading words from logos in manuscript form or is experience with the environmental print a more powerful influence.

Thirty-four, four to six year olds, all of whom were considered non-readers by the researchers based on their performance on a word reading assessment, participated in the study. The children were first asked to read a variety of
environmental print logos, drawings of such items as a stop sign and a McDonald’s and Arby’s restaurant signs. The participants were then asked to read these words in manuscript form while mixed in with control words, which had the same first letter and equal number of letters as the words from the logos. The researchers looked to see if the words correctly read while in logo form were read more easily out of context than the control words.

Cronin, Farrell, and Delaney found that the children identified more words that were also part of the logos than the control words. For example, many could read the word “stop” when it was on a red sign, but could not pick out the word when it was in manuscript form next to the word “sock”. In this study, the researchers define early reading as being able to “read isolated words by sight” (p. 271) and having “social and cultural encounters with print” (p. 272). The finding suggests that early reading and the words included in it are not based on an awareness of letters and sounds, but rather experience with environmental print. The researchers describe phonology as essential for reading skills to progress, however it is not necessary in early reading.

Other researchers, such as Reutzel, Fawson, Young, Morrison, and Wilcox (2003), have found that understanding and using environmental print is a reading skill and incorporating it into lessons and activities is beneficial to literacy development of young children. The researchers compared specific literacy skills to reading environmental print to determine if students who differed in these skills also differed
in their ability to read environmental print. This would show if more than just context and pictures play into understanding environmental print and as a result true reading skills are utilized.

The study included ninety-seven randomly selected preschool and kindergarten students in the western area of the United States. Each student was shown a variety of environmental print, such as a Cheerios logo, a stop sign, and a Kentucky Fried Chicken restaurant sign, and asked what it said. The researchers also manipulated the environmental print—changing the colors, removing the logos/pictures, changing the spelling, and altering the text format—and again asked the participants what each said. This step took the environmental print out of context. Each student was also scored on his or her skills on eleven traditional literacy assessments measured, including letter concepts, word concepts, punctuation, directionality, rhyming, letter identification, phoneme segmentation, concepts about print, and high frequency word reading.

The researchers used the outcomes of the assessments to determine if a student’s ability to read environmental print was related to a difference in the various literacy skills and knowledge. The results showed that those students with higher knowledge of concepts about print and word recognition also had the highest understanding of environmental print. These findings showed that reading environmental print involves literacy knowledge. The researchers stated “it is less useful for researchers to take up a position that environmental print doesn’t help
children to read” (p.160). They concluded that “using environmental print to teach children to read may not only help them learn to read but may form a bridge from the known to the new” (p. 160).

Just as some authors and researchers have shown their views of environmental print by referring to it as “reading”, other educational writers have shown support for the significance of environmental print in literacy development by including it in their suggestions for what parents and teachers can do to foster their young learners’ reading progress. (Enz & Searfoss, 1996). Such suggestions appear in many articles, parent magazines, and school-home literacy texts, Enz and Searfoss’s 1996 *Expanding Our Views of Family Literacy* is just one example. Their list of activities that parents can do at home includes “recognizing products while shopping”, “reading traffic signals and signs, billboards, and street signs”, using “coupons and empty food containers for playing store”, and “finding specific food items from refrigerator or pantry” (p. 577).

**Environmental Print in the Classroom**

Some researchers have gone beyond the question of whether or not interpreting environmental print is considered reading to investigate the best way to incorporate this type of literacy into reading and writing programs in the classroom. Several researchers have focused on the kinds of activities and teaching approaches that support environmental print and/or literacy development (Kuby & Aldridge,
2004), while others have looked at what types of environmental print lead to student success and progress (Horner, 2005; Orellana & Hernández, 1999).

Students' Role When Working with Environmental Print

Patricia Kuby and Jerry Aldridge (2004) found that student involvement is especially beneficial to environmental print education. They investigated whether direct instruction, indirect instruction, or no instruction of environmental print supported students' ability to read logos and progress to reading the words in manuscript form. They explained how previous research only looked at student recognition of environmental print, and the goal of their research was to go further and focus on instruction.

One hundred twenty-two kindergarten students in six different classes participated in the study, which took place from the fall of the school year to the end of April, a total of about seven months. Teachers in two classrooms utilized direct instruction of environmental print, including teacher led activities such as reading logos, writing the words from the logos, and putting the words in sentences. Teachers in two other classrooms used indirect instruction. In these classrooms, the teachers discussed environmental print items then made them a part of each class's play area for students to create their own understanding and use of. They also used the items in centers-based activities for students to choose from during independent work times. The teachers in the remaining classrooms did no include any environmental print instruction during the study.
The researchers used an environmental print assessment as a pretest and posttest for this study. In this assessment, students were asked to read actual logos, black and white photocopies of logos, black and white copies of logos without supporting details, manuscript forms of logos, typed copies of logos, and the manuscript form of logos within sentences. A variety of logos were used in this study including M&M's, Jello, Burger King, and a stop sign.

The researchers were able to answer their first research question by focusing only on the first part of the assessment, identifying actual logos. Results showed little difference between the scores of students who received direction instruction and those who received no instruction. Their posttest average scores were 34.49 and 33.07 respectively. Meanwhile, the group that received indirect instruction scored an average of 46.21. The results of this part of the assessment indicate that indirect instruction more effectively led to student recognition of environmental print.

The researchers' second question was which type of instruction best supports the transition from reading environmental print to its manuscript form. For this, they looked at the rest of the assessment in which students were asked to identify logos in various forms. Results showed that the direct instruction and no instruction groups' scores were not significantly different from each other. However, the indirect instruction group's scores were significantly higher than the others in the tests that focused on photocopies with no supporting detail, manuscript forms of the logos, typed forms of the logos, and manuscript forms of the logos in sentences. Once again,
indirect instruction proved to lead to better understanding and recognition of environmental print.

Kuby and Aldridge (2004) explained that, based on this research, students benefit from teachers' incorporation of indirect, student based centers activities when working with environmental print. By doing so, teachers not only recognize but also work with the understanding of environmental print that children bring with them into the classroom.

**Best Types of Environmental Print for Learning**

While many studies focus on the kinds of activities that best support environmental print education, others look at the environmental print itself (Horner, 2005; Orellana & Hernández, 1999). Researchers have explored the different kinds of environmental print to determine if educators can use anything they find or if there are certain guidelines that should be followed in order to best support student learning.

Sherri L. Horner (2005) examined a variety of kinds of environmental print in order to determine if a certain kind was more familiar to young children. Sixty-one children, three to five years of age, participated in this study. Each child attended a preschool, a kindergarten, or one of two mixed preschool/kindergarten classes. All of the students were assessed individually on their ability to recognize 20 different logos. The logos were sorted into categories based on how children would typically
experience them in their lives: community, household, and child. Examples of logos in the community category were McDonald's, a STOP sign, and Target. The household category had Crest, Doritos, and Cheerios, and the child category included Barbie, Mickey Mouse, and Lego.

Horner first examined the results of the assessment looking for which category was better known by all of the children. It was clear that more logos from the child category were recognized than from the household and community categories, 100 percent versus 14 percent and 29 percent respectively. Horner then determined if the result was true for all three age groups and both genders. The pattern was the same for the four year olds, five year olds, as well as for both girls and boys. The results of the three-year-old group did show the same pattern, but the differences between the categories were not statistically significant.

Horner used her research to advise teachers to be aware of the kinds of environmental print they use in their classrooms. Using logos that students are already familiar with will help students to connect new understandings and information with what they know as well as increase their motivation. Also, students working with logos they see around them on backpacks, t-shirts, and other items could help support class discussions and conversations about environmental print. Horner went further to warn teachers about possible negative influences that come with certain kinds of environmental print. She explained that by using environmental print in the classroom, teachers show approval for those items. For example, teachers
may not want to include fast food logos because of its questionable nutrition value or use certain toy logos due to parental dislike. Overall, Horner’s findings show the importance of teachers not just focusing on how to use environmental print in lessons and activities, but the value of really thinking about what logos will increase students’ interest and success.

Marjorie Faulstich Orellana and Arcelia Hernández (1999) wanted to help teachers in urban settings choose environmental print for their classroom that would best support their students’ learning. To do so, they joined two groups of first grade students on their walks home from school. There were four students in the first group and 15 students in the second. All of the students lived within 10 blocks from the school and all were native Spanish speakers. On the walks, the researchers pointed out different kinds of environmental print, including store and street signs, and asked the students questions such as who they thought wrote it, what it said, why it is there, and what the author was trying to say.

In the first group, the students were disinterested and did not want to answer the questions until they came to the street where many of the students lived. The students then pointed out and read the street signs. The students also stopped at a video store to read and discuss the movie posters in the windows. The students also were excited to read and discuss the different forms of graffiti they saw. They talked about who wrote it and what it meant. The 15 students who went on the second walk were from the same classroom. This time, the researchers did not ask the students
questions about specific print, but rather discussed what they saw around them. They pointed out and read signs that they related to, including a place where a parent worked, a preschool a student attended, and a store they visit. In the store, the students talked about different items and products that their families used. At the end of the walks, the students wrote about what happened. Most made connections between what they saw and their personal lives. For example, one student wrote about how she worked with her family at one of the stores they saw on their walk.

This study showed the teachers that students have to connect with the environmental print utilized in their classroom activities and lessons. If the students did not relate to what they saw on their walk, they had very little to say about it. However, when they associated with a sign, poster, or even graffiti, the students were excited to point it out and talk about it. Clearly, not all students will connect with exactly the same items or print, but the researchers explained that teachers must find and use what will appeal to their students. According to Orellana and Hernández (1999), “by linking the reading of words to the reading of worlds that children know best, we can spark their enthusiasm for literacy learning in school” (p. 619).

These studies discussed in this section demonstrate the best ways to teach literacy and specifically how to incorporate environmental print into literacy instruction. Based on their findings, it is clear that students must connect with the environmental print in order for it to support learning.
Supporting Literacy Development in the Classroom

Many researchers focus on incorporating environmental print into literacy instruction (Kuby & Aldridge, 2004; Horner, 2005; Orellana & Hernández, 1999). Others have looked at what general teaching techniques and approaches best support literacy development (Rule, Dockstader, & Stewart, 2006; Miller, 2001).

Teaching Practices that Support Literacy Development

In their 2006 study, Audrey Rule, Jolene Dockstader, and Roger Stewart wanted to determine if specific kinds of activities met the needs of a variety of students when teaching literacy skills. Thirty-four first through third grade students at the same school participated in the study. All of the students were ranked as struggling readers by their performance on state standardized literacy exams. Each student was placed in one of two before school programs created by the researchers or in the school’s literacy pull out program for extra literacy support. The pull out program served as a control group. All students took a standardized pretest that included rhyming, substitution, segmentation, isolation, deletion, blending, graphemes, and decoding subtests. The researchers also used this test as the study’s posttest.

The same teacher taught both before school programs which met for 45 minutes three times a week for eight weeks. One program was verbally/kinesthetically based and included activities such as songs, bingo games, pantomime, and games that involved large motor movements. The other program
focused on tactile activities including object boxes, object sorts, environmental print items, moveable alphabets, and letter/word cards. The control group’s pullout program was already in place at the school and its teachers used methods such as reading from basal texts and completing worksheets. The students met individually or in pairs for 13-15 minutes each day. Each of the three groups had a total of 18 hours of their assigned type of literacy support. At the end of the study, each student was assessed by the researchers using the posttest.

The researcher compared each group’s pretests, posttests, and gains. The average score of all three groups increased. However, the students in the groups based on kinesthetic activities and tactile activities increased their scores significantly more than the control group, 18.9 and 18.0 points respectively versus 8.2 points. Furthermore, both experimental groups began the study with lower average scores on the pretest than the control group, 86.4 and 88.2 compared to 100.1. Both groups ended with average scores almost the same as the control group. The results of this study showed that kinesthetic and tactile activities greatly support literacy education. More generally, it demonstrates the significance of how one teaches rather than what one teaches.

The focus on the how of teaching is widespread (Miller, 2001; Kuby and Aldridge, 2004). Linda Miller (2001) discussed how comparing methods used to teach literacy changed educational policies in England. In her article, she described two of the 11 early childhood programs she visited between 1997 and 1999. Her goal
was to experience different interpretations of and approaches to teaching the country's literacy goals.

The two programs Miller described are quite different although based on the same national curriculum. One involved direct teacher instruction, workbook activities, games, and independent reading. Everything was teacher led, except for the playtime, in which the teachers are not involved. The other program was more student centered. The activities were based on the students' recent field trip to see an airplane. Students made passports and tickets, word walls and posters supported independent writing, and one teacher led discussions about airplane related vocabulary while a different teacher played a suitcase and travel item sort game. Miller explained how the two programs showed the impact of the educators' views of students in how they teach. In the second program, teachers clearly saw education as student centered.

Miller explained that her research helped change England's early childhood learning goals to be more focused on students. According to Miller, this new curriculum had "a view of children as powerful and active literacy learners" (p. 114). The fact that an entire country's education guidelines changed to call for more student involvement was powerful support for this approach to teaching.

Educational Benefits of Play

The researchers of several studies discussed earlier mentioned play as one
way that students can interact with environmental print (Enz & Searfoss, 1996; Kuby & Aldridge, 2004; Miller, 2001). Several researchers on play as a part of the school day, examined its connections with learning, and looked at what play means and how it supports education. (Tekin & Tekin, 2007; Morrow & Rand, 1991).

Gokce Tekin and Ali Kermal Tekin (2007) wanted to focus on educators’ interpretation of play based on what the teachers see in their classrooms as well as perceptions of their own childhood experiences. The researchers conducted the study in Turkey with six early childhood educators who ranged in ages from 23 to 29. The researchers did not have direct contact with the participants, but rather interviewed them over the phone. The interviews lasted 30 to 50 minutes and included open-ended questions such as, “What did play mean to you when you were a child?”, “What kind of experiences can you tell about regarding play in your childhood?”, and “What kind of feelings can you explain related to your childhood play experiences?” (p. 208).

The researchers analyzed and sorted the teachers’ statements about play into categories and then compared the categories and determined patterns and clusters. The results showed that all of the teachers described play in a positive and exciting manner. For example, one teacher explained how “play provided me with the opportunity to enter a new world...I forgot about the external world...Play was also a way of making new friends” (p. 210). All of the teachers connected learning with play and how it “taught them new things and sometimes prepared them for their future
lives” (p. 212). One teacher described how “play helped her get a better understanding about the world of adults” (p. 212). The findings led the researchers to conclude that although every child has his or her own interests and ways to play, positive experiences and learning are important universal outcomes of play.

Lesley Mandel Morrow and Muriel K. Rand (1991) centered their study on the connection between literacy and play. Their goal was to determine what early childhood teachers can do to encourage the areas literacy and play in their classrooms. Specifically, they focused on whether or not changes in environment and teacher behaviors led to unprompted interactions with literacy. The participants in this study were 170 students from 13 different preschool and kindergarten classrooms. Each classroom was randomly assigned to one of four groups: “paper, pencil, and books with adult guidance”, in which teachers included literacy materials in the play areas and reminded the students of them and their uses before every playtime; “thematic materials with adult guidance”, in which the dramatic play area was based on a veterinarian office and teachers reminded students of the literacy materials present and their uses during each playtime; “thematic materials without adult guidance”, same as other thematic group but teachers mentioned literacy materials and did not support student use during play time; and “traditional curriculum control group”, in which no changes were made to play area and teachers did not suggest any literacy related activities before or during play. Researchers observed the students’ behaviors for three weeks before any changes were made and then for three weeks
after the changes were implemented according to their classrooms' assigned type of literacy and play environment.

Results of the observations showed that students in the groups that not only included literacy materials but also teacher guidance with the materials during play voluntarily participated in significantly more literacy related behaviors. The students in the pencil and paper group were involved in more writing activities than the other groups, while the students in the thematic group engaged in more reading activities than the other groups. The researchers used the results to suggest that educators incorporate literacy materials into play areas as a way to promote literacy behaviors that are valuable to students' play. The researchers also expressed the significance of teacher behaviors and explained how introducing materials, modeling their use, and being involved in student play were essential in order to make the play area truly support and promote literacy development.

The two studies shared above show how significant play can be in the learning process and how authentic play activities can incorporate literacy skills.

**Summary**

Despite the controversy, environmental print can play a significant role in young children's literacy development, a role that should not be ignored. Previous research has provided information describing the variety of environmental print as well as the different activities that support its use in literacy instruction. However,
there is less information on specifically how students use environmental print in their learning and how this engagement impacts their early literacy development. I anticipate that my study will fill this void and offer insights into how a student’s reading level impacts how he or she uses and interacts with environmental print. In my review of literature, I have not found a study that looked at how students’ awareness of environmental print impacted how they view themselves as readers and writers or if home-school environmental print connections impact their literacy development. I hope to find more information on these topics in my research.

Cronin, Farrell, and Delaney (1999) believe that how young children use, interpret, and interact with environmental print impacts their literacy development. The researchers state that “many investigators state that these early behaviors constitute the first stage of reading and believe that development in this stage may have importance for the later stages. Some educators advocate that teachers take advantage of this early learning” (p. 272). My study served as a way to do just that for my students and enabled me to gain insights that will support other early childhood teachers to do the same.
Chapter Three: Methods and Procedures

Introduction

Cereal boxes, restaurant signs, toy logos, and road signs are types of environmental print that is all around us. We interact with these various forms of print in a variety of ways while we shop, travel, eat, and interact with our environments. However, young children may not realize that what they are doing is reading. By working with and utilizing environmental print with my students, I hoped to see if and how it impacted their literacy development and oral language as well as how they saw themselves as readers. I also wanted to help students connect reading to their world outside of the classroom and to learn how this influenced what they and I did within the school day.

Research Questions

How does environmental print impact kindergarteners’ literacy development?

• How does environmental print impact students’ oral language development, and their reading and writing abilities?

• How do students of different reading levels use environmental print?

• How does a school-home connection (based on environmental print) impact students’ literacy development?

• How does the awareness of environmental print impact how students view themselves as readers?
Participants and Context

Students

There were 23 students in my kindergarten class. They were all between five and six years old. Ten girls and nine boys are Caucasian, one male student is African American, one female student is Asian/Caucasian, one male student is Hispanic/Caucasian, and one female student is African American/Hispanic. Thirteen of my students qualified for free or reduced lunch. Two girls received speech therapy, and five students, four girls and one boy, received reading Academic Intervention Services (AIS) from one of our school’s reading specialist. My most recent reading assessment using the Developmental Reading Assessment 2 (DRA2) indicated the reading levels in my class ranged from a non-reader to one student independently reading books at DRA2 Level 8.

Our Classroom

The kindergarten classrooms in this school are quite large. In my room, students sat at four large rectangle tables, located in the center of the room. The far left corner of the room was designated for group lessons for which students sit on a large carpet. Around the edge of the room, there were areas in which small groups of students worked at various times throughout the day. There was a circular table where my reading specialist worked with small groups, and a kidney shaped table where I pulled students for guided reading lessons. There was a reading corner with beanbags.
and book bags for each student as well as a classroom library. On the other side of the room was our dramatic play kitchen that doubled as our story listening location during literacy centers. Nearby, there was our phonics listening area at which students listened to directions and complete work about our letter of the week. There were four computers in my classroom that students used different programs during literacy centers and math stations and games during inside playtime.

**Daily Routine**

Our day began with a social studies or science lesson and activity. The topic depended on the season, upcoming holidays or special events. Our whole group meeting and calendar time followed the opening activity. The 90 minute reading block took place at 10:00-11:30 during the year of the study. I typically began this time with a whole group lesson or activity that was based either on the book, skill, or letter of the week. Then the students were divided into groups, based on reading strengths and needs, and moved around the room to different activities according to our centers’ schedule. I assigned students five centers to complete each day: one or two bigger projects/activities, reading, reading/writing around the room, computers, listening to a story, phonics listening, and a variety of literacy games.

Based on my experiences and personal preferences, my students were quite independent during this time. They read and followed the schedule and moved to each activity on their own. My reading specialist and I pulled small groups of
students for guided reading or extra support during this time. A classroom aide came to my room during this time to help students as necessary. At the end of centers, I regrouped the class at the rug for a small literacy lesson/activity before I took the class to the cafeteria for lunch.

After lunch, students went to one four specials: physical education, music, art, or library. Once back in the classroom, playtime and rest were followed by snack time. Three days of the week, whole group math lessons and math stations (similar to literacy centers) happened next. On the other two days, a whole group literacy, writing, or special event lesson and activity took place. Our day ended with show and tell. Four or five students shared each day and their peers are invited to guess their object. Students who were sharing often gave their classmates the beginning letter of their object as a hint.

Our School

The school system had a student population of more than 4,000 and was physically divided by grade level, with separate elementary school buildings for pre-kindergarten-first grade, second and third grades, and fourth and fifth grades. My study took place in my kindergarten classroom in the pre-kindergarten-first grade building. At this school, there were six sessions of half-day pre-kindergarten, eleven full-day kindergarten classes, and twelve first grade classes. This school also employed four full time reading specialists who work with students using a push-
in/pull out model. In 2006, a national reading program, which includes 90 minute reading blocks, frequent meetings and discussions with reading coaches, progress monitoring using DIBELS, and a set schedule of weekly books, skills, and letters, was incorporated into the school's literacy education format.

Community

The school is located in a village in western New York. As stated in the 2000 Census Data, the village was home to about 10,000 residents, (92 percent Caucasian, 4 percent African American, and 3 percent Hispanic) with a median income of about $37,000 (www.epodunk.com).

Role of Teacher/Researcher

During this study, my role as the teacher/researcher was observer as well as participant. I taught both explicit and implicit lessons and held casual conversations (as they arose) with students all centering around environmental print. My students and I also incorporated environmental print into our classroom by bringing in items from home and creating displays, some which were interactive, with the items. Throughout and between the activities, I closely monitored students' reactions to and use of environmental print and how/if they utilize it in their schoolwork and in their oral language.

Ideally, I would have examined the work and behaviors of my entire class in depth, making all of the students my focus group. However, when drawing on direct
quotes and student work, I concentrated on those students for whom I received informed consent from as well as consent from their parents. I hoped that this group would include a range of reading and writing levels as well as student interests and personalities. Since I asked for permission from all of my students and their parents, those students who became my focus group were not be aware of it. There were 18 students who both consented to the study and had parental consent. These students became the focus group of this study.

I was not only the researcher in this study, but I was also the classroom teacher of the participants. I was very close with my students. It was not uncommon for students to call me "mom," which demonstrated to me a high comfort level with me and in my classroom. Also, many students included me in their games and storylines during playtime, which I always enjoyed. After seven months of being together, I had knowledge about each student that a researcher unfamiliar with the class would have. I also had a positive relationship with my students as well as their parents.

As a classroom teacher completing my master’s in literacy, I had experiences that relate to this study. Classes, research, and interactions with students and teachers increased my knowledge of literacy and how children learn. I understood different ways and approaches to teaching literacy and utilize them in my classroom every day. In many undergraduate and graduate level education classes, I studied what environmental print is and the ways to use it with students. While working with
different teachers and visiting a variety of classrooms, I saw the different ways that environmental print has been incorporated into literacy lessons and activities, as well as into the classroom itself. Throughout my studies, more focus was placed on what environmental print is than on the specific influences environmental print has on literacy development. Furthermore, I had yet to integrate environmental print into my classroom and literacy lessons and activities as was done in this study.

**Participant Consent and Confidentiality**

I asked for parents' permission through a letter (see Appendix A), which I sent home in each student's daily school folder. In the letter, I described the study, my reason for conducting a study, and the educational benefits that might result from study. I explained that ALL students in my class would take part in the lessons and projects on environmental print and would be invited to carry out any home-school connection activities. I asked parents for permission to include their child's work and conversations concerning the study in my thesis paper. I also asked for their permission to complete the parent survey. I made it clear in the letter that their child's and their own participation in the study was not mandatory and their decision would not impact their child's academic scores or evaluations.

I asked individual students to give their own personal permission to be a part of the study as well. In their letter (see Appendix B), I explained how I wanted to include some of their schoolwork and things they say about an upcoming project.
about reading things outside of school in a paper I was writing. They could agree or disagree to let me do so and no matter what their choice is, I would not feel differently about them. In the letter, I also explained that no matter what they chose, they would be included in the activities and discussions our class had about the project. I read the letter to each student and asked him/her to write his/her name if he/she wanted to have his/her work used in the study.

I ensured all participants’ confidentiality in this study through the use of pseudonyms. Throughout the study, I kept all artifacts and materials related to the study in a secure location. I was the only person who has access to the data. At the conclusion of the study, I destroyed all paperwork that includes names and/or any personal information.

Data Collection

Observations, student work, discussions, parent surveys, and informal interviews served as data for this study. I hoped to gain additional information from parents as well.

Observations

I observed students during lessons and activities that related to environmental print as well as if/when they used it unprompted throughout the school day and recorded my findings on an observational note form (see Appendix C). During the
observations I looked at how different students (of varying reading levels) interacted with the print, how they used it, what they used it for and if and how they connected the objects to previous learned reading skills and abilities.

**Student Work**

I collected all of the students’ work and then analyzed the work of those who had, along with their parents, given consent. The majority of student work was the products from environmental print activities and lessons, including writing and projects. Some activities were explicitly connected to environmental print, working with it in games and lessons. Other activities were implicitly connected to environmental print, in which their answers could have involved environmental print, but I did not ask the students to make the connection. Student work also included any physical indication that students used or referred to the environmental print found throughout the classroom. This included writing during centers, writing or projects during playtime, or inspiration for drawings or play topics during playtime.

**Discussions**

Throughout this study, I held explicit discussions with all of the students about environmental print: what it is, how it is used, and how it relates to what they know about literacy. I took notes on our whiteboard during these talks. Not only were the notes there for the students to refer to later, but they also enabled me to look back
to understand where the students were progressing in their thinking and helped me
determine what my next steps or goals for the study would be.

Parent Surveys

Along with the consent letter, I also sent the students’ parents a short initial
survey (see Appendix D) about how they observed their children using and
interacting with environmental print. Questions on the survey asked parents to
describe the environmental print as well as their children’s interaction with it. The
survey included several examples of environmental print as well as possible
interactions a child might have had (reading, writing, recognizing, speaking) to help
parents focus their responses. At the end of the environmental print unit, I sent the
survey to parents again to learn about any changes in the children’s awareness and
use of environmental print and/or their literacy skills they have observed at home.

Informal Interviews with Students

Throughout the unit, I conducted informal interviews with my students (see
Appendix E). Doing so helped me answer the question related to their awareness of
environmental print as well as how they viewed themselves as readers and writers.
The interviews took place spontaneously throughout the study during lessons,
activities, discussions, and when I saw students utilizing the environmental print.
Data Analysis

The data analysis took place constantly throughout the study in order for me to determine the next actions to take with my students. I looked for patterns in the initial data and then used a method of constant comparison to develop categories and themes from the data compiled over the course of the study. I observed how use of the environmental print influences students' behaviors and impacts their reading and writing abilities.

Procedures

This study was based on my students because most of what I did as teacher researcher depended on my students' reactions to and use of the environmental print in the classroom. The first few days of the study provide time for me to introduce the concept and see how the students responded. I began with a lesson in which I explicitly explained the concept of environmental print. I used pictures (of street signs, restaurant logos) as well as actual objects (food containers, toy boxes) as examples throughout the lesson. I discussed with the class how people interact with and use environmental print every day and it is a kind of reading. In order to learn more about how learning about environmental print impacts students' self recognition as a reader, I took special note of the students' reactions to this discussion. We talked about examples they see at home and outside of school.

That same day, I explained the first project that involves each student bringing
in an item with environmental print into school. I sent a letter (see Appendix F) home to the parents about the project and I expected that items would return to school throughout the first week. Each day, students discussed the objects. During the initial lesson as well as the times when the objects were examined, I took notes about the students’ reactions to different environmental print. I focused on how students read, recognize and talk about the environmental print.

I sent home the parent survey the next day after parents have read about the environmental print unit. This helped me learn more about if/how my students use environmental print outside of the classroom and if the same is reflected in what they do at school. This survey also served as a way for me to see how student behavior changes towards environmental print at home at the end of the study.

For approximately the first week of the study, I observed how the students interact with the environmental print. All objects were displayed around the room. Each day, through explicit directions, I introduced a new form or forms of environmental print. I observed how the students discussed and/or used the new print throughout the school day, especially during literacy centers and playtime. I also included several activities (most likely writing activities) during the first week that related to the different environmental print items. I did not directly ask the students to use the environmental print in their writing; rather I looked to see if and how they used it without direct prompts or encouragement.

What I did for the rest of the study depended on the observations that I made
not only during the first week, but also what I saw and heard from my students throughout the environmental print unit. In addition to the observations, I held informal interviews with students about their understanding and use of environmental print as opportunities arose. I continued to carry out activities that were not directly related to the environmental print such as opened ended writing times, to see if and how students used it in their work. In addition to those activities, I incorporated explicit lessons and activities that directly related to and explicitly explained aspects of environmental print. See Appendix G for a list of the implicit and Appendix H for a list of explicit activities.

**Time Line and Schedule**

**Day 1**
- Introduced concept of environmental print
- Sent home initial parent survey

**Day 2**
- Introduced various photographs of my environmental print items from local area

**Day 3**
- Sorted environmental prints from Day 2: toys, places, food
- Sort and environmental print items were put on display in classroom

**Day 4**
- Introduced and discussed students' environmental print items, added them to display

**Day 5**
- Introduced of student environmental print items, added them to display
Day 6
Question of the day: Do you like to go to Wegmans?
Introduced and discussed student environmental print items, added them to display
Read book *Grocery Store* by Ann Morgan (2005), discussed environmental print in book

Day 7
Question of the day: Do you like to eat Cheerios?
Environmental print “Silly Stories” activity

Day 8
Question of the day: Do you like to play with Pokemon?
Musical environmental print “Go Around”

Day 9
Question of the day: Do you like Scooby Doo?
Environmental print journals: Classroom Scavenger Hunt
Journals sent home

Day 10
Free write
Introduced and discussed of student environmental prints

Weeks 3 and 4
Observed students' unprompted uses of and interactions with environmental print
Free writes

Week 5
Introduced and discussed students' environmental print items
“Missing Letters” activity
Free writes
1:1 Manuscript/logo match activity
1:1 Informal interviews w/ students
Criteria for Validity

In order to attain validity, I triangulated a variety of data sources including parent surveys, informal interviews with students, observations, notes from group discussions and student work. Each data source enabled me to investigate and answer each research question. During the six-week study, I used prolonged engagement and persistent observation. The observations took place daily and throughout the length of the entire school day. Throughout the thesis I describe my research process clearly and in detail to increase the study’s dependability. One goal of this study was to gain practical insight that can be utilized by other teachers of young children. Based on the findings of this study, I believe that the information it provides will be useful to other educators who wish to learn about how environmental print impact student learning or who want to incorporate environmental print into their teaching.

Limitations

There are several limitations to this study. Perhaps most significant is the fact that the study’s findings are based on 18 kindergarten students from western New
York. Other demographics of the participants—race, class, gender—also limited the findings and the transferability of the findings. The study was six weeks in length, another factor that impacted the overall scope, direction and content of the study.
Chapter 4: Findings

In this chapter, I focus on the specific outcomes of my study. I discuss various characteristics of the students in the focus group and how I grouped them in order to compare the results of the activities and lessons that took place during the study. Included in this chapter is an analysis of the findings in which I examine results, looking at differences between student work, uses of environmental print, and student growth over the time of the study.

Participants

I invited all 23 students in my class to be a part of this study. Each wanted to be "in my paper" and signed a consent form. However, only 18 students (ten boys and eight girls) were given parental consent for their input during class discussions, activities, lessons, and work to be part of the study's data. The same 18 students' parents consented to be a part of the study themselves and were sent a parent survey during the first week of observations. All names included in the thesis are pseudonyms.

Although 18 students had consent to be a part of this study, not every activity and source of information is included for all of students. I did not postpone activities if a student was absent from school. Also, the students started one activity, the environmental print journals, at school then took them home to finish. All 18 students
were part of the classroom activity and their comments and behaviors during the activity are part of the study’s findings. However, only 14 of the 18 journals were returned and are a part of the environmental print journal findings. Likewise, all 18 students’ parents consented to be a part of the study themselves and were therefore sent a parent survey at the beginning and then end of the study. Unfortunately, only four initial parent surveys and five post parent surveys were completed and returned.

**Research Questions**

Throughout this study, I focused on one main question: How does environmental print impact kindergarteners’ literacy development? and several sub-questions:

- How does environmental print impact students’ oral language development, and their reading and writing abilities?
- How do students of different reading levels use environmental print?
- How does a school-home connection (based on environmental print) impact students’ literacy development?
- How does the awareness of environmental print impact how students view themselves as readers?

**Home School Connection**

The findings from each lesson, activity, and discussion carried out during the
six weeks of this study gave me insight into answering the first research sub question:

*How does a school-home connection (based on environmental print) impact students' literacy development?*

**Bringing Examples of Environmental Print from Home**

In the first two days of the study, I introduced the concept of environmental print. Throughout both days, I showed the class photographs of examples of print that I had taken throughout the town of signs and logos of items I thought they would recognize. We discussed the images during whole group times and I hung them up to create our class environmental print wall. On the first day, each student's family received information about our environmental print unit. In it, I shared the definition of environmental print and asked for each family to send in a piece of environmental print to share with the class and add to our display.

Eleven of the students brought in examples of environmental print within the first two weeks. I introduced each item during whole group times and invited the student who brought the print in to tell us more about it. Most students were excited to share and many of the comments they made showed that the concept of environmental print was talked about at home. Angela, for example, brought in a toy with the *American Idol* logo on it and said, “My dad and I looked all over the house for something that I just know!” Nathan, who brought in a *Fruit Roll Ups* box, said, “My mom took boxes from the cupboard and I picked this one because I always love
them!” Stacy described how she forgot what environmental print was when she went home, but her mom helped. “She brought in the groceries and I got excited because I saw the M&M’s bag. She said to take it in to school because I knew it!” These windows into-the-conversations the students had with their families about environmental print convey how many students' families connected environmental print to the students' home lives.

First Parent Survey

Parents were given the opportunity to focus in on their child's understanding and use of environmental print at home through the initial and ending parent surveys (see Appendix D). Along with the information about environmental print at the beginning of the study, parents also received an initial parent survey. In it, I asked for information about what they see outside of school concerning their child's awareness, use, and discussions of environmental print. On the survey, I asked parents if their child “read”, “quickly recognized”, and/or “talked about” environmental print on food containers, toy or restaurant logos, and other symbols. I also asked parents to give examples of the environmental print their child interacted with outside of school.

Out of the 18 surveys sent home, four completed surveys were returned (22 percent return). All four families describe their children as “reading” and “quickly recognizing” each category of environmental print. Christopher's family described how he “instantly got excited” about seeing a box of Keebler Gripz cookies “because
he likes them!” and Stacy's mom noted how she “quickly recognized” the appropriate bathroom sign “because of the dress on the woman”. Two of the four also include how their children “talked about” the environmental print. Angela's parent described how she “talked about the Cheetos and Ovaltine she saw while we shopped” and Christopher's family wrote about how he saw a “local deli sign” and “talked about them serving hot food. He talked about the bakery items too and said yum!”.

This study took place toward the end of the school year. Therefore, by the time I sent the surveys home, I knew the students and their families pretty well. The lists of environmental print that were recognized by the students outside of school clearly matched each student's likes and interests. Stacy's list included Peter Pan Peanut Butter and Wegmans Rice Cakes, two items she frequently brought to school for lunch or snack, while Nathan's favorite baseball team's symbol, the NY for New York Yankees, was on his list.

This survey information indicated that the environmental print that stood out to parents as important to their children are the logos and symbols they not only interact with often, but are also of great interest for that particular child. In general, the initial parent surveys, showed how parents were aware of the significance of environmental print to their children and how they could support their children's use of and interactions with it outside of school.
**Environmental Print Journals**

Another activity that I used that had the goal of creating a home-school connection and another opportunity for parents to support their child's understanding and use of environmental print was the environmental journal. This activity is similar to "Seeing the World: Alphabet Search" in which students go on a walk or field trip to find examples of environmental print according to specific letters of the alphabet. The activity is from the book *Everyday literacy: Environmental print activities for children 3 to 8* (Mueller, 2005, p. 220).

On day nine, after a whole group lesson in which I introduced the environmental print journal and its purpose, students used the classroom's environmental print wall to complete their journals. The journals had a page for each letter of the alphabet. Students had approximately 30 minutes to find environmental print that began with each letter and write it on that letter's page. See Appendix I for an example of the environmental print journal cover. The journal included examples of environmental print to help both students and families add to it.

Each student was successful in correctly determining the first letters of the logos and signs that we had been working with for the nine days of the unit so far and writing them on the corresponding pages. At the end of the activity, I asked the students to take their journals home and add to them using the environmental print they find outside of school. I asked that they return their journals to school to share with the class and so I could look them over.

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Based on the contents of the 14 returned journals, the results of the home school connection of this project were mixed. All of the journals came back to school with additional words on their pages. Half of the journals' new additions were examples of environmental print. These included the Tositos and Cheezits added in Gwen's journal, the Cheer in Collin's C page, the Ford and Oscar Mayer in Rena's journal, and the Kellogg's that Lara wrote in her journal. Angela, Stacy, and Nathan, the students whose comments in earlier activities showed strong home support, also returned journals with many additions of environmental print.

These students demonstrated a clear understanding of what was in their environmental journals when I asked them to share with the class. They not only were able to identify what each example was, but also explained where they saw it. A few students told of conversations they had with their family about putting it in their journals. Nathan said that his family went shopping and he saw “lots of environmental print” there and his mom helped him remember what they were so he could add them to his journal when they went home. Stacy explained that “at Walmart, my mom asked if I saw any environmental print on the shelf and I did! I saw Bakugan and NASCAR!” The fact that these journals were not only added to, but they included examples of environmental print that each student could share with the class showed that parental support of the home school connection continued on this activity.

The other seven journals also had words added to them outside of school, but
the additions were not examples of environmental print, despite the fact that each student showed a clear understanding of the activity and completed much of the journal independently at school. Several included the names of family members, such as Malcolm's "Uncle Tony" and David's brother "Matthew". Other non environmental print words were kindergarten high frequency words or words from our class's alphabet book, including Rachel's "cat" and "dog", Malcolm's "apple", "kite", "yo-yo" and "zipper", and Christopher's "fish" and "quilt". The addition of non environmental print words indicates that perhaps the concept of environmental print was not yet fully understood by the students in order for them to continue the activity outside of school and/or not enough home support was given. Home support can have great influence on student work and understanding. This was clearly the case with Malcolm's journal, which had the most additions that were not environmental print. The journal came back to school with a note from home. In it, his mom explained her confusion of the activity and how she told her son to "just write all of the words he knows". Her misunderstanding led her son to also be unsure of the environmental print focus of the journal activity.

When reviewing the students' environmental print journals, I found patterns that connected this work to the students' reading levels. This information provided insight that helped to answer my question concerning the interaction between reading level and working with environmental print. Therefore, I will discuss these findings later when I focus on that specific research question.
Second Parent Survey

The impact of a supportive home school connection was also shown in the information provided by parents in the second parent survey, which I sent home during the last week of the study (see Appendix D). In this survey, I asked parents if they saw a change in their child's interactions with environmental print since the beginning of the unit. Six of the 18 surveys sent home were completed and returned (a 33 percent return), four of which were from parents who had also completed the initial survey. Based on observations of and comments made by students in previous activities, specifically the ones explained above, three of these six students had strong support outside of school: Stacy, Nathan, and Angela. When comparing this to what was stated in the second surveys from their parents, a positive correlation appears between home support and changes in students' understanding and use of environmental print.

Stacy, Nathan, Angela, and Malcolm's parents stated that their child's awareness of environmental print had changed since the unit began. Stacy's parents wrote that "she is reading everything! We ride down the street and she reads store signs" and Nathan's parents described that he "now knows what environmental print is". Stacy, Nathan, and Angela's parents also described how their child's discussions about environmental print had changed as well. Angela's parents, for example, stated that her discussions were "new and better". Malcolm's parents described that his awareness of environmental print had increased, but his parents explained that he
“only points out signs and logos he recognizes” because “he is six years old and doesn't really discuss it.” Christopher's and Jerrod's parents indicated that they had not seen a change in their child's use of or interactions with environmental print outside of school.

**Summary of Results Relating to Home School Connection**

A connection between home and school, and support with growth in environmental print awareness and understanding appears in these examples of student work and parent input. Also, several other factors play a role in what was observed in and out of school, including the student's interest in environmental print, his or her access to varied environmental print, and the parents' availability to the student. Nonetheless, the correlation is present and the impact of parent support is clear for those students whose parents returned the surveys.

**Self Views as Readers**

As just described, my study found that students interact with environmental print outside of school in many different ways. In this study, I wanted to examine how this new understanding of and interaction with the world around them impacted how the students viewed themselves in my study's second sub question: *How does the awareness of environmental print impact how students view themselves as readers?*
Impact of Self Views

Children's self confidence and their views of self play a large role in their education. Throughout my three years as a classroom teacher, I have witnessed firsthand how students' feelings about themselves can impact their learning. Strong self confidence and positive views of self can lead to students being comfortable to try, take risks, and share what they know, all leading to progress in skills and understanding. However, when students are unsure of themselves or have a defeated self view, it is much more difficult for them to take changes and open themselves to learning. In this study, I hoped to explore if and how working with environmental print would influence my students' views of themselves as readers. I learned about their thoughts in two ways: asking their parents what was expressed outside of school and by asking students directly.

Informal Student Interviews

After working with environmental print for four weeks, I conducted an environmental print activity one on one with students. During that time, I asked each student if he/she thought he/she was a good reader and why. I also asked each student how he/she felt about knowing the examples of environmental print we worked with and what it meant to him/her to recognize the examples. I interviewed ten students. Seven of the students described themselves as “good readers” and their reasons for
that claim varied. Gwen and Nathan recently started reading chapter books in school and outside of school and both connected this step to meaning that they are good readers. Jimmy and Jerrod both said that are good readers because they “practice.” Lara said that she was a good reader because she does not “need help reading the doctor book anymore!” And Rachel explained that she was a good reader because she “can stretch out words.” The three students who did not identify themselves as “good readers”, Jerry, Christopher, and Eric, claimed it was because they, as Jerry and Christopher stated, “don't like reading” or they “can't really read well,” which was Eric's answer.

Even though not all ten students had positive views of themselves at first, when I asked each what he/she thought about having just recognized many examples of environmental print, they all smiled. Pointing out this accomplishment to them made all of them think about the reason for our class’s environmental print unit and about their own learning. For most, it seemed to me like a sudden and new connection had been made for them. Lara pointed to the examples of environmental print and said “I feel good about reading this!” Rachel decided that “It means I can read!” and Gwen exclaimed “That means I'm a good reader! I like environmental print!” Each student associated recognizing environmental print to reading and success in one meant success in the other. Their elevated confidence showed through their comments and smiles.


Second Parent Survey

I also interpreted information about student self confidence from the second parent survey when parents described the changes they saw in their child. Two parents, Christopher's and Jerrod's, simply stated that there was “no change.” However, three parents noticed a positive change in their child's perspective of themselves as readers. For example, Nathan's and Malcolm's parents expressed a change in their children's confidence. Nathan was described as “much more confident” and Malcolm as “more confident in reading and sounding out words”. The most exciting description of a student's change came from Stacy's mother who described Stacy as “trying more and different books to read. She is more confident with her reading skills in the last month or so. I think it really sparked my daughter's interest in words around her which helps get her more confident with reading stories on her own!”

Reading Levels and Environmental Print

The students in my study ranged in reading levels and abilities. I wanted to explore the impact this made on how the students interacted with environmental print, making my study's third question: How do students of different reading levels use environmental print?
Student Grouping for Study

During the study, the reading teacher and I conducted our final reading assessment with each student using the DRA2. The students in the study ranged in reading levels from three to 24. All 18 met our school’s spring benchmark of level three. These results come into play when exploring how students at different reading levels work with environmental print.

To organize the study’s findings, I created four categories based on students’ DRA2 scores: “Benchmark One”, “Benchmark Two”, “Benchmark Three”, and “Highly-Above Benchmark”. Four of the 18 students reached the level three benchmark with push in and pull out academic instructional support (AIS) with our reading teacher every day throughout the school year. In the findings, I identify this group of students as “Benchmark One”. Five of the 18 students reached the level three reading benchmark without additional support. I identify this group as “Benchmark Two”. Both of these groups of students are considered “Emergent Readers” by the DRA2 Developmental Reading Assessment Teacher Guide K-3 (Beaver, 2006, p. 121).

I used the assessment teacher’s guide to determine which reading levels to group together. In the guide, the assessment levels A-24 are divided into three groups: “Emergent Readers”, Levels A-3; “Early Readers”, Levels 4-12; and “Transitional Readers”, Levels 14-24 (p. 121-126). I identify students who are considered “Early Readers” as the “Benchmark Three” group. There are five students in this group. The
final four students are classified in the guide's "Transitional Reader" category and I identify this group as "Benchmark Four."

Table 4.1: Student DRA2 Level and Study Grouping

<table>
<thead>
<tr>
<th>Student</th>
<th>DRA2 Reading Level</th>
<th>Study Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angela</td>
<td>16</td>
<td>Benchmark Four</td>
</tr>
<tr>
<td>Christopher</td>
<td>3</td>
<td>Benchmark Two</td>
</tr>
<tr>
<td>Collin</td>
<td>3</td>
<td>Benchmark One</td>
</tr>
<tr>
<td>Christina</td>
<td>3</td>
<td>Benchmark One</td>
</tr>
<tr>
<td>David</td>
<td>3</td>
<td>Benchmark Two</td>
</tr>
<tr>
<td>Eric</td>
<td>3</td>
<td>Benchmark Two</td>
</tr>
<tr>
<td>Gwen</td>
<td>24</td>
<td>Benchmark Four</td>
</tr>
<tr>
<td>Jerry</td>
<td>3</td>
<td>Benchmark Two</td>
</tr>
<tr>
<td>Jimmy</td>
<td>6</td>
<td>Benchmark Three</td>
</tr>
<tr>
<td>Jerrod</td>
<td>4</td>
<td>Benchmark Three</td>
</tr>
<tr>
<td>Ken</td>
<td>8</td>
<td>Benchmark Three</td>
</tr>
<tr>
<td>Lara</td>
<td>6</td>
<td>Benchmark Three</td>
</tr>
<tr>
<td>Maddy</td>
<td>8</td>
<td>Benchmark Three</td>
</tr>
<tr>
<td>Malcolm</td>
<td>3</td>
<td>Benchmark Two</td>
</tr>
<tr>
<td>Nathan</td>
<td>24</td>
<td>Benchmark Four</td>
</tr>
<tr>
<td>Rachel</td>
<td>3</td>
<td>Benchmark One</td>
</tr>
<tr>
<td>Rena</td>
<td>3</td>
<td>Benchmark One</td>
</tr>
<tr>
<td>Stacy</td>
<td>20</td>
<td>Benchmark Four</td>
</tr>
</tbody>
</table>
Environmental Print Logo Match Game

One activity that I used to compare how a student's reading level impacted how he/she recognized and read environmental print was a two part matching game. It was similar to the “Environmental Print Word Match Lesson” game from Prior and Gerard's 2004 book *Environmental print in the classroom: Meaningful connections for learning to read* (pp. 102-104). I carried out this activity with each student one on one. For the first part of this activity, I wrote out the words from 31 examples of environmental print that the class had been working with throughout the unit in manuscript on index cards. When the words in the environmental print were written in all upper case, I wrote the corresponding manuscript words in upper case. For example, the words BAKUGAN and LEGO are each in all upper case letters. Therefore, the corresponding cards read “BAKUGAN” and “LEGO”. None of the words of environmental print used only lower case letters. I told the students that the words on the index card were from environmental print and were asked to identify them. If a student was unsure, I skipped that word. Correctly identified examples were recorded as well as any mistakes or comments made by students.

In the second part of this activity, I gave all of the manuscript forms of environmental print to each student, even if the student misidentified or did not know them earlier. I displayed black and white copies of photographs of the 31 actual examples of environmental print, such as a *McDonald's* restaurant sign, the logo from a *Pokemon* toy, the logo from a *Coca Cola* can, and the sign on a *Walmart* store, on
the table, and asked students to match the manuscript form of each environmental print to its corresponding photograph. Again, I recorded correctly matched as well as mismatched examples as well as any student comments. See Appendix J for photographs of examples of matched pairs of photographs of environmental print and the corresponding manuscript forms. The outcomes of this activity show similarities and differences between the reading level groups. I will discuss the comparisons between the groups as well as the trends discovered within each after first explaining the results provided by each benchmark group.
**Logo Match for Benchmark One Group**

Table 4.2: Benchmark One Results on Manuscript Logo Match Activity (n=4)

<table>
<thead>
<tr>
<th>Environmental Print</th>
<th>Identified Manuscript</th>
<th>Matched Logo and Manuscript</th>
<th>Identified Logo (when could not in manuscript)</th>
<th>Mistakes</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>NINTENDO DS</td>
<td>0</td>
<td>4</td>
<td>Matched to NASCAR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crayola</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCOOBY-DOO</td>
<td>1</td>
<td>2</td>
<td>1 &quot;Barbie&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Wheels</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAKUGAN</td>
<td>1</td>
<td>0</td>
<td>1 Matched to Subway &quot;I'm looking for B-A&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr Potato Head</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbie</td>
<td>1</td>
<td>2</td>
<td>1 &quot;Barbeque&quot; &quot;BAKUGAN&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOP</td>
<td>1</td>
<td>4</td>
<td>1 &quot;I always see this when I am driving!&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pizza Hut</td>
<td>2</td>
<td>2</td>
<td>&quot;Pizza&quot; &quot;Potato Head&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPRI SUN</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doritos</td>
<td>1</td>
<td>3</td>
<td>&quot;Chips&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coca Cola</td>
<td>1</td>
<td>1</td>
<td>&quot;Pop&quot; &quot;Almost my name!&quot; (names begins with C-o-I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WALMART</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Print</td>
<td>Identified Manuscript</td>
<td>Matched Logo and Manuscript</td>
<td>Identified Logo (when could not in manuscript)</td>
<td>Mistakes</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------</td>
<td>----------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>ESL Federal Credit Union</td>
<td>0</td>
<td>1</td>
<td>&quot;A C Moore&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NASCAR</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McDonald's</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Chinese Restaurant</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tim Horton's</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOTT'S</td>
<td>0</td>
<td>3</td>
<td>&quot;Apple sauce&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RITZ</td>
<td>0</td>
<td>2</td>
<td>Matched to Pizza Hut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disney</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponge Bob Squarepants</td>
<td>0</td>
<td>1</td>
<td>Matched to college (same 1st letter) Matched to Nintendo DS</td>
<td></td>
<td>&quot;That's some big words!&quot;</td>
</tr>
<tr>
<td>HESS</td>
<td>1</td>
<td>1</td>
<td>Matched to Hot Wheels</td>
<td></td>
<td>&quot;It's really Hess truck, but you just put Hess&quot;</td>
</tr>
<tr>
<td>Cheerios</td>
<td>0</td>
<td>2</td>
<td>&quot;It starts with my name!&quot;</td>
<td></td>
<td>(same 1st 2 letters)</td>
</tr>
<tr>
<td>OREO</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FASHION BUG</td>
<td>0</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friendly's</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBWAY</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallmark</td>
<td>1</td>
<td>1</td>
<td>Matched to Nintendo DS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEGO</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Logo Match: Part One**

In the first part of this activity, 21 of the 31 examples of environmental print in manuscript were identified by at least one student in the Benchmark One group. Table 4.2 shows the results of the matching activity for the group Benchmark One. The column titled “Identified Logo (when could not in manuscript)” accounts for the number of students who did not identify the example of environmental print when it was in manuscript in the first part of the activity, but later identified it when they saw the photograph of the logo.

Only one environmental print word, *LEGO* was identified by the majority of the group, three students. Nine identification mistakes were made by this group. The majority of those mistakes, four total, were students describing what environmental print was: saying “pizza” for *Pizza Hut*, “chips” for *Doritos*, “pop” for *Coca Cola*, “apple sauce” for *MOTT’S*. The other type of mistake that occurred most often, three in all, was students saying something that had the same first letter as the words they saw on the index card: saying “Barbeque” and “Bakugan” for *Barbie*, and “*Potato Head*” for *Pizza Hut*. One student identified *ESL Federal Credit Union* as *A. C. Moore*, both places having initials in the beginning of their names. Another student identified *SCOOBY-DOO* as *Barbie*, which may have been a random guess by the student.
Logo Match: Part Two

In the second part of this activity, at least one student in the Benchmark One group correctly matched 29 of the 31 manuscript words to their corresponding photographs. Similar to the first part of the activity, a majority of students were able to match a far fewer number of words and photographs: nine out of the 31. These included four toys, two places or signs, and three foods: LEGO, SUBWAY, OREO, MOTT’S, Doritos, STOP, Mr Potato Head, Crayola, and NINTENDO DS. Six of these words were matched by all four students in this group: NINTENDO DS, LEGO, SUBWAY, Mr Potato Head, STOP, and OREO. The students in this group made seven mistakes when matching the manuscript words to the environmental print photographs. Three may have been random guesses: matching Hallmark and Sponge Bob Squarepants to NINTENDO DS, and BAKUGAN to SUBWAY. However, the remaining four mistakes involved students matching letters. Three of the four words had the same the first letters in each: Nintendo DS to NASCAR, Hess to Hot Wheels, Sponge Bob Squarepants to a local college's sign S___B__. The words in the fourth pairing have similar letters within them: Ritz and Pizza Hut.

Several examples of environmental print that were not recognized by students in manuscript were later identified when they saw the photograph in the second part of the activity. This occurred ten times in this group with nine different examples of environmental print. Two students both recognized SUBWAY’s logo. The other errors involved five toys and three places or signs: Friendly’s, Disney, BAKUGAN,
WALMART STOP, Barbie, Mr. Potato Head, and SCOOPY-DOO.

The students in the Benchmark One group made six comments while completing this activity. Three of them involve the student discussing the letters they saw in the words or the letters they were looking for when trying to find the matching photograph. Collin and Christina, although did not recognize the connection to an environmental print, both thought of their own names when they were presented with the manuscript forms of Coca Cola and Cheerios, respectively. Rena described what she was thinking while matching BAKUGAN: “I'm looking for B-A”. Two comments related to the entire words on the index card: “That's some big words!” is what Christina exclaimed when she saw the card that said Sponge Bob Squarepants, and after Collin identified HESS he explained that “It's really HESS TRUCK, but you just put HESS”. The last comment, made by Rena, was a personal connection she made when she recognized STOP: “I see that when I'm driving!”

Discussion of Benchmark One Group

In this activity, the students in the Benchmark One group identified different kinds of examples of environmental print: toys, places, and foods. The examples that more students identified were ones that they interact with and see most often, especially toys and foods in this group. The examples that were not identified by students in this group or by a low number of students were ones that are associated with places the students are less familiar with, such as the local college or credit
union. Also, other examples missed by students are connected with places or items that are frequently called by other names by children, such as *CAPRI SUN*, usually called "juice box", or *RITZ*, which many children call "crackers".

The results of this activity indicated to me that the students in the Benchmark One group used several main skills when working with environmental print. Most mistakes that were made by students in this group were based on the words' first letters. When a student was unsure of a word, he/she focused on its first letter to make a guess. Also, several students in this group connected the environmental print words to their own names, words that they are very comfortable with and easily recognize. These outcomes indicate that students in this group need the context support that photographs of environmental print provide in order to recognize and use them. It would most likely be difficult for students in this group to connect their understanding of environmental print to words they encounter in books.

**Logo Match for Benchmark Two Group**

I conducted the same activities with the five students in the Benchmark Two group, but had different results. Table 4.3 shows the results of the matching activity for the Benchmark Two group.
Table 4.3: Benchmark Two Results of Manuscript Logo Match Activity (n=5)

<table>
<thead>
<tr>
<th>Environmental Print</th>
<th>Identified Manuscript</th>
<th>Matched Logo and Manuscript</th>
<th>Identified Logo (when could not in manuscript)</th>
<th>Mistakes</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>NINTENDO DS</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crayola</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCOOPY-DOO</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Wheels</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAKUGAN</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>Matched to Barbie</td>
<td></td>
</tr>
<tr>
<td>Mr Potato Head</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbie</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOP</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pizza Hut</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>“Pizzeria”</td>
<td></td>
</tr>
<tr>
<td>CAPRI SUN</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doritos</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coca Cola</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>“C__C__”</td>
<td>Name of peer with CC initials</td>
</tr>
<tr>
<td>WALMART</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local college sign</td>
<td>1</td>
<td>3</td>
<td>“Super ball” (same first letters as two words on sign)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

65
<table>
<thead>
<tr>
<th>Environmental Print</th>
<th>Identified Manuscript</th>
<th>Matched Logo and Manuscript</th>
<th>Identified Logo (when could not in manuscript)</th>
<th>Mistakes</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESL Federal Credit Union</td>
<td>0</td>
<td>3</td>
<td>Matched to Friendly's</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NASCAR</td>
<td>2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McDonald's</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Chinese Restaurant</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>&quot;I ask for this for dinner all the time!&quot;</td>
<td></td>
</tr>
<tr>
<td>Tim Horton's</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOTT'S</td>
<td>2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RITZ</td>
<td>1</td>
<td>4</td>
<td>Read as &quot;Ridz&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disney</td>
<td>1</td>
<td>4</td>
<td>When looking for match, said &quot;R-I-T-Z&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponge Bob Squarepants</td>
<td>1  (said ENTIRE name)</td>
<td>5</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hess</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheerios</td>
<td>1</td>
<td>2</td>
<td>&quot;Crayola&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OREO</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FASHION BUG</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friendly's</td>
<td>1</td>
<td>3</td>
<td>&quot;It's Fashion Bug...no it can't be...it doesn't have a A&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBWAY</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallmark</td>
<td>0</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEGO</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Logo Match: Part One**

Of the 31 examples of environmental print word written in manuscript, 29 were correctly identified by at least one of the five students in this group and 12 were identified by the majority of the students. These included seven places or signs, four toys, and one food. Five mistakes were made by this group in the first part of the activity. Three out of the five mistakes occurred when students said a word that began with the same first letter as the words they were looking at, for example saying “Crayola” for Cheerios, “super ball” for local college S____ B___, and a classmate’s name C____ C____ for Coca Cola. One student identified Pizza Hut as “pizzeria” and another student sounded out “ridz” for Ritz.

**Logo Match: Part Two**

I asked the five students in the Benchmark Two group to match the environmental prints word in manuscript to their corresponding photographs. Each of the 31 matches were completed by at least two students in this group. Three of the five students were able to match 29 of the 31 words and photographs. Three of the five students matched four, four students matched 15, and all five matched ten. Two mistakes were made by the Benchmark Two group on the matching part of this activity and both involve the environmental print’s beginning letters. One matched BAKUGAN to Barbie, an environmental print with the same first letter, and another student matched ESL Federal Credit Union to Friendly’s, seemingly using the first
letter of "Federal" to find its match.

Fourteen different examples of environmental print words that were not immediately recognized in manuscript in the first part of the activity were later identified by students when they saw the photograph of the actual environmental print. These include seven toys, four places or signs, and three foods: NINTENDO DS, SCOOBY-DOO, Pizza Hut, WALMART, and a local Chinese restaurant were each identified by one student, McDonald's, Coca Cola, Barbie, Mr Potato Head, and NINTENDO DS were each identified by two students, and BAKUGAN, CAPRI SUN, Doritos, and Sponge Bob Squarepants were each identified by four students.

Three comments were made by students in the Benchmark Two group during this activity. Both Malcolm and Eric discussed letters in the words they saw. While looking for the match to Ritz, Malcolm spelled it aloud. At first, Eric thought Friendly's was Fashion Bug but then corrected himself by looking closer: "It's Fashion Bug. No...it can't be...it doesn't have a A", and matched it to Friendly's. The third comment, made by Jerry, showed that he made a personal connection to the photograph of a local Chinese restaurant's sign: "I ask for this for dinner all the time!"

**Discussion of Benchmark Two Group**

Students in the Benchmark Two group recognized and matched more examples of environmental print than the Benchmark One group. They too identified logos from a variety of sources, but the most common kinds in this group were places
and toys. Similar to the Benchmark One group, toys are something they interact with frequently and therefore easily recognize their logos. However, this group's other most identified kind of logo was places. This demonstrates that possibly the students in this group are more aware of the print that surrounds them outside of school on signs and places in their town.

The Benchmark Two group's answers and comments indicated that they were also focused on letters, but they went beyond the first letters of the words. The students in this group also made mistakes that were based on first letters, but several mistakes went beyond to incorporate meaning or other letters in the words. One student in the Benchmark Two group made a personal connection with the place portrayed in the of environmental print. Similar to the results of the Benchmark One group, this group made more matches than initial recognitions of the environmental print words, indicating a need for contextual support when working with environmental print. They too would most likely need guidance to connect the logos ~ they know to words they see in books.

**Discussion of Benchmark One and Benchmark Two Groups**

Students in the Benchmark One and Benchmark Two groups both reached the level three on the DRA2 and are considered "Emergent Readers". The only difference between these groups is the literacy support they received throughout the school year and they were separated to determine any differences between the two when working...
with environmental print. The results of the groups, though very similar, show that the Benchmark One group made few identifications and matches and more mistakes than the Benchmark Two group. This activity was therefore more of a challenge for the Benchmark One group. This is most likely due to factors that led to this group's need for extra literacy support throughout kindergarten, including less experience with letters and words, less experience with reading, processing or attention difficulties, and struggles in speech and language.

While the majority of students in the Benchmark One group identified only one manuscript example of environmental print and only 12 were identified by the majority of students in the Benchmark Two group, these results correspond to the strengths and needs of students who are "Emergent Readers". The DRA2 Developmental Reading Assessment Teacher Guide K-3 (Beaver, 2006) describe students that are considered "Emergent Readers" as "generally able to identify familiar objects in illustrations" and "are learning to monitor using text-picture match", (p. 121). Both Benchmark One and Benchmark Two groups' reading level in one at which picture cues and context are significant strategies used to determine unknown words. In the first part of the activity, the examples of environmental print were in manuscript, offering neither kind of support "Emergent Readers" utilize most.

Another skill that the DRA2 assessment guide describes emergent readers are learning to do is "consistently match one-to-one" (Beaver, 2006, p. 121). Students in the Benchmark One and Benchmark Two groups made a total of five mistakes that
seemed like random ideas or correctly identifying environmental print words and then making a mistake when matching them to photographs. For example, one student identified *SCOOBY-DOO* as *Barbie*. Another student matched *BAKUGAN* to *Subway*. Making sure that what they see and say are the same is a skill that “Emergent Readers” are developing. Four of the five students in the Benchmark Two group seemed to have mastered this skill with only one seemingly random mistake, but it is a skill the students in the “Benchmark One” group are still developing.

“Emergent Readers” are also described as “generally able to “identify letters and letter/sound relationships”, and “use beginning letter/sound relationships to problem-solve words” (p. 121). Mistakes made by students in both Benchmark One and Benchmark Two groups occurred when students used letters and sounds as a strategy to identify unknown words or tried to match the manuscript words to the photographs. In fact, this was the most common type of mistake made by students in the two groups. Comments about letters dominated the types of comments students from both groups made during this activity. Overall, I found that the same characteristics of literacy that these groups are categorized as working on in their reading development were what they focused on while working with environmental print.

**Logo Match for Benchmark Three Group***

I carried out the same activities with the five students in the Benchmark Three
group. The results were different from what was found with both of the previous
groups. Table 4.4 shows the results of the matching activity for the Benchmark Three
group.

Table 4.4: Benchmark Three Results on Manuscript Logo Match Activity (n=5)

<table>
<thead>
<tr>
<th>Environmental Print</th>
<th>Identified Manuscript</th>
<th>Matched Logo and Manuscript</th>
<th>Identified Logo (when could not in manuscript)</th>
<th>Mistakes</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>NINTENDO DS</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td>&quot;I have one and I have a case&quot;</td>
</tr>
<tr>
<td>Crayola</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td></td>
<td>&quot;Crayons&quot;</td>
</tr>
<tr>
<td>SCOOBY-DOO</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Wheels</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAKUGAN</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td>&quot;Barbie&quot;</td>
</tr>
<tr>
<td>Mr Potato Head</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td></td>
<td>&quot;I don't have this at home&quot;</td>
</tr>
<tr>
<td>Barbie</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOP</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pizza Hut</td>
<td>5</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPRI SUN</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td>&quot;Juice box&quot;</td>
</tr>
<tr>
<td>Doritos</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td></td>
<td>&quot;Disney&quot;</td>
</tr>
<tr>
<td>Coca Cola</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td></td>
<td>&quot;Kind of pop&quot;</td>
</tr>
<tr>
<td>WALMART</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Print</td>
<td>Identified Manuscript</td>
<td>Matched Logo and Manuscript</td>
<td>Identified Logo (when could not in manuscript)</td>
<td>Mistakes</td>
<td>Comments</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------</td>
<td>-----------------------------</td>
<td>-----------------------------------------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Local college sign</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL Federal Credit Union</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>&quot;Bank&quot;</td>
<td></td>
</tr>
<tr>
<td>NASCAR</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McDonald's</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td>When looking to match &quot;It's a sign with a S on the end&quot;</td>
</tr>
<tr>
<td>Local Chinese Restaurant</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td>&quot;I love this restaurant!&quot;</td>
</tr>
<tr>
<td>Tim Horton's</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOTT'S</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td>&quot;Apple juice&quot;</td>
</tr>
<tr>
<td>RITZ</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td>&quot;Crackers&quot;</td>
</tr>
<tr>
<td>Disney</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponge Bob Squarepants</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HESS</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td>&quot;Gas station&quot;</td>
</tr>
<tr>
<td>Cheerios</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td>&quot;Type of cereal&quot;</td>
</tr>
<tr>
<td>OREO</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FASHION BUG</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friendly's</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBWAY</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallmark</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEGO</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Logo Match: Part One

In the manuscript identification part of the activity, all 31 of the examples of environmental print were correctly identified by at least one of the five students in the Benchmark Three group. Fifteen of the 31 were identified by the majority of the students in the group (three or more). Included in the fifteen were eight places or signs, four toys, and three foods. Pizza Hut was correctly identified by all five students in this group. Students in this group made ten mistakes were made by students in this group in the first part of the activity. Eight mistakes occurred when students described what the environmental print word was, for example, “type of cereal” for Cheerios, “gas station” for HESS, “crackers” for RITZ, “apple juice” for MOTT’S, “bank” for ESL Federal Credit Union, “kind of pop” for Coca Cola, “juice box” for CAPRI SUN, and “crayons” for Crayola. The remaining two mistakes occurred when students said a word that began with the same letter as the example of environmental print: “Barbie” for “BAKUGAN” and “Disney” for “Doritos”.

Logo Match: Part Two

In the second part of this activity, each of the 31 environmental print words were matched to their corresponding manuscript forms by at least one of the five students in the Benchmark Three group. Twenty-four of the words were correctly matched by at least three students in the group. These include ten places or signs, eight toys, and six foods. Of these twenty-four words, eight were matched by three of
the five students, 14 were matched by four of the five students, and two words—Stop and Walmart were matched by all five students in this group.

This group did not make any mistakes in the matching part of this activity. Rather than creating mismatched pairs, each time a student could not find a match to the example of environmental print in manuscript, he or she set it to the side and did not connect it to a photograph that it did not match. No other group utilized this strategy and did create mismatched pairs of words and logos.

Fourteen of the environmental print words that students did not identify in manuscript were recognized by at least one student later on when they saw the corresponding logo. These include six toys, five foods and three places or signs: LEGO, Friendly's, OREO, Disney, RITZ, McDonald's, NASCAR, CAPRI SUN, Barbie, Hot Wheels, and Crayola were each identified by one student, and Mr Potato Head, Doritos, and Coca Cola, were each identified by two students.

The students in this group made four comments during this activity. In three of the comments, students expressed a personal, text-to-self connection to the environmental print. Maddy, looking at the photograph of the local Chinese restaurant's sign said “I love this restaurant!” Ken said “I don't have this at home” as he tried to recognize the photograph of the Mr Potato Head logo. After Jimmy correctly identified the manuscript form of NINTENDO DS, he immediately said “I have one and I have a case!” The fourth comment from this group came from Lara. She did not identify the manuscript form of McDonald's, but as she looked for its
photograph match, she focused on the letters she saw in the words. She said “It's a
sign with a s on the end”.

Discussion of Benchmark Three Group

The students in the Benchmark Three group identified similar amounts of
each type of environmental print: places, toys, and foods. Similar to the Benchmark
Two group, this group recognized slightly more toys and places and therefore also
may also be more aware of the words they see around them outside of school. Both
parts of this activity proved to be less of a challenge for this group than the previous
groups, indicating that the students would need less support recognize and use
environmental print outside of school and in their reading.

The Benchmark Three group's results of this activity differ from the groups
previously discussed, but like those groups, their results are also related to the skills
that are common at their reading level. Groups are categorized in the DRA2
Developmental Reading Assessment Teacher Guide K-3 as “Early Readers” (Beaver,
2006, p. 123). At this level, students are “generally able to use beginning letters and
letter/sounds to problem-solve words” (p. 123). The fact that this skill is typically
mastered at this reading level corresponds with the low number of letter and
letter/sound related mistakes and comments made by the students in this group.

Because “Early Readers” focus less on letters and letter/sounds, they are
described as “learning to use meaning, structure, and visual information to problem-
solve unknown words” as well as “learning to make text-to-self connections” (p. 123). The majority of mistakes that I observed students in this group making were when they described the environmental print. Students used what they saw in the words and their structure as well as their own prior knowledge to interpret environmental print was about. Also, three of the four comments were personal, text-to-self connections about the environmental print. For example, students explained how they like the restaurant's food or that they have one of the toys.

Unlike the “Emergent Readers”, the guide described the “Early Readers” as “generally able to consistently match one-to-one” and “are learning to reread to monitor” (p. 123). These skills supported the students in the “Benchmark Three” group in both identifying the manuscript environmental print words and matching the words to the photographs. The students in group made no random mistakes in either part of the activity.

**Logo Match for Benchmark Four Group**

The final four students to take part in the manuscript identification and matching activity were in the group I categorized as Benchmark Four. Table 4.5 shows the results of the matching activity for the Benchmark Four group.
Table 4.5: Benchmark Four Results on Manuscript Logo Match Activity (n= 4)

<table>
<thead>
<tr>
<th>Environmental Print</th>
<th>Identified Logo</th>
<th>Matched Logo and Manuscript</th>
<th>Identified Logo (when could not in manuscript)</th>
<th>Mistakes</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>NINTENDO DS</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crayola</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCOOBY-DOO</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Wheels</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAKUGAN</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr Potato Head</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbie</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOP</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pizza Hut</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPRI SUN</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doritos</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td>“Donuts”</td>
</tr>
<tr>
<td>Coca Cola</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WALMART</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local college sign</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESL Federal Credit Union</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>“Phone Company”</td>
</tr>
<tr>
<td>NASCAR</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McDonald's</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Print</td>
<td>Identified Logo</td>
<td>Matched Logo and Manuscript</td>
<td>Identified Logo (when could not in manuscript)</td>
<td>Mistakes</td>
<td>Comments</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------</td>
<td>-----------------------------</td>
<td>-----------------------------------------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Local Chinese Restaurant</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tim Hortons</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOTT'S</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RITZ</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disney</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponge Bob Squarepants</td>
<td>4</td>
<td>4</td>
<td></td>
<td>One sang song from show</td>
<td></td>
</tr>
<tr>
<td>HESS</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheerios</td>
<td>3</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OREO</td>
<td>4</td>
<td>4</td>
<td></td>
<td>“My brother eats them everyday!”</td>
<td></td>
</tr>
<tr>
<td>FASHION BUG</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friendly's</td>
<td>3</td>
<td>3</td>
<td></td>
<td>“Subway..eat fresh” (from restaurant's commercial)</td>
<td></td>
</tr>
<tr>
<td>SUBWAY</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallmark</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEGO</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Logo Match: Part One**

At least one student identified each of the 31 environmental print in manuscript. All four students identified 14 of these 22 examples, including seven places or signs, five toys, and three foods. Twenty-two of the words were correctly identified by three or more students, including nine places or signs, eight toys, and five foods. Students made two mistakes during this part of the activity. One student said a word that begins with the same letter as the environmental print word: “donuts” for Doritos. Another student said “phone company” for ESL Federal Credit Union.

**Logo Match: Part Two**

At least three of the students in the Benchmark Four group correctly matched twenty-nine of the thirty-one examples of environmental print to their manuscript forms. All four students matched twenty-six out of thirty-one words and logos. No students mismatched photographs and manuscript cards in this group. Anytime a student was unsure or could not find the match, he or she set the card to the side. Every student in this group used this strategy to not only organize the words and logos, but also so that they did not create mismatched pairs.

Three students made comments during the matching activity. Stacy made a personal, text-to-self connection by explaining that her “brother eats these everyday!” after she identified the manuscript form of Cheerios. Both Nathan and Angela shared details about the environmental print word as they looked for its match. Nathan, as he
matched the manuscript *Sponge Bob Squarepants* to its photograph, sang the TV show's theme song: “Who lives in a pineapple under the sea? SPONGE BOB SQUAREPANTS!” Angela added the jingle she has heard on TV as she searched for the photograph of the *SUBWAY* logo: “Subway, eat fresh!”

**Discussion of Benchmark Four Group**

Students in the Benchmark Four identified all types of environmental print. They immediately recognized slightly more words that are associated with places, but the difference between all three types was slight. This demonstrates a comfort with utilizing and working with environmental print no matter what it is associated with.

The final group Benchmark Four are categorized as “Transitional Readers” by the DRA2 Developmental Reading Assessment Teacher Guide K-3 (Beaver, 2006, p. 125). At this level of reading, students have mastered many word-solving skills and “are learning to use multiple cues to problem-solve words quickly” (p. 125). This correlates to the fact that few, but varied mistakes were made by this group, each student using different approaches to identifying unknown words. Likewise, utilizing multiple skills throughout the activity support this group in making no random mistakes. The Benchmark Four group's high number of correct identifications and matches and low number of mistakes were also supported by the fact that they are described as “learning to quickly self-correct significant miscues” (p.125). Students in this group are able to monitor their reading and change their words as they read.
Several students in the Benchmark Four quickly corrected their own answers or found mistakes in their matches and changed them.

The majority of the comments made by students in the Benchmark Four group involved students adding details about the environmental print, singing the theme song from the toy's TV show and saying the slogan from the restaurant's commercial. This shows the students using two skills that "Transitional Readers" are described as "learning to" do: "identify important ideas, details, and vocabulary" and "make text-to-text connections" (p. 125). When reading books, identifying ideas and details is typically seen in retelling. However, the students who made these comments clearly carried that skill over to not only associate the details with the environmental print, but also to know the details word for word and note for note. Although TV shows and commercials may not usually be considered forms of text, the connections the students made between them and the environmental print is very close to text-to-text connections. They associated what they saw in front of them to something they had previously seen or heard.

**Looking Across the Benchmark Groups**

When analyzing the outcomes of this activity, I observed clear trends among the different benchmark groups and the students' use of and interactions with environmental print when looked across the four groups. Table 4.6 shows this information compiled into a chart.
Table 4.6: Compilation of Students' Responses to Logo Match (n=18)

<table>
<thead>
<tr>
<th>Reading Level Group</th>
<th># of manuscript words identified by at least half of group</th>
<th># of manuscript words identified by all in group</th>
<th># identified using logo only</th>
<th># of matches made by at least half of group</th>
<th># of matches made by all in group</th>
<th>Types of Mistakes</th>
<th>Types of Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark One</td>
<td>1</td>
<td>0</td>
<td>10</td>
<td>9</td>
<td>5</td>
<td>6: first letter</td>
<td>3: letters</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4: description</td>
<td>2: words</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2: similar word structure</td>
<td>1: personal connection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4: random</td>
<td></td>
</tr>
<tr>
<td>Benchmark Two</td>
<td>12</td>
<td>3</td>
<td>14</td>
<td>29</td>
<td>10</td>
<td>4: first letter</td>
<td>2: letters</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1: description</td>
<td>1: personal connection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1: pronunciation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1: random</td>
<td></td>
</tr>
<tr>
<td>Benchmark Three</td>
<td>15</td>
<td>1</td>
<td>14</td>
<td>24</td>
<td>2</td>
<td>8: description</td>
<td>3: personal connection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2: first letter</td>
<td>1: letters</td>
</tr>
<tr>
<td>Benchmark Four</td>
<td>22</td>
<td>14</td>
<td>0</td>
<td>29</td>
<td>26</td>
<td>1: first letter</td>
<td>2: adding details about example</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1: pronunciation</td>
<td>1: personal connection</td>
</tr>
</tbody>
</table>

**Recognition of Environmental Print Words**

One pattern that emerged was that the number of environmental print words in manuscript students recognized increased as the students’ reading level increased.

This trend was expected since prior to the study, the majority of times they explicitly
used the reading skills they were learning was with books and manuscript words. Students used their reading skills and abilities during this part of the activity and a predictable positive correlation occurred.

**Matching Word and Image**

A second pattern was that the number of word and image matches made by each group was consistently higher than their number of identified manuscript words. The photographs of the environmental print offered the students information through visual cues and offered students a form of the environmental print that they have more exposure to and experience with both in and out of school. The matching part of the activity provided an opportunity for the students to see the words in manuscript and visual form and physically match the two, a process which led to students' success.

**Making Common Errors**

Another pattern that emerged while looking across the findings from the benchmark groups was the similarity among the mistakes the students made in identifying and matching the environmental print and manuscript words. Common among all students who made errors was their use of first letters and students giving descriptions. Using first letters occurred both while students attempted to identify examples of environmental print in manuscript and while matching those examples to
the photographs. Students gave descriptions of the environmental print while identifying the manuscript words. These mistakes were similar to ones students made when they, using illustrations, storyline, or both, replaces words with ones that have similar meaning and do not change the story. According to the *DRA2 Developmental Reading Assessment Teacher Guide K-3* (Beaver, 2006), both using letter sounds and a book’s illustrations are skills that all three reading levels included in the study, “Emergent”, “Early”, and “Transitional”, are either learning to do or are able to do while reading books (Beaver, 2006, pp. 121-126). This demonstrates how all of the groups used reading strategies appropriate for their reading levels while working with environmental print.

**Looking Across Environmental Print Journals**

In addition to comparing the students' performances and outcomes of the manuscript and environmental print identification and matching activity, I also looked for patterns in their environmental print journals that I discussed earlier in this chapter.

I focused my analysis on the types of environmental print each student used in his or her writing. Specifically, I documented the environmental print words the students used and the comments they made during the project. My analysis included information from 14 of the 18 students' journals: two from Benchmark One, five from Benchmark Two, five from Benchmark Three, and two from Benchmark Four. Table
4.7 represents the findings from the analysis of the environmental print journals.

<table>
<thead>
<tr>
<th>Reading Level Group</th>
<th># of toys</th>
<th># of places</th>
<th># of foods</th>
<th># of other kinds of environmental print</th>
<th># of non environmental print</th>
<th>kind of example that was highest in journals</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark One (2 journals)</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>1: toys 1: other</td>
<td>“Stop sign begins with s”</td>
</tr>
<tr>
<td>Benchmark Two (5 journals)</td>
<td>37</td>
<td>27</td>
<td>17</td>
<td>11</td>
<td>12</td>
<td>4: toys 1: places</td>
<td>wrote “MaM” and said “I wrote M&amp;M real quick” “The ‘a’ in pizza sounds like a ‘u’!”</td>
</tr>
<tr>
<td>Benchmark Three (5 journals)</td>
<td>27</td>
<td>26</td>
<td>29</td>
<td>25</td>
<td>0</td>
<td>1: foods 1: toys 3: all types same</td>
<td>“STOP!” (like a police officer)</td>
</tr>
<tr>
<td>Benchmark Four (2 journals)</td>
<td>10</td>
<td>8</td>
<td>15</td>
<td>6</td>
<td>0</td>
<td>1: foods 1: toys</td>
<td>writing Coca Cola, asked “What is that?” pointing to “I” (logo is written in cursive), after being told it is an 'I' she said “Oh a fancy letter to make you like it more!” “Hallmark and Friendly's both have signs with that kind of letters...the fancy ones...maybe one has fancy things and the other has fancy food!”</td>
</tr>
</tbody>
</table>
It was difficult to create comparisons based on the totals in the different categories since the total number of journals was not equal across the groups. Therefore, I analyzed each group's journals separately and compared the contents to what I'd seen in the students' writing throughout the school year as well as the descriptions of each group's reading level's skills in the *DRA2 Developmental Reading Assessment Teacher Guide K-3* (Beaver, 2006).

**Benchmark One Students' Journals**

Out of the twenty pieces of writing included in the journals of the students in Benchmark One, seven were logos from toys, such as *Barbie*, *BAKUGAN*, and *Dora*. Rena wrote twelve examples in her journal, seven of which were logos from toys, while Collin's journal had eight examples, four of which were examples of different kinds of environmental print. These four included STOP, and the names of three television shows: *Wild Animals*, *American Idol*, and *Seinfeld*. The remaining logos in both journals included foods and places. Rena also included one word that is not an example of environmental print: dog.

I found that in the writing of this group of students was similar to their results on the manuscript and environmental print identification and matching activity. Letters and letter sounds as an important skill in the “Emergent Readers” reading level again emerged. Both students in this group had several examples in their journals in which they copied the style of the letter formation of the words in the
environmental print. For example, rather than making the a's in *Cinnamon Toast Crunch* how kindergarteners are taught to write this letter (α), Rena formed them as they appear in the logo (α). Collin also made connections between the letters he saw and environmental print. He saw the photograph of a STOP sign and said “Stop sign begins with s”. He then opened to the S page in his journal and wrote “STOP”.

**Benchmark Two Students' Journals**

All five students in the Benchmark Two group returned their environmental print journals to school after adding to them outside of school. Four of the five students' journals contained multiple examples of environmental print from toys, objects they no doubt use and interact with frequently and recognize the words and logos on them. Three of the students' journals had a total of 12 words that were not examples of environmental print, but rather were high frequency words such as dog, kite, and zipper, and family members' names “Uncle Tony” and “Matthew”. This shows that the students in this group were still developing an understanding of “environmental print,” while they were carrying out this activity. Malcolm, whose mother noted that she was not clear on the concept, was a part of this group. It is possible that other parents were also unsure and therefore could not support the students during this activity outside of school.

Even so, several skills that “Emergent Readers” are “generally able to do” or “are learning to do” according to the *DRA2 Developmental Reading Assessment*
Teacher Guide K-3 (Beaver, 2006) were demonstrated in this activity by the Benchmark Two group. Readers at this level “are learning to use letter/sound relationships to problem solve words” (p. 121). Two students' comments during the environmental print journal activity connected to this skill. Eric, for example, wrote “MaM” on the M page of his journal and said “I wrote M&M real quick”. He saw and recognized the name of the candy and since he was trying to write it fast, he did not copy the package and the ampersand symbol in it. He used his knowledge of letters and sounds to write the word “and”, inserting “a” for it. Similarly, Jerry made a comment that showed that his attention was on letter sounds and decoding. While copying Pizza Hut from the photograph, he realized that it was not spelled as he had anticipated based on what he knows about letter sounds. He said “The 'a' in pizza sounds like a 'u'!” He had clearly connected prior learning to this activity and was very excited about his new discovery.

**Benchmark Three Students’ Journals**

The five journals from students in the Benchmark Three group only contained examples of environmental print words. This indicated to me that the students were aware of the concept of environmental print and were careful to only write those types of words in their journals. Maddy's journal had four examples of each type of environmental print, Jerrod's journal included six of each type, and Ken's journal included three of each type. In Jimmy's journal, he wrote nine examples of toys,
seven examples of places, eight examples of foods, and six other kinds of environmental print. Lara wrote five examples of toys, six examples of places, eight examples of foods, and six other kinds of environmental print. Three of the five journals had equal numbers of the different kinds of environmental print included, (food, toys, places, and other) and the categories were very close in numbers in the other two journals. Therefore, their comfort with and awareness of environmental print transferred to all types they saw.

Similar to the connections that the students in the Benchmark One and Benchmark Two groups, the students in the Benchmark Three group's environmental print journals and comments and the important skills of their reading level were seen. Two of the five students made text-to-self connections and, which, according to the DRA2 Developmental Reading Assessment Teacher Guide K-3 (Beaver, 2006), is a skill early readers at this level are “learning to do” (p. 123). The students each wrote “DS”, their nickname for NINTENDO DS, in their journals rather than the entire name. Maddy also used her previous experience and understanding when she saw the photograph of a STOP sign. After adding this environmental print word to her journal, she pointed the page to a friend and said “STOP!” like a police officer. She clearly made connection to this environmental print and how she had seen it used.

These comments show how students incorporated personal aspects of their prior knowledge and experience into their work with environmental print, in much the same way they do while reading.
In a similar way that students in the Benchmark One group added details to the letters in environmental print, students in the Benchmark Three group added the details of two of the logos they wrote in their journals. On the NINTENDO DS logo, there are two little squares between the two words: Four students included them in their journal when they wrote this example of environmental print. Another example of a specific detail that the same four students included was the arrow from the way in the logo. Early readers, in general, have, according to the DRA2 Developmental Reading Assessment Teacher Guide K-3 (Beaver, 2006), “mastered their understanding of letters and sounds” (p. 123). Therefore, it makes sense that these students focused on details in the words that go beyond the letters in the environmental print in their journals.

**Benchmark Four Students' Journals**

As transitional readers, the students in the Benchmark Four group had a full understanding of letters and sounds. According to the DRA2 Developmental Reading Assessment Teacher Guide K-3, students at this reading level are moving on to discuss and compare entire texts by “learning to make inferences and discuss what is implied in text” and “extract more meaning from text and rely less on the illustrations” (Beaver, 2006, p.126). While working on their environmental print
journals, students in this group showed these skills, by noticing differences and similarities between the texts and even used what they saw to assess and create opinions about what the environmental print represented. The focus of these comments was the cursive font used in the following examples:

While copying *Coca-Cola* into her journal, Stacy stopped when she got to the letter l and said “What is that?” to which I answered “It's an l”. She responded, “Oh, a fancy letter to make you like it more!” Stacy inferred that the makers of this kind of soda uses “fancy” letters to make their product more marketable. Gwen also noticed the cursive font used on the *Friendly's* and *Hallmark* signs. Having already added *Friendly's* to her journal, while writing *Hallmark* she said, “Hallmark and Friendly's both have signs with that kind of letters...the fancy ones...maybe one has fancy things and the other has fancy food?” Gwen's comment revealed that she is moving into becoming a transitional readers, a reader who makes “text to text connections” (p. 126).

**Looking Across the Student Journals**

The writing of all four benchmark groups included more examples of either foods or toys. This indicates to me that when the students worked on their journals at home, they looked at items they interacted with and used. Since all groups had less
examples of places, it seems that if the students noticed such environmental print, the
did not record them in their journals.

The skills used by each benchmark group when working with environmental
print in these activities related to the skills that are typical of the reading level at
which the DRA2 assessment determined them to be. Such results show that students'
reading levels do impact how they work with aspects of environmental print. The
strategies that were prominent for each reading level were also the ones students
employed when working with the types of environmental print explored in the unit.

Environmental Print and Oral Language Development, Reading
and Writing Abilities

The final sub-question of my research looks at the influence that working with
environmental print had on the students' overall literacy learning. I focused on three
specific areas and asked: How does environmental print impact student oral language
development, and their reading, and writing abilities?

Throughout this study, I engaged the students in a variety of lessons and
activities with the students that provided me with an understanding about the
connection between environmental print and aspects of literacy: oral language
development, reading, and writing. Below, I discuss the findings in relationship to
these areas.
Oral Language Development

Several sources provided information about the connection between oral language development and environmental print. These included responses on parent surveys, student use of the term “environmental print”, different whole and small group discussions, and unprompted conversations and discoveries.

Using the Term “Environmental Print”

In Stacy's parent update survey, her parents described how she now “talks about 'environmental prints' a lot since she has learned about it in class. She will see a sign or writing on something and she will say 'That's an environmental print!'”

Throughout this study, Stacy and several other students have displayed how the term “environmental print” has been incorporated into their vocabularies. While writing in her journal during a morning free write, Gwen pointed to the Dunkin Donuts logo on the classroom's environmental print display. She asked “What is that” to which I answered “Dunkin Donuts”. She said “No, when they are all up there. What are they called?” My answer of “environmental print” received the reaction of “YEAH!”

Gwen wrote in her journal: “I like wrking on invirmetl print bykus it is fun to me and I wrkd hard” (“I like working on environmental print because it is fun to me and I worked hard”).

Later on in the study, a student shared with the class that our local
McDonald's restaurant was in the process of being torn down to build something new. Many students were concerned about the sign that had become a part of our environmental print display as well as several activities and lessons. We discussed the importance of the sign and what it showed the people driving by the restaurant. Ken asked if the sign would be taken down to which Maddy answered “What if they tear down McDonald's and make a Burger King, but leave the McDonald's sign?” Many students gave reasons why this scenario would be a problem: Collin said “people go in and see it's the wrong one” and Eric was worried that “people will think it's a McDonald's”. Angela summed it up by explaining that “when you're going to the place, environmental print shows you what it is. It needs to match what's inside!”

Using the term “environmental print” with students gave them a NAME for what they see and use all the time. They understood that they were using their reading skills are not just during literacy centers, but rather all of the time, in and out of school. They were now aware that this has been occurring without them fully realizing it. Now with the term “environmental print” as a part of their personal vocabularies, as demonstrated by these examples of student comments in which they themselves, students were not only conscience of what it is, but how it is a part of their everyday language.

Unprompted Peer to Peer Conversations

“Environmental Print BINGO” (Prior & Gerard, 2004, p. 71) was an activity
that incorporated both the manuscript words and the photographs of environmental print on the BINGO cards. (see Appendix K for an example of an environmental print BINGO card.) During the game, I called out the name of an environmental print word and the students were search their cards to find it, in either form.

The students' casual conversations throughout the study, but specifically during this activity, gave me insight into their understanding of the different forms of environmental print. When I called *Disney*, Lara searched her card, found the manuscript form and said “I have the word!”. Later when I called *NINTENDO DS*, Christopher said “I have the picture” as he put a chip on the photograph of the toy's logo. Looking for *BAKUGAN*, Collin said “I don't have the word or the picture for that one”. Such comments demonstrate how the students were able to see the difference between the two forms of environmental print while understanding they were the same. They also used words in their vocabularies to describe what they were learning and expanded their understanding of these words to include new concepts.

**Parent Surveys**

In the initial parent surveys two of the four parents described their child as “talking about” environmental print with them. They explained how these discussions were either about the products the children saw while shopping or items they could buy at a specific store.

In the second survey, I asked parents about any changes they witnessed in
terms of their child's interactions with environmental print. Three parents described changes in their child's discussions about environmental print that clearly shows a significant change. As described earlier in the Oral Development section, Stacy's parent explained how she is talking about environmental print more, pointing out more examples, and even using the term “environmental print” to describe what she sees. Angela's parent described her discussions as “new and better”. Nathan's parent said he “talks about 'environmental prints' a lot since he has learned about it in class. He is definitely more aware and expressing interest in what things say”. Stacy, Angela, and Nathan took what they had learned about environmental print in school and applied it appropriately in conversations with their parents, a process that enables their oral language to expand.

**Unprompted Sightings and Use of Environmental Print**

Such unprompted conversations also took place in the classroom in a variety of situations. While on a walking field trip, for example, several students pointed out the STOP signs and were excited to see something from our classroom's environmental print display. On our trip to an art show at the local college, Christopher saw a sign for the college and read the name of the college.

While in line to wash their hands, Eric and David decided to create a challenge using the examples of environmental print that were displayed on the classroom's cupboard above the sink. Eric said, “I can touch BAKUGAN and
Cinnamon Toast Crunch,” and David replied, “Can you touch LEGO?”.

For snack one day during the unit, I brought in a box of cereal that happened to be from a store included in our environmental print display. As soon as I brought the box to each table, the students there exclaimed “You got that from Wegmans!”

Environmental Print and Play

Play was the part of the day in which students most often incorporated environmental print into their casual conversations, since they were interacting with toys and objects that had logos and names on them. While in our classroom's play kitchen, Rachel had a clear view of the environmental print display. When she and her friends were thinking of what to cook, she said “Let's have dinner at Pizza Hut!”

In our classroom, there was a word building activity that students play with. Jerry used it quite frequently, but made a new discovery during this study: “These are by LEGO!” he announced, referring to the logo on the toy that he had not recognized until now. Also during playtime, Collin noticed Nathan playing with a truck and asked him “Is that a Hess one?” Nathan looked his truck over and answered “Yes!”

These discussions and conversations demonstrate the students' unprompted awareness of environmental print and their use of it in real and useful ways. Their eyes were open to environmental print and it became a part of their everyday behaviors and conversations.
Writing

I incorporated writing into several activities throughout this study in order to determine if and how learning about environmental print impacted the students' writing abilities. One activity was the environmental print journals, which I explained and analyzed previously. In addition, the students wrote "Silly Stories" using examples of environmental print (Mueller, 2005, p. 54). I also took note of when and how students included environmental print in their writing without being prompted to do so.

Silly Stories

To use environmental print in a fun way, I gave each student one environmental print word and asked him/her to create a silly story about it. Writing silly stories was an activity the students had done before, which enabled them to focus on incorporating environmental print. For each student, I chose an example of environmental print that I knew they were familiar with based on previous discussions and interactions. I did not have the students choose their own only because so many immediately expressed interest in the same few examples. For example, Malcolm, Ken, Christopher, and Jimmy all asked for BAKUGAN and Maddy, Rena, and Nathan all wanted Wegmans. Because I wanted to see how using environmental print impacted the students' writing abilities, I limited my instruction of words to encourage and motivate them while they worked. All of the writing and
ideas in this writing project were completely student created.

All 18 students thought of silly ideas for their environmental print story and were each excited to share them with the class. Figures 4.1 and 4.2 are examples of student work. 4.1 is Gwen's silly story about CAPRISUN and 4.2 is a silly story about SUBWAY by David.

```
I went to the super market and 'buyed' CAPRI SUN. I got home and it ate me
```

Figure 4.1: Gwen's silly story about CAPRISUN: “I went to the super market and 'buyed' CAPRI SUN. I got home and it ate me”

```
My SUBWAY can talk and jump.
```

Figure 4.2: David's silly story about SUBWAY “My SUBWAY can talk and jump.”
<table>
<thead>
<tr>
<th>Environmental Print</th>
<th>Student’s Story</th>
<th>Teacher’s Scripting</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASCAR</td>
<td>“Tha go the rog wau and the utr crash”</td>
<td>“They go the wrong way and the others crash.”</td>
</tr>
<tr>
<td>CAPRI SUN</td>
<td>“I went to the soopr makit and bid CaPRISUn. I got hom and it at me”</td>
<td>“I went to the super market and 'buyed' CAPRI SUN. I got home and it ate me”</td>
</tr>
<tr>
<td>BAKUGAN</td>
<td>“Ws tha wr a BAKUGAN ____ “</td>
<td>“Once there was a BAKUGAN eating me.”</td>
</tr>
<tr>
<td>LEGO</td>
<td>“LEG0 R a it LEGO Mos”</td>
<td>“LEGOs are a LEGO mouse.”</td>
</tr>
<tr>
<td>OREO</td>
<td>“Wuna I went to the stor OREO wuz DasAn”</td>
<td>“When I went to the store, an OREO was dancing”</td>
</tr>
<tr>
<td>Disney</td>
<td>“The chen is on hr ft and the shin is on my hed”</td>
<td>“The crown is on her foot and the show is on my head”</td>
</tr>
<tr>
<td>WALMART</td>
<td>“WAL<em>MART got sos and Dit agan it can to LuF and it toc and Wit bta to a WAL</em>MART”</td>
<td>“WALMART got squashed and build again. It came to life and it talked and went back to a WAL*MART”</td>
</tr>
<tr>
<td>MOIT’S</td>
<td>“SOSKAT ToC”</td>
<td>“Apple sauce can talk.”</td>
</tr>
<tr>
<td>SUBWAY</td>
<td>“MY SUBWAY can touc and JuP”</td>
<td>“My SUBWAY can talk and jump.”</td>
</tr>
<tr>
<td>STOP SIGN</td>
<td>“My STOP sop can tuk RGRDaU”</td>
<td>“My STOP sign can talk all day.”</td>
</tr>
<tr>
<td>McDonald’s</td>
<td>“McDonald’s Got et bo a mostr”</td>
<td>“McDonald’s got eaten by a monster.”</td>
</tr>
<tr>
<td>Tim Horton’s</td>
<td>“One day I kam to Tim Hortons I sol the donus kuM ulov and they laf uol day.”</td>
<td>“One day, I came to Tim Hortons. I saw the donuts coming alive and they laughed all day.”</td>
</tr>
<tr>
<td>SCOOBY DOO</td>
<td>“Shege and SCOXY DOO HAD A BOXing FIGT AND SCOUBE DOO one”</td>
<td>“Shaggy and Scooby Doo had a boxing fight and Scooby Doo won.”</td>
</tr>
<tr>
<td>Sponge Bob Squarepants</td>
<td>“One day SpongeBob Squarepants cam to lif to day and he sat on peeppl and he wanid to Be a Stachyoo”</td>
<td>“One day, Sponge Bob Squarepants came to life today and he sat on people and wanted to be a statue”</td>
</tr>
<tr>
<td>Pizza Hut</td>
<td>“One day I was bcyen a pizza a Pizza Hut an the pizzas came wilefe an then they manjir strd To trin to a pizza in they came aftr me. I ran all ove the plas”</td>
<td>“One day, I was buying a pizza at Pizza Hut and the pizzas came alive and then the manager started to turn into a pizza and they cam after me. I ran all over the place.”</td>
</tr>
</tbody>
</table>

Each student incorporated their prior knowledge of and experience with his/her assigned example of environmental print into the story. Ken, for example, wrote about SCOOBY DOO and included another character from the cartoon. Almost all of the stories, twelve of the fifteen, show how the students incorporated what they
knew about the environmental print with what they have learned about writing story components. Four stories including an introduction of “one day” or “once”, five stories had a setting, and each of the twelve named specific characters. In order for the students to make the stories silly, they needed to know what was true about their environmental print and what about it could be changed to be funny. Many chose to make inanimate objects come alive. Two students, Lara and Malcolm, wrote stories that were more realistic, but silly to them. NASCAR made Malcolm think of car races and he thought it would be funny if the cars in the race went the wrong way. Lara, who wrote about Disney, focused on what she thinks of when she sees that logo: princesses. A silly princess story to her involved them mixing up their outfits.

The students' silly stories also showed if and how they utilized the actual photograph of the environmental print when they wrote. I gave each student the photograph of his/her assigned environmental print when this activity started, but I did not prompt the students to copy it or to use it in any way. Eleven of the fifteen students wrote the environmental print exactly how it appears in the photograph. Students connected what they were writing to what they saw in the picture, which shows that the students understood that the photographs of environmental print held the same meaning in their manuscript writing.
Independent Writing/Free Writes

Students carried this connection with them when they wrote independently, either in free writes in their daily journals or during playtime. In all cases, I did not bring the classroom's environmental print display to the students' attention. When asked to write about what they like to eat, students were able to choose any kind of food they wanted. Ken wrote “I love Cheerios” and Christina wrote “I love to eat OREO.” Both students wrote the environmental print words correctly, showing their use of the classroom's display. What is more significant is that they did not just randomly choose a word from the display. They thought of their answer first and then went to the display to see if it could help, using the environmental print display in a similar way as they used our classroom's traditional word wall. This problem solving ability was not only shown through their actions and in my discussions with them before they started writing, but also later when they shared their writing with me. Each student had a personal story to tell as a reason why the food they chose was their favorite. Ken said “But not the berry kind...just the plain ones” and Christina said that OREO's are “yummy because they have chocolate and frosting inside!”

On another day, I asked students to write about something they like to do with their families. Again, several students applied their new awareness of environmental print by incorporating it into their writing. Lara wrote “I like to go to SUBWAY bks (because) i like the sandwich (sandwiches).” She chose her topic by looking over the environmental print display and choosing her favorite, but her writing clearly shows
she had prior knowledge about the restaurant she chose. She also described her favorite sandwich to me when she read her piece to me: “The one with the turkey and lettuce!” Eric's answer to what he liked to do with his family was “I like to play **BACUGON** with my sister.” He did not spell the name of the toy as it is in the photograph. Therefore it is likely that he used the environmental print display as inspiration for his idea, but then used his own knowledge of letter and sounds to write it. Collin's writing during the same activity was similar. He wrote “I like to go to **WOM (WALMART)** with mom”. He, too, might have thought of this store by seeing or remembering its sign in the display or in previous lessons or activities, but used his own skills to write it.

Based on the examples of the students' writing produced during this study, it is clear that learning about environmental print had a positive impact on their writing process and final work. Students drew upon their personal experiences with different examples of environmental print, and many students used it as inspiration for their writing. Many also made the connection between what they saw in the photographs and the words they wanted to include in their writing. The majority of students' writing that included examples of environmental print, students correctly wrote the words in manuscript print. The words were used appropriately, the writing made sense, and they were able to read their writing back, many adding more personal information about it. The findings demonstrate that the students were able to integrate aspects of environmental print into their writing purposely and meaningfully.
Learning about environment print enabled the students to draw upon their personal experiences and include their everyday experiences and knowledge into their writing.

**Reading**

Throughout this chapter, I have discussed several ways that a student's reading ability impacts her or her ability to make meaning of environmental print. In this final section, I offer additional findings of how students used reading skills and ability while interacting with environmental print. The findings are based on several lessons and activities that were carried out during the study, including "Questions of the Day" and a version of the game "What's Missing on Cereal Boxes?" (Mueller, 2005, p. 40), and my recorded observations of discussions that demonstrated reading as well as unprompted reading discoveries made by students.

**Questions of the Day**

In my classroom, students sign in each day based on a "Question of the Day", which was posted on a whiteboard. Students put their magnetic name card under "Yes" or "No" based on their personal answer to the question. Prior to the environmental print unit, I posted questions such as "Do you like the color green?", "Are you wearing socks?", or "Are you glad it is sunny?" Throughout the study, I incorporated the concept of environmental print into four of the daily questions. The first question I posted was "Do you like to eat Cheerios?" Six students immediately
recognized the example of the environmental print and answered the question. Two students knew that it was one of the examples environmental print in our classroom's display and used that to help them answer the question. The ten remaining students did not recognize the word nor did they connect it to environmental print and asked for me or a peer for assistance. The next time I used environmental print the question read “Do you like to go to Wegmans?” Twelve of the 18 students immediately recognized and answered the question. The remaining six asked for help or overheard peers reading the question before answering it themselves. The remaining two “Questions of the Day” findings yielded similar results. When I asked students “Do you like to play with Pokemon?” ten students immediately recognized the word while three did not and one referred to the corresponding photograph in the display. “Do you like SCOOBY-DOO?” was recognized by 11 students. One student asked for support from a friend while the remaining six students used the environmental print display.

Just in this one daily activity, students combined different reading skills: decoding, context cues, and knowledge of high frequency words, with their new and expanding awareness of environmental print. Gwen's reaction to one “Question of the Day” shows her realizing that what she learned about environmental print can be used when she reads: “Weg-man. I don't know what that....Oh! Wegman's!! You asked if I like to go to that store!”
Missing Letters Game

In Mueller's (2005) game, What's Missing on Cereal Boxes?, letters are removed from the names of the cereals on different cereal boxes and students are asked to determine what is missing and replace it. For this study, I removed letters from the photographs of a variety of environmental print words from our display. I also added some details to several words as well. In NINTENDO DS, there are two little squares between the words that are white. For this game I fill them in with a black marker. Also, in the Disney logo, there is a curled line to make the dot above the letter I, which I filled in with a black marker to make it into a circle. I made two copies of each example and started by placing the copy with a missing letter and/or an added detail on the classroom whiteboard. I then asked the students to share what they noticed. Three students, Rena, Christopher, and Collin, made the observation that our environmental print display could help them in this activity and they glanced at it a few times throughout the activity. The environmental print, what was missing and/or added, and student's answers to my question are shown in Table 4.9 (see Appendix L for several pictures of pairs of altered and original photographs).
Table 4.9: Missing Letters Activity

<table>
<thead>
<tr>
<th>Environmental Print</th>
<th>Missing Letter</th>
<th>Student Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly’s</td>
<td>F</td>
<td>“F and some of the red”</td>
</tr>
<tr>
<td>Crayola</td>
<td>C</td>
<td>“C is missing and there’s something at the bottom of the picture” (part of the markers in package)</td>
</tr>
<tr>
<td>Nintendo DS</td>
<td>N and symbol between the o and D were filled in</td>
<td>“Those squares are not supposed to be colored and the N is missing”</td>
</tr>
<tr>
<td>Disney</td>
<td>D and dot over i was filled in</td>
<td>“D is gone” “The dot is not supposed to be colored in!”</td>
</tr>
<tr>
<td>Barbie</td>
<td>b (second b)</td>
<td>“The b is not there...the one after the i...I mean before it”</td>
</tr>
<tr>
<td>Sponge Bob</td>
<td>b (last one...the lower case)</td>
<td>“The b is missing...after the o”</td>
</tr>
<tr>
<td>BAKUGAN</td>
<td>B</td>
<td>“The B” “Akugan!!”</td>
</tr>
<tr>
<td>Hess</td>
<td>H</td>
<td>“H is missing” “Ess!”</td>
</tr>
<tr>
<td>Tim Horton’s</td>
<td>H</td>
<td>“H is missing”</td>
</tr>
<tr>
<td>Pizza Hut</td>
<td>H</td>
<td>“H is missing” “It says Pizza Ut!”</td>
</tr>
<tr>
<td>ESL Federal Credit Union</td>
<td>E</td>
<td>“E is missing”</td>
</tr>
<tr>
<td>STOP</td>
<td>S</td>
<td>“S is gone because it says ‘top’”</td>
</tr>
</tbody>
</table>

Students were able to determine the missing letters from all of the environmental print words used in this activity. They recognized what letter was missing without being shown a complete photograph of the environmental print. The
detail added to *NINTENDO DS* was also immediately pointed out by five or six students. The addition to *Disney*, a filled in dot over the “i”, was not realized by students until the complete photograph of the logo was displayed. In the comments made by student, they not only recognized what letter was missing, but in five cases, what the newly created word says. Both Nathan and Malcolm determined that *BAKUGAN* without the “B” is “Akugan”. After Jimmy explained that the “H” was missing from *HESS*, Maddy said “Ess!” And when Rachel told the class that *Pizza Hut* also did not have an “H”, David responded with “It says “Pizza Ut!!”’. I removed the “S” from *STOP* and Collin said that he knew that the “S is gone because it says ‘top’”. The class found these discoveries comical and enjoyed saying the new words they saw. I found them significant as well since it showed how students were utilizing their decoding skills while working with environmental print and understanding that the two influence and work with each other. The students applied skills they typically used when reading to examine logos they usually recognized without focusing on the letters.

Several students’ focus went beyond the missing letters to include the details they saw in the photographs of environmental print. I purposely altered details in only two of the examples, filling in the symbol in *NINTENDO DS* and coloring the dot above the “i” in *Disney*. Students realized both of these when we compared the altered photographs to the originals. However, before these two alterations were discovered, several students noticed details in other examples. Christopher, who
determined that the “C” in Crayola was missing, also noticed something else in the picture: “C is missing and there’s something at the bottom of the picture”. The logo was on a package of markers and he could see them in the box below the logo. The background of the Friendly's sign is red and Rena pointed out that not only was a letter missing from the altered photograph, but some of the background was as well, when she said, “F and some of the red”.

Although not part of the plan of the activity, these extra finds show just how much the students were focused on the details of the environmental print. Throughout the study, they realized that, just like when they read a book, if they look beyond the letters, so much can be interpreted and learned from all of what is shown in the photographs of the environmental print. Overall, the variety of reading activities demonstrated that the students were able to apply the skills they learned in reading lessons and activities were applied when they worked with environmental print and vice versa. The acts of interpreting environmental print and reading typical, traditional texts are intertwined.
Chapter 5: Conclusions and Recommendations

Conclusions

Throughout this six-week study, I investigated the impact that learning about environmental print had on the literacy development of my kindergarten students. Based on the outcomes of the classroom activities, the discussions I had with students, the information from parents, and the comments made by students throughout the study, several conclusions emerged in relationship to the research questions.

Realizing that Literacy is all Around

Introducing the concept of environmental print to the students and then inviting them to explore it in relationship to their emerging literacy skills through a series of implicit and explicit activities opened their eyes to the fact that literacy is all around them. Parents input described how their child became more aware of what he or she saw and how his or her understanding of the concept connected to aspects of reading. Several students even used the term "environmental print" to describe what they observed, showing their new and expanding perceptions of their world. The students' awareness of the connection between reading and the signs and logos they saw on a daily basis provided an authentic and natural way for them to utilize their literacy skills. They recognized how their knowledge of letters and sounds could help
them determine what was inside a cereal box at the grocery store or the name of the restaurant they are passing in the car.

**Connecting New Understanding Across Texts**

While learning about environmental print expanded the students' awareness of the literacy around them and supported their use of their literacy skills in the real world, it also enabled them to see the significance of literacy skills while they were reading. Many examples of environmental print involved more than words and required an awareness of how the entire presentation of the text is used to interpret the message. Looking beyond the words is an important skill when reading books because illustrations, context, and meaning each play a large role in a reader's interpretation and comprehension of a text. In my study, students made connections between reading and environmental print. They experienced first hand how to use the entire presentation of a piece of environmental print-design, text, and image- to interpret the print's meaning and then transfer that skill to their meaning making process while reading.

**Connecting Home and School**

Another purpose of this study was to look at how environmental print, when used to build a connection between home and school, impacted students' literacy development. Although fewer parent surveys and environmental print journals were
returned than I had hoped for, the ones that did come back showed positive outcomes for expanding the environmental print unit to include students' families and their experiences outside of school. It is clear to me that creating a home school connection about environmental print increased how students talked about and pointed out examples of environmental print outside of school with their families. This not only strengthened their understanding and recognition of environmental print, but also created authentic discussions and uses of it. I found that since many actual examples and most everyday use of environmental print take place outside of school, connecting home and school using environmental print activities proved to be a way for parents and students to work together to further the child's (and in some cases the parents') understanding and learning as well as his or her application of that knowledge.

**Increasing Students' Positive Views of Self**

The findings of this study also demonstrated an impact that learning about environmental print had a positive impact on students' views of themselves as readers. Many student comments showed how they positively connected understanding environmental print to being good readers and that their own skills using environmental print must mean they themselves can read. Also, because students are constantly surrounded by environmental print that they recognize, they were able to transfer their positive feeling into their out of school experiences.
Several parents described a noticeable increase in their children's self confidence as readers and their willingness to attempt more difficult texts over the course of the environmental print unit.

**Connecting Environmental Print and Literacy Development**

The focus of this study was the impact environmental print has on young children's literacy development. However, I did not expect to find how closely these two areas are intertwined. By comparing the students' interactions with environmental print with their reading levels, I hoped to learn if reading level influenced the ways in which they worked with environmental print. Not only did findings show that this is true, but the findings also indicated that there was little difference in the expected reading skills at each level and the reading skills they used to interpret environmental print. Each student's level of understanding and use of letters, sounds, self and text connections, and inferences was similar whether the child was working with environmental print or more traditional text, e.g. a story book. This outcome supports the view that interpreting environmental print can be considered reading, the debate I was described in chapter two.
Comparing this Study to Previous Research

Connecting Environmental Print to Reading

Several outcomes of my study matched previous research while others did not. In her study, Ehri (1987) carried out activities in which she manipulated examples of environmental print. She found that students did not use the words in environmental print to interpret them and, in fact, few noticed if she changed the letters of the environmental print words, which led her to conclude that there is little connection between environmental print and reading. In my study, I conducted similar activities and had very different results: While I did not change the letters in the environmental print, I did change details in several and removed letters from others. Based on Ehri's work, I would expect that few of my students would notice a difference. However most of the students, sixteen out of eighteen, pointed out the changes in all of the examples I had changed. Furthermore, the unexpected conclusion based on my comparison of a student's reading level and his or her interactions with environmental print demonstrated a clear correlation between how a students reading level impacts his or her interaction with and recognition of environmental print, a connection that Ehri did not find.

Working with Manuscript Forms of Environmental Print

Other researchers have carried out activities that involved manuscript forms of
environmental print and there are similarities between their findings and my results. C oesronin, Farrell, and Delaney (1999), for example, found that students identified more examples of photographs of environmental print than examples that were in manuscript form. My findings are similar to those found by Reutzel, Fawson, Young, Morrison, and Wilcox (2003). They too found a connection between reading skills and environmental print, an association made most evident by the results of my comparison between reading levels and skills used when working with environmental print.

**Instructing with Environmental Print**

Kuby and Aldridge (2004) found a teacher's indirect instruction of environmental print led to higher student success and understanding. In my study, I used direct instruction, including explicitly explaining the concept of environmental print and holding discussions focused on different examples, and indirect instruction, including holding open discussions, asking students to explain their examples of environmental print, and displaying examples of environmental print for students to use on their own. There were important findings and understandings that resulted from direct lessons and activities, for example the relationship between a student's recognition of specific examples of environmental print and his or her reading skills. However, I gained powerful information and insight from unprompted and student led discoveries and comments. My discoveries parallel those of Kuby and Aldridge.
through indirect instruction, students could show their understanding of environmental print and apply it to their lives and learning.

**Choosing Environmental Print for the Classroom**

When choosing examples of environmental print for my study, I utilized what Horner found in her 2005 study and found similar results. She determined that using examples of environmental print that students are familiar with raised interest and motivation. Therefore, I took photographs from places that students see and visit on their way to school. I also incorporated foods that I knew they ate based on what I saw during lunch and snack, and toys I knew they played with based on our conversations and items they brought to school for show and tell. During our lessons, discussions, and activities, I included items they were familiar and comfortable with and I recognized the students were highly motivated to learn each time the topic involved environmental print. They showed this through their excitement not only during classroom activities that explicitly focused on environmental print, but also by discovering different aspects of examples at other times during the school day and pointing out examples outside of school. This personal connection to environmental print not only increased motivation, but also supported the students in how they believed themselves to be as readers, a concept I described earlier in this chapter.
My Future Work with Environmental Print

As a kindergarten teacher, I can use the results that emerged from this study in my future work with students, especially next year's class. I found that conducting a literacy unit on environmental print proved to be a positive, educational, and worthwhile experience for me, my students, and their parents. Based on the students' success and growth over the six-week unit, I know that I will now incorporate environmental print into the curriculum as an annual unit. Because my findings show that working with environmental print supported a foundation for students' emerging literacy skills and enabled them to connect learning to their world, it may be beneficial to begin the school year with the unit and continue the exploration from time to time throughout the year. Who knows what connections the students, their parents, and I might make!

Using Environmental Print as a Motivator

In this study, using environmental print in the classroom as a learning tool proved to be a great motivator to students. To me, this demonstrates a solid reason to incorporate environmental print into my classroom in other ways and times beyond a literacy unit that is focused on it. This could include including books that have examples of environmental print in my classroom library, using examples to support classroom management such as a STOP sign on the bathroom to show that it is occupied, and adding examples to my classroom's dramatic play area. Environmental
print could also proved beneficial when I was introducing a reading skill, especially those skills used by students in this study, by providing a familiar use and context for the skill. Continuing this type of instruction would be an authentic way to motivate and engage students.

**Bringing Outside World into the Classroom**

There is one outcome of this study that I can use as a teacher almost every day in my work with students: incorporating students' outside world into the classroom. By including concepts and actual items students interact with, use, and or see everyday into my lessons and activities, I will set my students up for success. They have personal connections, familiarity, and prior knowledge that can support my teaching and their learning. While I found environmental print to be a powerful way to integrate students' world into the classroom, it is not the only way. Using songs and books students know or inviting them to bring in their favorites, and encouraging them to bring in other items of personal interest to share or even inviting family members to share can provide unique but authentic ways to support learning.

**Shaping Teaching to Students**

Kindergarten teachers can easily make use of what I found in this study. However, all teachers, no matter what grade or subject they teach, can use the results to benefit their students, especially in relationship to the connections between reading
and environmental print that were discussed earlier. Beyond those findings, other important messages emerged from this study. One is that literacy is all around. When teachers support the connections their students are making with aspects of literacy in their environment, it increases learning and motivation. The results of this study also support the concept of fitting learning to students rather than vice versa. Teachers can learn so much from students and then use this information to support teaching. Finally, the impact of student's views of themselves as learners played an important role in this study and what was found can be used by other teachers. When students have a positive view of themselves as readers or as learners in general, they are comfortable to take risks and further their learning.

**Recommendations for Future Research**

Based on my findings, further research can be done to learn more about how environmental print influences young children's literacy development.

**Looking More into Home School Connection**

The descriptions of students' interactions with and discussions of environmental print outside of school were important elements of this study, but unfortunately not all of the students' parents this information. A future study could look further into the home school connection piece of learning about environmental
print. It would be beneficial for educators to learn more about how students use what they learn about environmental print outside of school.

**Timing of Environmental Print Unit**

I know that a unit on environmental print will be a part of my curriculum each year that I am a kindergarten teacher, but I may do so at the beginning of the year so that the experience can serve as a foundation for future learning. Exploring when during the school year to best incorporate a unit on environmental print and the advantages of such could make an interesting and useful study.

**Exploring Other Factors that Influence Reading**

One aspect of my study compared students' reading level and how they worked with environmental print. There are many other factors that influence reading, including age, gender, and socioeconomic status. Future studies could explore the connections between these factors and how students interact and use environmental print. Findings of such research could give insight into the types and uses of environmental print that best support student learning.

**Using Environmental Print with Different Learners**

Finally, my study took place in a kindergarten classroom and therefore it did not provide information about how working with environmental print impacts the
literacy development of any other kind of level or learner. Future studies could investigate the changes in how environmental print influences literacy development of older students, students who have special needs, are nonverbal, or are English language learners.
References


Appendix A

Parent Consent Letter 1: Consent for Child’s Participation

Dear Parents or Guardian,

I am currently a graduate student in the Department of Education and Human Development at The College at Brockport, SUNY working on my masters in Childhood Literacy. As a part of my coursework, I am conducting a study about how environmental print influences literacy development. In our classroom, I will be carrying out lessons and activities with the entire class as a part of a six week unit on environmental print.

As a part of this study, I will be observing your child’s interactions with, discussions about, and use of environmental print. As part of my data collection process, I will take observation notes, document comments from students, and review student work. Another piece of the study is looking at how students use and recognize environmental print in their everyday lives at home. Therefore, I will send home a parent survey asking for your observations and feedback related to environmental print.

All students will take part in the unit’s activities; however, I will only use my observations of your child as well as his/her work if you grant consent for your child to participate in this study, his or her behavior with environmental print and/or work will be part of my data. The data collected in this study will not be a part of school benchmarks or assessments that appear on your child’s report card.

The enclosed Guardian Consent form includes information about your child’s rights as a project participant, including how I will protect your child’s privacy. Please read the form carefully. If you are willing to allow your child to participate, please indicate your consent by signing the attached statement, titled CONSENT FOR OBSERVATION OF STUDENT. Also, if you are willing to participate by completing the parent survey, please indicate this by signing the statement titled CONSENT FOR PARENT SURVEY.

Thank you for your consideration.

Sincerely,
Lisa Burgin
Dear Parents or Guardian,

I am currently a graduate student at The College at Brockport, SUNY completing a master’s thesis for the Department of Education and Human Development. As part of the requirements for the thesis, I am conducting a research study to explore how environmental print influences early literacy development. Specifically, I am curious how including aspects of environmental print into the classroom impacts literacy skills.

If you agree to have you and your child participate in this research study, your child’s interactions with, discussions about, and use of environmental print will be observed throughout the school day, and parent surveys will be sent home for you to complete.

In order for your child to participate in this study, your informed consent is required. You are being asked to make a decision whether or not to allow your child to participate in the project. If you would like your child to participate in the project, and agree with the statements below, please sign your name in the space provided at the end. You may change your mind at any time and your child may leave the study without penalty, even after the study has begun.

I understand that:

a. My child’s participation is voluntary and he/she has the right to refuse to answer any questions.
b. My child’s confidentiality is guaranteed. His/her name will not be recorded in observational notes. There will be no way to connect my child to the observation. If any publication results from this research, my child would not be identified by name. Results will be given through the use of pseudonyms, so neither the participants nor the school can be identified.
c. There will be no anticipated personal risks or benefits because of
participation in this project.

d. My child’s participation involves participating in regularly scheduled activities in his/her kindergarten classroom.

e. My child’s classroom teacher will be observing my child’s interactions with, use of, and discussions about environmental print throughout the school day for six weeks. The teacher will continue typical classroom teacher behavior while also taking notes of behaviors and conversations that relate to the study and asking questions about student interactions with, use of, and discussions about environmental print.

f. The results will be used for the completion of a thesis paper by the classroom teacher.

g. The teacher will keep the data from the observations in a locked filing cabinet. Data and consent forms will be destroyed by shredding when the research has been completed.

h. I understand the information provided in this form and agree to allow my child to participate in this study. I am 18 years of age or older. I have read and understood the above statements. All of my questions about my child’s participation in this study have been answered to my satisfaction.

If you have any questions, you can contact:
Primary Teacher Researcher: Thesis Advisor:
Lisa Burgin Dr. Don Halquist
Classroom Teacher/Graduate Student

Signature of Parent/Guardian

Date

Child’s name
CONSENT FOR PARENT SURVEY

Dear Parents or Guardian,

I am currently a graduate student at The College at Brockport, SUNY completing a master’s thesis for the Department of Education and Human Development. As part of the requirements for the thesis, I am conducting a research study to explore how environmental print influences early literacy development. Specifically, I am curious how including aspects of environmental print into the classroom impacts literacy skills.

A piece of my study includes looking at how environmental print is used and recognized in children’s everyday lives at home. In order to learn more about each child’s interactions with environmental print outside of our classroom, parent surveys will be sent home.

In order for your answers to the survey to be utilized in study, your informed consent is required. You are being asked to make a decision whether or not to allow your completed survey to be a part of the project. If you would like to participate in the study and agree with the statements below, please sign your name in the space provided at the end. You may change your mind at any time and your survey can be removed from the study without penalty, even after the study has begun.

I understand that:

i. My participation is voluntary and I have the right to refuse to answer any questions

j. My confidentiality is guaranteed. My name will not be recorded in observational notes. There will be no way to connect me to the observation. If any publication results from this research, I would not be identified by name. Results will be given through the use of pseudonyms,
so neither the participants nor the school can be identified.
k. There will be no anticipated personal risks or benefits because of participation in this project.
l. My participation involves participating in regularly scheduled activities in his/her kindergarten classroom.
m. The results will be used for the completion of a thesis paper by the classroom teacher.
n. The teacher will keep the data from the observations in a locked filing cabinet. Data and consent forms will be destroyed by shredding when the research has been completed.

I understand the information provided in this form and agree to participate in this study. I am 18 years of age or older. I have read and understood the above statements. All of my questions about my participation in this study have been answered to my satisfaction.

If you have any questions, you can contact:

Primary Teacher Researcher:
Lisa Burgin
Classroom Teacher/Graduate Student

Thesis Advisor:
Dr. Don Halquist
The College at

Signature of Parent/Guardian

Date

Child’s name
I am doing a study for my class at college. At school, you read all different kinds of words and books. I want to find out how another kind print might help you become even better readers and writers. I may ask you questions and write down things that you do or say while during these lessons and projects. I also may want to keep some of your work to help me.

Everyone in the class will do the projects and participate in the lessons, but it is your choice if I will be writing down things you say or do and keeping some of your work. Your parent has given permission for you to be in the study, but it is up to you to decide if you want to participate. Being in this study or not will not change how I feel about you. You can change your mind and stop being in the study anytime you want.

If you understand and would like to be a part of my study, write your name on the first line and the date, which is __________, on the second line.

Name

Date

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### Appendix C

**Observational Notes**

<table>
<thead>
<tr>
<th>Student and DRA2 Level</th>
<th>Environmental Print</th>
<th>Use/Interaction</th>
<th>Connection to Previous Skills</th>
<th>Oral Language</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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Appendix D
Parent Survey

Dear Parents or Guardians,
Below are three categories of environmental print. I’m curious about what kinds of environmental print you notice your child responding to at home. Please give an example of the different types your child responds to as your child talks about the print he or she sees. Please complete the survey by
Thank you!

_____ Food Containers

Examples

How did your child respond?:

__read it (decoded words in it) __quickly recognized it __talked about it

_____ Toy or Restaurant Logos

Examples

How did your child respond?

__read it (decoded words in it) __quickly recognized it __talked about it

_____ Symbols (sports logos, street signs, bathroom signs, etc)

Examples

How did your child respond?

__read it (decoded words in it) __quickly recognized it __talked about it
Appendix E

Informal Interview Questions

<table>
<thead>
<tr>
<th>View of Self as Reader</th>
<th>Environmental Print</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you like to read?</td>
<td>Have you seen that before at home?</td>
</tr>
<tr>
<td>Did you think you could read that?</td>
<td>How do you know that’s what that says?</td>
</tr>
<tr>
<td>Do you realize that you just read that whole thing?</td>
<td>What gave you clues about what is in this box (or item)?</td>
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Appendix F

Project Letter to Parents

Dear Parents,

We are starting a literacy unit about ENVIRONMENTAL PRINT!

Environmental print includes logos, signs, and words in our world that we see and interact with everyday. They are easily recognized and used frequently. Cereal boxes, toy logos, street signs, and restaurant/store symbols are all forms of environmental print.

Students will be working with a variety of environmental print in all different activities. We will be connecting it with reading and writing skills we have learned.

A BIG part of this unit is to bring in items with environmental print into our classroom! We will display and discuss each item as it comes to school.

Please help your child find such an item at home to bring to school.

Be sure your child’s name is on the item.

The environmental print will be kept in the classroom for the entire unit, so please make sure that the item can be away from home for a few weeks.

Please be sure your child brings in an environmental item by __

Thank you for your help! Please let me know if you have any questions just let me know.

Thank you! ~Lisa Burgin
Appendix G

Implicit Activities

Students’ use of environmental print not directly asked for, but recorded if/how it occurs.

-Open-ended writing prompts

My favorite food is ________.

My favorite toy is ________.

My favorite restaurant is ________.

-Daily Question of the Day

Students “sign in” at the beginning of each school day. These questions usually include high frequency words and are answered by students putting name tag under “Yes” or “No”. During the study, some questions will include words from environmental print present in the classroom to see if it is recognized by students without prompts.

For example:

I like to go to Wegmans.

I like to eat Cherrios.

-Read alouds using books with environmental print

See how students respond to and/or recognize environmental print without prompts

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Appendix H

Explicit Activities

- What's Missing on Cereal Boxes? (p. 40)
  Game in which students find and match missing letters to cereal boxes

- Silly Stories (p. 54)
  Students create stories based on given env. print

- Musical Cereal Go-Round (p. 87)
  Students move around cereal boxes (or variety of env. print objects) and, when music stops, see if they are by the item one called out by teacher

- Seeing the World: Alphabet Search (p. 220)
  Class goes on field trip (or walk) and find env. print according to given letters

- Environmental Print Word Match Lesson (pp. 102-104)
  Students match env. print to items and to same words in manuscript

- Environmental Print BINGO (p. 71)
  Students play game to match env. print to same words in manuscript
  OR find picture of env. print (logos) when hear its name said orally

- Sorting Logos (p. 47)
  Whole group activity in which env. print is sorted in Venn diagrams based on use of product (such as food/fun/both)
-Categorizing Logos By Letter² (pp.42-45)

Students match beginning sound in env. print to beginning or ending
letters OR put logos in alphabetical order (beginning letters)

to 8*. Beltsville, MD: Gryphon House, Inc.

correlations for learning to read*. Newark, DE: International Reading
Association.
Appendix I
Cover of the Environmental Print Journals
Appendix J

Examples of photographs of environmental print matched to corresponding manuscript forms

Match of BAKUGAN logo with its manuscript form

Match of McDonald's sign its manuscript form

Match of a STOP sign with its manuscript form
Appendix K

Example of Environmental Print BINGO Card

<table>
<thead>
<tr>
<th>Disney</th>
<th>Coca-Cola</th>
<th>SUBWAY</th>
<th>HESS</th>
<th>WAL-MART</th>
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<thead>
<tr>
<th>McDonald's</th>
<th>Friendly's</th>
<th>Doritos</th>
<th>RITZ</th>
<th>OREO</th>
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<tr>
<th>FASHION BUG</th>
<th>Pizza Hut</th>
<th>FREE SPACE</th>
<th>NINTENDO DS</th>
<th>Mr. Potato Head</th>
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<thead>
<tr>
<th>LEGO</th>
<th>Barbie</th>
<th>Tim Horton's</th>
<th>MOTT'S</th>
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<thead>
<tr>
<th>BAKUGAN</th>
<th>CAPRISUN</th>
<th>Cheerios</th>
<th>STOP</th>
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Appendix L

Examples of photographs of environmental print used in missing letter activity

Photograph of LEGO altered logo with middle 'E' missing with its original logo underneath

Photograph of Sponge Bob Squarepants logo with 'b' missing and its original logo underneath

Photograph of Tim Hortons altered logo with 'H' missing with its original logo underneath.