Voices of Pen Pals: Exploring the Relationship Between Daily Writing and Writing Development and Reading Comprehension in Third Grade Students

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This dissertation titled

Voices of Pen Pals: Exploring the Relationship Between Daily Writing and Writing Development and Reading Comprehension in Third Grade Students

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Abstract

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Voices of Pen Pals: Exploring the Relationship Between Daily Writing and Writing Development and Reading Comprehension in Third Grade Students

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This quasi-experimental study investigated the impact that daily writing instruction and bi-weekly pen pal correspondence had on third graders’ writing development and reading comprehension in a Midwest, rural elementary school. The treatment group participated in a 12-week writing intervention program in which they exchanged letters with second-grade pen pals on a bi-weekly basis. Letters were informative, expressive, and autonomous, as they were based on daily graphic organizers students completed, on which they wrote about school-related subjects of their choice. The control group did not participate in the writing intervention program, as they received their typical writing instruction. Both groups’ reading comprehension scores were assessed via a S.T.A.R. pretest, which was administered prior to the writing treatment, and a S.T.A.R. posttest, which was administered after the writing treatment had concluded. Results showed that students whose writing substantially developed experienced development in the following areas: 1) text structure; 2) written expression; 3) audience awareness; and 4) voice. There was substantial interplay amongst the first three components, which resulted in a pronounced voice throughout students’ letters. Conversely, students whose writing did not develop throughout the 12-week period did not develop in the four aforementioned areas, and thus never established a consistent
voice in their letters. Quantitative results showed that while between-group differences in the pretest to posttest reading comprehension scores favored the treatment group, the results were not statistically significant.
Dedication

For Dave, my rock, who shows me every day what love, sacrifice, creativity, and humor can accomplish. And for our family: Ash, Pronger, Quintin, Rafi, & Zuri, for never being short on cuddles.
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I give my most heartfelt thank-you to all of my former students, who constantly pushed me with their endless enthusiasm and love of learning. You ignited a spark in me, and I am forever in debt to all of you. To my mom, thank you for infinite trips to the library throughout my childhood, and for never being too busy to read to me or listen to my latest story or poem. That type of encouragement instills confidence in a child, with which she can burst through any ceiling. For my dad, who told me before my first day of teaching: “Lyndi, do things the way you think they ought to be done.” That is undoubtedly the best advice I have ever been given or will ever receive. For Julie, my sister, friend, and comedian on-demand, who once told me that hard work and a positive attitude would go a long way. I don’t know anyone with a better attitude, and you work hard for everything you get. Special thanks to my committee members, Dr. Gene Geist, Dr. Sara Helfrich, Dr. Krisanna Machtmes, and Dr. Jeesun Jung, for your constant support, encouragement, and for pushing me forward with ideas. You made me realize I had questions and ideas worth pursuing, and something to share. Thank you to Dr. John Henning, without whose infinite guidance, patience, and wisdom, I would have never achieved my first publication. Thank you Joyce, Katie, Amy, Amy, Aimee, and Kim, for all of your cooperation and support throughout my dissertation study. Without all of you, I could not have done this. Thank you for making this dream a reality for me. To Gail, Dr. Rentschler, and Winnie, for writing my letters of recommendation when I applied to the doctoral program. You are more special to me than you could possibly know. And lastly, to my beloved, late Mr. Pry, because, “If it was easy, everybody would do it.”
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Chapter 1: Introduction

Literacy is a way of life. Just as our world is constantly changing and evolving, so is the definition of literacy. The literate person has evolved from the most rudimentary form of one who is able to read and write short statements regarding personal everyday life, to where now, the literate person, if expected to thrive in a technologically advanced society, must be able to interpret multimodal elements of text, going beyond but not limited to printed and written text to include audio, visual, and graphic design (Ahmed, 2011; Perry, 2012; Vacca, Vacca, & Mraz, 2014). In the midst of this, John Willinsky proposed the idea of a new literacy. Following John Dewey’s philosophy, Willinsky posits that the literate classroom should be a place where students explore individual interests and engage in inquiry-based learning, where learning occurs to satisfy one’s own curiosity rather than to memorize information for assessments (Vacca et al., 2014).

While time may change the definition of literacy, two things remain constant: literacy is a transaction, and its benefits are timeless. Literacy is transactional in that it necessitates individuals must not only read, interpret, and comprehend information that is communicated to them, but individuals must in turn communicate information that others are able to read, interpret, and comprehend. The benefits of literacy are well documented and are not limited to the confines of the classroom walls. Such benefits range from high academic achievement and self-efficacy as a student, to long-term employment, higher income, a longer, healthier lifestyle, and community involvement as an adult (Alliance for Excellent Education, 2011; Brown, Morrell, & Rowlands, 2011; Schunk, 2003).

Moreover, students who possess high literacy skills are more likely to graduate high
school and/or college, and are less likely to be incarcerated (Cratty, 2012; Ensminger & Slusarick, 1992; Heckman, Pinto, & Savelyev, 2013; Hernandez, 2011).

**Significance of the Problem**

While students must possess literacy skills in order to graduate, literacy skills are critical long before high school, and must be cultivated in the child’s first years of school. Hernandez (2011) reports that “One in six children who are not reading proficiently in third grade fail to graduate from high school on time, four times the rate for children with proficient third-grade reading skills (p.5).” Students not reading up to par in the third grade represent a staggering sixty-three percent of the dropout population (Hernandez, 2011).

As children progress through school, not only do their writing skills worsen, their attitudes towards writing, reading, and other academic content areas worsen as well (Applebee & Langer, 2009; Kear, Coffman, McKenna, & Ambrosio, 2000; Piazza & Siebert, 2008). Applebee and Langer (1998) attribute this negative attitude to the way in which students experience writing, stating that as students progress through school, writing is viewed as effortful and becomes increasingly formulaic, as rather than produce work that is authentic and connected to their everyday lives, students are taught how to answer prescribed questions or how to write prescribed paragraphs and essays. Kear et al. (2000) attribute this diminution to the following factors: 1) students see writing as effortful; 2) they are given a lack of choice of topics; and 3) they experience more negative feedback from teachers.
These factors, along with the third-grade reading achievement/dropout correlation, are particularly disconcerting, given recent national and international reading reports. Recent NAEP reports show that an alarming 35 percent of fourth-graders are reading at or above a proficient level, while seventy-two percent of U.S. fourth-graders are writing at or above a proficient level, with just two percent scoring at an advanced level of proficiency (NCES, 2013). Additionally, the Program for International Student Assessment (PISA) ranks the U.S as 24th internationally in reading literacy, with just eight percent of fifteen-year olds scoring at the top proficient level (NCES, 2013). For a nation seeking to equip its students with 21st century skills, these numbers are alarmingly low.

A child’s formal education and literacy development begins in elementary school, making it essential that our schools are equipped with teachers capable of implementing the most effective reading instruction. Our students’ aforementioned reading achievement scores raise the concern that something is missing in reading instruction in the early childhood classroom. The National Reading Panel (NRP) maintains that there are five essential components to effective reading instruction in the early childhood classroom: 1) phonemic awareness, 2) phonics, 3) fluency, 4) vocabulary, and 5) comprehension; components that work synergistically to enhance the child’s literacy development (Learning Point Associates, 2004).

Absent among these components, however, is writing. This is surprising, given that the reciprocity between reading and writing has been agreed upon by several researchers and theorists. For instance, emergent writing skills are linked to later reading
ability, and writing is also a consistent predictor of both reading ability and later literacy development (Clay, 1994; Gerde, Bingham, & Wasik, 2012; NELP, 2008). When a child learns to write letters, words, and sentences, s/he is better able to navigate and understand such letters, words, and sentences when encountered in print (Clay, 1994). Writing also gleans insights as to what the child understands about the intricacies of literacy, from the formation of a single letter to the composition of an entire text (Calkins, 2003). Additionally, Graves (1983) contends that the more children write, the more they come to understand the value in writing and reading, while Hayes (2004, cited in Hayes, 2006) refers to writing and revising as an act of critical reading comprehension. Graham & Hebert (2011) further assert that when students write they are generating output, thereby reinforcing input, or, as Webb (2009) describes it, productive learning reinforces receptive learning.

Writing matters, both in its relationship to writing development and reading comprehension. Yet, it has been largely overlooked in both education reform and education research as a viable means of enhancing literacy development (Graham & Hebert, 2011; Hebert, Gillespie, & Graham, 2013).

The concern however, is not whether students are writing, but what they are writing and how they experience writing. Recently, there has been a shift from writing as an authentic, individual process of choice, revision, and sharing, to writing as formulaic instruction, during which students write to answer prescribed, topic-specific questions, essays, or summaries (Applebee & Langer, 2009; Brown et al., 2011; Graham & Hebert, 2011; Hebert et al., 2013). Nationwide initiatives such as Reading First have not
encouraged teachers to incorporate authentic writing in the classroom. Conversely, it has discouraged teachers from incorporating authentic writing into their ninety-minute reading block, during which writing typically occurs in the form of spelling, grammar, skills-based worksheets, and comprehension questions.

Rather than include writing within a broad approach to literacy instruction, reading and writing are often treated as isolated subjects. It is through writing however, that students reinforce word reading, fluency, and comprehension skills, all of which the NRP cites as essential components to reading instruction. Both reading and writing activate the same schemata, which triggers the use of phonemic awareness, syntax, and semantics, making it likely that strengthening students’ writing skills would in turn strengthen their reading skills (Gao, 2013; Graham & Hebert, 2011; Renninger, Hidi, & Krapp, 2002).

Although research regarding the relationship between writing and reading comprehension is scarce, overall, findings show that positive effects ensue when students are able to write in a manner which expresses both their cognitive and affective domains. For example, students who engage in either extensive, informational, or personal writing have demonstrated higher levels of reading comprehension, while the same holds true for students who write using metacognitive prompts in which they discuss thoughts, feelings, and/or pose questions (Bangert-Drowns, Hurley, & Wilkinson, 2004; Graham & Hebert, 2011; Hebert, Gillespie, & Graham, 2013). Students also exhibit higher levels of reading comprehension when they perceive writing tasks as personally meaningful, interesting,
and when the tasks are goal-oriented (Kear et al., 2000; Piazza & Siebert, 2008; Schunk, 2008; Renninger et al., 1992).

Few studies however, examine the relationship between writing and reading comprehension in early childhood, an age group where interest in this relationship is waning, and researchers are calling for more in-depth study (Gao, 2013; Gerde et al., 2012; Graham & Hebert, 2013; Hebert et al., 2011; Jones, Reutzel, & Fargo, 2010, Miller & McCardle, 2011). Given that standardized tests in reading and writing begin as early as third grade, and the Common Core mandates that students not only write across the curriculum, but also write in a variety of genres and for a variety of purposes, it is essential that students experience a broad approach to literacy instruction, one that includes daily writing as a means to enhance both reading comprehension and writing development (Dadonna, 2013).

Problem Statement

Current and past studies examining this relationship typically consist of writing interventions and subsequent reading assessments in the same subject area. For example, students who wrote about social studies were then given a social studies assessment, and students who wrote about science were subsequently given a science assessment (Bangert-Drowns et al., 2004; Graham & Hebert, 2011; Hebert et al., 2013). This should be taken a step further.

The next logical step is a study that examines the impact of daily writing on overall literacy development, specifically reading comprehension and writing development. Given our students’ sub-par reading comprehension scores and the ways in
which students typically experience writing in today’s standards-driven classroom instruction, a synthesized approach to writing instruction is in order, one in which students write for both informational and expressive purposes in self-selected subject areas. In such an approach, students would write informational, personal, and metacognitive responses to newly learned content wherein they discuss the interestingness of a topic, determine its importance to the self and/or to the world, and inquire further on said topic. Students would assume an expert role on said topic, and communicate their expertise via pen-pal letter correspondence with another student in the same school building. The researcher has coined this approach the “3 I” model, each “I” denoting “interest,” “importance,” and “inquiry,” respectively.

The purpose of the study is to examine the following research question and hypothesis, which were applied in three third grade classrooms in a rural Midwestern town:

1) How does the content of students’ writing change as they progress throughout the “3 I” writing intervention program?

H: The “3 I” writing intervention program will have a significant impact on the experiment group’s S.T.A.R. reading comprehension scores compared with the control group’s S.T.A.R. reading comprehension scores.

Definition of Terms

**Literacy.** A function of “literate practices that involve socially organized activity of production, distribution, reception, and use of texts tied to specific purposes in specific contexts” (Scribner & Cole, 1981).
Early Childhood. For the purposes of this study, early childhood is defined as the time period in an individual’s life ranging from birth to grade three (researcher’s definition).

Reading Comprehension. “Constructing meaning that is reasonable and accurate by connecting what has been read to what the reader already knows and thinking about all of this information until it is understood” (Learning Point Associates, 2004, p.30).

Concept Formation. A process of deductive or inductive reasoning, in which the individual draws conclusions to link ideas & relationships, and/or to transfer these ideas and relationships to new objects (Vygotsky, 1934, 1986).

Text Structure. “The structure of expository text can be analyzed at two levels. The first is the microstructure or sentence level, which entails the way lower-level ideas cohere and are organized within text. The second is the macrostructure or paragraph level, which involves the writers' construction of the overall superordinate idea or gist” (Kintsch & van Dijk, 1978, as cited in Englert, Stewart, & Hiebert, 1988, p.1).

Written Expression. The use of written language to effectively and coherently express ideas (Reid, Hagaman, & Graham, 2014).

Audience Awareness. “Audience awareness involves both understanding (or trying to) the ‘experiences, expectations, and beliefs’ of the addressed audience-those a writer imagines or knows will read one’s text-and also using the language of the text to cue the readers as to the role the writer envisions for them” (Ede & Lunsford, 1984, p.165, as cited in Wollman-Bonnilla, 2001, p. 187).

Written Speech. What the child communicates in writing, which provides insights into his/her inner thought structure (Vygotsky, 1934/1986).
**Egocentric Speech.** Speech that occurs for oneself, with no intent to participate in a dialogue with others (Piaget, 1959).

**Social Speech.** Speech that occurs for the purpose of engaging in a dialogue with others (Vygotsky, 1934/1986).

**Voice.** The imprint of the self on writing which shows how information is chosen, organized, and how words are selected, all in relation to what the reader wants to say and how s/he says it (Graves, 1983).

**Limitations**

One limitation of this study is that the treatment program will be consistently implemented for just a three-month duration, with no follow-up study to examine maintenance of writing development or reading comprehension. A second limitation is the natural maturation that may account for any increased scores in reading comprehension in both the treatment and the control groups. This maturation makes it possible that an increase in reading ability may also account for increased reading comprehension scores. A third limitation is the natural maturation that may account for changes in students’ writing development, making it possible that an increase in writing ability may account for writing development. A fourth limitation is that the groups have not been evenly matched. As the groups attend different schools, it was not possible to evenly match groups. The final limitation is that the baseline and benchmark S.T.A.R. reading comprehension data will be the only two quantitative data points. The baseline and benchmark assessments are given one day each, providing two data points per student as opposed to an average semester grade.
Chapter 2: Literature Review

Over the past century, early childhood writing instruction has seen trends in what Hawkins and Razali describe as “penmanship, process, and product” (Hawkins & Razali, 2012). Throughout the early to mid-20th century, the focus on elementary writing instruction was a combination of the aesthetics of one’s penmanship and the finished product of one’s writing, as students engaged in writing practice that consisted of drills and the copying of models. Students were deemed good writers once they displayed correct spelling, grammar, and penmanship replicating that of the models they copied (Hawkins & Razali, 2012).

From the mid 1930’s through the 1970’s progressive, whole language theorists such as John Dewey and Ken Goodman began to surface, espousing that writing instruction should encompass self-expression, authenticity, and independent exploration. A whole language approach such as this asserts that students should practice spelling and grammar within the context of their own authentic, independent writing rather than through the copying of models disconnected to their own lives. While penmanship and legibility are still valued within the whole language approach, a student is not deemed a poor writer due to poor penmanship (Hawkins & Razali, 2012).

The social, process movement, synonymous to a whole language approach, gained influential steam in the 1980’s, emphasizing the importance of engaging in authentic writing through planning, revising, peer conferences, teacher conferences, publishing, and sharing finished work with an audience (Nystrand, 2006). The process movement placed value on the individual writer’s expression and development. Despite
the influence the process model had on curriculum guides and teaching manuals, it failed
to reach many classrooms due to its vocal critics who believed it was too permissive,
prioritizing self-esteem over elements such as proper spelling, conventions, and grammar
(Graves, 1983; Hawkins & Razali, 2012; Nystrand, 2006).

Despite many changes and shifts in focus, one thing has remained constant.
Writing instruction has maintained somewhat of a dichotomous relationship with reading
comprehension, and, no matter the instructional trend of the time, studies have rarely
focused on the integration of the two. This has created a gap that is worthy of
exploration. In chapter one, the introduction discusses: 1) the NRP’s omission of writing
as an essential element of effective reading instruction; 2) our students’ reading and
writing scores; and 3) the correlation between early literacy and dropout rates. Given our
students’ low reading scores and the absence of writing in both education reform and
research, this data begs the question, what, if any, impact does writing have on students’
overall literacy development, particularly reading comprehension and writing
development?

This literature review discusses key themes that have emerged in regards to the
relationship between early childhood writing and its impact on reading comprehension.
Themes are as follows: 1) salient types of writing instruction in the early childhood
classroom; 2) the affective and cognitive benefits of writing; and 3) the relationship
between writing and reading comprehension. The relationship between writing and
reading comprehension is discussed in subsections, as the following three themes have
emerged throughout the literature: 1) writing as spelling instruction; 2) text structure
instruction; and 3) pre-reading writing activities. The literature review concludes by summarizing the results, limitations, and gaps in the present research, and suggests how these results, limitations, and gaps intertwine to design the proposed study.

**Writing in the Early Childhood Classroom**

The literature reveals that writing typically occurs in three ways in the early childhood classroom: (a) a workshop, process-oriented approach; (b) a direct skills, product-oriented approach; and (c) formulaic instruction, which is also geared toward writing the correct answer (Applebee & Langer, 2009; Armbruster, Anderson, & Ostertag, 1989; Atwell, 1998; Calkins, 2003; Carter, 2009; Clark, Jones, & Reutzel, 2013; D'on Jones, Reutzel, & Fargo, 2010; Graves, 1983).

**Workshop approach.** Atwell (1998), Calkins (2003), and Graves (1983) are widely known and synonymous with the workshop approach, in which students engage in authentic, choice-based, process-oriented writing. While there are specific stages and expectations at each stage, students move through the writing process at an individualized pace, wherein they learn that writing is a process of planning, writing, reading, revising, and rewriting, rather than a one-time teacher-student transaction in which each student aspires to achieve the same finished product.

The stages of the workshop are typically as follows: 1) rehearsal, during which students plan and generate ideas, topics, and themes; 2) write, during which everybody writes their first drafts; 3) receive, during which students partner up to read one another’s drafts and exchange feedback, comments, and critiques (teacher conferences are also considered part of the receiving stage); 4) revise, during which students take information
from peer and teacher conferences and apply this information to improve their current drafts; 5) publish, during which writing must be perfect, and the finished piece may culminate in something as informal as a wall display or something as formal as a children’s magazine; and 6) share, the final stage reserved for the author’s favorite piece which s/he reads aloud to the class (Atwell, 1998; Calkins, 2003; Graves, 1983).

Throughout the writing process, both peer and teacher conferences occur at the teacher’s discretion and/or student’s request. Conferences are important times for students to do the majority of the talking, as they share their thoughts, as well as concerns, questions, and plans for both the current stage and future stage(s).

Mini-lessons are key in the workshop approach, as teachers typically begin each workshop session with a mini-lesson that is either a skill the teacher wants to introduce or a skill that requires more practice, as determined from student writing samples. While spelling, conventions, and aesthetics are important and are emphasized in this approach, they initially take a back seat to content. Students are encouraged to first get their ideas on paper, and then spelling, conventions, and aesthetics are addressed on either a group or individual basis. The teacher, however, clarifies that these are also important elements of writing, as they create communicability between the writer and the audience. The workshop approach can be implemented beyond the confines of language arts time and expanded into content areas such as science, math, etc.

**Direct skills approach.** The second approach is the direct skills instruction approach. In contrast to the workshop approach, the direct skills approach focuses on the whole group rather than the individual, focuses on the final product rather than the
process, and places a heavier emphasis on correctness in regards to spelling, grammar, handwriting, conventions, and sentence construction (Cutler & Graham, 2008). The topic is typically chosen by the teacher, rather than the individual student. It also differs from a process approach in that it is more linear in nature, and is typically not practiced within the context of an authentically produced text. Aside from on-the-spot interventions, no lengthy peer or teacher conferences are held, and students progress through activities together rather than on an individual basis.

**Formulaic approach.** In formulaic instruction, students follow a prescribed writing formula with the end goal of arriving at the correct answer. Within this approach, students typically do one of the following: 1) answer teacher-generated or text-generated questions; 2) write assigned, prescribed paragraphs, essays, or reports; or 3) complete subject-specific graphic organizers mimicking various types of text structure, most notably cause and effect, compare/contrast, and problem/solution (Applebee & Langer, 2009; Armbruster et al., 1989; Carter, 2009; Clark et al., 2013).

Teachers typically use this type of instruction to assess students’ reading comprehension. This occurs mainly through question answering, summary writing, essay writing, extended writing, or note taking (Graham & Hebert, 2011; Hebert et al., 2013). It is also a popular method for standardized test preparation, and becomes increasingly popular as students progress throughout middle school and high school (Applebee & Langer, 2009). While formulaic instruction may occur on either a group or individual basis, it typically is not a process-oriented approach. Rather, there is an emphasis on
correctness of the final product, without leaving much room for interpretation of what the correct answer is.

One single approach has not emerged as being definitively better than the others. All three types of writing instruction hold their similarities and differences, advantages and disadvantages, along with the proper time and place for implementation. While there is some overlap among all three, each serves its own unique purpose, and a strict adherence to one approach ignores the benefits of the others. For example, authentic writing often allows for increased motivation and engagement, direct skills provides specific skills practice, and formulaic instruction teaches students how to write in various structures and formats.

**Benefits of Writing**

Writing holds numerous benefits for children, which, in this section, are broken down into the affective and cognitive domains. The affective domain discusses constructs such as interest, self-efficacy, motivation, and the link these constructs have to cognitive benefits such as learning, achievement, creative thinking, and critical thinking.

**Affective domain.** Research on the affective domain is limited, yet it holds huge implications for teachers, particularly in the area of student interest. There is a correlation between interest and achievement, particularly beyond kindergarten, when student interests become increasingly complex and differentiated (Renninger, Hidi, & Krapp, 1992). When students are interested, they are motivated, and when they are motivated, they are engaged. There is a significant correlation between interest and engagement, as students who are interested maintain longer periods of engagement and
concentration (Krapp, Hidi, & Renninger, 1992; Schiefele, 1992). This engagement and concentration, in turn, elicits deeper learning as opposed to surface-level learning, because students experience feelings of enjoyment, involvement, and meaningfulness, all of which encompass a sense of task value. This value brings about intrinsic motivation, as the student is initiating the learning that is taking place. These affective constructs feed directly into cognitive development, learning, and achievement, as intrinsically motivated students show a greater conceptual understanding of text, thereby boosting self-efficacy (Schiefele, 1992).

Self-efficacy and achievement go hand-in-hand. High self-efficacy leads to increased writing engagement and higher literacy learning, as there is a cyclical relationship between self-efficacy, motivation, learning, and achievement. The reverse holds true as well, as low self-efficacy typically leads to low levels of motivation, learning, and achievement (Kear, Coffman, McKenna, & Ambrosio, 2000; Schiefele, 1992).

Schunk (2003), through his research, provides five teaching strategies to instill literacy self-efficacy in students: 1) teacher modeling; 2) cooperative learning; 3) goal setting; 4) extended opportunity for practice; and 5) specific feedback. He found that elementary students who set goals, had teachers who modeled the importance of learning as a process, and received specific feedback, demonstrated higher levels of reading self-efficacy as well as reading achievement. The same held true for writing, as he found that children who set process goals and received specific feedback out-performed their product-goal counterparts in writing achievement, as well as writing self-efficacy. The
children who outperformed their peers were also told why they were learning specific writing strategies, which they were in turn able to transfer to other areas of writing in which they had received no prior instruction. While the author does not explicitly state that the classroom teacher employed a workshop approach, this can be inferred given the elements of individual goal-setting, conferencing, and emphasis on process.

In Schunk’s study however, reading and writing were treated as dichotomous subjects, and he did not seek to measure whether the improvements in one area had an impact on the other area. More specifically, there was no mention as to whether the students who had demonstrated increased writing achievement and self-efficacy had transferred this enhanced achievement and self-efficacy to reading.

The workshop approach has been found to increase affective constructs such as student enthusiasm and attitude towards writing (Brown et al., 2011; Calkins, 2003; Carter, 2009; Graves, 1983; Hsu, 2009; Jasmine & Weiner, 2007). For example, at a two-week, workshop approach writing camp put on by the National Writing Project for young writers in grades four through twelve, Brown et al. (2011) administered a pre and post-camp survey they had designed themselves, which measured the campers’ attitudes toward writing. Participants selected a response from a ten-item Likert scale survey, ranging from a score of one, strongly agree, to a score of five, strongly disagree. After the two-week period, campers demonstrated a positive change in attitude for each item on the scale. The camp, however, contained no early childhood-aged students, nor did it measure if and/or how the quality of students’ writing changed throughout the camp. There was also no mention of reading, as the camp was solely focused on writing.
Jasmine and Weiner (2007) conducted a mixed methods study to determine whether the writing workshop approach led first-graders to become confident, independent writers. The study lasted from January 26 until March 8, and students completed pre and post-workshop attitude surveys designed by the researcher/teacher. Student writing samples were graded by teacher-designed rubrics, and student interviews were conducted that centered on both students’ sense of confidence and abilities.

Pre and post-attitude surveys showed a slight increase in student attitudes toward writing, as the mean score increased from 2.39 to 2.89, data which was further supported by observation checklists and student interviews. As students grew more familiar with the routine of the workshop, they were able to acquire a sense of predictability and understand expectations, which in turn enhanced their confidence and enthusiasm. Additionally, students showed an increase not only in knowledge of the writing process, but also in writing skills and abilities. Specific skills included the ability to add sentences, to apply appropriate capitalization and punctuation, and spelling. This was determined by a one-to-five point-based rubric, with mean scores increasing from 2.11 to 3.84; 2.0 to 3.95; and 4.12 to 4.56, respectively.

This study, however, has several limitations. It had a small sample comprised of just 19 students, no control group, and while the research focuses on writing ability, there is no measure of the content quality. The rubric measures whether students could add sentences, but does not address quality issues such as vocabulary, grammar, or voice.

It seems likely that students who participated in the workshop approach experienced affective benefits because they wrote according to interest-based choices,
engaged in cooperative learning, and shared their work with an audience. Students who are interested in the topics they write about have been shown to increase their writing in both quantity and quality (Hidi & Anderson, 1992). Sharing work with an audience has also been shown to increase motivation, thereby activating the interest, motivation, self-efficacy, achievement cycle (Deci, 1992).

**Cognitive domain.** It has been noted that enhanced affective constructs such as self-efficacy, interest, and motivation are important because they feed directly into cognitive development, learning, and achievement. The following section discusses those cognitive benefits as they pertain to both creative and critical thinking, as well as reading comprehension.

Writing is a complex skill that requires creative thinking, critical thinking, and higher level thinking (Dadonna, 2013; Hanstedt, 2012; Peterson, 2007). Dadonna (2013), Hanstedt (2012), and Peterson (2007) emphasize the benefits that writing, particularly writing across the curriculum, have on student thinking.

In a descriptive, anecdotal article, Peterson (2007) states that when her students engage in cross-curricular writing they are able to make real-life connections, generate questions, search for answers, and form concepts. She employs a workshop approach in her classroom, claiming that her students are also more motivated when they are able to engage in authentic content area writing, self-evaluation, and share their work with an audience. Dadonna (2013) emphasizes the common core’s push for students to communicate information across disciplines, going beyond summarizing to include writing problem statements, forming arguments, and justifying those arguments with
textual evidence. She states that her students are at their peak motivation when they link their writing to a real-life problem (Deci, 1992; Schiefele, 1992). Hanstedt (2012) also asserts that writing instruction must be intentional and must meet students at their individual levels. Students must be afforded the opportunity to review, revise, and ultimately make sense of their thoughts as they appear on paper.

Klein (1999) postulates that writing facilitates learning in four ways: 1) knowledge becomes explicit as students are required to structure and organize their thoughts both syntactically and semantically, a theory first established by Vygotsky (1934, 1986); 2) writing evolves students’ thinking as they are made to review and revise their work; 3) writers use discourse and discipline-specific words to create relationships among ideas and concepts; and 4) when writing about content, writers are forced to consider their audience’s knowledge and interests, which in turn determines what they will communicate to their audience and how they will communicate it.

While the aforementioned researchers/authors concur that writing is critical when communicating information across disciplines and requires a process-oriented approach, all articles are descriptive in nature, focus on the middle grades and higher education, and provide no in-depth examination of student writing to support their claims. Also, there was no mention as to what impact writing had on students’ reading abilities.

**Writing and Reading Comprehension**

The relationship between writing and reading comprehension is not only under-researched, but has been on a sharp decline since 2000, so much that in a meta-analysis conducted by Graham and Hebert (2011), they located just 14 studies since 2000 that
examine this relationship, fewer of which took place in an early childhood classroom. Despite limited research, the results they found support the idea that writing is a viable means to enhance reading comprehension. Three key themes were extracted from their meta-analysis, which analyzed students in grades one through twelve: 1) teaching spelling helps students build schemata on relationships between letters and sounds, which enables them to make those letter-sound connections when reading; 2) teaching students to construct and write complex sentences enables them to understand such sentences when reading; and 3) the act of creating text allows students to identify and comprehend such text when reading. These findings are not just confined to the early childhood classroom, but extended into the middle school and secondary school years as well.

As the proposed study focuses on early childhood, the following section dissects the literature on the relationship between writing and reading comprehension into four parts: 1) the impact of spelling instruction on reading; 2) the impact of writing in various text structures on reading comprehension; and 3) the impact of writing as a pre-reading activity on reading comprehension.

**Spelling and reading.** The following studies examine the relationship between writing and reading comprehension by analyzing the role that spelling instruction and spelling skills play in the development of reading skills.

Fuchs, Hamlet, Powell, Capizzi, and Seethaler (2006) examined the impact that computer-mediated spelling and math instruction had on at-risk first-graders’ spelling and math abilities. Students were assigned to either a spelling or math computer-mediated instruction program. Treatment lasted for fifty ten-minute sessions over eighteen weeks
and both groups were assessed on the same math and spelling skills at the end of the treatment program. While the math group outperformed the spelling group in addition fact fluency, the spelling group outperformed the math group in the following areas: 1) subtraction fact fluency; 2) solving arithmetic story problems; 3) words spelled with correct letter sequences; 4) spelling entire words correctly; 5) word identification; and 6) reading fluency.

Despite the increase in solving arithmetic story problems, the authors did not discuss the likelihood that the spelling group outperformed the math group in this area due to their greater overall reading improvements. Perhaps this reading improvement led to increased comprehension of story problems, thereby leading to increased problem-solving ability since students had a better understanding of the problems. This is worthy of further study, particularly since the authors state that “phonological deficits have been shown to underlie both word reading and arithmetic fact retrieval development (Fuchs et al., 2006, p. 493).” These results suggest that writing instruction focusing on letter sequences and words leads to increased reading comprehension. Yet, this was not measured.

In a study by Conrad (2008), forty-one second-grade children were randomly assigned to either a reading practice group or a spelling practice group, and each group practiced the same list of forty words. The transfer of skills across disciplines was assessed by requiring students in the spelling group to read the words they had practiced spelling and by requiring the reading group to spell the words they had practiced reading. All eight orthographic word families were tested over the course of four days, sessions
lasting between ten and thirty minutes per day. Results showed that the spelling group was able to read more unpracticed rime unit words than the reading group was able to spell, further supporting the idea that productive learning reinforces receptive learning, but the reverse is not necessarily true (Conrad, 2008; Webb, 2009).

While results from this study indicate that there is a transfer from spelling ability to reading ability, reading was only measured in the strict sense of word identification. Comprehension was not assessed, and spelling and reading were examined in isolation as opposed to within the larger context of written work. Also, the study lasted just four days, and there was no follow-up test to measure retention of either word identification or spelling correctness.

A similar study conducted by Uhry and Shephard (1993) assessed first-grade students in the areas of spelling, reading, and also silent comprehension. This study comprised twenty-two first graders, randomly assigned in either an experimental group or a control group. The experimental group received spelling instruction, specifically phonetic segmentation and blending, while they also played spelling games on the computer. The control group received reading instruction, wherein they read words rather than spell them and break them down into their phonetic segments. The reading group also played reading games on the computer rather than spelling games. The study lasted from October through May and along the way each group was assessed four times in areas of reading, spelling, & silent comprehension.

The experimental group scored significantly higher in the following areas of reading: 1) reading short-vowel, consonant-vowel-consonant (cvc) words where each
letter represents its own sound (i.e. cat or bit); 2) blended nonsense words (i.e. stamrod); 3) oral reading tests which measure both speed and accuracy (fluency); 4) and silent comprehension which required them to match illustrations with sentences. The experimental group also scored significantly higher in the following areas of spelling: 1) correct spelling of short-vowel cvc words; 2) blended nonsense words; and 3) unit words. The control group did score slightly higher, but not significantly higher, in one measure of silent comprehension, where they were required to match illustrations with words.

This study further demonstrates the need for writing to occur as a daily part of literacy instruction. While students were required to write, they only did so while spelling isolated words. There was no writing in the larger context of a sentence, which first-graders are capable of doing. Since the experimental group exhibited significantly higher gains in most areas at the young age of first grade, further study is necessary in the upper elementary grades to examine the relationship between a holistic, complex writing approach and its relationship with reading comprehension. As students progress throughout elementary school, they transition out of learning to read and in to a more comprehension-based, instructional-based approach of reading to learn. Further study is also warranted because as students progress through elementary school, there is a focal shift away from reading to decode print to reading to understand print. While the authors do not discuss the discrepancy between productive learning and receptive learning as it occurred in the two groups, once again it has been demonstrated that those who participated in the productive (spelling) group rather than in the receptive (reading) group
experienced greater gains in reading, spelling, and silent comprehension (Conrad, 2008; Uhry & Shepherd, 1993; Webb, 2009).

Graham, Harris, and Chorzempa (2002) found that students who participated in a spelling instruction group significantly outperformed the comparison group in the following areas: 1) sound-letter tests; 2) spelling tests; 3) correct spelling of both predictable and unpredictable words; 4) word attack skills; and 5) writing fluency. Students also had significantly high maintenance scores on spelling tests, correct spelling of predictable and unpredictable words, and word identification. Similar findings were further corroborated by Graham and Harris (2012) who found that spelling-instructed students outperformed their math counterparts in: 1) identifying sound-letter combinations; 2) correctly spelling practiced rime units; 3) constructing sentences; and 4) decoding nonsense words. Although these studies included a writing measure, reading was measured in the strict sense of word identification and comprehension was not assessed.

Weber and Henderson (1989) developed a computer-based word study to determine the effect that studying the various orthographic features of real words and nonsense words would have on: 1) word recognition; 2) spelling; 3) writing speed; and 4) oral reading fluency. This study was developed in support of Perfetti’s theory (1985, cited in Weber & Henderson, 1989) that students must have efficient word processing skills in order to read fluently and comprehend (Weber & Henderson, 1989).

Participants included thirty-one students in grades three, four, and five, who scored at 50% accuracy on a fourth grade spelling inventory. Students were randomly
assigned into three treatment groups; Group T1 received sixty days of computer instruction, and Group T2 received thirty days of computer instruction, while the control group received zero days of computer instruction, receiving only classroom instruction instead. Each group was assessed three separate times on: a) isolated word recognition; b) spelling test scores in which they had to determine the misspelled word within a group of words; c) the speed at which they could write isolated words; and d) oral reading test scores which measured correct words read per minute.

The T1 experimental group achieved significantly higher scores than both of their counterparts in the following areas: 1) word recognition of both real words and nonsense words; 2) correct spelling of both real and nonsense words; and 3) oral reading fluency (increase in words per minute and a decline in errors). While writing speed scores were not significantly higher, there was a decline in both speed and errors, with trends still favoring the T1 group.

Results of this study provide support for Perfetti’s theory in that simply studying isolated words with reliance on memorization is not enough for students to develop good spelling skills or good reading skills. Students must understand orthographic features of words and how they affect word pronunciation. Vowel pattern study also proved to be of particular importance, as students were able to both read and spell more words when they demonstrated an understanding of how vowel patterns and vowel placements affected word pronunciation. This study also supports the theory that increased orthographic recognition allows students to analyze & attack more novel, unfamiliar words both receptively, through reading, and productively, through writing.
Although the authors set out to provide support for Perfetti’s theory, they did not measure the comprehension aspect of reading, which would be ideal as this is the focal point of reading instruction in grades three through five. Since the authors state that Perfetti believed efficient word processing skills lead to comprehension, it seems likely that increased word recognition, spelling, and oral reading fluency would, in turn, lead to increased comprehension.

Graham, Harris, and Chorzempa (2002) extended the link between spelling and reading by also examining the relationship between spelling and writing. They found that spelling difficulties often lead to not only writing difficulties, but also negatively influence students’ sense of self-efficacy and confidence as a writer, as they stated that “Poor spelling may also influence perceptions about the child’s competence as a writer…difficulties with spelling may interfere with the execution of composing processes during the act of writing (Graham et al., 2002, p.669).” This causes students to avoid writing, thereby stifling writing development (Graham et al., 2002; Schunk, 2003). This study focused on the spelling instruction delivered to second-grade students who were reported to have spelling difficulties, and examined the contribution of instruction to spelling, writing, and reading. The spelling instruction consisted of 48 lessons which were divided into eight units. Each unit focused on one or two spelling patterns, including vowel pattern study. Lessons included word-sorting activities, spelling games, and word building. Pre-tests and post-tests were administered, and a maintenance test was given six months after instruction. The control group received only math instruction.
Students in the spelling experimental group scored significantly higher on post-tests than their math counterparts in the following areas: 1) sound-letter tests; 2) spelling tests; 3) correct spelling of predictable words; 4) correct spelling of unpredictable words; 4) writing fluency; and 5) word attack skills. Students in the spelling experimental group also scored significantly higher on the maintenance test in the following areas: (a) spelling tests, (b) correct spelling of predictable words, (c) correct spelling of unpredictable words, and (d) word identification. Although the experimental group made small gains in writing fluency, the gains were not statistically significant in regards to story length or story quality.

Findings indicate that there is a link between explicit spelling instruction and reading and writing. The authors also predict that explicit instruction in the self-regulatory aspects of writing will improve the quality of student writing. They recommend differentiating the types of spelling instruction delivered to various students, depending on their academic needs. For example, struggling students will likely benefit more from explicit, systematic spelling instruction than more skilled spellers, who may be ready to rely on more informal methods such as a whole-language approach in which new words are learned through the experience of reading and writing (Graham et al., 2002). This study is unique and informative in that it extended spelling ability to not only reading ability, but also writing ability. However, this area of research could be expanded upon by examining the link between students’ writing and reading comprehension.
Text structure instruction and reading comprehension. The CCSS places considerable emphasis on writing across the curriculum and content literacy. Learning how to read, understand, and evaluate expository texts is critical during the child’s early years in school, as by sixth grade, over 75% of texts students encounter are non-narrative (Moss, 2005). One method of improving students’ expository writing and expository text comprehension is teaching them how to write in various text structures.

Expository texts raise children’s awareness of how texts are created and formatted in various structures, which typically consist of problem and solution, cause and effect, compare and contrast, order of events, and main idea and supporting details. (Armbruster et al., 1989; Clark et al., 2013; Graves, 1989; Moss, 2995; Taylor, 1982). Writing in learning logs or graphic organizers is an effective, reflective, task in which children write in webs, charts, diagrams, etc. in an attempt to mimic recently read expository text structure (Graves, 1989). This helps students acquire, organize, and reinforce content knowledge while simultaneously enhancing reading and writing skills (Goodman, 1996).

Students often struggle with expository text due to lack of familiarity with it, lack of interest and/or motivation, and being overwhelmed by conceptual information of which they have limited prior knowledge (Denner, McGinley, & Brown, 2001; Taylor, 1982). Textbooks often deliver expository information in a macrostructure form, a structure of which children have limited schemata. This makes it difficult for children to mentally organize and structure expository information, thereby hindering comprehension (Taylor, 1982). Macrostructure formation is important because students use it as an overarching idea from which to recall micro, detailed information. Students
who understand this organizational structure exhibit better comprehension than those who
do not (Kintsch, 1998; Taylor, 1982). The intent of the following studies is that when
students become aware of text structures and learn to write in this manner, this will
increase their familiarity with textbook information, thereby increasing comprehension.
The following studies describe how researchers have examined the relationship between
text structure and reading comprehension.

In Taylor’s (1982) study of the relationship between text structure and the
comprehension of expository information, forty-eight fifth graders were placed in either
an experimental or control group. The experimental group participated in weekly one-
hour sessions for seven weeks, during which they received instruction on how to identify
various text structures while reading passages from a textbook. Students learned how to
study expository information in their health and social studies textbooks and wrote
subsequent summaries. They were assessed on recall of information, summary
organization, as well as short-answers. The control group received conventional
classroom instruction and were not explicitly taught about text structures or instructed on
how to write summaries. Rather, they read the information, answered questions, and
wrote summaries with no instruction. This study was completed twice; once with social
studies textbooks and the second time with health textbooks.

In the social studies experiment, the experimental group outperformed the control
group in summary organization and recall, although they did not have higher short-
answer scores of repeated questions (questions that had been previously summarized).
The experimental group did, however, recall a greater percentage of new questions on the
social studies test (answers that had not been previously summarized). The author states that the ability to answer new questions could be due to the acquisition of macrostructure formation. A repeat experiment using health textbooks, however, produced different results, as the control group scored higher than the experimental group in all areas on the health test, resulting in mixed findings.

Results of this study are difficult to interpret. The author claims that the findings could be the result of a “practice effect.” Results could also be attributed to both students’ readability and the reading level of each textbook, which were not factored in to the study. Also, no measure was taken to determine if experimental students had transferred macrostructure formation or newly learned summary writing skills to other areas.

Jenkins, Heliotis, Stein, and Haynes (1987) studied the effect of paragraph restatements on the comprehension of students with learning disabilities. Participants included thirty-two learning-disabled students who were assigned to either an experimental group or a control group. The experimental group participated in Restatement Training, which included three phases of reading and restating 400-word narrative passages. Phase one entailed reading and subsequent note-taking, during which the teacher provided modeling, allowed time for independent and guided practice, and provided feedback. During phase two the students read and restated paragraphs, subsequently engaging in teacher-student discourse, during which students evaluated the content of their restatements to determine if more elaboration was needed. During phase
three, students read and subsequently restated the paragraphs, without notes, discourse, modeling, or feedback.

Following the restatement training, all students completed a series of three comprehension assessments: 1) a test of training, in which students were explicitly directed to use the restatement process; 2) a “near transfer test,” in which students read the narrative passage and were provided with paper, but given no instruction for its use; and 3) a “remote transfer test,” in which students were provided no directions or materials, to determine if the experimental group’s restatement training had prompted transfer or a generalization of restatements to other conditions.

The experimental group outperformed the control group in all three aforementioned tests, leading researchers to believe that comprehension-monitoring strategy training is beneficial, and that restatement training leads to students’ abilities to generalize and transfer comprehension-monitoring strategies to similar tasks, even when no prompts or instructions are provided. Despite having test conditions where no writing materials were provided while reading, students still appeared to make mental representations and to monitor comprehension while reading, which was demonstrated through subsequent writing.

This study paves the way for future research. While results proved to be positive, passages were limited to approximately 400-word narratives containing only literal questions such as “who” and “what’s happening.” These questions are low-level convergent questions, as they are literal, contain only one answer, and do not address the types of higher-level, abstract thinking that can be found in both narrative and expository
passages. It seems likely that paragraph restatement would also improve comprehension of expository text, which was not addressed in this study.

Armbruster et al. (1989) instructed students on how to complete graphic organizers using three main text features: 1) problem and solution; 2) cause and effect; and 3) compare and contrast. Students were taught how to recognize each various structure, take notes on a graphic organizer formatted in said structure, and subsequently use the graphic organizer notes to create a summary. While this type of instruction is formulaic, the authors incorporated some workshop elements as well, such as sharing work with the class and receiving feedback. This method not only employs workshop elements, but also employs elements of Schunk’s (2003) instructional strategies to promote literacy self-efficacy, as the authors recommend that to improve student learning, teachers must: 1) provide direct instruction and explicit definitions of terms; 2) model; 3) provide guided practice; 4) allow time for independent practice; and 5) provide corrective feedback. Although the authors say this method improved both summary writing and reading comprehension, no student data or measurement tools such as rubrics or checklists were provided. Measures of improvement were not provided, and there was no control group as a means of comparison.

Gao (2013) also studied the effect of summary writing on reading comprehension for English language learners. In this study, which appears to be formulaic instruction, students used graphic organizers to brainstorm, create word maps, semantic maps, and clusters. Students then used their graphic organizer notes to write summaries and/or journal entries depicting what they had read. Results were mixed, as summarizing and
journaling were found to have positive impacts for some students and no impact for others. However, students who used graphic organizers as a means of planning, outperformed their counterparts. That being said, the author provided no data or measurement tools for these results. Therefore, it is uncertain exactly how much improvement, or lack thereof, occurred, and how it was measured. Student ages were also not given.

Clark et al. (2013) claim that teaching text structure and subsequently applying it to produce written text should increase both written composition as well as reading comprehension. In the “Write to Read” model they created, they emphasize the following text structures: 1) description; 2) sequence; 3) problem and solution; 4) cause and effect; and 5) compare and contrast. The authors also claim that when students become aware of various text structures, this enhances their ability to identify important ideas, make meaning, acquire new knowledge, predict, summarize, and monitor comprehension, all of which are essential reading comprehension skills. They provide a step-by-step guide for primary school teachers on how to implement the “Write to Read” model. However, the article is purely descriptive in nature, contains no research question or study, and the authors provide no data linking this type of writing to reading comprehension.

Carter (2009), a first and second-grade teacher, employed a formulaic/workshop hybrid approach in her early childhood math class, as students were given sentence templates and also wrote and illustrated math stories as a means of demonstrating their understanding of mathematical concepts. She stated that students began to make real-life
connections to mathematical concepts such as subtracting and dividing as they transformed their sentence templates and graphic organizers into autobiographical math stories. She reported that through student writing and sharing of their math stories, they also began using figurative language and literacy skills to enhance their understanding of mathematical concepts. Furthermore, she reported that through the writing and sharing of math stories, students began to make discoveries and connections among topics that had yet to be introduced. Although results were positive, there was no tool provided for measuring the quality of student writing throughout the workshop, nor was there any indication as to how the conceptual understanding of mathematical concepts improved. There was also no control group.

In a descriptive, anecdotal study, Hsu (2009) discussed the impact she observed writing partners to have in a writing workshop with Kindergarten, first-grade, and second-grade students. She claimed that the workshop approach has the following advantages for students as developing writers: 1) an increase in students’ writing abilities and problem-solving skills; 2) frequent student-to-student interaction, resulting in increased feedback and critique, and 3) less flocking to the teacher. Despite these claims, the article is not research-based, and no specific data was provided as to what constituted problem-solving skills, which particular writing abilities were enhanced, or to what degree the writing abilities were enhanced.

D’On Jones, Reutzel, and Fargo (2010) examined the effects of writing instruction on reading comprehension by randomly assigning kindergarten students to either a writing workshop group or an interactive writing group over a 16-week period.
They measured the impact each type of writing instruction had on phonological awareness, alphabet knowledge, and word reading ability. Both groups showed significant, equivalent growth in all three areas, with no significant differences between groups. During writing instruction time, portions were spent solely on writing, further emphasizing the need for writing instruction to be included on a daily basis as a broad approach to literacy instruction. However, the study did not measure comprehension, recall, or include a control group.

**Writing as a pre-reading activity: Story impressions.** Activating schemata and background knowledge play a crucial role in not only word recognition, but in reading comprehension as well. Story impressions, or story chains, are another way to actively engage students in the reading and writing processes (Denner et al., 2001; Vacca et al., 2014; Rumelhart & McClelland, 1981). A story impression is a story written by the student in which they predict what the actual story is about based on a list of words provided by the teacher. This word list provides students with an impression on what the story is about, and in accord with this, they write an anticipatory story. The purpose of story impressions is to activate schemata and establish the proximity between the story the reader generates and the author’s actual story.

Participants included sixty second-grade students who were classified as above-average or below-average readers based on their Science Research Associates (SRA) scores. They were then randomly assigned to either a story impressions preview group or a non-preview group. The experimental group first read the story impression, wrote their own predicted stories, read the author’s actual story, and subsequently answered
comprehension questions. The control group only read the story prior to answering comprehension questions. In addition to measuring correctly answered comprehension questions, researchers also matched the anticipatory stories with the author’s actual stories to determine degrees of matching.

The experimental group correctly answered more comprehension questions than the control group and also recalled significantly more story information. Reading ability was found not to interact, indicating that story impressions facilitate comprehension for both above-average and below-average readers. Above average readers scored significantly better than below-average readers on both impressions-related and impressions-unrelated test questions. Impressions-related test questions included questions that were related to the initial impression words students were given, while impressions-unrelated questions contained items unrelated to the initial impression words. Once again, reading ability was not found to interact. Story proximity, however, was found to be significantly related to reading ability, as above-average readers showed a greater tendency to create stories more closely matched to the author’s actual story (Denner et al., 2001).

The authors believe that story writing increased comprehension for both types of readers due to the activation of schemata. When students produced their own anticipatory story and subsequently read the actual story, they were constantly comparing and contrasting the two stories, leading them to be more interactive with the author’s actual story. In other words, students were approaching the author’s story from a writer’s perspective and, as such, were better able to evaluate and refine their predictions.
accordingly. The anticipatory story had provided them a context from which to compare and contrast the real story, thus providing them with an advantage they would not have if it were simply a cold read. Through this process, students actively see and experience the link between reading and writing, understanding they are highly similar processes involving the same skill set. This provides additional support for the idea that writing (production) enhances comprehension (reception) (Denner et al., 2001; Webb, 2009; Weber & Henderson, 1989).

**Writing as a pre-reading activity: Self-questioning.** Self-questioning is yet another way to get students actively involved while reading, and it has also been shown to increase comprehension (Cohen, 1983; MacGregor, 1988; Vacca et al., 2014). When students generate their own questions, they are actively seeking and processing written text, thereby increasing the motivation and capacity to not only generate questions, but also to gather information in effort to answer said questions (Tofade et al., 2013). The ability to generate questions is a higher-level, metacognitive strategy, which is typically weak among struggling readers, while typically strong among good readers. Strong metacognitive abilities enable students to monitor their comprehension, which results in more efficient and effective reading. The use of metacognition in generating questions makes students aware of perceived importance as well as what they do not understand.

Cohen (1983) measured the effect that student-generated questions had on the comprehension of short stories. Participants were forty-three third graders who scored at a writing non-mastery level. They were assessed on both a criterion score, which included the ability to write a question and use a question mark at the end, and a
standardized test score, which required students to read stories and subsequently answer comprehension questions. The experimental group was instructed on how to ask literal types of questions that could be found in the text (i.e. who, what, where, etc.) while the control group received no instruction. The instructional session took place twenty minutes per day for four days.

Results showed the experimental group’s criterion scores increased from 57% on the pre-test to 87% on the post-test, while control group scores remained the same at 36%. The experimental group’s standardized test scores also increased from 74.5% on the pre-test to 88% on post-test, while the control group’s scores remained the same at 74.5%. These findings suggest that students in the experimental group had acquired question-generating as a comprehension-monitoring strategy and were able to apply it to the standardized test even though they were not instructed to do so. Findings also indicate that students improved their text analysis skills and the ability to retrieve important information from text, resulting in improved information processing skills.

The limitations of this study elicit the need for further research in this area. For example, student-generated questions were limited to literal questions pertaining to short stories. Also, students were not instructed how to ask higher-level questions, and the experimental readings did not include expository text. While the authors stated that all participants were at a non-mastery level in writing, this does not mean they were incapable of asking higher-level questions or applying such questions to expository text. Since self-generated questions improved comprehension of narrative text, this study
should be extended to expository text while instructing students how to ask both lower-level and higher-level questions.

MacGregor (1988) discussed how optimal reading performance includes fluent reading, asking questions, making predictions, and forming hypotheses. This study examined the relationship between student self-questioning and reading performance on a computer-mediated text system (CTS). The study consisted of forty-eight third grade students who were classified as either good or average readers, as determined by both the Nelson Reading Skills Test and an assessment of each student’s ability to predict their own reading performance. Each student was reading at no more than a half year below grade level. They read researcher-written expository passages, approximately 250 words in length. Students were randomly assigned to four groups: three experimental groups and one control group. Experimental groups received training in asking two types of questions: 1) clarification questions, which allowed students to ask for the meaning of unknown words within the passage; and 2) focus-of-attention questions, which allowed them to ask for answers to literal types of questions, containing answers that could be found within the text. All training took place on the CTS. The control group was given reading passages on paper, but received no question-asking training.

Findings were similar to Cohen (1983) and Jenkins et al. (1987) in that students can learn how to use a reading strategy and apply it to a reading task. Students in experimental groups significantly outperformed the control group in vocabulary knowledge, prediction of vocabulary performance, and approached statistical significance in comprehension scores. Students in the control group demonstrated the lowest
comprehension scores and the lowest vocabulary scores. Average readers showed significantly greater gains than good readers in vocabulary knowledge, comprehension, and the ability to predict vocabulary performance. However, this could be because good readers already possess these skills. Also, a significant correlation was found between student questions that received positive CTS feedback and vocabulary knowledge. Conversely, a significant correlation was found between student questions that received negative CTS feedback and gains in comprehension. After the treatment, average readers’ scores were close to those of good readers.

This study does not speak to the effectiveness of the CTS as much as it speaks to the effectiveness of teaching students question-asking skills as a comprehension monitoring strategy. Given the aforementioned studies’ findings, these results are likely generalizable to students who use printed text as well. This study’s limitations are similar to those of the aforementioned studies in that the software is limited to literal types of questions, and it only provided positive feedback if the answer could be located in the passage. This eliminates students’ opportunities to practice asking higher-level, divergent questions, which they should not only learn how to do, but also do on a daily basis.

Conclusion

In conclusion, the literature has revealed several findings. In the early childhood classroom, writing typically occurs in either a process or a product approach, each of which have their strengths and shortcomings with regard to writing development. To adhere to just one approach ignores the strengths and weaknesses of the other approaches,
while also ignoring individual student needs. While some students have shown to benefit from a more informal, whole-language process approach, others have shown to benefit from a more explicit, systematic approach. Thus, it appears a hybrid approach is necessary, one that employs a combination of the best elements of each approach.

Writing has yielded benefits in both the affective and cognitive domains. When implemented properly, it has been shown to increase literacy self-efficacy, which leads to increased writing engagement, motivation, interest, learning, and achievement. Writing has also been shown to enhance creative and critical thinking, whether writing a personal narrative of choice or writing across the curriculum. Renninger et al. (1992) tells us that optimal motivation and achievement occur when students write for an audience other than simply writing for themselves and/or the teacher. Recall that Atwell (1993) states that her students are at their peak performance level when they are engaged in letter correspondence with either her or with a peer. This warrants further study in the early childhood classroom as well, as Graves (1989) also emphasizes the importance of writing as an ongoing dialogue.

Both reading and writing are a combination of top-down and bottom-up processes. It appears that when both skills receive adequate daily practice, both skills will improve. The more children read and write, the more they add to their schema of how language works, and they more equipped to understand language structures when they are encountered as written words. When students are provided a framework for how to think about text and how to make sense of it, they are consciously activating their top-down schema. If students then write about what they are learning in a way that connects
to their individual interests, values, and inquiries, they are also consciously activating
their bottom-up schemata through writing. Thus, two higher-level thinking skills are
occurring in tandem: the acquisition and reinforcement of content knowledge, and
literacy development (Goodman, 1996). If students take this one step further and
communicate their writing to an audience in a way that initiates and continues an ongoing
dialogue, it seems likely that this would enhance both their reading comprehension and
writing development.

The literature review has illuminated the lack of research surrounding the
relationship between writing and reading comprehension. Three themes have emerged:
1) the impact of spelling instruction on reading, although this has primarily focused on
word identification and word attack, rather than comprehension; 2) the impact of writing
in various text structures on reading comprehension, although reading comprehension
assessment was limited to the subject areas in which students had written; and 3) the
impact the metacognitive task of question-asking has on reading comprehension,
although students were limited to asking lower-level, literal types of questions with
answers that could only be found in narrative passages.

All of the previously discussed results, gaps in the literature, and methodological
limitations, combine to create a mixed methodology for the proposed research question
and hypothesis:

1) How does the content of students’ writing change as they progress throughout the
“3 I” writing intervention program?
H: The “3 I” writing intervention program will have a significant impact on the experiment group’s S.T.A.R. reading comprehension scores compared with the control group’s S.T.A.R. reading comprehension scores.

The research findings, although limited, illustrate the positive impact that writing has on students’ literacy development. Yet, writing remains neglected in education reform policy and is scarce among the literature. It is my goal to contribute to this gap in the literature and, also, to contribute to the national conversation regarding the role that writing should play in our students’ education. Hence, the following theoretical framework, followed by a description of the conceptual model, is born of three main theories underpinning the roles that: 1) writing; 2) interest; and 3) intrinsic motivation play in children’s learning. For the purposes of this study, learning will be confined to the areas of reading comprehension and writing development.

**Theoretical Framework**

**Introduction.** Lev Vygotsky’s Sociocultural Theory espouses that reading and writing are higher psychological processes acquired through the mediation of signs, symbols, actions, and objects; processes rendered impossible without the use of verbal thought and language as a communication tool (Vygotsky, 1934/1986; Vygotsky, 1978). While reading and writing may appear to be solitary processes, this is a misnomer, as they are both socially influenced processes, rooted in a culture replete with its own history, society, and language. Each culture maintains its history, society, and language by speaking, reading, and writing to transmit and exchange knowledge. The main purpose of the Sociocultural Theory is to understand how “…culturally and historically
situated meanings are constructed, reconstructed, and transformed through social mediation (Englert, Mariage, & Dunsmore, 2006, p. 208).”

The theoretical framework for the proposed study is a combination of the following theories: Lev Vygotsky’s Sociocultural Theory, John Dewey’s theory of the role of interest in learning, and Edward Deci’s theory of intrinsic motivation in learning (Deci, 1992; Dewey, 2009; Vygotsky, 1934/1986; Vygotsky, 1978).

**Framework.** The proposed study rests on the foundation of four key tenets of Sociocultural Theory: 1) the mastery of speech structure; 2) the relationship between language development and intellectual growth; 3) concept formation; and 4) the use of mediation to enhance cognitive development within the zone of proximal development (ZPD). Dewey’s theory of the role of interest in learning, and Deci’s theory of intrinsic motivation are also interwoven, as the affective components of the proposed writing model (“3 I Model”) are born of their respective theories (see Appendix B).

**Mastery of speech structure.** Jean Piaget established two main categories of speech through which children progress: egocentric speech and socialized speech (Piaget, 1959). He believed that egocentric speech presupposes inner speech, which is how thought and speech are structured in one’s mind, allowing individuals to act on their thoughts and to problem-solve. Egocentric speech is speech for oneself, with no intent to communicate with others. For example, if a child is talking aloud while drawing, problem-solving, etc. there is no intent to communicate with another person, therefore, this is egocentric speech. Piaget states that socialized speech, which is communicative in nature, occurs last, typically at the concrete-operational stage, when children begin to
develop an interest in conversing for the sake of sharing thoughts and ideas (Piaget, 1959).

Vygotsky’s work on the mastery of speech structure expounds upon that of Piaget. While they both agreed on the occurrences at each stage, they differed in their beliefs of the various speech functions, as well as the order of stages in which they occur. For instance, unlike Piaget, Vygotsky believed the most primitive form of child speech (including babbles) to be social in nature, and intentionally communicative. Vygotsky also believed the order of inner speech and egocentric speech were reversed; ergo, egocentric speech followed by inner speech, which ultimately leads to written speech (Vygotsky, 1934/1986; Vygotsky, 1978).

According to Vygotsky, the child’s mastery of his/her speech structure becomes the basic structure of thought, or, inner speech. He found that as children grow and develop, they engage in less egocentric speech during problem-solving situations, yet the ability to problem-solve remains intact and strengthens as children develop. This led Vygotsky to theorize that children had not abandoned the act of speech, but rather, had internalized it. This internalization denotes inner speech, or thinking, as a higher act of mental processing, which reduces the need to talk oneself through problem-solving situations. Since this inner speech subsequently translates into written speech, the child’s written speech can glean insights into his/her inner thought structure (Vygotsky, 1934/1986).
Relationship between language development and intellectual growth.

Vygotsky and Piaget were also at odds regarding the relationship between language development and intellectual growth. Whereas Piaget believed intellectual growth must precede language development, meaning children are able to speak, read, write, and problem solve because they have acquired the intellectual capacity to do so, Vygotsky took somewhat of a different stance. He theorized that language development and intellectual growth unfold concurrently, stating that intellectual growth depends on language mastery, so in turn language mastery produces intellectual growth (Ginsburg & Opper, 1988; Vygotsky, 1934/1986).

The purpose of this study, again, assumes Vygotsky’s stance that language development, particularly writing development, enhances the intellectuality of the child’s actions (Vygotsky, 1934/1986). This enhancement occurs due to what Vygotsky refers to as a double abstraction, which occurs in the following way when children write: 1) the first abstraction occurs when the child mentally organizes and structures his/her thoughts as s/he wishes them to appear on paper (i.e. inner speech); and 2) the second abstraction occurs once the child engages in the phonological and motor aspect of writing, as s/he abstracts said thoughts on to paper, (Torrance & Galbraith; 2006; Vygotsky, 1934/1986). This higher psychological process presupposes an ongoing development of language mastery and intellectual growth. Hence, engaging in the higher level process of writing boosts the child’s level of intellect.
**Concept formation.** The third tenet is concept formation, a process Vygotsky renders impossible without verbal thought (Vygotsky, 1934/1986; Vygotsky, 1978). Learning and intellectual development occur when children link spontaneous concepts to non-spontaneous concepts. For example, Tolchinsky (2006) states that children become spontaneously aware that their markings leave behind visible traces. As children become older they undergo instruction to shape the non-spontaneous, or scientific concept, that these visible traces (i.e. writing or drawing) are used as a means to externalize thoughts. Children learn to use this externalization to their advantage as they plan, revise, edit, publish, and share their writing.

Once the child becomes aware that s/he has mastered a scientific concept, this awareness creates a transfer of concepts to other areas. For example, suppose the child has mastered the concept that a culture is comprised language, food, music, etc. Since the child has acquired this awareness, s/he may inquire as to whether different places around the world have different cultures, and what comprises these cultures. This inquiry leads to other concepts such as history, society, and self-to-world connections. The child has begun to interrelate scientific concepts, indicating a heightened change in perception. Vygotsky asserts that when such a heightened inner perception emerges, the child experiences heightened inner activity. The child has now acquired the capacity to engage in “reflective consciousness,” or metacognition, a process that, according to Vygotsky, can only be acquired through awareness and mastery of scientific concepts (Vygotsky, 1934/1986). Essentially, the child is now consciously aware of what s/he knows and does not know.
Let us examine the child’s reflective consciousness by combining the scientific concepts discussed so far: writing and culture. Writing serves as an outlet through which the child can document his/her reflective consciousness by writing what s/he finds interesting, what s/he finds important in relation to the self and to the world, as well as related inquiries. The child is able to visibly see his/her reflective consciousness and concept formation on paper. S/he may add, delete, or edit information as new learning occurs and new concepts emerge. This, once again, is achieved through verbal thought, the use of words as tools, and interaction with the external environment.

As previously mentioned, Vygotsky states that learning occurs when children link spontaneous concepts to non-spontaneous concepts. Therefore, instruction must occur so that scientific concepts lie just ahead of spontaneous concepts, or instruction must lie just ahead of the child’s developmental level. In the proposed study, children will be instructed on how to record information in their graphic organizers, and how to subsequently craft their notes into pen-pal letters. As Piaget tells us, children aged seven to nine are typically concrete-operational, engage in speech with the intent of communication, and are developing a greater capacity for abstract thought (Piaget, 1959). Since writing is an abstract process, and children will be partaking in an ongoing dialogue via written expression, the third-grade children in this study are engaging in tasks that lie just ahead of their developmental level.

**Mediation within the ZPD.** Sociocultural Theory, specifically social constructivism, is steeped in Vygotsky’s belief that mediation enhances cognitive development and cognitive strategies. Writing mediates problem solving and memory as
children externalize thoughts on to paper. This externalization is a mediated activity that may occur either independently or collaboratively through social discourse. Regardless, mediation occurs between the child, language, and manipulation of materials in the learning environment. Learning through mediation must occur within what Vygotsky is arguably best known for: the child’s zone of proximal development (ZPD). This is the zone, or gap, that exists between what the child can do with assistance and what the child can do independently (Vygotsky, 1934/1986; Vygotsky, 1978).

In order to bridge this gap, each child must receive instruction within the ZPD by engaging in learning activities under the guidance of a more capable other (MCO), such as a teacher or peer. Vygotsky underscores the importance of social interaction at this juncture, as learning moves from interpersonal to intrapersonal, and is significantly enhanced as the child interacts with a MCO. Learning occurs interpersonally, and then becomes intrapersonal, wherein knowledge is internalized. At this stage, Vygotsky places a heavy emphasis on the role of the teacher as instructor, contending that the child’s cognitive development and maturation are products of teacher cooperation. The teacher must provide the child with the appropriate materials and learning activities to help the child traverse the ZPD.

Conversely, Piaget believed that rather than co-constructing knowledge with a MCO, the child constructs knowledge independently through assimilation and accommodation, and acquires intelligence by linking new knowledge with existing knowledge, or schemata. While Piaget did not eschew social interaction, he believed that for learning and intelligence to occur, the child must encounter disequilibrium and make
the necessary adaptations to restore equilibrium (Ginsburg & Opper, 1988). This study adheres to Vygotsky’s stance on the matter and emphasizes the importance of social interaction and collaboration in the classroom as students engage in writing tasks and exchange letters with pen pals, under the guidance of a teacher, while working within their ZPD’s (Vygotsky, 1934/1986; Vygotsky, 1978).

When given the choice, children typically choose activities that are slightly beyond their developmental level, as these activities are more likely to stimulate curiosity and interest, thereby increasing motivation and engagement (Deci, 1992). While Vygotsky did not focus on these affective constructs, research lends credence to his theory of the value of instruction within the ZPD. When a teacher provides a learning environment where activities and materials are accessible and developmentally appropriate (within the child’s ZPD), instruction and development unfold together, creating ripe conditions for optimal learning (Vygotsky, 1934, 1986; Vygotsky, 1978).

**Interest and intrinsic motivation: Dewey and Deci.** The proposed writing model allows children to express the interestingness, importance, and inquiries on a self-selected topic. The goal is to reinforce content knowledge and literacy skills through writing pen-pal letters, ultimately increasing reading comprehension. The model is born of Dewey’s characteristics of interest and what Deci has deemed are the three psychological needs inherent in intrinsic motivation (Deci, 1992; Dewey, 2009; Schievele, 1992). Both Dewey and Deci posit that optimal motivation arises when a topic is self-selected (which reflects individual interest), and is deemed both interesting and
important by the student. Deci theorizes that optimal motivation and reading
comprehension occur when interestingness and importance are combined (Deci, 1992).

Dewey states that “Interests are the signs and symptoms of growing powers
(Dewey, 2009, p.39).” He maintains that children should be given the opportunity to
habitually engage in areas of interest, as this indicates an area of strength, allows the
child to be active in his/her learning, and informs the teacher of the appropriate learning
materials for the child. If children are to become interested in what they are learning,
three characteristics must be present: 1) children must be actively learning; 2) learning
must be based on real objects; and 3) the task must have high personal meaning
(Schiefele, 1992). When children are interested, they are more intrinsically motivated to
learn, and deep learning, rather than surface learning, occurs (Deci, 1992; Dewey, 2009;
Renninger, Hidi, & Krapp, 1992).

Deci states that three characteristics must be present for intrinsic motivation to
occur: 1) competence; 2) autonomy; and 3) relatedness (Deci, 1992). These
c characteristics provide optimal motivation to learn, while also enhancing creativity. Deci
also found that when students learned material for the sake of teaching others, they were
not only more motivated to learn the material, but also found it more interesting, and
retained more information over a longer period of time than those who learned material
for the sake of passing a test (Deci, 1992). In the proposed study, children assume an
“expert” role on a self-selected topic of interest, and ultimately teach other students about
the chosen topic via letter correspondence.
**Conclusion**

Piaget and Vygotsky both believed that children are not born empty vessels for adults to fill with knowledge, but rather, the child constructs his/her own knowledge as s/he interacts with the environment. Vygotsky, unlike Piaget, believed the teacher to be a vital cog in the student’s construction of knowledge. Essentially, while both believed that learning occurs when there is interaction between the individual and the environment, for the purposes of this study, Vygotsky’s ideas of instruction, discussion, and adult guidance in scaffolding student learning are emphasized. While instruction is emphasized, the goal of this study is not to standardize student writing, but to optimize it. It is an exercise in both writing and reading comprehension, as, according to Hayes’ (2004, cited in Hayes, 2006) revision schema theory, once students’ thoughts become visible, they are able to critically read, organize, manipulate, and reorganize their thoughts in ways that are not possible by strictly internal means. This, he states, is also a powerful exercise in reading comprehension.

Vygotsky’s Sociocultural Theory, in addition to Dewey’s characteristics of interest and Deci’s characteristics of intrinsic motivation, lead the researcher to believe that students who engage in self-selected, interest-based writing that is informational, expressive, and metacognitive, will in turn enhance their reading comprehension and writing development.

**Conceptual Model**

In accord with Vygotsky’s Sociocultural theory, particularly Social Constructivism, Dewey’s theory of the role that interest plays in children’s learning, and
Deci’s theory of the three inherent characteristics of intrinsic motivation, the “3 I” model was developed as a graphic, conceptual tool for students to complete daily. On this graphic organizer, students write to document the following: 1) subject of choice; 2) topic of choice, within the subject; 3) pictures and/or words they associate with the topic; 4) interestingness of topic; 5) importance of topic; and 6) further inquiry on said topic. There is also an optional challenge component in which students may predict and/or document the answer to their inquiry (See Appendix B).
Chapter 3: Methodology

Introduction

Mixed methodology deepens the researcher’s understanding of the problem at hand. It incorporates and integrates both quantitative and qualitative data as a means for the researcher to gain a deeper, more comprehensive understanding of the research problem than either method can provide on its own (Creswell, 2014). Before one can understand the value of such an approach, however, it is important to gain an understanding of the components and rationale behind mixed methods research.

Mixed methods research involves the collection and analysis of both quantitative and qualitative data. These two forms of data are then integrated into the overall research design as they are either merged, connected, or embedded, a procedure which is determined based on the researcher’s theoretical perspective (Creswell, 2014). For the purposes of this study, both forms of data will be embedded within an action research project, encompassed by a pragmatic paradigm, which is discussed later in the chapter.

Mixed methods also provides deeper insight by telling the story behind the numbers. It serves to combine and elicit the strengths of both quantitative and qualitative approaches, while minimizing weaknesses (Creswell, 2014). Mixed methods research is pertinent to this study as students’ literacy development is best understood when both reading comprehension and writing development are measured and analyzed concurrently. This concurrent approach provides a more holistic picture of literacy development than can be provided by strictly quantitative or qualitative means.
Research Question and Hypothesis

Both quantitative and qualitative data were be collected and analyzed to address the following research question and hypothesis:

1) How does the content of students’ writing change as they progress throughout the “3 I” writing intervention program?

H: The “3 I” writing intervention program will have a significant impact on the experiment group’s S.T.A.R. reading comprehension scores - compared with the control group’s S.T.A.R. reading comprehension scores.

This study employed a mixed methods, quasi-experimental design, placing equal priority on both quantitative and qualitative data and the data’s implications for literacy development, which, for the purposes of this study, included only reading comprehension and writing development. The independent variable was the writing intervention program, which entails daily writing instruction using the proposed “3 I” model, while the dependent variable included students’ S.T.A.R. reading comprehension scores, as well as writing development, which was analyzed via the students’ completion of daily graphic organizers and bi-weekly pen pal letters. Both groups’ S.T.A.R. pretest and posttest scores were measured by quantitative means, while the daily graphic organizers and pen pal correspondence letters were written, collected, and analyzed for the experiment group only.

The hypothesis, “The “3 I” writing intervention program will have a significant impact on the experiment group’s S.T.A.R. reading comprehension scores compared with the control group’s S.T.A.R. reading comprehension scores,” was addressed
quantitatively via the baseline and benchmark S.T.A.R. reading comprehension test data. This data was collected and analyzed prior to the onset of the intervention period in September and again at the conclusion of the intervention period in December. The reading comprehension scores yielded from baseline and benchmark S.T.A.R. reading comprehension tests provided numerical data regarding students’ reading comprehension scores.

The research question, “How does the content of student writing change as they progress throughout the “3 I” writing intervention program,” applied only to the experiment group, and was addressed qualitatively throughout the three-month writing intervention period. Students’ graphic organizers and pen-pal letters were collected and analyzed throughout the study to analyze a priori themes and also determine emerging patterns and themes as they were revealed.

Both reading comprehension data and student writing samples were analyzed concurrently to determine the impact the writing intervention program had on students’ overall literacy development. Data collection and analysis of both forms of data provided an in-depth understanding of the need for daily writing instruction and the role it plays in enhancing overall literacy development, as it examined the impact that writing instruction has on both reading comprehension and writing development. This data was used to determine both future instructional practice as well as future research.

**Sample.** The sample population for the quantitative portion of this quasi-experimental study included 117 third-grade students in a Midwestern, low socioeconomic, rural town. The treatment group contained fifty students and the control
group contained sixty-seven students. This is a convenience sample comprised of students who met the following criteria: 1) enrolled in a third grade general education class; 2) required to complete a state-approved baseline and benchmark reading assessment. Group assignment was non-random as there is a five-mile distance between the two elementary schools. Both elementary schools are in the same school district, and each elementary school is made up of students in grades kindergarten through five. The treatment group is located in a school where 95.5% of the students are classified as white, 60.1% of the students are classified as economically disadvantaged, and 18.8% of the students are classified as students with disabilities (Ohio School Report Cards, 2013). The control group is located in a school where 97.3% of the students are classified as white, 76.3% of the students are classified as economically disadvantaged, and 13.4% of the students are classified as students with disabilities (Ohio School Report Cards, 2013).

**Design type.** When conducting research with children in a school setting, action research is typical, and a pragmatic approach is recommended (Greig et al., 2013). This action research project was set within the framework of an embedded mixed methods design and adheres to a pragmatic approach (See Appendix A). The following section defines action research, embedded mixed methods, and pragmatism, and also discusses how they function synergistically in this research study.

Action research is “…a continuous learning process in which new knowledge is both learned and also shared with those who may benefit from it” (Greig et al., 2013, p. 172). Stringer (2008) defines action research as “…a distinctive approach to inquiry that is directly relevant to classroom instruction, learning, and provides the means for teachers
to enhance their teaching and improve student learning” (p. 1). Action research can be conducted through use of either quantitative or qualitative methods, or in this instance, both. Simply put, action research occurs in a natural environment, identifies a problem, and employs various strategies in effort to correct, or at the very least, minimize the problem. In this case the natural environment was a third grade classroom, the problem was reading comprehension, and the instructional strategy employed was a writing intervention program.

In an embedded mixed methods approach, the researcher embeds multiple forms of data within the framework of a larger design, commonly an experiment or intervention in a school setting (Creswell, 2014). The “larger design” in this study was the “3 I” writing intervention program. Quantitative reading comprehension data was collected twice: once, prior to the start of the program, and once again at the conclusion of the program. Qualitative data in the form of student writing samples was collected throughout the intervention period so the researcher was able to analyze a priori themes, emerging themes, and patterns, which allowed for the exploration of writing development in real time.

Steeped in John Dewey’s philosophy, pragmatism asserts that knowledge is observable, measurable, and socially constructed (Greig et al., 2013). Adherently, this study acknowledged both positivism and social constructivism, and the role that each plays in collecting data, interpreting results, and drawing inferences (See Figure 1). Results were interpreted from both perspectives to gain a more complete understanding of the impact that writing has on literacy development, particularly reading.
comprehension and writing development. This juxtaposition enhanced the credibility of the study as it allowed for breadth and depth in both explaining and describing the impact of the “3 I” model on reading comprehension and writing development.

Figure 1. Research Design Model

Positivism is an approach common to quantitative research. Positivism assumes that the nature of any person, in this instance, a child, is objective, can be controlled, observed, and measured, and that truth and knowledge are exact and universal (Greig et al., 2013; Patton, 2002). Positivist quantitative methods tend to isolate independent and dependent variables and collect standardized data in a controlled and contrived setting. This is because positivism is explanatory in nature, with the ultimate goal being to explain why something happens in hopes of determining relationships between variables. The underlying goal of positivism is to establish predictability.

Social constructivism, conversely, sees the person as dynamic, subjective, and immeasurable. Children are believed to have their own unique perspectives which have
been socially constructed through interpersonal social interaction, as well as interactions between internal cognition and the external environment. Social constructivists believe that a bidirectional, reciprocal relationship exists between the individual’s cognition and interaction with the external environment (Berninger & Winn, 2006). Nature and nurture are not viewed as dichotomous, but rather, as a balanced hybrid that determines an individual’s learning, thereby constructing the child’s knowledge and worldview. Social constructivism also maintains that the dynamics of human cognition and social behavior preclude truth or knowledge as being exact or universal. As individuals learn from one another interpersonally, knowledge is then internalized and becomes intrapersonal (Vygotsky, 1934/1986). Ergo, qualitative data is non-standardized and occurs in a naturalistic setting in the form observations, interviews, and authentic document analyses. Exploratory in nature, the ultimate goal of qualitative research is to describe or understand an event or phenomenon (Greig et al., 2013; Patton, 2002).

In this study, pragmatism works as an “umbrella paradigm,” encompassing: 1) practicality; 2) multiple viewpoints; 3) objective and subjective data; and 4) biased and unbiased interpretations (Ivankova, Creswell, & Stick, 2006). The proposed study contains all four of these elements in the following manner: 1) there is practicality in that the findings are of practical use to researchers and practitioners; 2) multiple viewpoints are discussed as standardized has been analyzed quantitatively via covariate analysis, and non-standardized student writing samples have been analyzed qualitatively through document analysis; 3) objective data is quantitatively analyzed and reported via students’ STAR baseline and benchmark reading comprehension test scores, and subjective data is
qualitatively analyzed and reported via analysis of both a priori and emerging themes in student writing samples; and 4) unbiased interpretations of the reading comprehension test scores, as determined by the S.T.A.R. program are discussed. Biased interpretations of student writing samples, as determined by the researcher, are discussed in terms of both a priori and emerging themes and patterns.

Since this was an action research study and results may be used to determine the program’s effectiveness, it is necessary to discuss the teaching instrument(s) and assessment instrument(s), along with validity and reliability.

**Quantitative Instruments, Reliability and Validity**

The S.T.A.R. reading performance test, which provided data that was used to run covariate analysis, has been independently evaluated by the National Center on Intensive Intervention at American Institutes for Research. The center’s Technical Review Committee (TRC) reports that the S.T.A.R. data demonstrates convincing evidence of possessing the following psychometric properties: 1) reliability of the performance score; 2) reliability of the slope; 3) validity of the performance level score; and 4) disaggregated reliability and validity of data (AIR, n.d.) (See Table 1). The TRC data supports reliability, as well as unified validity in that construct, content, and criterion validity are upheld (Hubley & Zumbo, 2011).
### Table 1
*Reliability of the Performance Level Score*

<table>
<thead>
<tr>
<th>Type of Reliability</th>
<th>Age/Grade</th>
<th>n(range)</th>
<th>Coefficient Range Median</th>
<th>SEM</th>
<th>Information (including normative data)/Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic</td>
<td>1-5</td>
<td>7523-10476</td>
<td>.89-.91 .90</td>
<td>.91</td>
<td>36-62 Median: 48 Based on STAR Reading 4.3 norms sample, IRT Reliability was calculated from the conditional error variance of IRT ability estimates.</td>
</tr>
<tr>
<td>Split Half</td>
<td>1-5</td>
<td>7523-10476</td>
<td>.88-.89 .89</td>
<td>NA</td>
<td>Split half reliability was calculated in the 2.0 norming sample.</td>
</tr>
<tr>
<td>Retest</td>
<td>1-5</td>
<td>296-300</td>
<td>.82-.89 .83</td>
<td>NA</td>
<td>There were no common items across retests; non-overlapping versions of STAR Reading 4.3 were taken.</td>
</tr>
</tbody>
</table>

(Reproduced from [http://www.intensiveintervention.org/chart/progress-monitoring/12958](http://www.intensiveintervention.org/chart/progress-monitoring/12958))
Qualitative Instruments, Reliability and Validity

Students used just one instrument for the qualitative portion of this study. As discussed in chapters one and two, there is a need to study the relationship between writing and reading comprehension, particularly during the early childhood years. The literature review also discussed the need for students to engage in the type of writing that allows them to be expressive and informative, while also engaging them in inquiry and metacognition. Gaps persist throughout the literature regarding the impact that a combination of expressive, informative, metacognitive writing has on reading comprehension and writing development. The “3 I” writing intervention program consisted of two parts: 1) the completion of graphic organizers; and 2) subsequently crafting said graphic organizers into pen-pal letters written to a second-grade student in the same school building. The graphic organizer is the writing instrument.

The researcher has developed a graphic organizer which students completed daily (see Appendix B). This graphic organizer required students to take the following four steps: 1) choose and identify both a subject and topic of study; 2) draw a picture or write words associated with said topic; 3) identify what is most interesting about the topic; 4) identify what is important about the topic in effort to make text-to-self and text-to-world connections; and 5) generate further inquiries on the topic.

Graphic organizers were completed approximately five times per two-week interval for approximately 25 minutes each day. Students chose a topic of interest that they had been learning in school. Topics included classroom units of study or units of study in music, art, physical education, or library. The only constraint was that the topic
must be something they were currently learning in school. This is so they had easy access to information, which served as a catalyst to their writing. Each day students changed topics. The idea is to keep the daily writing interest-based and student-centered.

Students documented their thinking on daily graphic organizers and subsequently crafted the information into a pen-pal letter, which was sent to a younger pen pal in the school building every two weeks. The purpose of the letters was for each student in the treatment group to assume an expert role on a self-selected topic, and to communicate their thoughts and findings on said topics to the pen-pal. Both graphic organizers and letters were collected, analyzed, and coded by the researcher to determine emerging themes and patterns in students’ writing development throughout the intervention period.

Recall from chapter two that Renninger (1992) tells us that engagement, motivation, and comprehension are optimal when interestingness and importance are combined, and that students have shown to be more engaged with the topic, more interested in the topic, and retain more information on the topic when they share their work with an audience and learn for the sake of teaching others rather than learn for the sake of passing a test. Graves (1989) stated that letter writing is a great way for students to engage in continuous dialogue, and that “All writing is an opportunity to find out what you think (Graves, 1989, p. 38).”

Through the pen-pal letter writing activity, students revealed the knowledge they were constructing, how they constructed it, and the value they believe it holds for themselves and/or their world. They linked newly constructed knowledge to pre-existing schemata in order to assign meaning to it. The writing was open-ended, was not judged
as “right” or “wrong,” and was a product of each individual student’s thoughts, experiences, and inquiries. Each child’s writing development was given unique consideration as there was no letter grade assigned and no ability level attached. Also, no pre-determined criteria was imposed on the letter writing activity, except that the letters must include information from the daily graphic organizers. The analysis of student writing samples used an inductive, ground-up approach, as themes and patterns emerged from students’ individual work. In keeping with Vygotsky’s sociocultural theory of development, the researcher kept in mind that each students’ unique experiences, conversations, and backgrounds affected not only their concept formation, but the capacity in which they used thought and language to convey information as well (Vygotsky, 1934, 1986).

In conclusion, as each research question is best addressed through different types of methods, a mixed methods approach allows for deeper examination and understanding of the writing intervention program’s effect on students’ overall literacy development, particularly reading comprehension and writing development.

Patton (2002) and Creswell (2014) stress that qualitative validity strategies lend more credence to the researcher’s findings, particularly since qualitative research is largely subjective and open to multiple interpretations. Particular emphasis is placed on the researcher’s lens, which is discussed prior to the following validity strategies: 1) rich, thick description; 2) clarification of bias; 3) reporting any negative or discrepant information; 4) spending prolonged time in the field (Creswell, 2014; Patton, 2002).
Qualitative Validity Strategies

Rich, thick description provided a detailed account of the participants and the nature of their development as young writers as they progressed throughout the writing intervention program. Emerging themes and patterns were also described in-depth to portray a complete and vivid picture of students’ writing development. The varying perspectives of each student have been analyzed in an attempt to explain variations in themes and patterns among students, and both anticipated and unanticipated themes and patterns are discussed. Clarification of bias is addressed in the “Researcher’s lens” section, which discusses the researcher’s assumptions, which have been shaped through personal and professional experience. The reporting of any negative or discrepant information addresses contradictory themes that run counter to personal assumptions and evidence. This also adds credibility to the study by creating a holistic account of individual themes and patterns. The researcher has taken care to spend prolonged time in the field by serving as instructor in the treatment group’s classroom. The ultimate goal of this study is to explain and explore the impact that writing has on students’ reading comprehension and writing development, along with any implications and/or benefits this may hold for students, teachers, and administrators.

Researcher’s Lens

The researcher holds several assumptions with regard to students’ writing capabilities and the benefits that daily writing holds for both reading comprehension and writing development. Students’ writing capabilities are often overlooked, and students’ abilities to construct knowledge through writing, is underutilized. These assumptions and
beliefs have been shaped throughout the researcher’s nine years of teaching experience in both third and fourth grades, teaching a student population of which the majority are categorized as economically disadvantaged. The student population has included general education, special education, and gifted education.

The student writing samples the researcher has observed displayed in the hallways throughout various school buildings have primarily been replicas of a model, with the exception of a few student-generated words, phrases, or sentences. This fill-in-the-blank, formulaic style does little in the way of tapping into creative thinking and enhancing writing development, and it deprives the student of the chance to develop a sense of identity as a young writer.

Literature response exercises such as answering prescribed questions or writing product-oriented, formulaic paragraphs are overestimated with regard to the impact they have on reading comprehension. In this style of writing, individual differences and authentic real-world connections are non-existent. Asking each child the same questions about the same reading passages does not assess what they know (italics are author’s). Rather, it assesses whether the students know what the teacher knows. Students deserve an open-ended outlet which allows them to demonstrate knowledge in ways that allow for incorporation of such knowledge into varying schemata (Rumelhart & McClelland, 1981).

Children will think as deeply and as creatively as they are allowed to think, regardless of the writing genre. In the researcher’s former classroom, children were expected to write autonomously, and were encouraged to take risks by writing in various
genres for a variety of purposes. Children were given opportunities to share their writing with one another, and peer feedback was not only required, but was considered a critical part of the writing process. The researcher discovered that children can in fact, competently engage in writing activities that, according to the literature, have been primarily confined to the middle school grades and beyond, also extending into higher education. Such activities include informative, expressive, and metacognitive writing. Witnessing third-grade students engage in this type of cross-curricular writing, and seeing their pride and self-efficacy increase as a result, has played a vital role in the birth of the proposed study.

When students write, the intangible becomes tangible. Invisible thoughts suddenly become visible, and what once was perhaps a temporary abstract thought becomes permanent and concrete. When students write, they have created something that belongs solely to them. Their thoughts and visions are alive, and the student/author is now an expert and a source of knowledge for peers. Borkowski (1992) tells us that writing contains both motivational antecedents as well as motivational consequences, and the researcher has experienced that when teachers provide a learning environment that facilitates both, optimal literacy development as a natural consequence, ensues.

**Data Collection Procedure**

1. Prior to the start of the writing intervention program, teachers in both the experiment and the control group administered the S.T.A.R. reading performance test, an online test that measures reading comprehension.
2. Once the assessment was completed, in late August, the “3 I” writing intervention program commenced for approximately thirty minutes each day over a twelve-week period. The program ended just before both groups of students took the S.T.A.R. benchmark assessment, approximately the first week in December. The researcher served as the writing instructor during the intervention period to implement the “3 I” model. The control group did not participate in the writing intervention program, although they completed the benchmark assessment in approximately the first week of December, along with the experiment group.

3. Using the S.T.A.R. data, a covariate analysis was run to compare differences in reading comprehension pretest and posttest scores between groups. Values of statistical significance were alpha’s .05 statistical significance (Aron, Coups, & Aron, 2011). Effect size was also calculated using Eta’s numerical values.

4. Graphic organizers were collected and photocopied by the researcher every day, while pen-pal letters were collected and photocopied every two weeks so that themes and patterns could be analyzed. The researcher has sought to explore how the content of students’ writing changes as they progressed throughout the writing treatment program.

**Ethical Considerations**

Consent from the district superintendent was obtained to carry out the study, and consent was also obtained to access the S.T.A.R. results, which are not reported to the public. Additionally, permission forms were sent home with students in the experiment group introduced the researcher, explained the study, and explained the reason for the
study. Any students who did not return both a parental/guardian consent form and student assent form still participated in the writing intervention program, but their data was excluded from the reports.

The following section details how the researcher has taken into account threats to internal validity, external validity into account and describes steps that will be taken to minimize the risks of each threat.

**Internal validity.** Internal validity threats refer to participants’ factors that could interfere with the researcher’s ability to interpret and draw correct inferences from the data. The main threats pertinent to this study included: 1) maturation; 2) regression; 3) mortality; 4) diffusion of treatment; 5) resentment; 6) testing; and 7) instrumentation (Creswell, 2014). To circumvent these threats, the following steps have been taken to address each threat, respectively: 1) since participants will naturally mature and change over the three-month intervention period, selected participants are enrolled at the same grade level and have remained so throughout the experiment; 2) selected participants were enrolled in general education and did not have extreme scores, as no participants are identified as either special education students or gifted students; 3) a large sample of participants of 117 students has been recruited, should any students move or choose to either opt out or drop out of the study; 4) there was no danger of the two groups interfering with the study by communicating with one another as the two groups are enrolled in elementary schools located five miles apart from one another; 5) a complimentary workshop has been offered to teachers of the control group students once the experiment ended, in the event that any teachers felt as though they had been treated
unfairly or that their students missed an opportunity from not receiving the writing
intervention; 6) participants could not remember correct test-item responses as they were
not provided with a hard copy of their completed S.T.A.R. tests and/or marked responses;
and 7) students maintained familiarity with the testing instrument as both the baseline and
benchmark assessment was taken in the same online manner in the same computer lab
setting.

**External validity.** External validity threats occur when researchers take data
interpretations and erroneously apply them to other dissimilar populations, settings, or
situations (Creswell, 2014). In effort to eliminate these risks, the researcher did not seek
to generalize results to students outside the confines of a general education third grade
population. Results have also not been generalized to settings beyond that of a rural, low
socioeconomic setting.
Chapter 4: Data Analysis

This mixed methods, quasi-experimental study was designed to examine the relationship between writing and reading comprehension, and to explore the impact of daily writing on the development of third grade students’ pen pal letters throughout the course of a 12-week writing intervention program. Both the treatment and control groups’ pretest and posttest reading comprehension scores were assessed using the S.T.A.R. reading assessment. Baseline (pretest) assessments were completed in August and benchmark (posttest) assessments were completed approximately twelve weeks later in December, after the treatment group completed the writing intervention. Throughout the twelve-week writing intervention program, the treatment group participated in daily writing activities and exchanged letters with second-grade pen pals on a bi-weekly basis. Students in the control group did not participate in the writing intervention program.

The purpose of this chapter is to report the results of the following research question and hypothesis, respectively:

1) How does the content of students’ pen pal letters change as they progress throughout the “3 I” writing intervention program?

H: The “3 I” writing intervention program will have a significant impact on the treatment group’s S.T.A.R. reading comprehension scores compared with the control group’s S.T.A.R. reading comprehension scores.

The remainder of this section discusses: 1) the procedure of writing activities that transpired throughout the twelve-week study; 2) the coding process used to determine the five areas of writing development; 3) the five areas of development, which emerged as: a)
text structure; b) written expression; c) written speech; d) audience awareness; and e) voice; 4) general trends in writing development; 5) a letter by letter analysis detailing the writing development of five students; and 6) quantitative results, which report the between-group differences in pretest and posttest reading comprehension scores.

Procedure

During the first two weeks of the study, students in all three classes, along with the researcher, interactively completed four graphic organizers and subsequently wrote one friendly letter addressed to the second-grade class that the students would be corresponding with for the following ten weeks. This two-week procedure was conducted in accordance with Schunk’s (2003) five components of literacy self-efficacy: 1) modeling; 2) interactive writing; 3) extended practice; 4) goal setting; and 5) specific feedback.

Week one. On Monday of week one, each class brainstormed a list of subjects and topics they had studied thus far in the school year. All topics were required to be school-related, with the intent of reinforcing content knowledge. The researcher acted as a scribe, documenting student-generated ideas on chart paper, which was posted in the room for all students to see. Students then voted on the subject they wished to write about on the “3 I” graphic organizer (GO) (see figure 1). Once students voted, the researcher guided the class through the process of completing the GO by modeling where to write the subject, the topic, and explaining that the box should contain anything the topic caused students to visualize. Although students wrote down the same subject and
topic, they were given autonomy as to what would go in the box, under the assumption that students visualize different things.

The researcher then explained the meaning of each of the three questions: 1) What do you find most interesting; 2) How is this important in real life; and 3) What question do you have. A class discussion was held for each of the three questions, and the researcher acted as a scribe again, combining several students’ ideas into one response on the graphic organizer, which was also displayed on a projector for all students to see. Each student wrote down the same response, and this process continued for the remaining two questions. Once this was completed, the researcher explained the “challenge” portion of the GO, which was not a requirement, merely encouraged. Students were encouraged to seek out their answers during class time throughout the day, at home, at the library, or any other suitable location. This same process of brainstorming topics, voting on one topic, and interactively completing the GO’s continued each day, Monday through Friday, for the duration of week one. On Friday, after all GO’s had been completed, a class vote was held to determine which two GO’s the students would write about in their letter to the second grade class.

**Week two.** On Monday of week two, with the researcher acting as the scribe, students shared their ideas on how to begin the letter, beginning with the date and the greeting, and followed by the body of the letter. The researcher explained to each class that they would write an introductory paragraph, followed by two paragraphs in which they would write about the topics of the two GO’s on which they had previously voted. Students then collaborated with the researcher and with one another to generate ideas on
what to write in the introductory paragraph. The researcher facilitated the discussion as the class generated both the content and the sentence structure. The letter was written on large chart paper posted at the front of the room for all students to see. Each student also copied an identical version of the interactive letter onto his/her own notebook paper.

On Tuesday of week two, the researcher read another portion of Dear Mrs. Larue, which was followed by further class discussion and interactive writing. Students were encouraged to write in a way that reflected a friendly conversation and to steer clear of copying sentences verbatim from their GO’s. This was encouraged to avoid robotic, formulaic sentences such as “This is interesting because…” and “This is important because….” Again, the researcher facilitated the discussion and acted as the scribe as the class generated both the content and sentence structure for the body of the letter.

Wednesday and Thursday of week two followed the same aforementioned procedure of a read aloud, followed by class discussion and interactive writing. Once the first draft of the letter was complete, the researcher, along with each class, determined there would be two goals, each one being a revision that would improve the quality of the letter. The researcher then modeled the revision process by using think-alouds such as, “Did we really show our pen pals what we meant here,” and “We said we were going to teach them about cursive, but we didn’t really teach them how to write anything in cursive.” Students shared ideas on how sentences could be expanded, new sentences could be constructed, where pictures of examples could be inserted, as well as the mechanics of writing such as capitalization and punctuation. While the researcher acted as the scribe when revising, students also made the same revisions on their notebook
paper. The researcher deemed it critical that students go through a revision process, if
only on a small scale, based on the understanding that when students transitioned to
independent writing in the coming weeks, time would not permit ongoing student
conferences during which each student’s revisions could be checked and discussed in-
depth.

On Friday, each class, along with the researcher, interactively wrote their final
copies of the pen pal letters. The researcher copied the newly revised drafts on chart
paper for students to see, and all three letters were delivered to each of the three second-
grade classes.

**Weeks three through twelve.** During the remainder of the study, students
independently wrote letters to their individually assigned pen pals. They followed the
aforementioned procedure of spending one week writing GO’s and spending the
following week writing letters. Students exchanged letters on a bi-weekly basis, which
occurred every other Friday. For instance, in the third week students transitioned to
individual work, during which they completed their own GO’s, and during the fourth
week they wrote individual letters to their pen pals. They followed this procedure until
the twelve weeks concluded. The researcher made one slight, spontaneous change once
students began regularly exchanging their letters. Since students were enthusiastic about
receiving their letters and eager to respond to their pen pals, they began writing their
introductory paragraphs to their pen pals on the Monday immediately following a letter
exchange, and then spent the duration of the week completing GO’s. Table 2 depicts the
duration of the study and the weekly writing activities:
Table 2  
*Weekly writing activities*

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interactively completed GO’s</td>
</tr>
<tr>
<td>2</td>
<td>Interactively wrote letters to the second graders</td>
</tr>
<tr>
<td>3</td>
<td>Individually completed GO’s</td>
</tr>
<tr>
<td>4</td>
<td>Individually wrote letters to pen pals</td>
</tr>
<tr>
<td>5</td>
<td>Individually completed GO’s</td>
</tr>
<tr>
<td>6</td>
<td>Individually wrote letters to pen pals</td>
</tr>
<tr>
<td>7</td>
<td>Individually completed GO’s</td>
</tr>
<tr>
<td>8</td>
<td>Individually wrote letters to pen pals</td>
</tr>
<tr>
<td>9</td>
<td>Individually completed GO’s</td>
</tr>
<tr>
<td>10</td>
<td>Individually wrote letters to pen pals</td>
</tr>
<tr>
<td>11</td>
<td>Individually completed GO’s</td>
</tr>
<tr>
<td>12</td>
<td>Individually wrote letters to pen pals</td>
</tr>
</tbody>
</table>

**Coding Process**

Every two weeks throughout the ten-week period of independent writing, each student’s pen pal letter was analyzed sentence by sentence. Students’ letters were analyzed alongside their GO’s to determine if and/or how their writing changed as they transitioned from the planning stage to the writing stage. While the GO’s and writing process incorporated in the study are theoretically based and have been predetermined (see chapter two), the themes are emergent and were determined by the researcher throughout the coding process. No a priori themes were established, with the goal being to analyze the natural progression of children’s writing as they engaged in letter correspondence with other students. The following results relay the salient themes that emerged on a bi-weekly basis throughout the 10-week independent writing period.
Themes

The following five themes emerged as salient areas of students’ writing development: (a) text structure; (b) written expression; (c) written speech; (d) audience awareness; and (e) voice.

Text structure. Text structure refers to the macro-structure and micro-structure of students’ letters, which impacts students’ abilities to follow the proper format (Kintsch, 1998; Kintsch & van Dijk, 1978, as cited in Englert, Stewart, & Hiebert, 1988). Students were instructed to follow a three-paragraph format when writing their letters. The first paragraph consisted of free writing, in which students wrote about anything of their choice. They were encouraged to participate in a dialogue by addressing any questions their pen pals had asked them, and were encouraged to comment on any similarities or differences they had noticed based on their pen pal’s letter. They were then instructed to write some type of transition sentence, in which they briefly stated what subjects/topics would be discussed in the letter.

In the second paragraph students were instructed to discuss the first subject/topic of their choice, which required them to take the notes from one GO of their choice and craft it into a paragraph. In this paragraph, they were encouraged to relay the contents of their GO’s in their own unique writing style as follows: 1) what they found interesting about said subject/topic; 2) why they thought it was important; and 3) pose a question based on said subject/topic.

In the third paragraph they were instructed to follow the same format for a second GO of their choice, as follows: 1) what they found interesting about said subject/topic; 2)
why they thought it was important; and 3) pose a question based on said subject/topic.

This was followed by a closing sentence along with the closing of the letter.

**Written expression.** This denotes students’ abilities to use written language to effectively express and communicate their thoughts and ideas (Reid, Hagaman, & Graham, 2014). In this theme, particular emphasis was given to the changes or lack of changes students made as they transitioned from the planning stage to the writing stage. During this transition, they used the notes they had taken on their graphic organizers and crafted these notes into letters to their pen pals. Written expression codes included: elaboration, spontaneity, specification, and syntax. Elaboration was assigned when a student took a sentence from the graphic organizer and elaborated on it when writing the letter, thus providing more detail, and spontaneity signifies a newly constructed sentence in the letter that did not previously exist on the graphic organizer. Specification denotes the student’s ability to take general terms from the graphic organizer and change them to more specific terms in the letter, while syntax pertains to students’ abilities to change an unstructured sentence into a grammatically structured sentence as they transitioned from the planning stage to the writing stage.

**Written speech.** Written speech comprised two types of speech: egocentric speech and social speech (Piaget, 1959; Vygotsky, 1934/1986). While it is understood that the act of writing itself is social (Vygotsky, 1934/1986), for the purposes of this study, the assignment of either “egocentric” or “social” speech was confined strictly to the opening paragraphs in students’ letters, in which they were encouraged to contribute
to an ongoing dialogue based on what their pen pals had written to them. The intent was for the researcher to determine students’ abilities to engage in an ongoing dialogue.

The term “egocentric” was assigned to writing in which students simply wrote about themselves in a manner that neither contributed to dialogue nor sought to initiate dialogue. Examples of egocentric written speech included writing about family, pets, personal preferences, activities, and/or experiences with no regard to the content of the pen pal’s letter.

The term “social” was assigned to any type of writing that either contributed to students’ dialogues with their pen pals, sought to initiate further dialogue with their pen pals, or evidenced conceptual role taking, in which students showed that they were thinking from their pen pal’s perspective (Selman, 1971). In written speech labeled as “social,” students often answered questions, asked questions to probe more deeply into something their pen pals had written to them, commented on their pen pals’ preferences and experiences, and/or wrote from their pen pal’s perspective. These two types of written speech were rarely mutually exclusive and often occurred in tandem, as even the most social letters also contained elements of egocentric speech.

**Audience awareness.** Audience awareness pertains only to the second and third paragraphs of students’ letters. Since the purpose of the letters was for students to assume a role of topic expert, data was analyzed to examine whether students considered their audience when writing about their chosen topics, and how said awareness influenced their communication (Ede & Lunsford, 1984, as cited in Wollman-Bollman, 2001). Thus, this theme was relegated to sentences in which students indicated a clear
awareness of the audience through use of explanations, examples, instructions, and/or illustrations.

**Voice.** Voice is at the nucleus of the letters, and was typically either affective, informative, or a combination of the two. An affective voice conveyed emotions and values via compliments, excitement about a budding friendship, and eagerness about meeting one another, as well as attributes such as patience and kindness. “Informative” was designated to sentences in which the writer explicitly provided the pen pal with information about a particular subject. These sentences contained content vocabulary, explanations, examples, steps in a process, and/or corresponding illustrations. Just as egocentric and social speech were not always mutually exclusive, these two voices were not always mutually exclusive, as students’ letters often possessed both an affective and an informative voice.

**Results: General Trends**

**Text structure.** Recall that fifty students participated in the writing intervention program. The number of students who followed the proper text structure fluctuated throughout the study, increasing from 27 students in the first letter, to 39 students in the final letter. Students who did not adhere to the proper text structure decreased from 23 students in the first letter to 11 students in the final letter. Modifications were made for struggling writers, as the number of required paragraphs was reduced from three to two depending on students’ learning needs. Thus, struggling writers were required to write an introductory paragraph followed by just one paragraph, as opposed to two, in which they crafted the notes from their GO’s into a paragraph.
Substantial development occurred with students’ transition sentences, a critical factor in the macro-structure of the letter. In the first round of letters, students generally aligned closely with the format of introductory paragraph and transition sentence, followed by the remaining paragraph(s). For instance, typical transition sentences included, “I’m going to teach you about social studies and math,” or, “I’m going to teach you about gym and art.” This format was prevalent throughout students’ first round of letters.

As the study progressed, however, students began taking more noticeable risks with their transition sentences. Beginning with the second letters and continuing throughout the study, students began spontaneously writing new transition sentences, using specific transition words, inserting new transition sentences between paragraphs, and exercising unique transitions in the form of segues and questions.

For example, sentences began to emerge such as, “This time I am going to teach you about fiction and communities. But first I am going to teach you about fiction.” Examples of spontaneous sentences between paragraphs include, “Now I am going to teach you about division” and “Now I’m going to teach you about cursive writing.” Also, note the transition phrases and words such as, “but first” and “now.” Students also began experimenting with segues. For example, one segue included, “I love reading Geronimo Stilton books. Speaking about books….” which segued into a paragraph about this particular student’s new dictionary. The following segue occurred in the form of a question: “Do you like horses? I ain’t talking about normal horses. I’m talking about My
Little Pony.” After this segue, the student described her My Little Pony book to her pen pal, accompanied by a picture.

Students who developed their use of text structure increased their use of the aforementioned variations of transition sentences and words, while students who did not develop their text structure tended to write the same transition sentence throughout the study, which typically followed the template, “I’m going to teach you about ____ and ____”.

**Written expression.** Written expression pertains to how students’ self-expression changed as they transitioned from the planning stage, during which they wrote on their GO’s, to the writing stage, during which they crafted the contents of the GO’s into letters to their pen pals. Recall that salient codes within written expression included elaboration, spontaneity, specification, and syntax.

Initially, elaboration consisted of the addition of more words to a previously existing sentence. For instance, one student elaborated from his GO sentence, “It can destroy mountains and plains,” to, “Lava is interesting because it can destroy mountains and plains.” When writing about recycling, another student elaborated on his GO sentence, “It’s important in real life so it can be made into new things” so that in his letter, the sentence read, “It’s important in real life so it can be made into new things like cans, paper, and plastic.” Yet another student developed his GO sentence, “In art we’re drawing circles” into, “In art we’re drawing circles with oil pastels and we have many oil pastels in different colors.” Note how each student enhanced the sentence imagery with
the application of details, which described the power of lava, the importance of recycling, and the activities in art class, respectively.

By approximately the sixth week of the study, elaboration had flourished from simply the addition of more words to a previously existing sentence, into “spontaneity,” in which students constructed and inserted an entirely new sentence that did not previously exist on their GO’s. For instance, after researching volcanoes, one student added this sentence in his letter: “Lava can also destroy bridges and did you know that there are volcanoes underwater?” When writing about dodgeball, another student spontaneously relayed a personal experience in which she found humor. She wrote, “You should throw the ball. When the two balls mash together they bounce back at the person who threw them.” Yet another student spontaneously described a scary story she was typing in the computer lab. After writing, “We are typing in computer lab,” on her GO, she replicated this sentence in her letter, proceeded by the following spontaneous sentences: “We get to type whatever we want. I wrote about a haunted school. I will tell you about the story. It is about a lot of scary dolls.” Another case of spontaneity transpired as a student wrote a transition sentence so that it segued into his paragraph about trees. Initially, his only sentence read, “What I found out is trees give us oxygen.” Upon reading this, he decided to insert a transition sentence in which he identified the topic. He revised as follows: “First I will teach you about trees. What I found out is that they give us oxygen.” Once he added this spontaneous sentence which contained the word “trees,” he realized that it would be redundant to use the word “trees” again in his next sentence, so he replaced it with the pronoun “they.”
While the aforementioned examples of spontaneity occurred only at the micro, sentence level, spontaneity also occurred at both the macro and micro level. Albeit a rare occurrence, this occurred with a few students who wrote entirely spontaneous letters in which they omitted all responses from their GO’s. When these students transitioned from the planning stage to the writing stage, they retained the same topics from their graphic organizers, but they wrote entirely new sentences in their letters. For example, one student retained the topics of spelling and different cultures when she transitioned from the planning stage to the writing stage, yet she omitted all of the responses from her GO. This same student repeated this pattern in another letter, in which she retained the topics of subtraction and life cycles, while another student also mimicked this style when he wrote a spontaneous letter about cursive writing and art class. While most students who deviated from their graphic organizers wrote letters lacking text structure and organization, this ability to deviate and still construct a coherent, structured letter was a rare occurrence worthy of attention.

Specification began to emerge as a consistent theme at approximately the sixth week of the study. Prior to specification, it was often difficult to discern the student’s focus topic. This became particularly difficult in the second paragraph if the student had only written one transition sentence. For example, one student wrote, “I am going to teach you about skip counting and Boomtown.” After writing a paragraph about skip counting, she wrote, “It is interesting because…” Notice how she did not specify what the new topic was, thus creating confusion for her second-grade pen pal, who is likely unfamiliar with the story Boomtown, as it is in a third grade reading textbook.
Examples of specification include how one student changed “They are important because they give us oxygen” to, “Trees are important because they provide us with oxygen.” Another student specified the origin of igneous rocks by changing, “The Igneous rock comes from a rock.” to, “The Igneous rock is made from a volcano.” Yet another student used genre specification when he discussed the story, Tops and Bottoms. He changed, “It is based off of the story The Tortoise and the Hare” to “It is based off of the fable The Tortoise and the Hare.” Specification implied an awareness of one’s own writing, as students critically reread their own writing and subsequently revised it to make clarifications for the reader. While specification was not as noticeable as elaborations and spontaneity, it was equally as important, as it entailed the act of reading comprehension that occurs when one writes, revises, and rewrites.

Throughout the study, students demonstrated a steady increase in their capabilities to transform fragments into sentences, as well as their abilities to change the wording of a sentence without altering its semantics. Although fragments and grammatically unstructured sentences persisted throughout the study, they became less prevalent as the study progressed, so much that by the study’s end, there were only a total of six fragmented or unstructured sentences.

For instance, one student changed the fragment, “to clean your house” into the sentence, “I like Cat in the Hat because it teaches you to clean your house.” Another student transformed “If you are a dodgeball coach” to, “I think it’s important because you might be a dodgeball coach,” while another student recognized the fragment, “because if you don’t have money you have to have some,” and developed it into the sentence,
“Saving money is important in real life because if you did not have any money you have to make some.” Also, while writing about rocks, a student changed the fragment “How heat and pressure change igneous and sedimentary into metamorphic” into the sentence, “I think it’s interesting because of how heat and pressure change igneous and sedimentary into metamorphic.”

Students also developed in their capabilities to alter the words in a sentence without altering the semantics. While initially most students did not deviate from their GO’s, as the study progressed and they gained more writing experience, they began to experiment with word order. For instance, when writing about music rhythms, one student wrote in her GO, “It’s important in real life because you need to learn rhythms if you want to be a music teacher.” When she transitioned to her letter however, she slightly altered the words as she wrote, “It’s important in real life because if you want to be a music teacher you better learn rhythms.” When writing about bold print, one student initially wrote in her GO, “The chapter talks about the bold words.” When she transitioned to her letter, she wrote, “Bold print is important because it talks about the chapter.” Another example is how one student altered a sentence by changing it from a statement to a question. In her GO she wrote, “I think 3-D shapes are math and art,” and in her letter she wrote, “Did you know 3-D shapes are math and art?”

Generally, as students evolved with their text structure, their written expression evolved along with it. When students took risks at the macro level with their text structure and transition sentences, they were more apt to take risks at the micro level with written expression via elaboration, spontaneity, specification, and syntax. The converse
held true as well, as students who did not evolve in their text structure and use of transition sentences/words were less apt to take risks with their written expression. Thus, there was a degree of interplay between these two components.

**Written speech.** The researcher read second-grade students’ letters to determine the type of written speech that the third-grade students used in their correspondence letters. Speech that was labeled as “social” directly contributed to the dialogue in one or more of the following ways: asking questions, answering questions, drawing connections by comparing and contrasting one another, and displaying conceptual role taking. Conversely, speech labeled as “egocentric” did not contribute to the dialogue and consisted of students primarily writing about themselves.

The opening paragraphs in students’ initial letters consisted primarily of egocentric speech, as they had not yet received individual letters from their pen pals. In the opening paragraphs they introduced themselves and identified their names, ages, families, and pets, favorite things such as colors and foods, and activities. For instance, one student’s introductory paragraph read, “Hi, my name is Clay and I like to play football and I like reading chapter books. My favorite football team is the Cleveland Browns and my favorite chapter book is *Diary of a Wimpy Kid.*” Another introductory paragraph read, “Hi my name is Danny. I am nine. My favorite color is black. My teacher is Mrs. Richards. I am in third grade. My favorite sport is baseball. My favorite food is pizza. My favorite animal is a cat.”

Students wrote their second letters after having received the first letter from their pen pals. They now had some dialogue on which to build, and as the letters were
exchanged more regularly, their written speech generally became either predominately social, or it became a hybrid of both egocentric and social speech (a small number of students, however, continued writing with primarily egocentric speech). Consider the following sample taken from a student’s second letter: “Hi! Thank you for the letter. How was your weekend? I read your favorite color is rainbow. My favorite color is sky blue. We don’t play Quiet Mouse of the day, but it sounds like fun. I’m eight years old too.” Notice how she has thanked her pen pal for the letter, inquired about her weekend, drawn connections by comparing and contrasting their favorite colors, and engaged in conceptual role taking as she commented that she does not play “Quiet Mouse of the Day,” although she thinks it sounds like fun.

Consider the following excerpt taken from a student’s third letter: “I loved reading your letter. And I also like soccer and I made all-stars. Do you play soccer? I like Minecraft and do you know how to build castles? I have never ridden a dirt bike. Can you tell me what it is like? My favorite color is green.” He has engaged in social speech by commenting on his pen pal’s letter, and he has also drawn connections between them based on their mutual enjoyment of soccer. He stimulated more dialogue by inquiring what his pen pal knows about Minecraft, and also solicited more information on what it is like to ride a dirt bike. He incorporated a bit of egocentric speech by sharing his favorite color, as this did not contribute to the dialogue. This same pattern persisted in the remainder of students’ letters, as the exchange in dialogue enabled them to become more social in their written speech.
While this was the general trend in students’ opening paragraphs, interestingly, a transition from egocentric speech to social speech did not always coincide with the development of text structure and/or written expression. Specifically, students who progressed into the use of predominately social speech did not necessarily evolve with their text structure or written expression, and students whose speech evolved into a social/egocentric hybrid did not necessarily lack development in text structure or written expression. Thus, throughout the study, students’ use of egocentric or social speech was not consistently a strong factor in the overall development of their writing.

**Audience awareness.** Students’ display of audience awareness evolved and took on various forms throughout the study. During the first four weeks, audience awareness consisted mainly of explanations and examples, while in the weeks that followed, new patterns emerged in the form of explicit instructions, steps in a process, and corresponding illustrations.

For example, during week four, one student provided a brief explanation as to what happens during a softball game. He wrote, “In gym I’m learning how to play softball. Someone gets the bat and hits the ball. Then run and run to the bases.” Another student explained how to get the best kick in kickball by writing, “In gym I have been playing kickball and if you kick it with your right foot you may be able to get a home run.” When writing about different languages, one student provided examples of various languages when he wrote, “Languages are interesting because you could speak German, France, Spanish, and Israel,” while the following student combined an example with an explanation when she wrote about music: “The Star Spangled Banner is a song about
people who died for us.” Another student wrote, “I’m going to teach you multiplication. Now let’s start easy with 2 x 2. You just take the first number that is two, and count by it two times. So now you know 2 x 2 = 4.”

As the letter exchanges began to occur more frequently, audience awareness began to develop even further. For instance, one student used steps in a process with corresponding illustrations as she wrote, “First you can draw a good picture of a milk carton but first let me teach you a few things.” She proceeded to illustrate a five-step process that resulted in a three-dimensional milk carton, with illustrations accompanying each step. While writing about needs and wants, one student provided the following examples: “You need food and water. You want a dog or cat.” Yet another student provided examples of different multiplication strategies with, “Times is interesting because you can use pictures, intersecting lines, block towers, and repeated addition.” The following student provided her pen pal with her own definition of camouflage: “The animal changes his fur or color of skin to a different color, and now is camouflage (student’s bold print). That’s just blending in with the surroundings.”

Each time a student incorporated explanations, examples, instructions, and illustrations into his/her letter, this implied conceptual role taking. The student was clearly thinking from his/her pen pal’s perspective and was consciously devising ways to communicate information s/he believed was unfamiliar to his/her pen pal. Development of audience awareness also coincided with the development of text structure and written expression, although it did not consistently coincide with the development of written speech in the opening paragraphs. An interplay had emerged between the development
of text structure, written expression, and audience awareness. The converse also held true, as a lack of development in text structure and written expression coincided with a lack of development in audience awareness, although it did not always coincide with a lack of development in students’ opening paragraphs.

**Voice.** As the letter exchanges progressed, and text structure, written expression, and audience awareness also progressed, so did the pronouncement of voice. Overall, the progression of voice shifted from affective to informative, as well as a shift from affective to a combination of both affective and informative, as the two were not mutually exclusive.

In students’ first letters, the voice was vague, as it was either slightly affective or slightly informative. At this point however, students were becoming acquainted with their pen pals and had yet to establish a consistent dialogue. The concept of writing letters was still new to most students, and the development of text structure, written expression, and audience awareness was in its infancy. Once the dialogue became more established however, and students heard the voice of their pen pal, the development of text structure, written expression, and audience awareness began to unfold, and the development of voice began to unfold in concurrence. This emerged in approximately the sixth week of the study and remained present until the end.

As children began to engage in dialogue, the opening paragraphs in their letters took on a more affective voice. For instance, “Did you have a nice weekend? Thank you for the letter…I’ve never heard of Sumdog on the computer. You can teach me!” Other examples included, “Your favorite color is black and mine is too, and blue. I like your
jacket in your picture. We have so much in common.” and, “I love getting your letters. I bet you are good at fact families.”

Other students’ letters took on a more informative voice as they embraced the role of topic expert. For instance, one student provided a brief phonics lesson with, “Chapter is a digraph because of the “ch” in it,” while another student described a type of community by writing, “I will show you an example of a rural. A tractor is in a rural place community (he accompanied this sentence with a drawing of a picture of a tractor in a field).” Additionally, the following student shared what he had just learned in a history book: “I know that the English saw Haley’s comet and thought it was bad luck. They were right. Right after the English saw Haley’s comet the English lost to the Normans.”

The affective voice versus the informative voice was not mutually exclusive, and the two often began to occur in tandem, as the following example illustrates: “And different cultures, they’re great, and if you’re not doing them, well we are and we get to play instruments like drums and morocco. Pretty cool!” This student has relayed feelings of excitement towards learning about other cultures and has expressed an appreciation for them, while also providing her pen pal with information on different cultures’ instruments. Another student combined the affective and informative voice in this math lesson: “This is how multiplication and division are alike. Say it is 12÷4= ___ and 4 x 3 =___. Well let’s draw circles. Now count 12 dots. So how many dots are in the circle? Your answer is three 3. Even for division so that’s how they’re alike.” She accompanied her equations with non-linguistic representations of circles and dots. In this
excerpt she has exhibited patience, as she guided her younger pen pal through the steps of solving a division problem, a process in which she knew her younger pen pal lacked experience. She has embraced the role of topic expert and felt it was important to impart some wisdom on her pen pal. Both an affective and informative voice was also present in the sentence, “What’s fun about word form is you could spell big numbers like five million one thousand two hundred sixty-two!” This student has conveyed a joy of solving math problems and appreciation of learning challenging material, while the informative voice is present with the example of how to write a “big” number in word form.

The strength of students’ letters ultimately resided in the voice. The more pronounced the voice, the stronger the letter, and vice versa. Moreover, there was a substantial degree of interplay between the development in students’ text structure, written expression, audience awareness, and ultimately, voice. When students evolved in their use of text structure, written expression, and audience awareness, the voice was more pronounced throughout the entire letter. The written speech in the opening paragraph was not a strong factor in the overall voice of the letter. Although the written speech in students’ introductory paragraphs often contributed to the affective voice, this was confined to just the opening paragraph and did not necessarily influence the voice of the remainder of the letter. For instance, some students wrote opening paragraphs that were heavily laden with dialogue, yet the remainder of the letter was formulaic as they took no risks with written expression or audience awareness, thereby diminishing the overall voice of the letter.
Essentially, when students developed their text structure, written expression, and audience awareness, the overall voice was in turn, strengthened. Conversely, when students did not develop their text structure, written expression, and audience awareness, the overall voice was not strengthened. This interplay and display of writing development (and lack thereof) is described in the following five students’ letters. Three students were selected whose writing substantially transformed throughout the study, and two students were selected whose writing did not substantially transform throughout the study in effort to provide sufficient support for the proposed model (see figure 2) while forsaking repetitiveness.

**Molly**

**Overview.** In the following example, note how from the first letter to the second letter and beyond, the text structure of Molly’s letters unfolds from unstructured and disorganized to structured and organized. Molly’s first letter lacks structure, a clear indication of topics, and also lacks clear transitions between topics. Beginning with her second letter however, and continuing throughout the study, Molly begins to clearly structure her letters, articulate the topics she will be discussing, and also includes seamless topic transitions. She also begins to spontaneously incorporate transition words into her sentences.

Molly’s written expression also progresses substantially. Whereas in her first letter she has completely deviated from her GO and produced a letter that is largely incoherent-combining and switching topics with no apparent reasoning- in her second letter and beyond, her writing methods become calculated. When she transitions from the
planning stage to the writing stage, she begins to include sentences from her GO, and also
takes risks with elaborating on said sentences, constructing spontaneous sentences, and
using specification. Additionally, she begins experimenting with the order of words in
her sentences, as she changes the word order of sentences from her GO when writing her
letter, yet does so without altering the semantics.

Molly’s written speech fluctuates from egocentric in her first and second letters-
to a social/egocentric hybrid in her final three letters- as the letter exchanges continue and
the dialogue between the pen pals increases. Again, the method Molly uses to write her
opening paragraph becomes clearly calculated. She evolves from writing brief statements
about herself to writing comments and questions that specifically pertain to something
her pen pal has written in a previous letter. Throughout the study, Molly’s sense of
audience awareness also evolves from a display of virtually no audience awareness in her
first letter to a strong display of audience awareness in the remaining letters. This occurs
via explanations, examples, illustrations, and even concluding sentences to reiterate what
she has just taught her pen pal.

As Molly’s writing develops and improves, she also begins to establish her voice.
Although the voice in her first letter is friendly, it lacks substance, as she maulders and
claims to “know a bunch” about science and animals, yet she does not provide concrete
information on either topic. Beginning with the second letter however, and continuing
throughout the study, her voice becomes established as she provides more in-depth
information, making it clear that she is attempting to teach her pen pal something about
her chosen topics. Once Molly establishes her voice, she maintains an
affective/informative hybrid voice throughout the duration of the study. Ultimately, as Molly develops her use of text structure, written expression, and audience awareness, her voice becomes more pronounced, and, as a result, the quality of her writing is strengthened (see Appendix B).

**Molly: Letter One**

**Text structure.** Molly’s first letter to her pen pal was unstructured and contained no transition sentences. She repeatedly combined the topics of science and animals, interjected sentences about drawing, and her sentences became redundant. For instance, she wrote, “I wonder if you know how to draw animals. It’s kind of hard. I can teach you about animals and I’ve been wondering if you know about science. I know a bunch about animals and science. You can ask me a bunch of things about animals and drawing. I can probably teach you how to draw like my grandma.” There is no clear distinction of topics, and Molly did not indicate what topics she had chosen for her focus.

**Written expression.** In addition to this lack of text structure, when Molly transitioned from the planning stage to the writing stage, she omitted all of the responses from her graphic organizer. Although her sentences were all spontaneous- rather than being the result of taking risks with written expression, it was the result of her lack of understanding of the writing process. The letter lacks coherence, as she moved from writing about science and animals to randomly interjecting information about her grandmother. She clearly did not yet understand that the purpose of the graphic organizers is to incorporate its contents into the letter.
Written speech. Molly’s first letter did not contain an introductory paragraph as it should have. She wrote one brief introductory sentence that was egocentric, which she also combined with a sentence about her chosen topics. It read, “Hi, I’m Molly and I’m eight and I love animals and drawing.” Thus, she did not have an introduction that was clearly distinguished from the remainder of her letter. She focused largely on herself as she shared her preferences for art activities, particularly drawing animals. Although she expressed the desire to teach her pen pal about these things, her written speech stayed focused on herself.

Audience awareness. When Molly wrote about her chosen topics, her letter did not contain elements of audience awareness via explanations, examples, illustrations, or conceptual role taking. Also, recall that there was no clear text structure or thought structure in regards to written expression.

Voice. Molly has almost completely deviated from her GO and has written a letter with no text structure. She opened her letter with egocentric speech, and did not include any elements of audience awareness. In doing so, she struggled to establish her voice, aside from being someone with an enthusiasm for animals and drawing.

Molly: Letter Two

Text structure. Molly grasped the concept of text structure in her second letter, as she structured her text so that topics were organized and compartmentalized, and she also created transition sentences. The initial transition sentence, “I am going to teach you about gymnastics and gym” was followed by a vivid, detailed account of her gymnastics activities. There was no transition sentence between paragraphs, although she clearly
proceeded to transition to the topic of physical education, in which she wrote about
dodgeball and stayed on topic for the duration of the letter.

**Written expression.** In accordance with her development of text structure,
Molly began to take multiple risks with her written expression via elaboration,
spontaneity, and specification. She also displayed a stronger understanding of the writing
process, as she incorporated the contents of her graphic organizer into her letter. For
example, in her graphic organizer she stated that, “It’s interesting because you can do
flips on the bars. It’s fun.” When she translated this to her letter however, she wrote
with a great deal of elaboration, spontaneity, and also included specification. For
instance, in her letter she wrote: “Gymnastics is interesting because you can do
flips on the bar. It’s really fun. My favorite event is vault because you can do flips on the mat.
That’s fun. On beam you can do handstands.” She proceeded to describe the location of
her gymnastics practices and what her current level is, none of which were present on the
graphic organizer.

**Written speech.** Despite this development in text structure and written
expression, Molly still did not write an opening paragraph, even after having received a
letter from her pen pal. She wrote one egocentric sentence, which read, “I can’t wait to
meet you again. That was fun.” She made no attempt to address anything her pen pal
had written, and proceeded to write about her chosen topics. Despite this consistent use
of egocentric speech, however, her written expression and text structure has developed.

**Audience awareness.** Molly began to exhibit a strong sense of audience
awareness through her use of explanations, examples, and conceptual role taking, as she
acknowledged her pen pal’s perspectives. For example, she included examples of the various apparatuses in her gymnastics class, followed by explanations to her pen pal of how each one is used. She wrote, “My favorite event is vault because you can do flips on the mat. That’s fun. On beam you can do handstands and cartwheels. That’s really fun. On the floor you can do back handsprings and handstands.” She continued to write the spontaneous sentences, “I go to Fairview gymnastics. I’m a second level, almost level three. Sometimes it gets hard, but I do it anyway.” In concurrence with Molly’s development of text structure and written expression, a noticeable shift has now also transpired with her display of audience awareness.

**Voice.** In Molly’s second letter she incorporated an informative voice, as she used an increased amount of content vocabulary such as “vault,” “beam,” “back handsprings,” and “bar.” This complemented her affective voice, which can be heard in, “Sometimes it gets hard but I do it anyway.” This shows that Molly values hard work and perseverance, while her sentence, “I can’t wait to meet you again. That was fun.” conveys feelings of friendship. In Molly’s second letter, her text structure has been established, her written expression has evolved, and her display of audience awareness has been enhanced, culminating in a stronger voice.

**Molly: Letter Three**

**Text structure.** In her third letter, Molly appears to be comfortable with the text structure she has established in her previous letter, as she has repeated it. She wrote a lengthy opening paragraph, followed by the transition sentence, “This time I’m going to teach you about multiplication and painting.” Note how she repeated the words “this
time.” She then proceeded to write a paragraph about multiplication, followed by a paragraph about painting.

**Written expression.** Although Molly did not write her third letter with as much spontaneity as her previous letter, she continued to take risks. She used specification, exhibited syntax awareness, and altered the words in some sentences without altering the semantics. For example, her GO read, “It’s interesting because you can try the answer to the question that you’re answering.” She then specified the “it” and corrected her sentence structure when she wrote her letter by writing, “*Multiplication* is interesting because you can try to solve the answer that you’re answering.” She has also replaced the word “answer” with “solve.” She then wrote the spontaneous sentence, “You probably have not learned it yet because I didn’t learn it in second grade.”

She also specified twice within the same sentence when she changed, “It’s interesting because you can paint a bunch of things like the world.” to, “*Painting* is interesting because you can paint a bunch of things like a flower.” She proceeded to alter the words in another sentence when she transitioned from the planning stage to the writing stage. For example, in her graphic organizer, she wrote, “It’s important because you might want to be an art teacher and you need to teach them how to paint.” When she wrote her letter, she changed this to, “It’s important because you might want to be an art teacher and you have to know how to paint to teach your class.” As Molly’s text structure has evolved with the construction of an opening paragraph, along with the use of a transition sentence and transition words, her written expression has continued to evolve as well.
**Written speech.** By now, after receiving the second letter from her pen pal, Molly’s speech has transitioned to a hybrid of egocentric and social speech. She has engaged in dialogue, yet has still written about herself. She answered her pen pal’s questions, asked probing questions, commented on what her pen pal had written, and also displayed evidence of conceptual role taking. She also used information from her pen pal’s letter to compare and contrast one another. While the letter still contained egocentric speech, there is a greater balance between the two. For example, she answered her pen pal’s question by responding, “I think I did good on the OAA. Did you take your test yet?” She responded to her pen pal’s anecdote about her classroom’s ants by asking, “Do you have an ant farm?” She then commented on her pen pal’s writing by stating, “I did not know that ants ate fruit loops. It is cool how they dig holes. Ants do like sweet things!” She has also displayed conceptual role taking in the statement, “I learned that kind of math too in second grade,” and compared the two of them with, “I think ants are cool too.”

**Audience awareness.** Despite Molly’s heavy use of social speech in the opening paragraph, her final two paragraphs did not contain as many elements of audience awareness as her previous letter. However, she did show conceptual role taking when she acknowledged her pen pal’s perspective as follows: “Do you know how to multiply in math? You probably have not learned it yet because I did not learn it in second grade.” Although she did not follow this with an explanation or an example of a multiplication problem, she displayed conceptual role taking by placing herself in her pen pal’s position.
She also provided her pen pal with examples of things she could paint, such as a flower or an elephant.

**Voice.** The voice in Molly’s third letter was more affective in nature and incorporated less of an informative tone. This affective voice originated in her opening paragraph, which contained an abundance of dialogue, such as, “I think ants are cool too, and I did not know they ate fruit loops…Ants do like sweet things!” While the letter was properly structured and the introductory paragraph contained a large degree of dialogue, when Molly transitioned to her chosen topics of multiplication and painting, there was less elaboration and risk taking in her written expression, and also fewer elements of audience awareness. She did not provide as many explanations or examples as her previous letter, which weakened her overall voice.

**Molly: Letter Four**

**Text structure.** Molly repeated the text structure from her third letter and wrote another lengthy opening paragraph, followed by the transition sentence, “*This time* I’m going to teach you about volleyball and concentric circles.” Her transition sentence was followed by a paragraph about volleyball and concentric circles, respectively. Although there were no transition sentences between paragraphs, her thoughts were clearly structured and the letter was highly organized as she maintained a focus on both topics throughout the letter.

**Written expression.** Molly also continued to take risks with her written expression through her use of specification and an abundance of spontaneity. Her spontaneous sentences included two sets of sequential, four-step instructions, and she
provided corresponding illustrations for each step. After specifying, “It’s interesting because you can score points and hit the ball over the net,” to, “Volleyball is interesting because you can score points and hit the ball over the net,” she constructed more spontaneous sentences for her pen pal. This time, her new sentences included four steps for her pen pal to follow to draw a volleyball net, which she made no mention of in her graphic organizer. She continued this same pattern when she specified, “It’s interesting…” to, “Concentric circles are interesting….” and proceeded to provide four steps for her pen pal to follow to draw concentric circles. These steps were also absent in her graphic organizer. Thus, as Molly’s text structure has evolved and become firmly established, her written expression has evolved as well.

**Written speech.** Molly’s introductory paragraph consisted entirely of social speech, as it was heavy in dialogue. She asked her pen pal about her Halloween costume and proceeded to describe her own Halloween costume in the sentence, “What were you for Halloween? I was a hippie. A hippie dresses crazy.” She continued to draw comparisons between them by writing, “I love Halloween movies too and I like eating pumpkin pie.” She also responded to her pen pal’s reasons for enjoying October by sharing her own reasons, as she wrote, “My favorite month is October because I love Halloween and trick-or-treating.”

**Audience awareness.** Molly’s audience awareness peaked in the fourth letter. She provided explanations, examples, and also demonstrated conceptual role taking by providing her pen pal with the four sequential steps necessary to draw a volleyball net. Individual illustrations corresponded with each of the four steps as an example of what
each step should look like throughout the process, culminating in a finished volleyball net. She has also prefaced these steps with an explanation of what she is about to teach: “This is how you draw a volleyball net.” and follows the four steps with the reminder, “That’s how you draw a volleyball net.”

Molly follows the pattern in which she has written her second paragraph with an identical pattern in her final paragraph. Here, she has provided her pen pal with the four sequential steps necessary to draw concentric circles. Once again, individual illustrations correspond with each of the four steps as an example of what each step should look like throughout the process, culminating in four concentric circles. She has also prefaced these steps with an explanation of what she is about to teach: “This is how you draw a concentric circle,” and concludes with, “That’s how you draw a concentric circle.”

**Voice.** The fourth letter carried a strong combination of both an affective and informative voice from start to finish. Once again, the text was highly structured, the introductory paragraph was rich in dialogue, and the written expression consisted of elaboration, spontaneity, and specification. She has drawn comparisons between her and her pen pal’s feelings and preferences for October activities. Additionally, the sentences, “I was a hippie. A hippie dresses crazy.” denote conceptual role taking as she thinks from her pen pal’s perspective, realizes her pen pal may not know what a “hippie” is, and gives her a vague description. Molly exhibited a strong display of audience awareness through her many uses of explanations, examples, and illustrations, and conceptual role taking as she provided her pen pal with the necessary steps in two four-step artistic processes that culminated in a volleyball net and concentric circles, respectively. Molly’s
command of her topic, along with her thoughtfulness on how to convey information to her pen pal have created both an affective and informative voice.

**Molly: Letter Five**

**Text structure.** Molly has continued to incorporate her established text structure. Once again, she has written an opening paragraph that is discernible from the remainder of her letter, followed by a transition sentence that reads, “This time I’m going to teach you about the climate and plants.” Although there were still no transition sentences between paragraphs, she continued to exhibit a clear and organized thought structure while maintaining the appropriate focus on her chosen topics. She has also established a text structure with which she feels confident and comfortable.

**Written expression.** Molly has also continued to take risks with her written expression. Although she has not written with as much spontaneity as her previous letters, she continued to experiment with elaboration, specification, and in changing the wording of sentences without compromising the semantics. For instance, she incorporated all of these elements when she altered, “It is interesting because you can feel it changing.” to “The climate is interesting because you can feel the weather changing.” She also specified the “it” in “It’s interesting because you can see new plants.” so that her letter read, “Plants are interesting because you can see new plants.” She elaborated and altered the words on her GO, which said, “They’re important because healthy plants keep us alive.” so that her letter read, “They’re important because you need to keep plants healthy to keep us alive.” Her text structure has taken a consistent shape, and she has continued to take risks with her written expression along with it.
**Written speech.** In Molly’s final letter she reverted back to the egocentric/social speech hybrid. She drew comparisons between her and her pen pal as she shared things for which she is thankful. She wrote, “I’m thankful for things I have, my family, friends, and food. I’m thankful that you are my pen pal,” along with the statement, “I like rainbows too.” She then proceeded to write her opening paragraph in a question/answer format that was unrelated to her pen pal’s previous letter. For example, she wrote, “When’s your birthday?” followed by an answer of when her birthday is. She then wrote, “Do you have a sister?” followed by a lengthy description of her siblings and what her life is like at her mom’s house versus her dad’s house.

**Audience awareness.** The final letter contained some elements of audience awareness when Molly discussed her chosen topics. She provided a vague description of what the climate is by writing, “The climate is interesting because you can feel the weather changing,” and also explained why plants are important by stating, “Plants are important because you need to keep plants healthy to keep us alive.” While her letter was not as rich in elements of audience awareness, she still displayed audience awareness and took risks with her written expression.

**Voice.** The voice in Molly’s final letter was both affective and informative in nature, yet not quite as pronounced as her voice in previous letters. Her opening paragraph communicated a value of friendships and feelings of thankfulness, and when she discussed her chosen topics, she provided information by incorporating content vocabulary such as “climate,” “weather,” and also provided explanations. Her text was
structured, yet she did not take as many risks with her written expression and audience awareness.

**Conclusion**

As Molly’s text structure evolved through her consistent use of transition sentences, transition words, and organization of paragraphs, her written expression evolved in concurrence. Throughout the ten-week period, Molly grew comfortable taking risks in which she elaborated, wrote spontaneous sentences, provided specification for her pen pal, and altered words without altering the semantics of her sentences. Syntax was never a concern for Molly, as her letters consistently contained the proper grammatical structure. While Molly’s speech progressed from egocentric to an egocentric/social hybrid throughout the letters, her use of egocentric written speech did not hinder either her text structure development or her development of written expression. Furthermore, Molly’s growing sense of audience awareness added another layer to her writing development, as she incorporated elements of audience awareness such as explanations, examples, instructions, and illustrations within the elaboration and spontaneity of her written expression.

Thus, the components of: 1) text structure, 2) written expression, 3) audience awareness, and 4) voice have unfolded together and there is interplay between them. As Molly’s organization of text structure, written expression, and display of audience awareness strengthened, her voice consequently became more unique and pronounced. Conversely, when her letter was not structured, she did not take risks with elaboration, spontaneity, and/or specification. Her thoughts and ideas were not clearly
communicated, she did not exhibit audience awareness, and thus failed to establish a unique and pronounced voice.

**Max**

**Overview.** In the following example, Max’s letters do not align with the proper text structure until he writes his third letter, in week eight. However, Max shows comfort with taking risks throughout the study. He does not write verbatim when transferring from the planning to the writing stage, and he displays progressively noticeable transformations in his written expression. He elaborates on previously existing sentences, constructs spontaneous sentences, changes the wording of sentences, and although he exhibits some mild struggles with syntax, he also exhibits the ability to make the necessary grammatical corrections when moving from the planning stage to the writing stage.

Max’s letters are unique in that the written speech in his introductory paragraphs is predominately social, with a few displays of egocentricity. This emerges in his initial letter and persists as a trend throughout the study. His sense of audience awareness evolves from scarce to abundant from his first letter to his final letter, and he progresses from providing his pen pal with a scant explanation in the beginning of the study to providing him with thorough explanations, examples, and illustrations by the study’s end. This progression in audience awareness also coincides with the progression of his text structure and written expression. From week to week, Max’s voice unfolds from primarily affective and friendly, to a clear combination of both affective and informative. The eventual consistency of his voice unfolds concurrently with his established use of
text structure, along with the enhancement of his written expression, written speech, and audience awareness (see Appendix C).

Max: Letter One

Text structure. Max’s first letter was somewhat structured, yet it contained no transition sentences. He stayed focused on his topics, but often changed topics with no transition sentence, thereby providing his pen pal no indication that the topic was about to shift. For example, he wrote his introductory paragraph in which he wrote about the book fair and going to a friend’s house. Without a transition sentence, he then began writing about a book character named Leo, proceeded by a paragraph about kickball. Although he wrote about Leo and kickball on his graphic organizers, the letter does not contain any transition sentences, and is both confusing and difficult to follow.

Written expression. In Max’s first letter, he made some syntax corrections, wrote one spontaneous sentence, and omitted the remaining information in his GO from his letter. For instance, he developed the fragment, “where Leo gave his roommate a gold nugget” into the sentence, “I think it is interesting when Leo gave his roommate a gold nugget.” He also transformed the fragment “that two people can’t be on base at the same time” to, “It is interesting that two people can’t be on base at the same time.” He then constructed a new sentence, “Leo is a character in a book I read.” His text is somewhat structured, and he has taken some risks with his written expression.

Written speech. In Max’s first letter, his written speech was primarily social. He showed signs of conceptual role taking by thinking from his pen pal’s perspective, which was evident in the sentence, “Do you read I Survived books? If you don’t, get one
at the book fair.” He also used his introductory paragraph as a means from which to arrange play dates and develop a friendship with his pen pal, someone with whom he was already acquainted. For instance, he wrote, “I might go to Joshua’s house Friday. Maybe you and Heath can come down to his house Friday.” He also interjected some egocentricities in the sentences, “I like all sports.” and, “I want to tell you to hit a ball out of the park in a game.”

**Audience awareness.** Max’s use of social speech did not translate to a display of audience awareness. Other than stating, “Leo is a character in a book I read,” Max does not provide any additional explanations, examples, instructions, or illustrations for his pen pal. Also, recall that Max has not established a text structure and his development of written expression has occurred primarily in the form of syntax, wherein he transformed two fragments into sentences.

**Voice.** Max’s voice came through as mainly affective. This was most pronounced in his opening paragraph, wherein he provided a book recommendation and invited his pen over to play. His voice diminished however, once he began the discussion of topics from his GO’s, as the majority of his sentences were written as follows: “It is interesting that…” and “I think it is important…” The sentences are formulaic, resulting in a lack of unique style.

**Max: Letter Two**

**Text structure.** The second letter, although still unstructured, contained a transition sentence and a segue. An opening paragraph was followed by the transition sentence, “I’m going to teach a lot of science and computer lab.” This time, Max inserted
a segue between paragraphs which read, “Oh yeah, I forgot about computer lab.” after which he wrote a paragraph about games he has been playing in the computer lab.

Although at this point the letter appears to be structured, instead of closing the letter after discussing the second topic, Max proceeded to write half a page about his grandpa, his cousins, and tried to arrange a play date with his pen pal.

**Written expression.** Max took more risks with his written expression in his second letter, in which he displayed syntax awareness, spontaneity, and also experimented with the order of words in various sentences. He transformed the fragment, “That a volcano erupts every 100 years” to the sentence, “I found out that volcanoes erupt every 100 years.” He then constructed a new adjacent sentence that read, “I would not go to Hawaii because it could be 100 years.” He took the question he had generated on his GO, “How does a volcano erupt?” and directed it at his pen pal by asking, “Do you know how a volcano erupts? I do.” In the proceeding paragraph he changed yet another fragment, “that you can play Pac man in math,” to a coherent compound sentence that read, “You can play Pac man but you have to do math.”

**Written speech.** Max’s written speech in this letter was both interesting and unique. Although he did not address anything his pen pal had written to him beyond, “I loved your letter,” his written speech remained primarily social as he was obviously attempting to stimulate a dialogue. For instance, he revisited the discussion of arranging a playdate and their relationship in the sentences, “I went to Jason’s house….I was surprised you weren’t there…Did you know we were cousins?” after which he explained to his pen pal how they were related. This was also followed by, “Do you want to come
to my house this Friday?” after which he detailed a lengthy plan for the two of them to meet for a play date. Max further engaged in conceptual role taking as he followed the statement, “I like to drive tractors.” with, “I know you don’t much because you live in Fairview.” Here, he has shown an understanding that his pen pal lives in a more urban area than he does, and is therefore less likely to drive a tractor. There is just one display of egocentric speech, which appeared in the randomly placed sentence, “I love baseball.”

**Audience awareness.** As Max has begun to develop his text structure and his written expression, and continue his use of social speech, a stronger sense of audience awareness has also emerged, in which he has once again engaged in conceptual role taking. He has written, “I do shepherd math. Do you do shepherd math? It is fun. You should try it. You can play Pac man, but you have to do math.” While Max still did not provide explanations, examples, or illustrations when discussing his chosen topics, he has slightly developed his sense of audience awareness, as evidenced by how he thinks from his pen pal’s perspective when discussing his chosen topics.

**Voice.** In Max’s second letter, his text was more structured, he took greater risks with his written expression, and exhibited slightly more audience awareness through conceptual role taking. He has also begun to develop a voice that is both affective and informative in nature. He exhibited the affective constructs of kindness and consideration with, “I loved your letter…” Do you do shepherd math? It is fun. You should try it.” His affective voice also came through in his free writing, as he clearly values his friendship with his pen pal and would like to spend time together. He also provided information with, “I found out that a volcano erupts every 100 years…Do you
know how a volcano erupts? I do.” As Max’s text structure has begun to take shape, and both his written expression and audience awareness have developed further, his voice has also further developed.

**Max: Letter Three**

**Text structure.** By the third letter, Max has begun to structure his text with a transition sentence, and a segue between paragraphs. Max has taken yet another risk by writing his segue in the form of a question. He has written an opening paragraph followed by the transition sentence, “I’m going to talk about budgets and times” which was followed by a paragraph about multiplication. He then wrote the segue question, “Do you know what budgets are?” which was proceeded by a paragraph about budgets. This time, Max has also eliminated the extraneous paragraph at the end, thereby making his text properly structured.

**Written expression.** A new pattern emerged in Max’s third letter. Rather than write about the contents of his GO, he omitted most of these sentences and instead wrote nearly his entire letter spontaneously. He wrote his letters in accordance with the pictures he drew in the boxes on his GO’s, which included a picture of intersecting lines as a strategy to solve a multiplication problem, and a picture of a budget. The GO Max prepared for his third letter stated the following information about multiplication: “that there are millions of ways to do it; so you can be a banker; I wonder why I have to go to school.” The paragraph in his letter however, stated, “I’m going to talk about budgets and times. Here is a picture of a times problem (after which he wrote the equation 4 x 4 = 16 accompanied by a corresponding illustration of intersecting lines). Do you know
why we have to go to school? I think it is because our teachers want us to be very smart. Do you?”

Max followed this same pattern in his final paragraph about budgets. His GO stated: “that you see how much you spend; when I go to the fair I have to us the spending column; and I wonder if you can have different numbers in your budget.” His letter however, sounds different, as he has written, “Do you know what budgets are? I do. They’re a type of savings account. I love budgets. Your parents probably have one. Do you want to see a picture of a budget?” after which he illustrates and completes a budget.

There has been a substantial transformation in Max’s letter as he has taken additional risks with both his text structure and written expression.

Written speech. In Max’s third letter, not only did he begin to use the proper text structure for the first time, his use of social speech moved beyond conceptual role taking to include an engagement in discourse. He complimented his pen pal’s last letter, answered his questions, and has drawn connections between them as follows: “I loved your letter. It was your best yet. I hope you write another one like your last one. Yes, I love to play kickball. We have lots of stuff in common. I love to play baseball.” This opening paragraph is different from Max’s other opening paragraphs in that this time, Max has taken care to specifically address what his pen pal has written to him.

Audience awareness. Max’s sense of audience awareness was abundant in his third letter, which was also the first fully structured letter he had written. He provided his pen pal with explanations, examples, and evidenced conceptual role taking therein. He wrote the equation, “4 x 4 = 16” and included the non-linguistic representation, which
consisted of a four-by-four grid of intersecting lines. He has also drawn dots at each point where the lines intersect, for a total of sixteen dots. Max has also begun to use rich content vocabulary in the sentences, “Do you know what budgets are? I do. They’re a type of savings account.” He then displayed conceptual role taking as he connected budgets to his pen pal’s personal life by writing, “You’re parents probably have one.” This was then followed by the question, “Do you want to see a picture of a budget?” Max’s sample budget is thoroughly detailed as his columns are titled, “week,” “earned,” “spent,” and “saved.” Given Max’s progress at this point, there has been a degree of interplay between his evolution of text structure, written expression, written speech in which he engages in dialogue, and now, a strong presence of audience awareness.

**Voice.** Max’s voice was apparent, as it was both affective and informative throughout his entire third letter. In his opening paragraph, he wrote, “I loved your letter. It was your best yet. I hope you write another like your last one…We have lots of stuff in common.” This message relays both a kind and friendly tone as Max has shown his pen pal that he values their correspondence and is excited about the things they have in common.

The duration of the letter is both affective and informative as he has provided his pen pal with illustrations, explanations, and related the topics to his pen pal’s life. This also indicates patience and signifies that Max takes pride in teaching his pen pal new concepts. As Max has continued to take risks with his text structure, written expression, engage in social discourse, and display audience awareness, his overall voice has in turn strengthened, as it is no longer confined to just the opening paragraph of his letter.
Max: Letter Four

Text structure. Max’s fourth letter was also structured, and he incorporated two transition sentences. His first one came in the form of a question as he segued into his first topic, where he asked, “Do you know what habitats are?” followed by a paragraph about habitats. Another transition sentence between paragraphs read, “I’m going to teach you about volleyball.” after which he proceeded to discuss volleyball. Rather than writing about the contents of his GO, once again, Max omitted all of his sentences and instead wrote about the pictures he drew in the boxes on his GO’s, which included a picture of two animals in their shared habitat, and a picture of a volleyball net.

Written expression. Max’s entire letter was written spontaneously, as he did not include any sentences from his GO. The GO he prepared for his fourth letter stated the following information about habitats: “that animals can live in different places; so animals can survive in a place; and why animals eat other animals in their habitat.” However, his letter says, “Do you know what habitats are? You live in a habitat, a human habitat. It’s where a living thing lives. Trees’ habitats are in a forest. So are monkeys, panthers, and cheetahs, plus tigers.” Max’s sentences are grammatically structured, and he is clearly more focused on writing his letter based on his pictures, as opposed to elaborating on the sentences he has already written.

Max’s GO he completed on the topic of volleyball stated: “You have to run a lot; so you get exercise; why you need exercise.” These are all fragments that contained little to no detail. However, he brought this to life a bit more in his letter, in which he has written, “I’m going to teach you about volleyball. I have been playing volleyball. It’s
very fun. You have to be in a certain position, but it’s still really fun. I have gym every Tuesday and Thursday.” Again, Max has taken more risks with both his text structure and with his written expression.

**Written speech.** Similar to his previous letter, Max has carried a pattern of dialogue over to his fourth letter, in which he has written, “I noticed you asked me a lot of questions. I will answer all of them. I was a grim reaper for Halloween. My favorite candy are warheads. They are very, very, very sour.” Once again, Max has taken care to continue a dialogue with his pen pal and is eager to answer his questions. None of his written speech was egocentric, and he has focused solely on contributing to the dialogue.

**Audience awareness.** Audience awareness was also apparent in Max’s fourth letter via explanations, examples, and conceptual taking through his attempt to teach his pen pal about the concept of habitats. First, Max asked his pen pal if he knew what a habitat was, which was followed by an explanation, in which he related habitats to his pen pal’s personal life as follows: “You live in a habitat, a human habitat. It’s where a living thing lives.” He provided a broad example of a tree’s habitat, which he stated is a “forest.” He then chunked this information by listing other living things that also live in forest. He wrote, “Trees’ habitats are in a forest. So are monkeys, panthers, and cheetahs, plus tigers.” Max did not display as much audience awareness in his final paragraph, although it does appear that he wants his pen pal to know that volleyball is still fun even though the rules require that you are constantly in one position rather than constantly running.
**Voice.** Max’s affective and informative voice has grown even stronger in the fourth letter. He has firmly established his use of text structure, has taken risks with his written expression by constructing new sentences, and has written with an abundance of audience awareness. He has also consciously engaged in dialogue, where he established his affective voice, and then proceeded to educate his pen pal on the concept of habitats. Max’s willingness to relate concepts to his pen pal’s life, once again, illuminates the value he has placed on his pen pal’s learning, thus establishing both an affective and informative voice that resonates throughout the letter.

**Max: Letter Five**

**Text structure.** Max displayed both comfort and confidence with his established text structure, as he emulated the majority of it again in his final letter. He wrote an opening paragraph, followed by the transition sentence, “Do you know how to tell time?” He then proceeded to explain how to tell time, along with a corresponding illustration where he displayed the time 12:10 on an analog clock. Although he did not include a transition sentence between the second and third paragraphs, he clearly changed the topic to compound words and stayed focused on this topic for the duration of the letter.

**Written expression.** In his final letter, Max’s written expression consisted of a change in wording, spontaneity, and elaboration. This time, he included some of the sentences from his GO when he transitioned to the writing stage, yet he retained a consistent focus on the pictures and words from his GO boxes. Max changed the wording of some of his sentences in a way that simplified and condensed information for his pen pal. For instance, when writing about how to tell time on his GO, he wrote, “That
you see 1-2-3-4-5-6-7-8-9-10-11-12 and it means five more,” but in his letter he wrote, “12:10 o’clock is the time.” He then drew a clock that illustrated the time as 12:10. Max continued with, “Look at the clock. The little hand is pointed at the 12. The other one is pointing at the 2. Count by 5’s on clocks always.” For the compound word portion of his letter, he wrote the spontaneous sentence, “This is a compound word. Bath + tub = bathtub.” He also elaborated from his GO, which stated, “There are two words in one” so that his letter says, “It’s pretty cool that there are two words in one.” Max’s text structure and written expression have continued to develop in tandem.

**Written speech.** Although his final letter may appear egocentric, Max has actually mimicked his pen pal’s letter by writing his own version of an acrostic poem. His pen pal wrote an acrostic poem in which he spelled out the word “turkey” and wrote down something he was thankful for that corresponded with each letter. In response, Max wrote, “I want to tell you about the stuff I’m thankful for;” followed by his own acrostic poem using the word “pilgrim.”

**Audience awareness.** Max used illustrations again in his final letter as a means in which to teach his pen pal how to tell time. He has demonstrated audience awareness through his use of explanations, examples, and conceptual role taking. He followed the same pattern as his previous letter by first asking his pen pal if he knew how to tell time, followed by his own explanation of how to tell time. His explanation and illustration show that he was operating under the assumption that his pen pal did not know how to tell time on an analog clock, as he has written, “Look at the clock. The little hand is pointing at the 12 and the other one is pointing at the 2. Count by 5’s on a clock always.”
He also relayed an example of a compound word by writing, “bath + tub = bathtub,” followed by his explanation that a compound word is really two words combined into one big word. Thus, Max has continued to provide evidence of an interplay between text structure, written expression, social speech, and audience awareness.

**Voice.** Max’s voice has become firmly established by this point, as he has once again exhibited a clear text structure, vivid written expression, engagement in social speech, and audience awareness. This, in turn, has culminated in a clear voice that is both affective and informative throughout the letter. He has engaged in social discourse in his opening paragraph, in which he established his affective tone, and proceeded to teach his pen pal about telling time and compound words. His explanations and corresponding illustrations/examples have created a voice which conveys patience, nurturing, and an embrace of the role of topic expert.

**Conclusion**

Throughout the study, Max evolved substantially in his use of text structure, written expression, use of social speech, and audience awareness, which ultimately enhanced his voice. Max exhibited confidence in both his topic knowledge and writing ability, as he often deviated from the “3 I” format, with portions of his letter consisting largely of free writing based on his illustrations. Max has shown an increasingly strong command over written language through his ability to recognize fragments and transform them into complete sentences, elaborate on said sentences, and construct new sentences to expound upon his topic(s) of choice. Max’s written speech separated itself from that of his peers because at no point did he write incessantly about himself, his favorite things,
or experiences with no regard for his pen pal. Although he did not ask his pen pal many questions, he consistently had him in mind, which is overt in his display of conceptual role taking and his engagement in social discourse. Max’s written speech in his opening paragraph did not always influence the quantity of audience awareness he displayed or his written expression, and although his speech was highly social throughout his letter, this did not always coincide with an abundance of audience awareness.

Max’s writing development throughout the study has provided additional support for the researcher’s notion that there is consistent interplay between the aforementioned themes of: 1) text structure; 2) written expression; 3) audience awareness; and 4) voice. In the progression and evolution of both Molly and Max’s letters, as one or more of these four components strengthened and solidified, other components strengthened and solidified along with it.

**Jacob**

**Overview.** In the following example, Jacob’s establishment of text structure is particularly unique compared with that of his peers. He adheres to the proper text structure throughout the study, yet in four of his five letters, he deviates entirely from her graphic organizer. He keeps the same overall topics when he transfers from the planning stage to the writing stage, but omits all of his responses to the questions on his GO. Jacob further demonstrates an understanding of appropriate text structure through his use of transition sentences and specific transition words, which are present in each letter. These transitions provide his pen pal with predictability, along with a clear indication of when the topic is about to shift.
In nearly all of Jacob’s letters, he creates entirely new sentences as a result of his deviation from the graphic organizers. While initially his letters contain some fragments and syntax errors within the sentence structure, this dissipates throughout the study as his sentences become increasingly coherent and syntactically structured. This dissipation of fragments and syntax errors emerges approximately the same time that he enhances his text structure by inserting additional transition sentences and transition words. In other words, as the text structure of Jacob’s letter is enhanced and expanded, his written expression is also enhanced.

Jacob’s written speech alternates from egocentric, to an egocentric/social hybrid, back to primarily egocentric. Yet, it does not impact his display of audience awareness, which undergoes a substantial transformation from his first letter to his third letter, a transformation which is analogous to his text structure and written expression. His display of audience awareness evolves from merely brief, somewhat convoluted explanations in his first letter, to elaborate, sequential instructions with corresponding illustrations- by the final letter. The evolution of Jacob’s voice is also tantamount to the evolution of his text structure, written expression, and audience awareness. It is vague at the onset of the study, and it appears he is struggling to find it. However, once he gradually discovers and establishes his voice, it manifests as a consistent presence (see Appendix D).
Jacob: Letter One

Text structure. In Jacob’s first letter, he wrote an introductory paragraph, followed by just one transition sentence that stated, “I’m teaching you about fiction and kickball.” He followed this transition sentence with paragraphs about kickball and fiction, respectively. He did not insert a transition sentence to indicate that the topic was about to change to fiction, yet there is a clear shift in topics. Although he switched the order of topics when he wrote his paragraphs, he has clearly grasped the text structure of his letter.

Written expression. Take Jacob’s first letter, for example. He has omitted everything from his GO except for the topics of kickball and fiction, and has only somewhat conveyed his thoughts and ideas. He also struggled somewhat with syntax. For instance, the GO he completed on the topic of fiction stated, “A house flying around; It is impossible to do it; I wonder why we cannot make houses fly around.” His letter, however, says, “Fiction is fun too. All you have to do is make fake thing that are make believe about something.” The GO he completed on the topic of kickball stated, “I can kick very high; so kids can have fun; why can we steal bases in the gym.” Yet, his letter reads, “Kickball is fun. Remember to kick on the right not left. Then run bases.” His sentences are short, choppy, and lack detail.

Written speech. The introductory paragraph of Jacob’s initial letter was predominately egocentric. He wrote about his age, his favorite song, and his ability to do handstands in various places. He wrote, “Hi, I’m Jacob and I’m eight. I like the song “The John Deer Tractor. I can do a handstand on the ground, in a pool, and on a
trampoline.” He did not pose any questions to his pen pal and did not appear interested in soliciting any information from him.

**Audience awareness.** Jacob’s audience awareness was displayed in the brief, vague explanations for his pen pal on what to do when it is his turn to kick in a kickball. He advised, “Remember to kick on the right not left. Then run bases.” He repeated this format when he attempted to explain what fiction was to his pen pal. He wrote, “All you have to do is make fake things that are make believe about something.” Although the syntax and semantics are flawed, it is clear that he is explaining that fiction is something that is not real. It is not clear, however, what he means by “make.” Thus far, Jacob’s text is somewhat structured, his written expression consists of spontaneous sentences with some syntactic errors, and his audience awareness is vague.

**Voice.** There was not a strong presence of either an affective or an informative voice in Jacob’s first letter. He shared some information about himself and wrote, “Kickball is fun….Fiction is fun too.” While he was slightly informative in her explanations, his letter was brief, sentences lacked detail and structure, and he did not write with a pronounced voice.

**Jacob: Letter Two**

**Text structure.** Jacob’s second letter contained a significantly enhanced text structure, and the letter grew from one page to nearly two pages in length. He used a total of four transition sentences, and consistently used transition words such as “first,” “next,” “after that,” and “last” throughout his letter. For example, he wrote her introductory paragraph, followed by the transition sentence, “I am going to teach you
about fiction and communities. First I am going to teach you about communities.” This time, Jacob wrote about his topics in the correct order. His transition sentences developed even further in this letter, as he also included an additional transition sentence between paragraphs, which read, “Now I am going to teach you about fiction,” followed by a paragraph about fiction.

**Written expression.** This time, Jacob wrote with spontaneity, elaboration, and exhibited greater syntax awareness by changing fragments into sentences. He also included portions of her GO’s in his letter rather than omitting all of its contents, as he did in her previous letter. His GO on communities stated the following: “because so people live somewhere in a house; people need a place to live; and why houses are so together to each other in some places. His letter was much more coherent, as he elaborated with, “First, communities are important because people need somewhere to live.” She then constructed spontaneous sentences with, “Next they are important because if people don’t have shelter over them. Last people need them so they can have a bed. Can you answer the question: How do you think communities are important?” This time, Jacob has clearly separated his thoughts through his insertion of transition words.

He followed the same format in her paragraph about fiction, as his sentences each began with, “First…Next…After that…and Last.” Although his letter still contained an unstructured sentences and one fragment, his sentences were longer and more detailed than in the previous letter. For example, he wrote, “First, think about what you want to draw…” and, “After that, if you want you can put wings on what you want that you think
of that is fake.” Not only has Jacob’s text structure undergone a tremendous transformation, so has his written expression.

**Written speech.** Jacob’s written speech also changed significantly in his second letter, which was written upon receiving his first letter from his pen pal. Although the opening paragraph did not contain much content, it took a social turn, as the bulk of it consisted of the connections he drew between himself and his pen pal, based on what his pen pal had written. For instance, he wrote, “Hi, how are you? The letter was good. I noticed that your favorite color is green and your favorite food is grilled cheese. My favorite color is black and red and my favorite food is tacos.” While it is not rich in dialogue, he has taken care to contribute to the dialogue.

**Audience awareness.** Jacob also demonstrated a heightened sense of audience awareness from his first to second letter via explanations, instructions, conceptual role taking, and posing a question. He has provided his pen pal with step-by-step instructions as to how he can draw something fictitious. He informed him, “First, think about what you want to draw. Next, draw it. After that, if you want you can put wings on what you want that you think of that is fake. Last, you can make it look real life and have fun.” Jacob also exhibited conceptual role taking, as he has thought from his pen pal’s perspective, realized he may not know how to draw something fictitious, and will therefore need explicit instructions. Recall that he also used transition words to explain why he felt communities were important, followed by the question, “How do you think communities are important?”
Voice. Now that Jacob has heard the voice of another child, a slightly more pronounced voice has manifest. This time, his letter carried a combination of both an affective and informative voice. He drew connections between himself and his pen pal by comparing and contrasting their favorite foods, which relays the message he values what his pen pal has written. The careful, step-by-step nature in which he proceeded to inform his pen pal of the importance of communities, along with how he could draw something fictitious, carried both an affective and informative tone. It was affective in that it conveys the message that Jacob places an importance on his pen pal’s learning, and it was informative in that he has embraced the role of topic expert. Within this two week span, Jacob has enhanced his text structure, written expression, contribution to social discourse, and his audience awareness. His voice, in turn, has significantly developed.

Jacob: Letter Three

Text structure. Jacob proceeded to emulate the same text structure and similar transition sentences in his third letter. He also continued to use transition words such as “first,” “next,” and “last” in each paragraph. For instance, he wrote his opening paragraph, followed by, “I’m going to teach you about multiplication and Fastest Tag in the West. First I am teaching you about multiplication.” He then wrote a paragraph about multiplication, followed by another transition sentence between paragraphs which stated “Now I am teaching you about tag.” Jacob has developed a text structure in which she feels both comfortable and confident.
**Written expression.** Jacob’s written expression has developed even further in his third letter. This time, he has entirely omitted all of the responses from her GO. His thoughts are clearly and thoroughly articulated, he has engaged in conceptual role taking, and he has improved his syntax again, as there was just one unstructured sentence in the entire letter. For example, he explained a multiplication strategy to his pen pal in the following manner: “First, you figure out the problem. Next, you can skip count or draw plates and put dots on them. If you don’t know what I mean here is a picture on the back.” He has included both linguistic and non-linguistic representations.

Jacob used this same style in his final paragraph to explain how to play Fastest Tag in the West. He wrote, “First, you look around and see if someone is near you. If there is, go somewhere else. Next, when the game starts, run to everyone and tag them. If someone tries to tag you when they are sitting, jump or go back…Last, if you did not get tagged and someone else did not get tagged, go tag them and you win the game.” As Jacob’s text structure has been established, he has not only repeated the pattern of written expression, but has also included a non-linguistic representation to accompany his linguistic explanation.

**Written speech.** Jacob’s speech remained social in his third letter, which was written upon receiving the second letter from his pen pal. Again, he took care to write his opening paragraph based on what his pen pal has just written to him. He answered a question and asked a probing question, while he also displayed the ability to think from his pen pal’s perspective. In response to his pen pal’s question of what he is learning, he responded, “I’m learning multiplication. If you want you can ask me questions that are
one-digit numbers.” In response to his pen pal’s story about the ant farm in his classroom, he asked, “Can you answer this? Are the ants doing good or bad?” As the dialogue has increased, Jacob’s egocentric written speech has decreased.

**Audience awareness.** Jacob has taken his sense of audience awareness even further in the third letter via explanations, instructions, and illustrations. Here, he provided his pen pal with multiplication strategies that were both linguistic and non-linguistic. Recall Jacob’s sentence in his multiplication paragraph of, “Next, you skip count or draw plates and put dots on it.” On the back she drew a plate with dots, along with the pattern, “5, 10, 15, 20.” Although he did not write the equation, it appears to be $4 \times 5 = 20$. He then proceeded to provide his pen pal with a sequential, thorough description on how to win the game “Fastest Tag in the West.” His detailed instructions on both of these topics are also indicators of conceptual role taking, as Jacob has considered his pen pal’s perspective, realized he may be unfamiliar with these topics, and has provided him with instructions accordingly. Jacob’s demonstration of audience awareness has now progressed from vague explanations to thorough, sequential instructions, examples with corresponding illustrations, and apparent conceptual role taking.

**Voice.** At this point, Jacob had received two letters from his pen pal, and his voice has been strongly established as both affective and informative. He has shown that he values the opportunity to teach his pen pal in her opening paragraph, where he has written, “I’m learning multiplication. If you want you can ask me questions that are one-digit numbers.” He also inquire about his pen pal’s ants and used exclamation marks as
punctuation. The sequential instructions for multiple multiplication strategies and
winning the game of tag possess both an affective and informative voice. He has
provided his pen pal with thorough problem-solving strategies. At this juncture, his voice
has now evolved from vague to strong, as a result of the evolution of his text structure,
written expression, written speech, and audience awareness.

Jacob: Letter Four

Text structure. Again, Jacob adhered to a similar text structure, as his letter
possessed a strong text structure with a consistent use of transition sentences and
transition words. He wrote just one sentence that comprised his opening paragraph, and
used new transition words “this time” in his sentence, “This time I am teaching you about
how to make a cake and cursive. First I am teaching you about cursive.” This was
followed by a paragraph about cursive writing, after which he inserted the transition
sentence of, “Now I am teaching you about cakes.” He proceeded this with a paragraph
on how to draw a multi-layered cake.

Written expression. Once again, Jacob omitted all responses from his GO when
he transitioned from the planning stage to the writing stage. This time, however, he
wrote his letter based on the picture boxes on his GO’s. Thus, all of his sentences were
written spontaneously, they were coherent, and syntactically structured, which resulted in
a clear communication of his thoughts and ideas.

For instance, Jacob wrote her name in cursive in the box on one of her GO’s.
When he attempted to explain cursive writing to her pen pal, he wrote, “Cursive is fun
but sometimes it is hard. I don’t know how to explain it so I will write it.” He followed
this with examples of both his name and her pen pal’s name written in cursive. When he
transitioned to her paragraph about drawing a multi-layered cake, she used a similar style.
Specifically, he drew five steps to draw a multi-layered cake in the box of her GO. When
he attempted to write about this in her letter, he realized that he could not find the words
to explain how to draw a multi-layered cake, so he compensated for this by writing,
“Instead of words I am drawing.” He then elaborated on his picture by numbering and
illustrating eight steps to draw a multi-layered cake. Jacob has added another dimension
to his written expression, as he has once again expressed himself using both linguistic
and non-linguistic representations.

**Written speech.** In contrast to Jacob’s previous two letters, his fourth letter
contained no introductory paragraph or much discussion of his pen pal’s previous letter.
He wrote only one sentence: “I was a robot ninja for Halloween.” While his pen pal did
not ask her about her Halloween costume, he did discuss Halloween in the previous letter
and this sentence is somewhat of a contribution to that discussion. However, Jacob did
not address anything else from the letter. In this letter, his evolution of text structure and
written expression did not coincide with an increased dialogue.

**Audience awareness.** Jacob’s letter included several elements of audience
awareness: 1) examples; 2) instructions; and 3) illustrations. He provided her pen pal
with an example of how to write both of their names in cursive, followed by sequential,
non-linguistic steps on how to draw a multi-layered cake. He then stated, “I don’t know
how to explain it so I will write it,” after which he wrote, “My name,” followed by her
name written in cursive. He then wrote, “Your name,” next to his pen pal’s name in
cursive. He followed this with a luminous eight-step procedure on how to draw a multi-layered cake. Each step was numbered and each illustration clearly built off of the previous one, culminating in the finished product, complete with a serving tray on the bottom and a burning candle on the top. In this letter, Jacob’s demonstration of audience awareness has remained intact, both in accordance with his text structure and written expression, and in spite of the lack of social discourse in her written speech.

Voice. Jacob’s voice has now become firmly established and is both affective and informative in nature, even though he wrote just one sentence at the beginning of his letter before delving into his chosen topics. He has embraced her role as topic expert, and it is clearly important to him that his pen pal learn something from him. Once again, he provided undertones of valuing his pen pal’s learning experience as he has provided thoughtful examples of how to write both of their names in cursive, proceeded by an eight-step sequential process on how to draw a multi-layered cake.

Jacob: Letter Five

Text structure. Jacob’s final letter was slightly different than his previous letters in that he had no initial transition sentence to inform his pen pal of her topics. Instead, he inserted a transition sentence between each paragraph. He wrote her opening paragraph, followed by the transition sentence, “Now I’m teaching you about rocks.” which was followed by a paragraph about rocks. He still inserted a transition sentence between paragraphs however, which read, “Now I’m teaching you about fiction.” and proceeded with a paragraph about fiction. Although Jacob experimented with the creation of new
transition sentences, various placements for these sentences, and transition words, his text structure was not compromised.

**Written expression.** Jacob showed a command over his written expression again in her final letter. He has continued to take risks with spontaneity, as once again he omitted all of the sentences from his GO when he transitioned from the planning stage to the writing stage. He retained his chosen topics of rocks and fiction and wrote his entire letter based only on the pictures from his GO. He continued to clearly communicate his thoughts and ideas, and wrote with the proper syntactic structure. While his GO was repetitive as he has stated: “rocks can be different colors; so people can be scientists; and how rocks can be different colors,” in his letter he has written, “First rocks can change color, some can grow, and some even move. Last, I seen a boulder. If you don’t know what a boulder looks like here it is (inserts illustration of a boulder), except bigger than this boulder.” This is quite a transformation from his first letter, in which he wrote, “Remember to kick on the right not left. Then run bases.”

On Jacob’s GO about fiction, she wrote “I like fiction; so people can have fun; and I wonder what if this stuff can be real.” His letter however, sounded different and more coherent, as he wrote, “First, it is fun because you can draw whatever you want, like this. A truck looks like this.” He proceeded to draw a truck with an airplane wing, a vehicle that was a combination of a bus and a car, and a giant semi. Each vehicle was labeled, although it was not clear what was fictitious about the semi. Jacob has continued to show an interplay between the development of his text structure and her written expression.
**Written speech.** The opening paragraph in Jacob’s final letter contained elements of both egocentric speech and a contribution to dialogue. It is egocentric in that he filled up six lines of paper, during which he wrote incessantly about things for which he was thankful. He wrote, “I love God, I love my dog, I love my dad, I love my Xbox 360, I love my room, I love lions and cheetahs and tigers and sharks and that is what I love.” This list of things he is thankful for is in response to his pen pal’s previous letter, in which he wrote an acrostic detailing things for which he was thankful. Jacob made no mention of his pen pal’s letter however, other than when he wrote, “I read your letter. It was nice and I had to fix some words so I could read it.”

**Audience awareness.** Jacob continued to display audience awareness through explanations, examples, and illustrations. When he wrote about rocks, he provided an explanation and an example with, “First, rocks can change color, some can grow, and some even move. Last I seen a boulder. If you don’t know what a boulder looks like here it is (inserts a drawing of a boulder) except bigger than this boulder.” He then wrote about drawing again, and this time he drew three illustrations for his pen pal, labeling each one “truck,” “carbus,” and “semi,” respectively. His audience awareness has continued to operate at a high level, along with his text structure and written expression. The egocentric nature of his written speech has not resulted in a lack of audience awareness or a regression in text structure and written expression.

**Voice.** Jacob has conveyed his affective and informative voice again in his final letter, wherein he assumed the role of topic expert, and has taken care to provide his pen pal with detailed explanations and non-linguistic representations. He has continued to
prioritize educating his pen pal by sharing some facts he has recently learned about rocks, along with an illustration of a boulder. He has also continued to provide illustrations that accompany his sentences, as evidenced by his depiction of a truck with an airplane wing, a “carbus”, and a semi. His text structure, written expression, and audience awareness have undergone a significant transformation, and as a result of this, his voice has become both clear and consistent.

Conclusion

An interplay steadily emerged between Jacob’s enhancement of text structure and written expression. As he experimented with her text structure, he experimented with his written expression as well. As one component grew progressively stronger, so did the other components, and by Jacob’s final two letters, his written expression was nearly perfect. In accordance with Molly and Max, Jacob’s speech also became increasingly social as he began to receive letters from his pen pal on a regular basis. Once he began to hear the voice of another child, he typically contributed more to the dialogue, although this waned in his final two letters.

Throughout the study, Jacob’s sense of audience awareness underwent a gradual transformation and eventually became a consistent presence in her letters. He communicated both his topic and information with his pen pal in mind, as evidenced in his use of explanations, examples, instructions, illustrations, and engagement in conceptual role taking. When Jacob’s written speech reverted back to egocentric, this did not hinder any other aspects of his writing. The interplay of the development of Jacob’s: 1) text structure; 2) written expression; 3) written speech; and 4) audience awareness
ultimately strengthened his voice, as it became more clear, consistent, and predictable throughout the study.

**Timmy**

**Overview.** In the following example, both Timmy’s text structure and written expression lack much evolution throughout the study. In three of his five letters he does not stray from the contents of his GO, as each response is written verbatim. In all of his letters, nearly every sentence regarding his topics begins the same way: “It is interesting because…It is important because…I wonder…” The biggest risk he takes with elaboration is the addition of three new words to the end of a previously existing sentence. Syntactically, Timmy’s sentences are always structured, and he does correct some syntax errors when he transitions from the planning stage to the writing stage. He works very carefully and meticulously when writing, which also becomes apparent through his contributions to dialogue in his opening paragraphs. While his introductory paragraph is egocentric in his first letter, as the letter exchanges increase, it develops into a combination of egocentric speech and social speech. While Timmy’s use of social speech develops throughout the study, the other four components do not develop.

The absence of both text structure and written expression development parallel an absence of audience awareness when Timmy writes about his chosen topics. He does not provide his pen pal with any explanations, instructions, examples, or illustrations, and his questions are mostly rhetorical. He does not embrace the role of topic expert, nor does he exhibit conceptual role taking in the second and third paragraphs of his letters. As a
result of this lack of development and lack of risk taking, his letters do not take on a clear voice (see Appendix E).

**Timmy: Letter One**

**Text structure.** Timmy’s first letter lacked the appropriate text structure, despite the introductory paragraph and transition sentence. After his introductory paragraph he wrote, “I’m going to teach you about trees and communities,” after which he proceeded to write about trees. However, when he changed the topic to communities, he wrote just one sentence about communities and then unknowingly repeated two sentences from his paragraph about trees. Had he recognized and corrected this mistake, his letter would have been properly structured.

**Written expression.** Timmy’s first letter is written entirely verbatim from his GO, with the exception of his introductory paragraph and transition sentence, neither of which were not required on the GO. Thus, he takes little to no risks in this letter and the majority of it is written in a formulaic fashion. Each sentence in his last two paragraphs begins as follows: “This is important because…I wonder…” Although his sentences are all syntactically structured, he did not elaborate or construct any spontaneous sentences when he transitioned from the planning stage to the writing stage.

**Written speech.** Timmy’s first letter was primarily egocentric with a hint of dialogue stimulation, wherein he asked his pen pal a question. He wrote mainly about himself in regards to his name, age, and his role on the baseball team. For example, he wrote, “Hi, my name is Timmy and I’m in third grade and I like to play baseball. Do
you? I play first base in baseball and bat fifth.” Thus, his opening paragraph is a hybrid of egocentric and social speech.

**Audience awareness.** Timmy did not provide any elements of audience awareness when he discussed his chosen topics. Specifically, he did not provide his pen pal with any explanations, instructions, examples, or illustrations, and his questions were mostly rhetorical. He did not embrace the role of topic expert, nor did he exhibit conceptual role taking. This lack of audience awareness also coincided with his reluctance to take risks with his text structure and written expression.

**Voice.** With the exception of Timmy’s opening paragraph, his letter did not take on a definitive voice. He wrote about himself and then transitioned into his chosen topics, where as previously stated, he wrote his sentences verbatim from his graphic organizer, creating a letter that sounded formulaic, robotic, and lacked a unique style.

**Timmy: Letter Two**

**Text structure.** In Timmy’s second letter, he wrote with the appropriate text structure and was more cognizant of his writing as he did not make the same mistake of repeating the second paragraph. He repeated the same pattern of an introductory paragraph, followed by the transition sentence, “I’m going to teach you about Gym and Wimpy Kid Rodrick Rules.” He then wrote a paragraph about what he had been doing in physical education class, followed by a paragraph about the book, *Diary of a Wimpy Kid: Rodrick Rules.*
Written expression. Once again, Timmy has written nearly every sentence verbatim from his GO, with the exception of his introductory paragraph and transition sentence. Thus, he took nearly no risks in this letter either, with the exception of an elaboration of three words. On his GO he wrote, “I wonder if Rodrick exactly rules everything.” and in his letter, he wrote, “I wonder if Rodrick exactly rules everything at the end.” The remainder of his sentences begin with, “It is interesting that…It is important because…I wonder…” and sound more like responses to questions than something written with the intent to engage in a dialogue.

Written speech. Once Timmy received his first letter from his pen pal, his egocentric speech in the opening paragraph shifted to social speech. He took care to both contribute to the dialogue and stimulate ongoing dialogue by answering his pen pal’s questions and asking questions of his own. For instance, he wrote, “My favorite food is chicken. Do you like chicken? I like to swim at the beach. Do you?” Timmy then asked the probing question, “What do you like about polygons?” in which he solicited more information from his pen pal, who had written, “I like polygons.”

Audience awareness. Despite Timmy’s use of social speech in the opening paragraph, he did not display any elements of audience awareness throughout the letter. When discussing his chosen topics, he did not provide his pen pal with any explanations, instructions, examples, or illustrations, and his questions were mostly rhetorical.

Voice. The voice in Timmy’s second letter is only vaguely affective, which came through in his opening paragraph. His contribution to the discourse provided the reader with a friendly voice, as he wrote in a question/answer format and posed a probing
question. For instance, he wrote, “Hi. I think the letter was great. My favorite food is fried chicken. Do you like fried chicken? My favorite color is red. Do you like red? What do you like about polygons?” The lack of voice throughout the rest of his letter parallel his lack of development in text structure, written expression, and audience awareness.

**Timmy: Letter Three**

**Text structure.** Timmy did not stray far from his established text structure, as in his third letter he wrote his introductory paragraph, followed by the transition sentence, “I’m going to teach you about economics and multiplication.” However, when he wrote his paragraphs, he reversed the order of topics so that rather than writing a paragraph about economics followed by multiplication, he wrote a paragraph about multiplication first, followed by economics. Other than that, his letter was structured and he stayed on topic in each paragraph.

**Written expression.** While Timmy did not take risks with elaboration or spontaneity, in his third letter he displayed syntax awareness as he transitioned to the writing stage. He showed that he was not mindlessly copying sentences from one paper to the next, and was taking care to ensure communicability to his pen pal. One way he displayed this was by taking the non-structured sentence of “I think it is interesting multiplication because you get more by multiplying” and structuring it as follows: “I think multiplication is interesting because you get more by adding.” He also turned a fragment into a sentence by changing, “because you might have to multiply” to, “I find this important because you might have to multiply.”
Written speech. Timmy emulated this same pattern of an egocentric/social speech hybrid in his third letter, after which he had just received his second letter from his pen pal. He shared information about himself and asked his pen pal questions. For instance, he wrote, “I turned nine two days ago. When is your birthday? I have a little brother. Do you have a little brother?” In response to his pen pal’s sentence about riding in an airplane, he commented on his pen pal’s experience and asked probing questions, as follows: “I’ve never rode on an airplane. What’s it like? How far did you go?” He has internalized his pen pal’s experience and probes into the matter further.

Audience awareness. Despite the social speech Timmy has shown and the slight elaboration with his written expression, when he wrote about his chosen topics, his letter remained void of audience awareness. He clearly had his pen pal in mind when he wrote his opening paragraph, yet he appears not consider him as much throughout his letter, as once again he did provide explanations, examples, illustrations, and/or conceptual role taking.

Voice. The discourse Timmy engaged in throughout his opening paragraph provided the reader with an affective voice, particularly when he wrote, “I’ve never rode in an airplane before. What’s it like,” “I think the letter was great,” and, “Thanks again. I enjoyed the letter.” Once again, however, beyond the opening paragraph, Timmy’s verbatim style of writing did not take on a solid voice.
Timmy: Letter Four

Text structure. Timmy’s text structure remained consistent in his fourth letter. He wrote his opening paragraph and also inserted a new transition word as he wrote, “Now I am going to teach you about graphs and typing.” This was followed by paragraphs about graphs and typing, respectively, and he wrote about his chosen topics in the order he had listed them, as opposed to his previous letter.

Written expression. Timmy’s fourth letter required no syntax corrections, and when he wrote about his chosen topics, again he wrote his sentences verbatim from the GO. For example, his paragraph about graphs stated, “I find graphs interesting because you have to be neat at drawing. This is important because they help you get the right number. How do people graph so long without their hands getting tired?” He followed the same pattern of, “I find typing interesting…This is important because…How do people…” Just as Timmy’s text structure has not evolved, he also has not elaborated or constructed any spontaneous sentences.

Written speech. In his fourth letter, Timmy continued to engage in dialogue through his use of social speech. For instance, he answered his pen pal’s question as follows: “I didn’t go to Halloween because I went to trunk-or-treat.” and also maintains his question/answer pattern with, “Do you like pizza because I do.” He was clearly contributing to the dialogue, as evidenced through his probing questions and responses to his pen pal’s questions.
Audience awareness. Timmy still has not embraced the role of topic expert, as his letter did not contain elements of audience awareness. He did not include an explanation of illustration of a graph, which would have enhanced both his audience awareness and voice. To date, Timmy has shown a lack in text structure development, written expression development, and audience awareness. His written speech, however, has remained social throughout his opening paragraph and has not influenced the remainder of his letters.

Voice. Timmy has maintained a vaguely affective voice, as evidenced in his opening paragraph when he complimented his pen pal’s previous letter and at the end of his letter, where he wrote, “Thanks again. I enjoyed the letter.” When discussing his chosen topics, however, his voice remained robotic, given his verbatim style of writing when he transitioned from the planning stage to the writing stage. He was reluctant, yet again, to write anything more or less than what he had written on his GO.

Timmy: Letter Five

Text structure. Timmy took his biggest risk with text structure in his final letter. He wrote a transition sentence in the form of a segue which stated, “Now let’s get to facts.” Although he wrote about division and telling time, respectively, and maintained the appropriate focus on each topic, his letter contained no other transition sentences for the reader, providing no indication that he would be writing about division and telling time, and providing no indication of when the topic was about to change.
**Written expression.** Similar to his previous letters, Timmy did not take risks with his written expression. His final letter also required no syntax corrections, and when he wrote about his chosen topics, again he wrote his sentences verbatim from the graphic organizer. For example, he wrote, “I find division interesting because it’s subtraction, but you subtract more. This is important because you may have a job. I wonder how you can divide 1,000 divided by 100?” Yet again, the remainder of his letter followed suit with, “I find telling time interesting because…This is important because…I wonder…” He has continued his formulaic style of writing.

**Written speech.** Timmy’s opening paragraph contained was both egocentric and social in nature. He solicited clarification from his pen pal when he asked the probing question, “What do you mean by team?” and he continued his question/answer pattern as he wrote, “Do you like football because I do. I like the Browns.” Additionally, he contributed to the topic of thankfulness by writing, “I know what I’m thankful for, Elementary school. I like Elementary because you learn.” This was in response to an acrostic poem his pen pal had written him about things for which he was thankful.

**Audience awareness.** Timmy finally incorporated an element of audience awareness in his final paragraph. He vaguely explained what division was as he wrote, “I find division interesting because it is subtracting, but you subtract more.” When writing about telling time, he explained that, “I find telling time interesting because the short hand tells the hour.” Although these are faint elements of audience awareness, as he did not provide any corresponding illustrations or examples, they have finally surfaced in the form of brief explanations for his pen pal.
Voice. Timmy’s voice became both affective and slightly informative in his final letter. He retained his affective voice via the compliments and question/answer format in his opening paragraph, while his voice became slightly informative via his explanations of division and telling time. His incorporation of audience awareness has given his entire letter more of a voice, as opposed to his previous letters, in which his voice was confined to the opening paragraph.

Conclusion

Timmy’s text structure did not significantly evolve throughout the study compared the other students who have been previously discussed. While he did not take noticeable risks with his transition sentences as his peers did, for Timmy, these were risks, given his tendency to write his sentences verbatim when he transitioned from the planning stage the writing stage. Just as Timmy’s text structure lacked evolution, so did his written expression. In three of his five letters he did not stray from the contents of his graphic organizer at all, as each response was written verbatim. The biggest risk he took with elaboration was the addition of three new words to the end of a previously existing sentence. Syntactically, Timmy’s sentences were always structured, and he did correct some syntax errors when he transitioned from the planning stage to the writing stage.

Once Timmy heard the voice of his pen pal, his social speech was enhanced, and it became important for him to address what his pen pal had written. Although he clearly contributed to the dialogue in his opening paragraph, this audience awareness did not carry over translate when he wrote about his chosen topics. He did not provide his pen pal with any explanations, instructions, examples, or illustrations, and his questions were
mostly rhetorical. When Timmy transitioned to his chosen topics, the repetitive manner in which he began his sentences became robotic. This lack of a development of audience awareness also coincided with his reluctance to take risks through experimentation, elaboration, or spontaneity. As he did not undergo much development with his text structure, written expression, or audience awareness, his voice did not develop either. The converse, as previously discussed, shows that when these components develop and become established, the voice in turn becomes more firmly established.

Aaron

**Overview.** Aaron’s letters adhere to the proper text structure throughout the study, with the exception of one letter. Despite this consistency, his text structure does not progress. Aaron’s written expression does not undergo any substantial transformations throughout the study either. He writes the majority of his sentences verbatim when he transitions from the planning stage to the writing stage. Syntactically, his letters all contain a mixture of both structured and non-structured sentences, and in some instances he demonstrates the ability to turn a fragment into a sentence and a non-structured sentence into a structured sentence.

While the written speech in Aaron’s opening paragraph is initially egocentric, as he continues to exchange letters with his pen pal, his written speech becomes increasingly social, as he begins to regularly hear another child’s voice. While the introductory paragraph of Aaron’s letters evolved and became more social as the study progressed, this sense of audience awareness does not translate to the remainder of his letter, wherein he writes about his chosen topics. He does not include explanations, examples,
instructions, or illustrations as several of his peers did. Although his picture boxes contain illustrations, words, and even song lyrics, he never includes this information in his letters as a means to enhance or support what he is communicating to his pen pal. Aaron does not establish his voice throughout the study. It is only vaguely affective in some of the introductory paragraphs, in which he contributes to the dialogue. Aaron never embraces the role of topic expert, as evidenced in the robotic, repetitive style he uses when writing about his topics. His lack of text structure development, audience awareness development and written expression development result in a lack of voice (see Appendix F).

Aaron: Letter One

Text structure. Aaron wrote his introductory paragraph, followed by one transition sentence, in which he wrote, “I’m going to teach you about gym and math.” He did not experiment with creating new transition sentences, inserting new transition sentences between paragraphs, or the use of new transition words such as, “now,” “first,” or “this time.”

Written expression. In Aaron’s first letter, nearly all of his sentences were written verbatim from his graphic organizer, regardless of grammatical structure. He did not elaborate or write any spontaneous sentences. While he wrote the structured sentence, “I think adding is awesome because math is my favorite subject” and “What’s the highest number in the world?” he also wrote the following unstructured sentences, “When you go to college tests” and the non-structured sentence, “I gym find most interesting about kickball is that you get to kick and have fun.”
Written speech. In Aaron’s first letter, the written speech in his introductory paragraph was egocentric. For example, he wrote, “Hi. My name is Aaron. I like to play outside. Also, I’m eight years old. I like to play baseball.” He has not yet heard the voice of his pen pal and did not ask his pen pal any questions.

Audience awareness. Although his picture boxes contained an illustration of a kickball game and an addition problem, he did not include this information in his letters as a means to enhance or support what he was communicating to his pen pal. When Andrew discussed his chosen topics, he did not include explanations, examples, or illustrations.

Voice. Aaron did not establish a strong voice in the first letter. He never embraced the role of topic expert, as evidenced in the robotic, repetitive style he used when writing about his topics.

Aaron: Letter Two

Text structure. Aaron adhered to the same text structure as his previous letter. He wrote his opening paragraph, followed by the transition sentence, “I’m going to teach you about baseball, notes, and adding.” He proceeded to write a paragraph about baseball and concluded with his paragraph about adding notes in music class.

Written expression. Aaron’s second letter followed a similar pattern as his first letter. Most of his sentences were written verbatim, regardless of structure. Thus, he was not aware of the need to transform his fragments into sentences when transitioning from the planning stage to the writing stage. For instance, he wrote the fragment, “Music and math” along with a verbatim, non-structured sentence that read, “I find most interesting
about music and math it is awesome because you add with notes.” He wrote several structured sentences verbatim as well, such as, “It is important because you get to have fitness tests.” And “It is important because you will use them in music.” The fragmented, disjointed nature of his sentences hindered his written expression and made some sentences difficult to comprehend.

**Written speech.** Aaron began writing his second letter after receiving his first letter from his pen pal. Once he heard the voice of another student, he attempted to contribute to the dialogue and draw connections between him and his pen pal. He demonstrated this by writing, “Hi! How are you doing? I liked your letter. My favorite part about school is gym too. Your favorite food is buckeyes and my favorite food is wings. Your favorite color is blue violet and mine is red.” His written speech has shifted from egocentric to social.

**Audience awareness.** Although Aaron’s written speech has become more social, this did not translate into a heightened sense of audience awareness throughout his letter. While his picture boxes contained an illustration of children playing baseball and an example of how to add musical notes, again, he did not convey this to his pen pal. His letter was void of explanations, examples, instructions, or illustrations for his pen pal, just as his text structure and written expression were void of development.

**Voice.** Aaron wrote with a vaguely affective voice in his opening paragraph, as he complimented his pen pal’s letter and communicated both similarities and differences between them. Throughout the remainder of the letter, however, his voice sounded
robotic and disjointed, as he continued to write both his structured and non-structured sentences verbatim.

Aaron: Letter Three

Text structure. Aaron’s text structure in his third letter has regressed. Although he retained some of the original structure of introductory paragraph, followed by a transition sentence, he did not include both topics in his transition sentence. For instance, he wrote, “I’m going to teach you about multiplication.” He then proceeded with a paragraph about playing tag in physical education class and concludes his letter with a paragraph about multiplication. The omission of the word “tag” created confusion and a disjointedness in his text structure.

Written expression. Although Aaron used a bit of specification in his third letter, he continued to struggle with syntax, and wrote the bulk of his sentences verbatim. He used specification by changing “What I find most interesting about gym is everybody is it” to, “What I find most interesting about tag is everybody is it.” However, he then took the structured sentence, “Math is interesting because you add” and changed it to a fragment in his letter when he wrote, “What I find most interesting about multiply.” Some of his verbatim sentences include, “It is important because you will have gym.” and “It is important because you could have homework with it.” As Aaron’s text structure has not developed, neither has his written expression.

Written speech. Aaron’s opening paragraph in his third letter became even more social, as he answered questions, asked his pen pal some probing questions, and evidenced conceptual role taking. For example, he responded to his pen pal’s inquiry of
what he was learning in third grade with, “I’m learning about multiplication.” He then asked a probing question and engaged in conceptual role taking by writing, “How many ants do you have? We don’t have an ant farm but I bet it is very cool.” At this point, he has received two letters from his pen pal, and has been regularly contributing to the dialogue.

**Audience awareness.** Despite this increase in social speech, once again there was no translation to a heightened sense of audience awareness. Although Andrew has once again filled the picture boxes on his graphic organizers with illustrations and examples of multiplication problems, he does not transfer this to his letter. Thus, is interplay between his lack of development of text structure, written expression, and audience awareness.

**Voice.** Beyond the affective voice Aaron conveyed in his opening paragraph, there was a lack of voice throughout the remainder of his letter. As in his previous letter, his lack of development of text structure, written expression, and audience awareness have resulted in a lack of voice.

**Aaron: Letter Four**

**Text structure.** Andrew followed the proper text structure in his fourth letter. He wrote his opening paragraph, proceeded by the transition sentence, “I am going to teach you about books and volleyball.” He also wrote about his topics in the order in which he had listed them. He continued to take no additional risks with transition sentences or transition words.
**Written expression.** Here, Aaron has written all but one sentence verbatim, including a non-structured sentence. He used elaboration, however, to change the other sentence from a fragment a sentence. He wrote his sentences in a formulaic fashion, as follows: “What I find most interesting about books is…It is important because…My question is…” and wrote his last paragraph in precisely the same way. He had just one non-structured sentence, which read, “It is important about volleyball is you will use it in gym,” while he elaborated another sentence with one word to change “I find most interesting about books is you read them” to, “What I find most interesting about books is you read them.” While he recognized a need to properly structure the fragment he corrected, he still did not consistently exhibit this awareness.

**Written speech.** Andrew followed a similar pattern of social speech in his fourth letter by both commenting on what his pen pal has written, along with answering a question. He wrote, “Hi! How are you doing? I read that you were going to be a zombie (for Halloween).” In response to his pen pal’s inquiry of what his favorite Halloween candy is he replied, “I like bubble gum but it is not my favorite. My favorite is a jolly ranchers.” His opening paragraph did not contain any egocentric speech, as he was fully engaged in the dialogue.

**Audience awareness.** Aaron continued to follow the same pattern with his display of audience awareness. While his social speech indicated a clear consciousness of his audience in his opening paragraph, once again, this did not translate throughout his letter. He did not include explanations, examples, illustrations, or any other elements which could teach his pen pal something about his chosen topics.
Voice. Aaron still has not established strong voice. Rather, it has remained vague despite his ability to fulfill the requirements of the letter. His fourth letter lacked concrete information about his chosen topics and it is not clear what he wanted his pen pal to learn.

Aaron: Letter Five

Text structure. Aaron has established a text structure he feels comfortable with, which he did not deviate from in his final letter. He wrote two sentences which made up his opening paragraph, followed by the transition sentence, “I’m going to teach you about cursive and math.” He proceeded to follow the order of topics, as he wrote a paragraph about cursive, followed by a paragraph about math.

Written expression. In Aaron’s final letter, he used elaboration, spontaneity, and specification, yet he remained inconsistent with his ability to recognize unstructured sentences in his graphic organizer and change them to structured sentences. Although he only elaborated with the word “what,” as he changed, “I find most interesting about multiplication songs is you get to sing” to, “What I find most interesting about multiplication songs is you get to sing,” this one-word elaboration changes the sentence from unstructured to structured. He specified, “What I find most interesting about cursive is you don’t have to let go of your pencil” to, “What I find most interesting about cursive is you never let go of your pencil.” He then constructed a spontaneous sentence in which he wrote, “I’m going to write my name in cursive,” followed by his name written in cursive. Paradoxically, in the same paragraph he changed a fragment to a sentence, yet he followed it with another fragment, as follows: “What I find most interesting about
multiplication songs is that you get to sing. It is important because if you have a problem and you’re stuck on it.” While Aaron’s written expression has undergone a slight development in elaboration, spontaneity, and specification it remains inconsistent in regards to syntax.

**Written speech.** Aaron’s final letter only contained two sentences that comprised the opening paragraph: “Hi! How are you doing? I liked your letter very much.” He did not ask any questions or specify what he liked about the letter, and his speech was not as social in this letter as it has been in previous letters.

**Audience awareness.** Although Andrew’s speech was not as social as his previous letters, he finally displayed some elements of audience awareness through examples and conceptual role taking. He provided his pen pal with an example of what his name looks like in cursive, and exhibited conceptual role taking when he wrote, “It is important because you will learn cursive in third grade.” This shows that he is thinking from his pen pal’s perspective and understands that, as a second-grader, he has not yet learned to write in cursive. Thus, as Aaron’s written expression has developed in this final letter, so has his sense of audience awareness.

**Voice.** Aaron’s voice was slightly informative when he wrote about cursive. This development in his voice also coincided with the development of his written expression and audience awareness. His voice took on an affective tone as he appeared helpful in trying to prepare his pen pal for what he would learn in third grade, and also provided an example of cursive writing for him. His voice, however, was confined to this paragraph, as he did not display elements of audience awareness throughout his letter.
Conclusion

Aaron has established a text structure he feels comfortable with and he did not deviate from it throughout the study. He did not exhibit a consistent cognizance of sentence structure, did not take risks with elaboration or specification beyond just a few words, and constructed just one spontaneous sentence throughout the study. The majority of his writing sounded robotic when he spoke of his topics, as most sentences followed a formulaic template of, “What I find most interesting….It is important because…Why….”. Essentially, as Aaron’s text structure did not evolve, neither did his written expression. As he continued to exchange letters with his pen pal, his written speech became increasingly social, as he began to regularly hear another child’s voice. However, this did not translate into audience awareness throughout his letters, which also ran parallel with a lack in the development of text structure and written expression. Aaron never fully embraced the role of topic expert, as evidenced in the robotic, repetitive style he used when writing about his topics. His lack of text structure development, audience awareness development and written expression development result in a lack of voice. Aaron’s voice was at its strongest in his fifth letter, in which he also took more risks with his written expression and displayed elements of audience awareness via examples and conceptual role taking.

Proposed Model for Writing Development

The following five areas emerged as salient areas of development in students’ writing: (a) text structure; (b) written expression; (c) written speech; (d) audience awareness; and (e) voice. These five components were interwoven, as there was
consistent interplay between the components of text structure, written expression, written speech, and audience awareness. The interplay of these four components consistently culminated in a pronounced voice throughout the entirety of the letter. When students developed their text structure, written expression, and audience awareness, this substantially impacted and illuminated the voice of the letter.

The proposed model (See Figure 2) depicts the interplay between the macro and micro elements of students’ produced texts (Kintsch, 1998). Begin with the macro, or outermost layer, which is text structure. This determines the layout, or outline, of students’ texts, which dictates how the text is organized. In this study, the development of text structure impacted and transformed the next layer of the model, which includes the micro elements of students’ text such as written expression. As a result of this enhancement of written expression, students tended to write with elaboration, spontaneity, specification, and proper syntax. The development of written expression in turn, influenced the model’s next inner layer—audience awareness. Student often incorporated elements of audience awareness within their enhanced written expression, such as examples, explanations, and illustrations which reinforced the letters’ contents. In this model, “audience awareness” has absorbed “written speech,” as contributions to written dialogue such as asking probing questions, drawing comparisons, and conceptual role taking all denote audience awareness. However, for the purpose of potentially applying this model to genres beyond letter writing where there is no reciprocation of dialogue such as narratives or expository text, the two components have been merged into “audience awareness.” Ultimately, students who developed their use of text structure,
written expression, and audience awareness consistently wrote with a strong and pronounced voice, which is the inner-most layer of the model. Thus, the qualitative findings suggest that the aforementioned areas of writing development influence one another in the following manner:

![Diagram of Major Influential Factors of Writing Development](image)

*Figure 2. Major Influential Factors of Writing Development*

Note: “Audience Awareness” is assumed to include egocentric and/or social written speech. This was determined so that the model may be implemented in future writing studies, where it is applied to genres beyond letter writing.

**Quantitative Results**

A quasi-experimental study was performed to assess whether a twelve-week writing program produced statistically significant differences between groups in the reading comprehension scores from the reading pre-test to the reading post-test. A treatment group participated in a twelve-week writing program in which they participated
in daily writing activities and exchanged letters with second-grade pen pals on a bi-weekly basis. The control group did not participate in the writing program and instead, received their typical writing instruction. Since students were not randomly assigned to either group it was not possible to ensure equal reading ability between groups, thereby enabling the possibility for differences in reading ability between groups. To account for this, the reading comprehension pretest scores for students in both groups were used as a covariate. The dependent variable was the score on the reading post-test.

As shown in Table 3, preliminary data screening was conducted, and scores in both groups were normally distributed, containing no extreme outliers. The pretest mean score among all participants was 318.11 (SD = 131.6), which falls under the “below benchmark” category according to the S.T.A.R. baseline assessment predetermined categories. Students’ scores ranged from 71 to 582. The skewness of students’ pretest scores was -.022, SE = .224 with a kurtosis of -.826, SE = .444. The posttest mean score among all participants was 396.50 (SD = 138.53), which falls under the “at/above benchmark” category according to the S.T.A.R. December benchmark assessment predetermined categories. Students’ posttest scores ranged from 75-805. The skewness was -.035, SE = .224 with a kurtosis of .251, SE = .224.
Table 3
*Group Statistics of Study Participants’ PreCSS*

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>M (SD)</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>67</td>
<td>289.91 (130.42)</td>
<td>15.93</td>
</tr>
<tr>
<td>Treatment</td>
<td>50</td>
<td>355.90 (124.67)</td>
<td>17.63</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>318.11 (131.60)</td>
<td></td>
</tr>
</tbody>
</table>

Note. PreCSS = Pretest comprehension scaled score

Levene’s Test for Equality of Variances was run using an ANOVA (Univariate Analysis of Variance), and the results were not statistically significant: $F(1, 115) = .278$, $p = .599$. The assumption was not broken and equal variance among groups was assumed. An ANCOVA (Analysis of covariance) was then run to control for any preexisting factors that may have been related to students’ pretest scores, but could not be measured due to lack of access. Students’ pretest reading scores were used as the covariate, and the difference in pretest score results between groups was statistically significant. The mean pretest score for the control group was 289.91 ($SD = 130.40$), and the mean pretest score for the treatment group was 355.90 ($SD = 17.63$); $F(1, 115) = 7.610$, $p = .007$ (See Table 4). The strength of association between participants and the reading pretest score was $\eta^2 = .06$ when pretest scores were used as a covariate, which indicated that 6% of the variance in pretest scores was due to between-group differences.
Table 4  
**Tests of Between-Subjects Effects**  
Dependent Variable: PreCSS

<table>
<thead>
<tr>
<th>Source</th>
<th>Type Sum of Squares</th>
<th>III df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>124683.59&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1</td>
<td>124583.59</td>
<td>7.61</td>
<td>.007</td>
</tr>
<tr>
<td>Between Groups</td>
<td>124683.59</td>
<td>1</td>
<td>124683.59</td>
<td>7.61</td>
<td>.007</td>
</tr>
<tr>
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<td>1884261.96</td>
<td>115</td>
<td>16384.89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2008945.56</td>
<td>117</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>2008945.56</td>
<td>116</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. <sup>a</sup> R Squared = .062 (Adjusted R Squared = .054)

One grand adjusted mean was then calculated for the pretest reading score at 322.91 (SE = 11.96), placing students in the “at/above benchmark” category. Levene’s Test for Equality of Variances was run and again, the results were not statistically significant: \( F(1, 115) = .194, p = .660 \). Therefore, the assumption was not broken and equal variance among groups was assumed.

Although the rank of groups was not changed after controlling for the covariate, the differences between group means decreased. The unadjusted mean difference between the control and treatment groups was 362.96 and 441.44, respectively. The adjusted mean difference between the control and treatment groups was 385.80 and 410.82, respectively, both of which place students in the “at/above benchmark” category (See Table 5).
Table 5

*Adjusted and Unadjusted Mean Differences Between Groups*

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Mean</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>385.80</td>
<td>362.96</td>
</tr>
<tr>
<td>Treatment</td>
<td>410.82</td>
<td>441.44</td>
</tr>
</tbody>
</table>

When the reading pretest scores were not statistically controlled, the effect size between participants and the reading posttest score decreased from $\eta^2 = .06$ to $\eta^2 = .008$. This indicated that .8% of the variance in the posttest score was due to between-group differences. The covariate explains that a larger portion of variance is accounted for by group association.

Recall that when the reading pretest score was not used as a covariate, the difference in posttest scores between groups was statistically significant. The mean posttest score for the control group was 362.96 ($SD = 131.59$), and the mean posttest score for the treatment group was 441.44 ($SD = 136.01$), $F(1, 115) = 9.90, p = .007$. When the reading pretest score was used as a covariate, the difference in posttest scores between groups was not statistically significant: $F(1, 114) = 2.36, p = .127$ (See Table 6).
Table 6
Tests of Between-Subjects Effects
Dependent Variable: PostCSS

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>1413258.08a</td>
<td>2</td>
<td>706629.04</td>
<td>99.10</td>
<td>.000</td>
</tr>
<tr>
<td>PreCss</td>
<td>1236886.01</td>
<td>1</td>
<td>1236886.01</td>
<td>173.47</td>
<td>.000</td>
</tr>
<tr>
<td>Groups</td>
<td>16811.24</td>
<td>1</td>
<td>16811.39</td>
<td>2.358</td>
<td>.127</td>
</tr>
</tbody>
</table>


The estimated marginal means for the reading comprehension posttest scores between the control and treatment groups were 385.80 (SE = 10.46) and 410.82 (SE = 12.17), respectively (See Table 7). These results indicate that the covariate had an effect on the experimental outcome, as when the covariate was controlled for, the difference between groups was no longer statistically significant. Therefore, it is likely that additional, previously existing factors influenced the control group’s pretest score, which ultimately impacted their posttest score. Thus, there was ultimately no statistical significance in the differences between pretest and posttest scores between groups.

Table 7
Estimated Marginal Means for Posttest Reading Comprehension Score
Dependent Variable: PostCSS

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SE</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>385.80a</td>
<td>10.46</td>
<td>[368.08, 406.53]</td>
</tr>
<tr>
<td>Treatment</td>
<td>410.82a</td>
<td>12.47</td>
<td>[386.72, 434.92]</td>
</tr>
</tbody>
</table>

Note. a. Covariates appearing in the model are evaluated at the following values: PreCSS = 318.11
Chapter 5: Conclusion

This was a quasi-experimental, mixed methods study conducted to examine the relationship between daily writing and reading comprehension, and to explore the relationship between daily writing and writing development of third grade students in a general education classroom. Writing development was explored as it occurred in the pen pal letters that third-grade students wrote to second-grade students on a bi-weekly basis over a ten-week period.

Chapter one discussed the nation’s reading and writing test scores. It also discussed the NRP’s five essential components of effective reading instruction in the early childhood classroom, the absence of writing among these components, and the significance of writing in the early childhood classroom. Writing has been virtually absent in education research and reform, yet it has been linked to later reading ability and overall literacy development. Chapter two presented a review of the literature as it pertains to the relationship between children’s writing and reading comprehension, as well as the various types of writing instruction in the early childhood classroom. Chapter two also presented both the theoretical framework and conceptual framework of the study. Chapter three detailed a description of the mixed methodologies that were employed, justifications for implementing both quantitative and qualitative methodologies, and descriptions of the instruments that were used to measure and explore results. Chapter four reported the data analysis of both quantitative and qualitative results. This chapter provides a brief overview of: (a) qualitative findings; (b) quantitative results; (c) the connection between the results and the theoretical framework;
(d) the relationship between the results and the topic literature; (e) instructional implications for practitioners; and (f) implications for future research.

**Qualitative Findings**

The following five areas emerged as salient areas of development in students’ writing: (a) text structure; (b) written expression; (c) written speech; (d) audience awareness; and (e) voice. These five components were interwoven, as there was consistent interplay between them, which culminated in a pronounced voice.

Conversely, students who did not develop in the first four areas did not develop a pronounced voice throughout their letters. Rather, sentences tended to be written in a formulaic and robotic style. While these students typically evolved the written speech in their opening paragraphs from egocentric speech to either social speech or a hybrid of egocentric and social speech, they did not develop in the areas of text structure, written expression, and audience awareness, thus confining the voice in their letters to the opening paragraph.

Students who exhibited the most writing development had one thing in common: they all took risks when writing their letters, particularly when they transitioned from the planning stage to the writing stage. Thus, they took risks that resulted in an evolution of: (a) text structure; (b) written expression; (c) written speech; and (d) audience awareness, which resulted in the establishment of a firm and pronounced voice.

With regards to text structure, students who developed their writing took risks by writing transition sentences, writing spontaneous transition sentences between paragraphs, and experimenting with new transition words and phrases. They also began
to write transition sentences in the form of questions and short segues. This enhancement of text structure enhanced the macrostructure and organization of the letter, as transition sentences lent predictability to the reader by clearly distinguishing the various topics within the letter. The development of text structure also improved students’ abilities to organize their thought structure and communicate said thought structure, as letters took on a main idea/supporting details format.

Students who did not evolve in text structure did not take any of the aforementioned risks. A lack of text structure often led to confusion, as these students tended to change topics without indication and write their paragraphs out of order. These students also tended to interject random sentences and paragraphs about unrelated topics, thus making the letter difficult to follow.

Students who evolved with their written expression also took risks when they transitioned from the planning stage to the writing stage. These risks occurred in the forms of elaboration, spontaneity, and specification, while these students also exhibited a heightened syntax awareness. When elaborating, students added more words to sentences from their GO, which elicited greater detail in the letter and provided the reader with more information on the topic. When writing with spontaneity, students constructed entirely new sentences in their letters which did not previously exist on the GO. These spontaneous sentences enhanced the letter by providing greater detail, imagery, and information. When students wrote with specification, they took article words or pronouns from their GO’s such as “it” or “they” and replaced these words with nouns or other types of speech in their letters. Students also demonstrated syntax awareness by
changing fragments on their GO’s to sentences in their letters. Sentences were then grammatically structured- enhancing communicability. Overall, students who evolved with their written expression also took greater risks with the layout of their text structure. Ergo, both components evolved in unison.

Conversely, students who did not take risks with written expression did not elaborate, construct spontaneous sentences, specify, or exhibit as much syntax awareness as their peers. These students wrote their letters verbatim when they transitioned from the planning stage to the writing stage, which caused their sentences to sound formulaic and robotic, as they typically followed the format, “This is interesting because…This is important because…I wonder…” These same students also did not evolve with their text structure. This lack of risk taking and unique expression resulted in a lack of voice.

Recall that students’ written speech was categorized as either “egocentric” or “social” in the opening paragraphs of their letters to gauge their abilities to contribute to an ongoing dialogue. Students who progressed beyond egocentric writing- in which they wrote strictly about themselves- demonstrated an ability to engage in dialogue. They answered their pen pals’ questions, asked specific probing questions based on what their pen pals had written to them, commented on their pen pal’s letter, and engaged in conceptual role taking by thinking from their pen pal’s perspective.

The opening paragraphs contained the strongest element of voice for students who did not develop in the other areas. Perhaps this is due to the non-formatted nature of the opening paragraph versus the formatted nature of the remainder of the letter. As students had not written any prior planning sentences corresponding with the opening paragraph,
as was the case for the remainder of the letter, they were required to free-write the opening paragraph, which is an act of risk-taking. Students wrote freely about their experiences, families, preferences for activities, and special talents. This, paired with the dialogue students engaged in, revealed personality traits that are indelibly a part of students’ identities. The act of free writing brought these identities to the surface, as even students who lacked noticeable development in their writing throughout the study evolved in their ability to engage in dialogue and establish a voice in the opening paragraph. These students’ voices, however, did not pervade throughout the letter, as they ceased to take risks once it was no longer a requirement and they had their GO’s from which to refer.

Recall that audience awareness was analyzed when students wrote about the chosen topics from their GO’s. This was in effort to gauge students’ abilities to consider their younger audience when writing, and to explore how this consideration influenced their communication. Students who exhibited audience awareness wrote letters heavily laden with elements such as explanations, examples, instructions, and illustrations that often were not present in their GO’s. Students used these elements as teaching tools for their younger pen pals. Moreover, conceptual role taking was embedded in the elements of audience awareness as this required the writer to think from his/her pen pal’s perspective and consciously write with the intent of teaching him/her something about the chosen topic. Audience awareness was significantly intertwined with the evolution of text structure and written expression, and was often the result of spontaneous sentences or illustrations.
Students who did not progress in their display of audience awareness also did not evolve with their text structure or written expression. As was the case with written expression, these students typically wrote their letters verbatim from their GO’s, and did not display a clear intent of teaching their pen pals about their chosen topics.

Each of the four aforementioned components, in turn, strengthened the fifth component: voice. Throughout the study, students’ voices evolved from primarily affective, to either informative, or to a hybrid voice of both affective and informative. Students who exhibited an affective voice conveyed kindness, patience, and feelings of enthusiasm about a budding friendship. Students who exhibited an informative voice embraced the role of topic expert by providing their pen pals with explanations and examples, while those who displayed a hybrid voice took care to explain concepts in a step-by-step fashion, and related topics to their pen pals’ personal lives. Students who took risks and, as a result, developed their text structure, written expression, engaged in dialogue, and exhibited audience awareness, also developed a pronounced voice. Students who did not take risks and, as a result, did not develop their text structure, written expression, did not engage in dialogue, and did not exhibit audience awareness, did not develop a pronounced voice.

Quantitative Findings

An ANCOVA was used to determine the pretest to posttest reading comprehension score differences between groups. This was done to account for previously existing factors that the researcher did not have access to, which may have influenced students’ pretest scores. A grand mean between groups was then determined.
When the pretest score was not controlled for, there was a statistically significant difference between groups from the pretest to posttest reading comprehension scores. However, when the pretest score was controlled for by using it as a covariate, there was no statistically significant difference between groups from the pretest to posttest reading comprehension scores. Thus, the difference in scores between groups decreased once the pretest scores were controlled. Although students in the treatment group did make greater gains in their pretest to posttest scores compared with students in the control group, these gains were not statistically significant.

**Link to Theory**

Vygotsky (1934/1986) theorized that through writing, the child’s knowledge becomes explicit through a process he coined as a “double abstraction,” which transpires as follows: 1) the child is required to mentally organize his/her thoughts both syntactically and semantically, and 2) subsequently abstract said thought structure onto paper. He also believed that written speech gleans insights into the child’s inner speech, or thought structure, and that intellectual growth occurs in unison with language development, rather than one preceding the other. The results of this study provide additional support for Vygotsky’s theory, as children’s intellectual growth and language development unfolded concurrently. Students who exhibited an evolution in their thought structure also experienced an evolution in their language development, as evidenced in the progression of their pen pal letters. Conversely, students who did not experience an evolution in their thought structure did not evidence language development in their pen pal letters.
Vygotsky also rendered concept formation impossible without the use of verbal thought. Due to his belief that intellectual development occurs when children link spontaneous concepts to non-spontaneous concepts, he believed that instruction must lie just ahead of development, creating the child’s Zone of Proximal Development (ZPD). Once the child has mastered a non-spontaneous concept within this zone, s/he can then spontaneously apply this concept to other areas (Vygotsky, 1934/1986). The results of this study lend further credence to Vygotsky’s theory. Once children were instructed how to write a transition sentence and how to complete their GO’s, the spontaneous construction of both transition sentences and content-specific sentences ensued. These spontaneous sentences, along with elaboration, also encompassed elements of audience awareness, which resulted in the child’s unique voice. Ultimately, the social nature of this study allowed children to develop and change their voice and to establish their voice as the dialogue with their pen pals continued. This is also in accordance with Vygotsky’s belief that the voice is a dynamic, ever-changing process that is influenced by the child’s sociocultural milieu (Cappello, 2006).

Both Dewey (2009) and Deci (1992) theorized that optimal motivation arises through choice, and also when the topic is deemed both interesting and important by the student. They believed that with interest comes motivation and natural by-products such as learning, creative thinking, and critical thinking. While motivation, engagement, and creative thinking were not formally measured in this study, this relationship was observed by the researcher and manifested in students’ writing. Students were observed revising their first drafts by reorganizing sentences, asking peers for advice, and consulting books
for information. While revision was not a focal point of this study, students became increasingly engaged in the revision process, which could be a topic for future research. Additionally, at no point did any student ask how long the letter should be or claim that they had nothing to write. Creative thinking and critical thinking were displayed through students’ experimentation and development of text structure, written expression, and audience awareness.

**Link to Literature**

The most seminal voices in writing education tell us that children who write well can also read well (Harris, Graham, Friedlander, & Laud, 2013). Graham and Hebert (2011) stated that writing is a viable means to enhance reading comprehension, while, Clark et al. (2013) claim that teaching text structure and subsequently applying it to produce written text should increase both written composition as well as reading comprehension. Additionally, Goodman (1996) proclaimed that if students are to develop as writers, then writing instruction should promote self-expression, authenticity, and individual exploration.

Although quantitatively, the difference in the pretest and posttest reading comprehension scores were not statistically significant between groups, students’ writing development implies a degree of reading comprehension that was not formally measured, as these students exhibited reading comprehension in the following ways: (a) comprehension of the letters they received from their pen pals, which determined the content of the opening paragraphs of their letters; (b) comprehension of what they had written on their GO’s, which determined the contents of the remainder of the letters; (c)
comprehension of the first draft of the letter, which determined revisions for the final letter; and (d) comprehension of the content of which they chose to write.

This study has also yielded qualitative findings that reveal a substantial amount of writing development. These findings corroborate with Graves’ (1983), Calkins’ (2003), and Atwell’s (1997) findings that children who develop a voice in their writing develop other facets of their writing as well. It adds to the literature however, by detailing the five specific areas in which children’s writing has developed. This development has come as the result of daily, authentic, choice-based writing in which children were required to plan, write, read, revise, and rewrite. It has also come as a result of the social nature of writing, as children regularly shared their work with an audience and engaged in regular correspondence with said audience. Students who were comfortable with this autonomous approach took risks, exhibited self-expression, and displayed a creative thought process. Students who were not comfortable with this approach did not take risks or display a creative thought process. Rather, these students wrote in a formulaic style, in which their sentences sounded more like responses to the questions on the GO and less like a letter that had been produced for an audience.

Recall from chapter two Klein’s (1999) position that writing facilitates students’ learning and an evolution of thought as it requires them to: (a) review and revise their work, (b) use discourse and discipline-specific words to communicate ideas and relationships, and (c) consider the audience, which in turn, influences how information is communicated. Results born of this study provide added support for Klein’s proclamations as students exhibited each of these behaviors in their evolution and
development of text structure, written expression, written speech, audience awareness, and ultimately, voice. Finally, there is further corroboration with Kintsch (1998) in that students’ solidified macrostructure of text led to greater organization and coherence at the micro-level of the text.

**Instructional Implications**

If children are to develop as writers, they must write authentically and must be granted the freedom to take risks without fear of being “right” or “wrong.” It is essential that children are encouraged to experiment with their voice, reread their work, and revise sentences so they may build upon their repertoires of text structures, sentence structures, and words. As this study has shown, writing with a purpose is critical to writing development, as this enhances both the macro and micro elements of students’ produced text. Purpose cannot always be imposed from the top down, and is more effective if it is determined by the child at the onset of writing. When children are given the opportunity to develop their own purpose for writing, they develop an understanding of the importance of planning, writing, revising, and rewriting. These activities not only help to enhance communicability, but also have the added benefit of forcing students to think critically about what they have written, which engages them in reading comprehension (Hayes, 2006).

A process approach, as opposed to a direct skills approach or a formulaic approach, allows children to convey who they are and what they know. It allows them to develop as writers as they experiment with text structures, sentence structures, and words, thus creating the perfect recipe for voice (Graves, 1983). This study has also elicited the
importance of free-writing, which has coincided with the development of students’ opening paragraphs—particularly those students who did not develop in the other areas. Free-writing must be given a place in the classroom, as this also affords students the opportunity to expand their capabilities to express themselves through writing. When moving from the planning stage to the writing stage, some students will limit themselves to a verbatim duplication of sentences they have already written. These students would be better served by a planning stage in which they draw pictures or write down key words and/or phrases rather than write complete sentences. Planning in this manner allows students to subsequently express their thoughts and ideas through free-writing, in which they are required to elaborate on said pictures and key words. Planning in this manner also eliminates the inclination to simply duplicate sentences, as there would be no sentences to duplicate.

When children are confined to a formulaic style of writing, this precludes experimentation and development from occurring, as the final product has already been determined. There is no opportunity for experimentation, development, and voice when writing is reduced to fill-in-the-blank templates, grammar worksheets, and answers to comprehension questions. On the contrary, this deprives children of the self-discovery and pride that comes with producing something that is both unique and distinguishable from that of their peers.

Classroom writing instruction must go beyond answering prescribed questions and writing prescribed paragraphs in which the final product has already been determined, for which children have no purpose for writing other than to write for the
teacher with the hopes of getting it “right.” Writing instruction must allow children to pour their voice into their writing. When teachers allow children to show their capabilities via open-ended outlets, the confines of expression are replaced with free reign of creative expression.

Although the treatment group did not make statistically significant gains in reading comprehension compared with the control group, this in no way diminishes the importance of daily writing. As stated in the limitations, reading comprehension was only formally measured with two data points, and one cannot rule out external factors that impact children and test results, such as test anxiety or other myriad pre-existing factors to which there is no access. Reading comprehension was inherent in students’ writing development, as they were required to comprehend the following: (a) content about which they had written; (b) letters from their pen pals, which determined the content of their opening paragraphs; (c) their graphic organizers, which determined the content of the remainder of the letter; and (d) rough drafts of each letter, as this determined any revisions that were made in the final copy of each letter. If students are to practice both their writing and reading comprehension skills in tandem, they must read what they have written and justify any revisions that arise as a result.

**Research Implications**

One characteristic that all students who developed their writing had in common is that they were all willing to take risks, and thrived when doing so. Future research should assess the characteristics of students who are more likely to take risks with their
writing, and explore how practitioners may nurture the development of these characteristics in all of their students.

As previously stated, the groups in this study were not equally matched. Further study is needed in which groups of students are equally matched. This study has also shown that a uniform method of writing instruction is not necessarily ideal for optimizing students’ writing development, as some students developed much more than others. To address this problem, future research should examine the writing development between two evenly matched groups who participate in a writing program, but partake in a different planning process so that it can be better determined if writing development is due more to maturation or more to the nature of the writing instruction. For example, one group would plan their writing using only non-linguistic representations and/or key words, while the other group would plan by writing notes or sentences. This would allow the researcher to gauge the five aforementioned areas of writing development, while also allowing him/her to gauge the pronouncement of voice between groups. A study of this nature could also be conducted across genres, followed by an immediate reading comprehension assessment in said genre. For instance, students could plan and subsequently write an expository report, followed by a reading comprehension assessment of an expository report. The same process could be applied to poetry, fiction, and/or memoirs.

Due to time constraints, revisions were not a focal point of this study. However, since students revised their letters from the first copy to the final cop, future research is needed in this area to explore how students approach the revision process. Obtaining an
increased understanding of students’ metacognition as it pertains to writing and revising will yield instructional implications for the teaching and learning of writing.

Finally, this study adds another layer to the question concerning the relationship between writing and reading comprehension, as results between groups were not statistically significant. While these two processes are similar, they are also clearly different. Research should address what occurs in the brain when one is writing versus when one is reading. Insight into the neurological activity behind these two processes would have strong implications for teaching and learning.

Final Thoughts

This study likely yielded additional literacy and communication benefits that have gone unmeasured. As students gained the ability to organize their thought structure and communicate it through writing, there is the likelihood that this skill was applied to areas beyond letter writing, such as cross-disciplinary essay writing and/or paragraph writing. As students increasingly write across the content areas, they will have developed the capacity to apply knowledge and skills such as topic selection, writing a topic sentence, and carefully organizing information within a paragraph to maintain focus.

It is also likely that this study enhanced children’s communication skills, which are a vital part of not only child development, but are also critical life skills. Children are constantly expanding their vocabularies and experiencing daily social encounters in the classroom, cafeteria, on the playground, and in the community at large. Through pen pal correspondence they have learned the give-and-take of conversational skills such as asking specific questions, answering questions in a manner that elaborates beyond a
simple “yes” or “no” response, and extending common courtesies of wishing one a pleasant upcoming weekend or holiday.

The previously discussed general trends, along with the rich descriptions of Molly, Max, Jacob, Timmy, and Aaron’s writing development provide support for the idea that if children are to develop as writers, they must take risks and be given the freedom to develop a voice. This has no chance to occur if writing is reduced to an adherence to formulas, templates, or prescribed answers to questions. Writing in this manner results in voice deprivation. Perhaps this voice deprivation is why students’ attitudes towards writing become increasingly negative as they progress throughout school. Their autonomy has been gradually taken away, thereby producing a disconnectedness between the writer and his/her writing.

The voice is the backbone of writing. It strengthens the writing and evokes a uniqueness that can only manifest when students have the freedom to take risks and experiment. The voice is authentic, comes from within, and cannot be imposed from an authority. If children are to develop and establish a voice, writing must be approached as an autonomous, authentic process. This gives the child an identity, as s/he is empowered to write about who s/he is and what s/he knows. This voice, although highly personalized and individualized, can, as this study has shown, be discovered and developed within the confines of writing instruction. When children discover their voice, they discover the empowerment of literacy.
References


Appendix A: Graphic Organizer

Subject: _______________________  Topic: ______________________

If you like, draw a picture that describes your topic in the box below

<table>
<thead>
<tr>
<th>What did you find most interesting?</th>
<th>___________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>___________________________</td>
</tr>
<tr>
<td>How is this important in real life?</td>
<td>___________________________</td>
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<tr>
<td></td>
<td>___________________________</td>
</tr>
<tr>
<td>I wonder….</td>
<td>___________________________</td>
</tr>
<tr>
<td>What question do you still have?</td>
<td>___________________________</td>
</tr>
<tr>
<td></td>
<td>___________________________</td>
</tr>
</tbody>
</table>

**CHALLENGE!**

What do you predict is the answer to your question? ______________________

If you find the answer, either write it or draw it in the space below! You may use the back if you need extra room. 😊
Appendix B: Molly’s Letters

Sept. 26, 2014

Dear, [Redacted]

Hello, my name is [Redacted]. I’m eight and I like to draw and my favorite special is art because I like to draw animals. I can teach you how to draw animals it’s really fun. I wonder if you know how to draw animals it’s kind of hard I can teach you about animals and I’ve been wondering if you know about science. I know a bunch about animals in science. You can ask me a bunch of thing about animals and drawing. I like learning about animals and drawing. I can probably teach you how to draw like my
grandma she is very good drawer. In science I am learning about animals. I know a bunch about science.

You friend,

P.S. thanks for reading my letter.
Oct 10, 2014

Dear [Blank],

I can't wait to meet you again. That was fun. I am going to teach you gymnastics and gym. Gymnastics is interesting because you can do flips on the bar. It's really fun. My favorite event is vault because you can do flips on the mat. That's fun. On beam you can do handstands and cartwheels. It's really fun. On the floor you can do back handspring and handstands. I go to Zanesville Gymnastics. I am a 2nd year level three about level four. Sometimes it gets hard but I do it any way. It's important because if you want to be a coach you have to know how to do it. Gym is interesting when you play dodgeball because you can stay in the game.
It is not fun going out.
It's important because you might want to be a dogeball coach.
I wonder if you like dogeball.
Best friend, [redacted]
P.s. please right back soon.
Happy Halloween!!

October 21, 2014

Dear [Name],

Hi! I'm doing good, I think. I did good on the OAA. Did you take your test yet? How are you doing? I think ants are cooler than bees. I did not know ants ate fruit loops. It is cool how they dig holes. Ants do like sweet things. Do you have a ant farm? I learned that kind of math in second grade. Are you having fun in second grade? Do you like math? Math is my favorite subject in school. It's really fun that you can add big numbers. That's fun to. Stacking them is fun to. This time I'm going to teach you about multiplication and counting. Multiplication is interesting because you can try to solve the answer that your answering. It's important because you might want to be a math v
You want to multiply. Do you know how to multiply? 2x? 2x2 = 4. You can multiply in second grade. Painting is interesting because you can paint a bunch of things. Like a picture. It's important because you might want to be an artist. You can paint a lot of things. You can paint a whale. Painting is fun. Please write back.
Dear [Name],

Hi, What were you for Halloween? I was a hippie. A hippie dresses crazy. I love Halloween movies too and I like eating pumpkin pie. My favorite cartoon month is October because I love Halloween and trick-or-treating.

This time I'm going to teach you about volley ball and concentric circles. Volleyball is interesting because you can score points and hit the ball over the net. This is how you draw a volley ball net. 1. Draw a line. 2. Draw a V. Thats how you draw a volley ball net. It's important because you need exercise to get stronger. I wonder how they made the volley ball? Concentric circles are interesting because you can keep on drawing the circles. It's important because you might want to teach someone to do it. This is how you draw a circle.
I wonder if I can draw the biggest concentric circle ever?

Your friend,

P.S. thanks for reading
November 11, 2014

Dear [Name],

I had a great weekend. I'm thankful for things I have—my family, friends, and food. I like rainbows too. Did you have a great weekend? I'm thankful that you're my penpal. I can't wait to meet you again! That was fun. When's your birthday?

My birthday is May 6th, 2006. Do you have a sister? I have two sisters and one brother. I have a busy house that's always at my mom's house. At my dad's house it's just me and my dad. Do you have anyone in 6th grade that you know? This time I'm going to teach you about the climate and plants. The climate is interesting because you can feel the weather changing. It's important.
because you need to know what to wear. Plants are interesting because you can see new plants. There's important because you need to keep plants healthy to keep us alive. I wonder if I can see the newest plant? Probably not because I will not go to the state.

Your friend,
Appendix C: Max’s Letters

Sept. 25, 2014

Dear [Name],

Hi. I'm in third grade. Do you read books? I just read a book. It's called 'I Survived Cat 1941,' and it's about a girl named Alyssa. Alyssa's parents are very strict, and she has to go to the book fair. I like all books, and if you visit my house on Friday, maybe you can write a letter to Harley. Come over to his house Friday. I want to tell you to hit a ball out of the park in a game. I think it is interesting when Leo gave his roommate a gold nugget. Leo's a character in a book I read. I think that it is important because his roommate needed money. In gym, I played kickball and I kept kicking home runs. It is interesting that two people

[Sketch of two people]
Can't be on base at one time. I hope you write back.

From,
Dear [Name],

I loved your letter about your weekend. Mine was awesome too! I went to a house party there. Did you know his was my half brother? I was surprised you weren't there. Are you going to teach about science and computer labs? I found out that volcanoes erupt every 500 years. I would not go to Hawaii because it could be 100 years. Do you know how volcanoes erupt? I do! Owe yea, I forgot about computer labs. I do. She goes math everyday. She said math is fun, you should try it. You can play Pac-Man, but you have to do math. I like to drive tractors. You know you don't much because you live in [City]. I love baseball at the
Did you know we were cousins? My grandpa is your uncle's cousin. Are you going to come to my house this Friday if you do please bring Hayley and if you are aloud bring maybe. Maybe he will bring you to my house if not maybe your mom will drive you to my house and is nobody will ask my mom to go and get you till your mom can come to my house.

Your friend:
Dear 

I loved your letter. It was your best yet. I hope you write another like your last one. Yes I love to play kickball. We have lots of stuff. I love to play baseball.

I'm going to talk about budgets and times here is a future of a times problem. Do you know why we have to go to school? I think it is because our teachers want us to be very smart do you? Do you know what Jague EXP. 

I love budgets, your parents probably have one. Do you ever want to see a picture of
a buget?

ex

You're right.

Your friend,
Dear [Name],

I noticed you asked me a lot of questions about something. I was busy making a costume for Halloween. My favorite candy are war heads, they are very, very, very sour. Do you know what habitats are? I do. You live in a habitat. A human habitat is where a living thing lives. Trees, habitats are in forest, so are monkeys, panthers, and cheetahs. I'm going to teach you about tigers. I'm going to teach you about tigers. I have been playing volleyball. It's very fun. You have to be in a certain position, but it's still really fun. I have gym every Thursday and Tuesday.

Your friend,

[Signature]
Dear [Name],

I liked the letter I want to tell you about the star I pointed out for you.

Snakes those are lizards I thank you for them.

Know how to tell time? I do. Here is a clock.

day or know what time it is. It's 12:30 or 12 o'clock is the time. Look at the clock.
The little hand is pointing at the 12. the other one is pointing at the 3. count by 5's on a clock always. This is a compound word back + take = backwards. It's pretty cool that there are two words in one.

Your friend,

[Name]
Appendix D: Jacob's Letters

Dear [redacted],

Hi! I'm [redacted] and [redacted].

I like the song the jayhawk.

John Deer Tractor.

If I can do handstands on the ground.

I'm diving into a pool on a trampoline.

I'm teaching you about Fischin' and kickball.

Kickball is fun. Remember to kick on the right foot.

Left, then run bases.

Fischin' is fun, too.

Anchorage has kiting, and so does manchester.

If you believe there's somethings or

[redacted]

From [redacted]
Dear [Name],

Hi! How are you? The weather was good today. I love my new class. I learned a lot of new things. My favorite color is blue. The light I love the most is green. But I love cheese. My favorite food is pizza with cheese and my favorite sport is soccer. I like swimming in the pool. I am looking forward to teach you about computers.

First, I am going to teach you about computers. The first 10 minutes are important because people need computers to live. Next, they are important because if people don't have them, they can't do anything. Last, they have a bad can you answer them well? I hope you can. 

Sincerely,

[Signature]
How do you think comments are important? Can I am going to teach you two things about fiction. First, think about what you want to do. (3 out of 3) Next, draft it. After that, if you want, you can put wings on what you want that you think of that is okay. Last, you can mark in look real life and have fun.

Sincerely,

Ps. Not to be mean can you write nicer than last time piece.
Dear [Name],

Oct 21, 2014

How are you doing?

I feel good! I'm learning multiplication. If you want, you can ask me questions that are one-digit numbers. Can you answer them?

Are the ants doing good today?

I am going to teach you about multiplication and how to get the answer. First, I am teaching you about the problem.

Next, you can skip counting. I am going to show you how to do it. If you don't know what I mean, I'll show you next time. Back.
Now I am teaching you about tag first you look and see if someone is near you. If there is good! Now say, "Next!" and look. Next wins the game starts fun to everyone and tag them if someone rises to tag you win the game. If you cannot tag or run last. If you did not get tagged and someone else did no get tagged go tag them then you win the game. Place, Skip count 10 5, 10, 15, 20
Dear

I was a robot things for Halloween this time. I am teaching you about it.

First, I am teaching you about cursive. First, cursive is fun but can be hard. I don't know how to explain it so I will write it.
My name is Reginald.

Your name is [drawing].

Now I am teaching you about locks instead of words from drawing.

[Sketch of locks]
Dear [Name]

Hi, how are you doing? I read your letter, it was niss and it had to be for some words, so I could read it.

I love you, I love my dog, I love my dad, I love my Xbox, and I love my room. I love John Deere and I love tigers and sharks and that is what I love.

I'm teaching you about rocks, first rocks can change color, some can grow and some even move.

Last I seen a hader if you don't know what a hader look like, here it is, it isn't bigger than this, better know than you don't know what it is from first dimension.
Good morning,
because you can draw whatever you won't like this a truck looks like this:

\[\text{Car} \quad \text{Carbox} \quad \text{Milk} \]

\[\text{Simply did not get,} \quad \text{with} \]

[Handwritten note: Insert]
Appendix E: Timmy’s Letters

Dear [Name],

Oct. 9, 2014

Hi, I think the letter was great!

My favorite food is chicken do you like chicken? My favorite color is red do you like red? I like to swim at Burroake Beach do you?

What do you like about polygons?

I’m going to teach you about Gym and Wimpy kid Rodrick Rules. You can kick a ball really hard and far. This is important because you need exercise.

I wonder if we could play more the books interesting because the kid lied to his mom. This is important so you don’t tell a lie. I wonder if Rodrick saw exactly rules everything at the end.

Your friend,
Oct. 9, 2014
Dear [Name],

Hi, I think the letter we got TA 3pass.

My favorite food is chicken do you like chicken? My favorite color is red do you like red? I like to swim at Burroake Beach do you?

What do 'you like about polygons?'

I'm going to teach you about Gym and Wimpy kid Rodrick Rules. You can kick a ball really hard and far. This is important because you need exercise.

I wonder if we could play more books interesting because the kid liked to his mom.

This is important so you don't tell a lie. I wonder if Rodrick exactly rules everything at the end.

Your friend,
Dear [Name]

Oct 10-21-14

Hi, I thought that the letter was great. I woke up two days ago. When is your birthday? I've never rode a squirrel. How many times did you go? I have a little brother dog. Do you have a little brother? I'm going to teach you about economics and multiplication. I think multiplication is interesting because you get more by multiplying. I find this important because you might have to multiply one thousand times one thousand. I think economics are interesting because you can spend and save. This is important.
because you spend your ex money, you won't be able to afford anything. There won't be enough money to build 200 Empire State buildings. Your friend
Nov. 11-4-14

Dear [Name],

I thought that the letter was great and do you like pizza because I didn’t go to Halloween because I went to trick or treat. Now I am going to teach you about graphs and typing. I find graphs interesting because you have to be neat at drawing. This is important because they help you act the right number. How do people graph so long without their hands getting tired? I find computers interesting because you can type fast.
and type slow. This is important because if you have a job that you need to type, how do you type fast? You can type fast by a lot of practice. Thanks again.

I enjoyed the letter. Your friend,
1-20-14

Dear [Name],

Hi, the letter was great and I had a good weekend. Did you? Veterans Day was great. I know what I'm thankful for. Elementary school is great because you learn. Do you like football because I like the Browns? I like the Browns because my dad does. What do you mean by team? Now let's get to facts. I find division interesting because it's subtracting, but you subtract more. This is important because you may have a job. I wonder how you can divide 1,000 divided by 100. I find telling time interesting because the short hand tells the hour. This is important because you may have a job and be late.
I wonder what time it is when I fall asleep? Thanks for the letter you sent.
Dear [Name],

Hi! My name is [Name].

I like to play outside. Also I'm eight years old. I like to play baseball. I'm going to teach you about Gym and Math.

I think adding is awesome because math is my favorite subject. When you go to college tests, what's the highest number in the world?

What I find most interesting about kickball is that you get to kick and have fun. It is important because you can have something to do.

Why did they invent kickball? I hope you write back.

Your penpal [Name]
booo! booo! booo! booo! booo

Oct 9, 2014

Hi! How are you doing?

I liked your letter. My favorite part about school is gym.

Your favorite food is buckeyes and my favorite food is wings.

Your favorite color is blue. I'm going to teach you about baseball, notes, and adding. I find baseball interesting because you have fitness tests. Why do they call it baseball? Its name is baseball and you run.

Music and math. I find math interesting. Math is awesome because you add with notes. It is important because you will use them in music. Why didn't they do fives?
Dear [Name],

Hi, how are you doing? I am doing good. I heard you have an art form in your room. I'm learning multiplication. AQ: How many ants do you have? PQ: We don't have any ants. CPPW: But I bet it is very cool.

I'm going to teach you about multiplication.

As what I find most interesting about multiplication is everybody is it. It is very important because you will have it. My question is why is everybody using it?

What I find most interesting about multiplication is important because you could have homework with it. My question is what is the highest?
Number times the highest number. 5.

Sincerely,
Dear [Name],

Hi! How are you doing?

I heard that you were going to be a zombie. I like bubble gum but candy is not my favorite. My favorite is a jolly rancher. P.S. I am going to teach you stuff about books and volleyball.

What I find most interesting about books is you read them. It is important because you will have them in library to learn. My question is: Why did they call it books?

What I find most interesting about volleyball is you say mine when you want to. It is important about volleyball is you will use it in gym.
Why did they create volleyball?

Your friend
Dear [name],

Nov. 20, '94

Hi! How are you doing, all.

I liked your letter very much. I'm going to teach you about cursive and math. I'm going to write my name in cursive. Ollie. Andrew. What I find most interesting about cursive is you never let go of your pencil. It is important because you will learn cursive in grade. Why did they create cursive?

What I find most interesting about multiplication songs is you get to sing. It is important because if you have a problem and your stuck on it. My question is what strategy would you use if you didn't use skip counting.

Your friend
Appendix G: Ohio University Parental Consent Form

Dear Families,

Hello, my name is Lyndi Maxwell. Some of you may remember me as Miss Maxwell from my nine years of teaching at Junction City Elementary School. I am currently working on my doctorate at Ohio University, and would like to conduct my research study in your child’s classroom, with your child as a participant.

I have developed a daily writing program in which students will write for 10-15 minutes per day about something they are learning in school. Every two weeks they will exchange letters with a 2nd grade pen-pal in the building. In these letters your child will write about things they are learning that they find interesting, things they think are important, and questions they still have. My belief is that daily writing will improve both children’s reading comprehension and writing development. There is a great deal of research that supports the relationship between reading and writing. Typically, as one area strengthens and improves, so does the other area. I am very excited about this project, and I would love for your child to be able to participate. In order for him/her to participate, I simply need your signature on the back of this page.

This project will last about three months, unless the teachers decide to continue it after the three month period has ended. There will be no additional homework or projects as the daily writing period will be built right in to the school day. There are no risks or discomforts anticipated, and if your child is a struggling writer, then s/he will be helped in any way possible. I have a lot of teaching experience and familiar with a variety of intervention strategies.

One important aspect of this study is confidentiality. Your child’s information will be kept confidential between myself and the classroom teacher. Participation in the study is optional, and should your child choose not to participate in the pen-pal letter activity, his/her grade will not be negatively affected. Withdrawal from the study may also occur at any time should your child wish to no longer participate.

Additionally, while every effort will be made to keep your child’s study-related information confidential, there may be circumstances where this information must be shared with:

- Federal agencies, for example the Office of Human Research Protections, whose responsibility is to protect human subjects in research;
- Representatives of Ohio University (OU), including the Institutional Review Board, a committee that oversees the research at OU.

If you have any questions regarding this study, please contact Lyndi Maxwell at lyndimax@gmail.com or (740)541-1870.

If you have any questions regarding your child’s rights as a research participant, please contact Jo Ellen Sherow, Director of Research Compliance, Ohio University, (740)593-0664.

By signing below, you are agreeing that:
• you have read this consent form (or it has been read to you) and have been given the opportunity to ask questions and have them answered
• you have been informed of potential risks and they have been explained to your satisfaction.
• you understand Ohio University has no funds set aside for any injuries your child might receive as a result of participating in this study
• you are 18 years of age or older
• your child’s participation in this research is completely voluntary
• your child may leave the study at any time. If you decide to stop participating in the study, there will be no penalty to you and you will not lose any benefits to which you are otherwise entitled.

Thank you so much for your time, and I look forward to the opportunity to work with your child.

Signature ____________________________ Date _______

Printed Name __________________________

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