

THE IMPACT OF IDENTIFYING A SPECIFIC PURPOSE AND EXTERNAL AUDIENCE
FOR WRITING ON SECOND GRADERS' WRITING QUALITY

By

Meghan K. Block

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Curriculum, Instruction, and Teacher Education- Doctor of Philosophy

2013

ABSTRACT

THE IMPACT OF IDENTIFYING A SPECIFIC PURPOSE AND EXTERNAL AUDIENCE FOR WRITING ON SECOND GRADERS' WRITING QUALITY

BY

Meghan K. Block

The Common Core State Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects (CCSS) emphasize the importance of writing and specify that students should write for external, and, at times, unfamiliar audiences. Given the relationship between audience specification and quality writing in older students, it seemed possible that giving young children an external audience and a specific purpose for their writing might also yield higher writing quality. The study addressed the question: How does the quality of young children's writing for both specified and unspecified purposes compare when writing for an internal audience versus writing for an external audience? The study used a within-subjects design to compare writing quality when second-grade students wrote for internal versus external audiences and for specified versus unspecified purposes.

The study found that children are more likely to produce higher quality writing when writing for an external audience than for their teacher. When writing for an external audience, children had higher holistic scores and also had higher primary trait scores including focus, accuracy, details, illustrations complementing text, language of informational texts, addressing the audience, and navigational features; however, for navigational features there was an interaction effect as well.

Additionally, when writing for an external audience, children included more generic noun constructions and generic verb constructions in their informative/explanatory writings. Although purpose did not have a statistically significant effect on writing quality, a specified purpose did have a statistically significant effect on amount of revision. This study suggests the need for a shift in for whom children write in school and why. In addition, this study suggests that assessments will elicit children's best writing when they establish an audience beyond the teacher and have a specified purpose.

ACKNOWLEDGEMENTS

First and foremost, I would like to express my gratitude to Dr. Nell Duke, my dissertation chair and program advisor for her support during this study. I am also grateful for the numerous experiences she provided me throughout my doctoral studies, which were extremely influential as I designed, implemented, and analyzed this study. I am also thankful for Dr. Cheryl Rosaen and Dr. Gary Troia who served on my guidance committee and continued on to my dissertation committee; both helped me stretch my thinking about my data and different ideas I might consider as I analyzed my data. I would also like to thank Dr. Ken Frank and Dr. Tanya Wright for their expert guidance and support on my dissertation committee. Finally, I'd like to thank the teachers and children who participated in this study.

A special thanks goes out to my colleagues Stephanie Strachan and Lynne Watanabe for their strong support and helpful feedback. Also, thank you to David Reyes-Gastelum, my CSTAT consultant, for his patience, his eagerness to help and his thorough explanations of the statistical tests. I extend heartfelt thank you to Zoa Bonofiglio who worked so hard to transcribe and score all of the children's writings. Another thank you goes to the Graduate School for providing funding for this study.

I give thanks to my husband, Jake Block, who provided unconditional support during this project and throughout my program. And, last but not least, thank you to my son, Henry, who, despite being so young, provided the most important insight of all—perspective.

TABLE OF CONTENTS

LIST OF TABLES	vii
LIST OF FIGURES.....	ix
CHAPTER 1	
INTRODUCTION.....	1
Statement of Problem	1
Theoretical Framework	3
Purpose of the Study and Research Question.....	4
Significance.....	5
Organization of the Study.....	6
CHAPTER 2	
REVIEW OF THE LITERATURE	8
Young Children and Audience Awareness	11
Audience Specification, Purpose Specification, and Writing Quality	13
Students' Use of Strategies to Address Audience in Writing	18
Poorer Writers and Audience Specification	20
Informative/Explanatory Text Writing Among Young Children.....	20
Situational Motivation	22
Children's Consideration of Audience and Attention to Strategies and Features.....	24
CHAPTER 3	
RESEARCH METHODOLOGY	27
Design of the Study.....	27
Participants	31
Data Collection	33
Initial Drafting Session.....	33
Revision Sessions	36
Motivation Measure	37
Data Analysis	38
Rubric Scoring	39
Inter-rater Reliability	41
Revision Counts	41
Linguistic Feature Counts.....	42
Statistical Analysis.....	43
CHAPTER 4	
RESULTS	47
Friedman Test	47
Holistic Scores	47
Primary Trait Scores	49
Multilevel Statistical Model	60

Holistic Scores	62
Primary Trait Scores	63
Linguistic Feature Counts	71
Generic Noun Constructions	72
Timeless Verb Constructions.....	73
Word Count	74
Revision Counts	75
Mechanically oriented and Content-oriented Revisions.....	77
Audience-oriented Revisions.....	79
Motivation Measure	79
CHAPTER 5	
DISCUSSION.....	82
Key Findings.....	82
Audience.....	82
Revision	83
Purpose.....	84
Revision	85
Situational Motivation.....	86
Instructional Implications.....	86
Implications for Further Research	88
Limitations.....	90
Conclusion.....	91
APPENDICES	
Appendix A: Consent and Permission Letters	94
Appendix B: Protocol for Writing Fluency Assessment	101
Appendix C: Child Assent.....	102
Appendix D: Writing Paper.....	103
Appendix E: Protocols for Administering Writing Assessments.....	104
Appendix F: Video Scripts	113
Appendix G: Situational Motivation/Engagement Measure.....	114
Appendix H: Holistic Rubric	115
Appendix I: Primary Trait Rubric	116
REFERENCES	124

LIST OF TABLES

Table1: Session Activities by Group	29
Table 2: Descriptive Statistics for Holistic Scores	48
Table 3: Post hoc Pairwise Comparisons of Holistic Scores	48
Table 4: Descriptive Statistics for Focus Scores	50
Table 5: Post hoc Pairwise Comparisons of Focus Scores.....	50
Table 6: Descriptive Statistics for Accuracy Scores	51
Table 7: Post hoc Pairwise Comparisons of Accuracy Scores.....	52
Table 8: Descriptive Statistics for Detail Scores	53
Table 9: Post hoc Pairwise Comparisons of Detail Scores	53
Table 10: Descriptive Statistics for Illustration Scores	55
Table 11: Post hoc Pairwise Comparisons of Illustration Scores.....	55
Table 12: Descriptive Statistics for Language of Informational Text Scores	56
Table 13: Post hoc Pairwise Comparisons of Language of Informational Text Scores	57
Table 14: Descriptive Statistics for Scores for Navigational Features.....	58
Table 15: Post hoc Pairwise Comparisons of Scores for Navigational Features	58
Table 16: Descriptive Statistics for Addressing Audience Scores.....	59
Table 17: Post hoc Pairwise Comparisons of Addressing Audience Scores	60
Table 18: Multilevel Ordinal Logistic Regression for Holistic Scores	62
Table 19: Multilevel Binomial Logistic Regression for Focus Scores	63
Table 20: Multilevel Binomial Logistic Regression for Accuracy Scores	65
Table 21: Ordinal Logistic Regression for Details Scores.....	66

Table 22: Ordinal Logistic Regression for Illustrations Scores.....	67
Table 23: Ordinal Logistic Regression for Scores Pertaining to Language of Informational Text.....	68
Table 24: Ordinal Logistic Regression for Addressing Audience Scores	68
Table 25: Ordinal Logistic Regression for Navigation Scores	70
Table 26: Descriptive Statistics for Linguistic Counts	71
Table 27: Poisson Regression for Generic Nouns	72
Table 28: Poisson Regression for Timeless Verbs.....	73
Table 29: Poisson Regression for Word Count	74
Table 30: Descriptive Statistics for Revision Counts.....	76
Table 31: Poisson Regression for Total Number of Revisions	76
Table 32: Poisson Regression for Number of Mechanically Oriented Revisions	77
Table 33: Poisson Regression for Number of Content-Oriented Revisions.....	78
Table 34: Binary Logistic Regression for Motivation Measure.....	79
Table 35: Primary Trait Rubric for Writing Quality	116

LIST OF FIGURES

Figure 1: A hypothesis regarding the relationship between writing quality and providing students with an external audience and a specific purpose for writing	26
Figure 2: Situational Motivation Measure	114

CHAPTER 1

INTRODUCTION

Recently, there is a renewed emphasis on writing in the elementary grades due in part to the adoption of the Common Core State Standards for English Language Arts and Literacy in History/Social Studies, Science and Technical Subjects (CCSS) by 46 of the 50 states. One element of writing given emphasis in the CCSS is attention to audience. According to the CCSS initiative (2010), elementary students in grades kindergarten through five should “write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences” (Common Core Initiative, 2010, p. 18). The Common Core State Standards (2010) further explain that these students must understand that “a key purpose of writing is to communicate clearly to an external, sometimes unfamiliar audience” (p. 10).

Statement of Problem

Although essential to life outside of school, writing is often given short shrift in the elementary literacy curriculum (Cutler & Graham, 2008). It seems that writing instruction includes a limited number of genres, and often, personal narratives are the dominating genre in children’s writing instruction (Duke, 2000b). Typically, in the school setting, young children are asked to write personal narratives for an unspecified audience and for an unspecified purpose (Duke, 2000a). For example, in school, children will commonly be asked to write about their weekend or to tell a story about something that happened during the weekend. The instructions do not tell the child for whom to write the piece of text or for what purpose. However, in

the world outside of school, writers are writing a variety of genres, usually for a target audience and for a specific purpose.

Additionally, in the body of research, there is a dearth of writing studies looking at young children's writing in terms of audience specification. Most of the research involving audience has been done with older students (many at the college-level) (e.g., Cohen & Riel, 1989; Crowhurst & Piche, 1979). Within the literature on audience specification, not only is there a lack of studies of young children, there is also a lack of genres addressed in the studies. Most studies addressing audience specification and subsequent writing quality ask older students to write persuasive texts. Researchers then judge the writing quality of those texts based on argument and the degree to which the argument appealed to the specified audience.

During writing instruction in the elementary school, I believe that young children typically spend their time writing for an internal audience, most often their classroom teacher, sometimes their classmates. It is also my experience that children are not given a specific purpose for their writing. In general, school writing for young children seems to involve writing personal narratives for the classroom teacher to read and evaluate.

With a few exceptions, research has shown that giving older students an external audience is related to higher quality writing (e.g., Cohen & Riel, 1989; Crowhurst & Piche, 1979). It might be that a novel audience is more engaging for students to write to than the common audience, their classroom teacher. Higher quality writing might also be attributed to socio-cognitive factors. When a student is

given a specific external audience, he or she focuses on the goal of the writing and attends to the important features that will achieve the goal and meet the needs of the external audience. My hypothesis is that giving young writers an external audience and a specific purpose will also yield higher quality writing.

Theoretical Framework

This study is framed in the theory of situated learning and the theory of dialogism. According to the situated learning perspective, individuals engage in learning through participation in communities that value learning (Greeno, Collins, & Resnick, 1996). In other words, students participate in learning that fosters participation in desired communities.

Lave and Wenger (1991) uphold this view of learning as a situated activity. According to Lave and Wenger, learning takes place through “legitimate peripheral participation.” Legitimate peripheral participation refers to novices’ learning skills of experienced members of a particular community (Lave & Wenger, 1991); it involves authentic engagement in activities of the community (Greeno et al., 1996). The theory suggests that literacy learning involves participation in the practices and activities of those who are part of the literate community. According to a situative perspective, learners value the community and desire to become part of the community (Lave & Wenger, 1991).

This study is also framed by a theory of dialogism. The theory of dialogism purports that people use language at a particular time in response to how others have reacted to the language in the past and in anticipation of how others might react to the language in the future (Bakhtin & Holquist, 1981). Writing is a social

experience occurring between the writer and the audience (McCutchen, 2006); therefore, it is inherently dialogic and communicative in nature. It involves problem-solving and negotiation. Writers must choose a genre based on both the information they want to communicate and the needs of the particular audience and then compose a piece that will appeal to their intended audiences. As they work to compose, writers draw on their knowledge of and their interactions with the intended audience (Freedman & Medway, 1994) in order to communicate their message. Through writing, writers respond to what others have said while anticipating how readers might respond (Brandt, 1990).

These two theories inform the design of this study. According to situated learning theory, people generally learn a skill or task better if they learn and practice a task in a manner similar to those who perform the task (Lave & Wenger, 1991). This study looks at young children's performance in writing given varied contextual information. One of the contexts provided was more like the context for which writers write outside of schooling. This study examined whether that context elicited higher writing. Additionally, writing for an audience involves attention to social aspects and an understanding of the dialogic nature of writing. In the study, in one condition, young children were given a specific external audience and a specific purpose to which to compose their writing and the effect of so doing was examined. In another condition, children will be given a specified external audience with an unspecified purpose for writing.

Purpose of the Study and Research Question

The purpose of this study is to examine whether or not children's writing of informative/explanatory text is of higher quality when writing to an external audience rather than an internal audience and for a specified purpose or an unspecified purpose. Thus the research question for the study is: How does the quality of young children's writing for both specified and unspecified purposes compare when writing for an internal audience versus writing for an external audience?

Significance

The impact of audience on writing quality and revision among early elementary students has not received much attention in the research. With the advent of the CCSS and their inclusion of the emphasis of writing for an external audience, it is of value to know more about audience specification and specified purposes and their relationships to the quality of elementary students' writing. The research suggests that writing for an external audience is associated with higher writing quality and writing for a specified writing purpose is associated with higher quality writing among older students. This study will help provide insight into whether the CCSS emphasis on writing for external audiences is likely to produce higher quality writing among young children or whether the emphasis on an external audience is likely to yield similar or even lower quality writing from young children. The results suggest the need for further studies to identify effective instructional strategies such as effective ways to draw young children's attention to audience. Additionally, the results of this study might inspire future studies that

address the long-term effects of regularly providing children with an external audience and a specified purpose in their writing.

Furthermore, the results of this study provide insights to inform classroom writing instruction in the early elementary grades. Results suggest that instruction may need to shift from expecting children to write for a specified or unspecified internal audience to providing more opportunities for children to write for a specified external audience as well as providing children with a specific purpose for their writing.

Organization of the Study

This dissertation is organized into five chapters. As you have read, Chapter 1 is an introduction to the study and states both the purpose for and significance of the present study. In addition, chapter 1 contains the research question and the theoretical framework supporting the study. Chapter 2 is a review of the literature on the role of audience specification and purpose in writing. In this chapter, I present a hypothesized model of the relationship between providing children with an external audience and a specified purpose and the subsequent writing quality; in the chapter, I review the literature relevant to the proposed model. Chapter 3 describes the design of the study and the methodologies used. It provides information on the participants, measures, and data collection and details the approach to data analysis. Chapter 4 reports the findings of the study and addresses the research question. Chapter 5 is a discussion of the results in relation to the research question. It also suggests implications for practice and suggestions for

future research. Chapter 5 includes limitations of the study and an overall conclusion to the dissertation.

CHAPTER 2

REVIEW OF THE LITERATURE

One aspect of their writing that skilled writers devote much attention to is their audience (Alamargot, Caprossi, Chesnut, & Ros, 2011; Weiser, Fehler, & Gonzalez, 2009). Audience awareness, or a writer's understanding of the expectations of the reader (Wollman-Bonilla, 2001), is an important consideration of experienced writers; however, it is often overlooked in typical school writing (Cohen & Riel, 1989). Typically, students spend their time writing to an internal audience such as their teacher (Duke, 2000a). Another common practice is having students write for hypothetical audiences. Redd-Boyd and Slater (1989) refer to this situation as writing to "overhearers." The authors define overhearers as an audience who often has little vested interest and gives little response or feedback to the piece of writing. Redd-Boyd and Slater purport that despite the fact that expert writers write for audiences who have deep interest in or knowledge of their topic, much of school writing is done for audiences who have little personal interest or involvement with the topic.

Research suggests that understanding the needs of the reader contributes to both the social context as well as the cognitive processes of writers (Hayes, 2000; Wollman-Bonilla, 2001). Writing is a social process with a communicative purpose; therefore, audience awareness may be an important consideration in supporting young children's writing development. Because audience influences the form, content, and language of effective writing (Alamargot et al., 2011), it may be important for children to have experience writing for a range of audiences, including

external audiences. For the purposes of this paper, *external audience* refers to audiences other than the classroom teacher or classroom peers. These external audiences may have a vested interest in the given topic. On the other hand, *internal audience* refers to writing done for the classroom teacher and/or classmates.

In addition to internal versus external, the research addressing the role of audience in writing looks at other distinctions among audiences, including familiar versus unfamiliar, specified versus unspecified, and real versus hypothetical (sometimes referred to as *imaginary*). Familiar audiences refer to audiences that the author knows or has met; an unfamiliar audience is one that the author does not know well or has not met. In studies that address familiar versus unfamiliar audiences, the authors typically indicate, or at least imply, whether or not the audience is familiar. A specified audience is one that is identified in the prompt; an unspecified audience is when the prompt asks students to compose a piece of writing on a topic but does not identify the intended audience. Finally, a real audience is one that is concrete and will actually read the writing; a hypothetical audience is an audience that the student has to imagine. In any given writing task, students may be asked to write to any combinations of these audiences. For example, a student may be asked to write to a specified familiar external audience, such as a grandparent, or the audience could be specified, imaginary, and external, such as a monster intending to destroy his or her house. In this study, I presented children with both a specified internal audience and a specified external audience in addition to specified purposes and unspecified purposes for writing in order to

compare differences in writing quality and degree of revision of informative/explanatory texts.

From the research, we know that providing students with a specified external audience for their writing is typically related to higher quality writing in older students (e.g., Cohen & Riel, 1989; Crowhurst & Piche, 1979). This is likely due in part to the communicative nature of writing that requires writers to choose their words, genre, and voice according to their audience and their purpose for composing the text. Although research has yet to demonstrate this same result with younger students, my hypothesis was that giving young writers an external audience and a specific purpose would yield higher quality writing among younger students (see Figure 1 at the end of this chapter). Improved writing in this model might be attributed to higher situational motivation; a novel audience may be more engaging to write to than an internal audience (in the case of the classroom, the teacher). It could also be explained socio-cognitively. When a person knows the audience, he or she may focus on the goal and think more about important features that will achieve the goal and meet the needs of the external audience. Whatever the reason, it seemed reasonable to hypothesize that giving young writers an external audience and a specified purpose would yield higher quality writing. This study sought to address whether or not this was the case.

However, the aforementioned hypothesis would not prove true if it were the case that young children were not capable of considering audience when writing or if they could not think about what an audience needs because then the presence or lack of presence of a specified external audience would not matter. The conjecture

would also be problematic if young children were not able to utilize strategies to address audience needs in action or if poorer writers found it cognitively taxing to consider audience. However, the literature suggests that young children are able to consider audience and to utilize strategies to address audience needs. The literature also suggests that older writers less advanced in their writing development do benefit from a specified audience, suggesting that young children might also benefit.

Young Children and Audience Awareness

Much research has been done on older students' understanding of audience, students' ability to attend to audience in their writing, and the influence of audience specification on the quality of students' writing. There has been little research addressing the relationship between young children's audience awareness and writing quality. In fact, most audience awareness research involving early elementary students seeks to address whether or not it is even possible for young children to attend to audience.

To address whether or not young children, in this case first graders, could attend to audience, Wollman-Bonilla (2001) designed a task in which students wrote to their families via Family Message Journals. In this study, the audience was a specified real audience that was familiar to students. The messages were persuasive texts. The only evaluation of their writing that students received was from their families; teachers did not evaluate the journals. After analyzing their writing for text features of persuasive writing and the extent to which students demonstrated audience awareness, Wollman-Bonilla (2001) determined that young children do have the "sociocognitive capacity to imagine or anticipate readers' beliefs and

expectations” (p. 199). Wollman-Bonilla concluded that first graders can attend to the needs of an audience in their writing if they are provided with a familiar audience who actually responds to students’ writing.

Similarly, although with somewhat older students, Frank (1992) examined 30 fifth-grade students’ ability to demonstrate audience awareness as determined by their peers. In the study, the fifth-grade students wrote and revised newspaper advertisements to appeal to specific, external audiences. In this study, it is not clear whether the audiences were familiar or not. Frank (1992) simply indicates that advertisements were revised for third graders and adults. Each student revised one advertisement two different times. Their first revision of the original advertisement was supposed to appeal to an adult. When they revised the original advertisement a second time, students were instructed to revise their advertisement in a way that would appeal to third-grade students. Third-graders and adult participants evaluated each advertisement to determine its success in demonstrating awareness of the intended audience. Frank concluded that the fifth-graders were able to attend to audience needs; furthermore, they were more effectively able to appeal to third-graders’ needs than to adults’ needs. The fifth-graders were able to imagine two different audiences and then adjust their writing to each audience.

In a similar study of nine-year-olds, Kroll (1984) asked children to write persuasive letters to two different people in order to determine whether or not students were able to adapt their writing to address the needs of the different audiences. The two specified unfamiliar audiences included Mr. Fisher, an imaginary adult, and David Moore, an imaginary nine-year-old boy. Through analyzing the

writings for “descriptive and appeal statements,” Kroll determined that the participants were able to differentiate their writing to address the two different audiences. In their letters, students were able to compose what Kroll labeled “audience-directed statements.” Through the use of these statements, students attempted to appeal to things such as the age and location of the audience to whom they were writing.

The above studies suggest that elementary-age children are able to consider audience when composing persuasive texts to both familiar and unfamiliar specified external audiences. Because they are able to attend to audience, it will be useful to know whether or not providing a specified audience in addition to a specified purpose will yield higher quality writing.

Audience Specification, Purpose Specification, and Writing Quality

There has been little research on the implications of providing students with a specific purpose and an external audience, especially with young children; however, there is evidence to suggest that specifying a purpose and providing an external audience is related to higher writing quality in older students. In a study of 44 seventh-grade students in Jerusalem, Cohen and Riel (1989) asked students to write two compositions. One was written for their teachers, a familiar internal audience, as their midterm examination, and the other to international peers, an unfamiliar external audience, after learning they would be participating in a cross-cultural learning network. Students wrote on the same topic for each essay and experiences were counterbalanced (Cohen & Riel, 1989). The compositions were scored for content, organization, vocabulary, language use, and mechanics and then

given an overall score equal to the sum of the five components. The results of this study showed that in each aspect assessed, compositions written for peers received higher scores than those written for teachers. This suggests that writing for external audiences yields higher quality writing among high school-aged students.

One study has looked at the impact of writing for specific purposes and external audiences, along with reading for specific purposes, over an extended period of time. Purcell-Gates, Duke, and Martineau (2007) designed measures to ascertain both children's comprehension of informational and procedural texts and their ability to compose informational and procedural texts. To assess writing, Purcell-Gates and colleagues chose "situation bound" writing prompts and identified a specific audience; they then provided children with booklets with lines on the right side for writing and blank spaces on the left side for illustrations when writing informational texts; for writing procedural texts, they provided sheets of paper with lines and blank space with a title at the top. In each case, students were asked to write texts on the topics for the audience. The writing was first scored holistically to determine how effective the text was with respect to its genre. After holistic scoring, the researchers conducted an analysis of specific text features. In addition, they coded classroom instruction for the extent to which it reflected writing for a specific purpose and reading for a specific purpose. After analyzing results, Purcell-Gates and colleagues concluded that 2nd and 3rd grade students who participated in classrooms in which students had more opportunities to read and write more beyond-school kinds of texts for specific, beyond-school purposes, including opportunities to write for an external audience, grew in their abilities to write both

informational and procedural texts at faster rates than those in classrooms with fewer such opportunities.

In another study of middle-school and high-school students, researchers addressed two specified audiences but one was an internal and the other was an external audience. In this study of sixth- and tenth-grade students' persuasive writing, Crowhurst and Piche (1979) asked students to compose persuasive essays—one for their teacher and one for their best friend. From this study, the researchers found that students altered their language between the two audiences and used more effective argumentative language when addressing their best friend, an external audience as defined earlier, than when addressing their teacher.

These three studies demonstrate a relationship between audiences other than the teacher and higher quality writing among students. In each case, students produced higher quality writing when provided with a specific audience and an audience other than the teacher. However, two of these studies looked at older students' writing of persuasive texts (Cohen & Riel, 1989; Crowhurst & Piche, 1979). Purcell-Gates and colleagues (2007) looked at younger writers but did not isolate the effects of or relationship between providing external audiences and subsequent writing growth.

It is important to note that not all studies suggest a relationship between a specified audience and the subsequent writing quality. Huot (1990) and Olinghouse, Zheng, and Morlock (2012) reviewed the studies on audience specification and identified two, non-peer-reviewed studies in which audience specification was not related to higher writing achievement. In one study, McAndrew (1982) sought to

address whether or not rhetorical context, including audience specification, made a difference in writing quality. McAndrew assigned 175 freshman college students to one of two conditions—rhetorical context or no rhetorical context; each participant composed two persuasive writings. Those who were in the rhetorical context condition were asked to write a persuasive text for the editor of the school newspaper, a specified unfamiliar external audience. In the control condition, the audience was unspecified. Although McAndrew included 175 participants, the analysis was done on the 15 highest achieving writers and the 15 lowest achieving writers. From the analysis of this subset of participants, McAndrew determined that holistic writing scores were not significantly different between the two contexts and therefore concluded that there was not a relationship between a specified audience and writing quality.

In another study, Leu, Keech, Murphy, and Kinzer (1982), asked 114 high school students to respond to one of two prompts during a timed-writing test. A complete report of this study was not found; rather, the only available documentation of the study is a summary. Therefore, many specifics of the study are not known, including the specific nature of the prompts. From the research question, it appears that one prompt included specific information about a particular audience and the other included an unspecified audience. The authors concluded that there was no difference in writing quality for the two prompts; however, they also qualified this finding by suggesting that the lack of significant findings between the two conditions could likely be due to the nature of the prompts and emphasized the need for more studies in which differences in audience

specification are more evident. The authors wrote, “Clearly what is needed is additional research on pairs of prompts in which the difference in audience specification is made more evident. The failure to find difference in the quality of writing between these two versions may have been due to the fact that they both represent middle-range examples on the continuum of audience specification” (Leu et al., 1982, p. 16).

Finally, one study included in the review by Huot and the review by Olinghouse and colleagues found mixed results pertaining to the relationship between audience specification and writing quality. In their study of 87 undergraduate students enrolled in an intermediate composition course, Redd-Boyd and Slater (1989) examined the relationship between writing achievement and the identification of a specific external audience. During the posttest, students were asked to write a persuasive text and were randomly assigned to one of three writing conditions—unspecified audience, imaginary audience (imagined reader), or a real audience (real assigned reader). Although this did not address their stated research question, upon analysis, Redd-Boyd and Slater determined that whether real or imagined, students produced higher quality writing when asked to write for a specified audience rather than an unspecified audience; however, there was no difference in writing quality between writing for an imaginary audience and writing for a real audience. Students who were assigned a specific audience reported higher motivation to write (a finding discussed later in this dissertation).

Evidence for the notion that a specified audience is related to higher writing quality seems somewhat stronger than evidence to the contrary; however, the

research clearly demonstrates a need for additional studies that are carefully designed to address the relationship of audience specification and writing quality. Additionally, the research has not considered audience specification and young children's writing quality and has rarely focused on informative/explanatory texts.

Students' Use of Strategies to Address Audience in Writing

Because of the social nature of writing, it seems reasonable that writers would use various strategies in their writing that address or meet the needs of the specified audience, and subsequently, those audience-based strategies would also yield higher quality writing. There is some evidence to suggest that being put in the role of an expert and communicating for a real, as opposed to hypothetical, and specific audience enables students to use strategies to organize their writing and subsequently demonstrate higher quality writing (Cohen & Riel, 1989).

In the aforementioned study, Redd-Boyd and Slater found that when college-aged students were assigned a specific audience, they typically used more "audience-based" strategies, and in many cases, produced essays deemed to be more persuasive by scorers. These "audience-based" strategies included elaborating arguments and explanations in ways that addressed needs or anticipated concerns of the audience as well as revising conclusions to match audience needs.

Studies have demonstrated that students do, in fact, use strategies to write differently for different audiences. Porter (1999) found that college-aged students who were asked to write letters for familiar audiences used different strategies for the various audiences. In this study, the three different audiences included people with whom the participant had interacted on a recent study abroad trip. Each

participant wrote three letters; one was written to a person older than the participant, another to someone younger than the participant, and one written to another person who was the same age as the participant. The authors noted that students varied their language for the different audiences. For example, writers typically used simpler language when addressing a younger audience and more formal language and sentence structure when addressing an older audience. Overall, participants successfully adjusted their writing by modifying language to attend to perceived audience needs.

Many studies indicate that students exhibit more attention to audience needs in their revision than in their initial drafts (e.g., Frank, 1992; Midgette, Haria, & MacArthur, 2008; Roen & Wiley, 1988). Some argue this is due to the fact that students devote most of their attention and cognition to the topic during their initial draft (Flowers & Hayes, 1980) and are therefore better able to attend to audience during revision. In Frank's (1992) aforementioned study, fifth-grade students demonstrated that they had strategies to address audience awareness and were more likely to use them as they revised their persuasive texts to appeal to different audiences' needs. Students were not instructed in how to appeal to the different audiences; yet, in the study, Frank noted that students used different voice, text length, adjectives, address, and selling tactics depending on the audience for whom they were writing.

These studies suggest that older students are able to use strategies for addressing audience and are able to use them in their writing; although, sometimes

those strategies are more pronounced when students revise rather than when they draft.

Poorer Writers and Audience Specification

Although limited, there is also some evidence to suggest that audience specification is beneficial for weaker writers. In a study of 100 essays produced by college freshmen, Rafoth (1985) explored the notion that non-proficient writers accommodate writing for audiences in similar ways to their more proficient peers. Students were asked to compose persuasive essays for hypothetical, unfamiliar external audiences about which they had a lot of information (low-inference) and those for which they had little information (high-inference). From the study, Rafoth concluded that although good writers showed more evidence of adapting writing for different audiences, both groups were more successful when they had to make fewer inferences about the audience and its needs. This suggests that providing specific information about the external audience is useful for stronger and weaker writers alike.

Informative/Explanatory Text Writing Among Young Children

Many of the aforementioned studies examined attention to audience in persuasive writing. The Common Core State Standards indicate that students should write persuasive, informative/explanatory, and narrative texts. At the fourth-grade level, which appears to be a proxy for all of the elementary grades, the Standards indicate the amount of writing devoted to each category should be divided so that 30% of writing should be to convey experience (typically done through narrative), 35% should be to persuade, and 35% should be to explain (Common Core Initiative,

2010, p. 5). Throughout this dissertation, I refer to the type of writing that is intended to inform and explain as *informative/explanatory*.

Research indicates that despite a lack of focus of informative/explanatory texts in most primary classrooms (Duke, 2000b; Jeong, Gaffney, Choi, 2010; Moss, 2008), primary-aged students are able to compose informative/explanatory texts (e.g., Donovan, 2001; Langer, 1985). In a study of 222 informative/explanatory texts collected from K-5 students, for example, Donovan (2001) examined elementary students' ability to produce an informational text when given a prompt. Donovan found that just over half of kindergartners and first graders were able to produce the genre given the prompt. By second grade, nearly all students (97.4%) were able to produce informative/explanatory texts in response to the given prompt. Clearly, young children can indeed compose informative/explanatory texts.

Few studies have looked at the relationship of different instructional or classroom practices and children's writing of other informational genres, specifically, informative/explanatory genres. In fact, all but one of the studies reviewed in this literature review looked at audience awareness and the impact of audience specification through students' persuasive writing. Only one study looked at young children's writing of informative/explanatory text. We know elementary students are able to produce informative/explanatory texts and are able to consider audience in their writing, yet we know little about the relationship between writing for an external audience and the quality of informative/explanatory text writing in young children. As a result, this study looked at the relationship between providing

students with a specific external audience with a specific purpose for writing and the quality of writing performance of informative/explanatory text.

Situational Motivation

One way in which specifying an external audience and providing a specific purpose might contribute to higher writing performance in young children is by fostering situational motivation. Situational motivation refers to motivation that is derived from aspects of the environment (Ainley, Hidi, & Berndorff, 2002). In one example, Guthrie and colleagues (2006) explain that students experience situational motivation when engaged in a particular text during a specific situation within a supportive environment. According to this view, motivation is largely a result of environmental influences.

It has been well documented that higher motivation to participate in a task is related to higher achievement (e.g., Gottfried, 1990; Schunk, 1991; Singh, Granville, & Dika, 2002). In a study of classroom contexts and literacy motivation, Turner (1995) found that motivation is not situated within the child or the curriculum; rather, it is situated in the reading and writing experiences that children encounter. Children develop literacy motivation when given opportunities to apply the acquired knowledge and skills to their daily lives (Turner, 1995). Furthermore, students display higher engagement when classroom tasks are cognitively demanding and include “communicative and pleasurable goals” (Turner, 1995). Although the term is not used specifically, Turner seems to allude to the importance of situational motivation.

In an ethnographic study of literacy instruction in four kindergarten classrooms, Nolen (2001) found that kindergarten students exhibited higher levels of reading and writing motivation “in classrooms where reading and writing was used for multiple purposes including communication, self expression, and pleasure, and where these activities were supported by teacher and student assistance and collaboration” (p. 31). However, when the purpose of reading and writing activities was primarily to satisfy teacher’s assignments and did not necessarily match non-school writing, Nolen reported that kindergartners viewed school literacy as distinctly different from outside-of-school, or real-life, literacy and were less motivated to engage.

Situational motivation has been shown to be related to higher writing performance (e.g., Benton, Cokill, Sharp, Downey, & Khramtsova, 1981; Hidi, Berndorff, & Ainley, 2002). For example, in their intervention study of 6th grade students’ interest under different writing conditions, Hidi, Berndorff, and Ainley (2002) identified some fundamental conditions under which students exhibit higher motivation for writing and subsequently higher writing performance. Among other conditions, Hidi and colleagues found that writing tasks similar to those students would encounter outside of school were important. Such writing tasks included writing for a real external audience and writing for a specific and realistic purpose. In the case of this study, students were writing persuasive texts for another group of peers. Similarly, Redd-Boyd and Slater (1989) found that undergraduate students reported being more motivated to write when given a specified audience than when given an unspecified audience.

Situational motivation likely leads to higher achievement because children may try harder when they have an external audience. It may be that case that students are more focused on their writing than they are during typical school writing and therefore persist in their writing for longer periods of time.

Children's Consideration of Audience and Attention to Strategies and Features

Writing is both a social event and a cognitive activity (McCutchen, 2006). In addition to situational motivation based on personal experience, there are likely reasons that are socio-cognitive in nature that might lead students to achieve higher writing performance when given an external audience. These socio-cognitive explanations likely pertain to the nature of inherent problem solving that is necessary during the writing process (Englert, 1992).

Skilled writers understand and internalize the needs of their reader; they then apply this knowledge to draft and revise their texts (Englert, 1992). Logically, it seems as though providing young children with an external audience and a specific purpose for writing may result in more attention to the features of the text, the communicative nature of the text, and the degree to which the writer is effectively communicating to the audience through his or her writing. As writers are working to compose their piece to a particular external audience, they have to attend to the ideas they wish to communicate and to whom they communicate. They must think about and anticipate the meaning that their words convey. They also must decide how they will convey the message, both in words and in illustrations. The writer recognizes that meaning in the particular context is co-constructed by the author

and audience (Kent, 1999). For the young writer, this process involves representing language and communicating meaning that will be permanent.

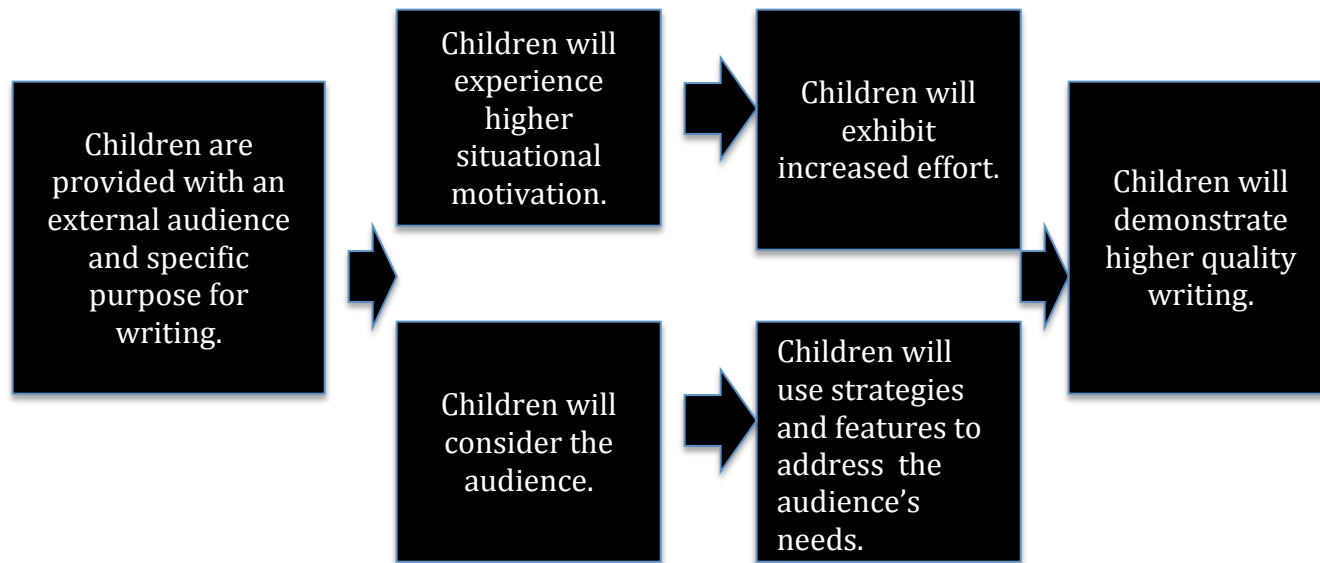
In sum, research suggests that providing older students with a specified, external audience and a specific purpose is related to higher quality writing, at least with persuasive genres (e.g., Cohen & Riel, 1989; Crowhurst & Piche, 1979).

Research also provides evidence that audience is important during revision for older students (e.g., Frank, 1992; Midgette, Haria, & MacArthur, 2008; Roen & Wiley, 1988). However, it is unclear whether the same is true for younger students.

Young children are able to consider audience (Frank, 1992; Wollman-Bonita, 2001); therefore, it is possible that providing children with an external audience for a specified purpose will lead to higher quality writing.

Figure 1

A hypothesis regarding the relationship between writing quality and providing students with an external audience and a specific purpose for writing



CHAPTER 3

RESEARCH METHODOLOGY

Design of the Study

This study employed a within-subjects design. I met with students in nine small groups of four to five students for a total of eight sessions per group. Over the course of these sessions, students produced four texts under four different conditions: (1) specified external audience with a specified writing purpose, (2) specified external audience with an unspecified writing purpose, (3) specified internal audience with a specified purpose, and (4) specified internal audience with an unspecified writing purpose. See Table 1 for a description of activities for each session.

All writing conditions (internal audience versus external audience and specified purpose versus unspecified purpose) were counter-balanced for order. Specifically, three groups of children were first asked to write about an external audience with a specified purpose; two groups were asked to write first to an internal audience with a specified purpose; another two groups were asked to write to an external audience with an unspecified purpose first; and the final two groups were asked to write to an internal audience with an unspecified purpose during their first meeting. Topics were randomized for each group of children meeting in a particular writing session. After counterbalancing conditions, I randomly assigned each condition a topic making sure that each group of students had an opportunity to write on each one of the topics. In this study, the external audience was a local

librarian, who to my knowledge, children did not already know and the internal audience was the classroom teacher.

Topic familiarity is important to children's successful writing achievement (e.g., Tedick, 1990). To determine the writing topics, I browsed several standardized tests for second-grade students to see topics covered in either the reading or writing portions of those tests. I chose topics that I believed to be familiar to children of this age based on several years of teaching experience in the primary grades and also based on a pilot of the topics. I used assessments that had been administered to children of this age in previous research to confirm the topics I had and to add additional topics. The topics included birds (Duke, 2008), fruits (Duke, Martineau, Frank, & Rowe, 2012), flowers, and insects (Duke, Martineau, Frank, & Rowe, 2012). All topics could be addressed with different kinds or topics of background knowledge. For example, for the bird topic, children who knew about penguins could write about those birds, while children who knew about robins could write about those birds. Children could also choose to write about birds in general. Similarly, for the topic of fruit, all children were likely to know about some fruits, though the fruits known might be different from child to child. There were also different angles children could take on the topic. For example, some children chose to write about one fruit and other students chose to write about how fruit in general are used. In any case, children seemed to possess sufficient knowledge to compose texts about these topics. Indeed, in their productions, all children demonstrated some knowledge of each topic.

Table 1

Session Activities by Group

Group	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Session 7	Session 8
1	Fruit External Specified Purpose	Revision	Bird External Unspecified Purpose	Revision	Flowers Internal Specified Purpose	Revision	Insects Internal Unspecified Purpose	Revision
2	Fruit External Unspecified Purpose	Revision	Bird External Specified Purpose	Revision	Flowers Internal Unspecified Purpose	Revision	Insects Internal Specified Purpose	Revision
3	Bird Internal Unspecified Purpose	Revision	Fruit Internal Specified Purpose	Revision	Insects External Specified Purpose	Revision	Flowers External Unspecified Purpose	Revision
4	Bird Internal Specified Purpose	Revision	Fruit Internal Specified Purpose	Revision	Insects External Unspecified Purpose	Revision	Flowers External Specified Purpose	Revision

Table 1 (cont'd)

5	Flowers External Specified Purpose	Revision	Insects Internal Unspecified Purpose	Revision	Fruit External Unspecified Purpose	Revision	Bird Internal Specified Purpose	Revision
6	Flowers External Unspecified Purpose	Revision	Insects Internal Specified Purpose	Revision	Fruit External Specified Purpose	Revision	Bird Internal Unspecified Purpose	Revision
7	Insects Internal Specified Purpose	Revision	Flowers External Unspecified Purpose	Revision	Birds Internal Unspecified Purpose	Revision	Fruit External Specified Purpose	Revision
8	Insects Internal Unspecified Purpose	Revision	Flowers External Specified Purpose	Revision	Birds Internal Specified Purpose	Revision	Fruit External Unspecified Purpose	Revision
9	Birds External Specified Purpose	Revision	Fruit External Unspecified Purpose	Revision	Insects Internal Specified Purpose	Revision	Flowers Internal Unspecified Purpose	Revision

Participants

Prior to beginning the study, I received approval from Michigan State University's Institutional Review Board (IRB); the study was approved and deemed exempt. After receiving approval, I selected a school in a Midwestern school district; the school was chosen due to proximity and interest in participating in the research project. The school is located in a village and draws students from the village and the surrounding rural township. According to the school statistics, just under 100% of the students in this district are White, less than 1% are Black, and less than 1% are Native American. Other races and ethnicities were listed as 0%. Sixty percent of the student population receives free or reduced-priced lunch. This profile is seen in many schools in this Midwestern state. I obtained consent to conduct the study from the school's principal and then from each of the three second-grade teachers in the school. At that point, letters of consent were distributed via the teachers to all 84 students in the classrooms. See Appendix A for the principal and teacher permission and parental consent letters.

Of the 84 students to whom consent letters were given, I received consent for the participation of 47 second-graders among the three classes. Teachers reported that the pool of consented children was representative of their classes; there were no obvious differences between children whose parents provided consent and those who did not. After consent forms were returned, I administered a writing fluency pretest. The writing fluency test was administered to all students; however, I only analyzed the results for children whose parents had given consent. For those children whose parents had not consented, the assessments were left with the

classroom teacher. During this assessment, children were given one minute to think about that they wanted to write and then given three minutes to write; the topic given was school (see Appendix B for the administration protocol). I analyzed the texts to see how many words children wrote in the three minutes. For the purpose of this assessment, words were considered to be groups of letters separated by a space; they did not have to be spelled correctly to count in the total word count.

After administering the writing fluency assessment but prior to selecting students to participate in the tasks in Table 1, I spoke to the teachers about the academic status of each student whose parent had given consent. I asked about writing disabilities and any other factors, such as language, that would interfere with the child's ability to understand the instructions of the tasks. In order to determine differences in children's writing under the varied conditions, participants needed to be able to compose a piece of text. Because a writing disability or a child's inability to understand the task would likely preclude the child from completing the tasks, those who had an identified writing disability would not be included in the pool of students from which random selection would occur. However, there were no children identified by their teacher as having a writing disability or any other factors that would preclude them from being able to fully participate in the study.

I conducted a word count for each of the fluency assessments written by consented students. The target number of words for a second-grader to write in the three minutes was 20 (CBM, 2010). After counting the number of words, I determined that all children were eligible to participate in this study, meaning all children successfully wrote 20 words in the 3-minute time limit. After counting the

number of words written during the three minutes and determining that there were no known disabilities or other factors preventing students from participation in the study, I randomly selected 40 children to participate. Thirteen (and in one case 14) children were randomly selected from each of three classrooms. The 40 participants included 17 boys and 23 girls.

Data Collection

Initial Drafting Session. I led all writing and revision sessions. Prior to each session, students gave verbal assent (see Appendix C). During a session, children were asked to produce a piece of text in response to a prompt or condition. Prompts were given from both an internal (in this case, the classroom teacher) and an external audience and for a specified and unspecified purpose. In all cases, children were read the prompt and given booklets with lines for writing and blank space for illustrations to complete the task. The blank space for illustrations was above the four lines for writing. In the writing space, there was about three fourths of an inch between the lines (see Appendix D for writing paper). Pages were folded in half to make a booklet. Each booklet had 12 pages on each of which children could write and draw an illustration.

Before writing, I introduced the audience for whom children would compose their texts and gave children some information. For example, prior to writing to the librarian for a specified purpose, I told children, “We are going to watch a short video of [insert name]. She wants to read examples of second-graders’ writing so she can get ideas for when she orders books for her library. She will look for books

similar to the ones you write.” See Appendix E for scripts and procedures for all conditions.

After hearing the prompt, children watched a video of the audience for whom they would be writing the text. For example, when children were asked to write a book about birds for a local public librarian, students viewed a video of the librarian requesting the book. As an example, in one of the external audience, unspecified purpose conditions, the librarian mentioned needing to read second-graders’ writing about birds. In this case, the librarian said, “My name is [Name]. I am a librarian at the public library. I want second graders to write books about birds” (see Appendix G for all audience scripts used during video recording). While children wrote, there was a photo of the librarian on their table. Similarly, when asked to write about birds for an internal audience with an unspecified purpose, children viewed a video of their teacher making a request for the piece of writing. As children wrote, they had a photo of their teacher on the table.

After watching the video, I showed children the booklets and explained that there was blank space to draw and lines for writing information about the topic. I then distributed pencils and paper and told children, “It’s ok to draw pictures, but make sure to write words, too. If you want to write a word that you don’t know how to spell, just do the best you can to write it.” When children asked how to spell a word, I told them to do the best they could. Children had 20 minutes to write their texts.

After each writing session, children were asked to read their work to me. Because students were using invented or estimated spelling in their work, I asked

them to read their written work so that I could be sure that I was scoring the text that children specifically wrote. I transcribed children's text onto another sheet of paper as they read me their texts. Sometimes, children explained an illustration as they read their text so I also noted those descriptions as well. For example, several times, children included an illustration of the librarian at the beginning of their text and identified the drawing as the librarian.

The writing sessions were video-recorded. The video allowed for later analysis such as coding for behaviors that might signal children's level of effort and engagement as students worked to complete the writing tasks and coding for children's reactions to the writing. In addition to the video recording, I took field notes on the children's actions and any conversation they had. For example, I took notes on children's reaction to the writing and comments they made that might suggest levels of engagement. As an example, when asked to write for his teacher, one child commented, "I want to write for another librarian. I like that better." I noted whether children began their writing by drawing illustrations or writing words. I also kept track of the length of time they spent on their writing both during the initial writing days and the revision days. These data were also collected for future analysis, likely to be used to examine level of effort and engagement during each task.

During each writing session, I met with children in the back room of their classrooms. We worked at a large table. To avoid having children look to others' papers, children were given folders to surround their writing space. As children

wrote, they frequently asked how to spell words. As previously indicated, when children asked for help to spell words, they were simply instructed to do their best.

Each child produced four texts for a total of 160 texts. All writings were collected after each writing session and remained with the researcher. There were five sessions in which a child was absent from the initial writing session. When that happened, I scheduled a make-up day for the child. When planning a make-up session, I made sure the child had the writing day and then was able to do the revisions two days later. When children participated in a make-up session, children still wrote at the same table in the back of the classroom and I followed the same protocol that was used with the child's group on the day he or she was absent.

Revision Sessions. Because, as reported in Chapter 2, the literature suggests that attention to audience comes through strongly during revision, children were given an opportunity on a second day to revise their first draft. Children were given the prompt on one day, and I returned two days later in the week to provide opportunities for students to revise their work (as shown in Table 1). Prior to the revision sessions, all initial drafts were copied in order to compare original writings and the revised pieces.

Children always began an informative/explanatory text on a Monday or Tuesday. Those who started on Monday, revised on Wednesday and those who did their initial draft on a Tuesday always revised on a Thursday. When I returned, I told the students, "I read through your books about [topic] for [Name]. They are almost ready to give to her. Today, I want you to read through your book and make sure it is just the way you want if for [audience] to read. We're going to watch the

video of her again and then we will write.” I then replayed the video of the respective audience and distributed booklets and pencils. Again, children were instructed to try their best when they asked how to spell words. Children were given 15 minutes to revise. Additionally, in order to gain further insight into the nature of students’ revisions and their thinking behind the revisions they included, I asked each child to talk about his revisions after he read his text and kept a record of his response. I would ask, “Can you tell me about the revisions you made?” I took notes on children’s reporting of the revisions that they made. The responses children gave will be analyzed and used for a future paper. There were seven incidents in which children were absent for a revision day. In those cases, children revised upon their return to school. The greatest number of days between an initial writing and a revision session was five days.

Motivation Measure

In addition to the writings, I also measured children’s level of engagement during the writing tasks. Based on a situational motivation measure for older students (Troia, personal communication, November 2, 2012), I developed three statements for children to reply to after completing each writing task (see Appendix G). The statements addressed children’s interest and effort in completing the tasks. Children responded using a Likert scale. Children were given a series of statements and asked to circle their response to the questions. For example, the first statement said, “I thought doing this writing was interesting.” Children were then asked to circle their response indicating the degree to which they agreed with the statement.

Response choices were “yes,” “sometimes,” “no,” or “ I don’t know.” Children completed this measure at the end of each revision session.

In order to determine language that second-grade children would understand for this measure of motivation, I piloted questions and language with second-grade students. From this pilot, I also learned that most children should be able to read the questions independently. However, when children struggled with a word, I orally read each question to children and allowed them to select their answer.

Data Analysis

To analyze children’s writing, I used researcher-created rubrics and counting of revisions and linguistic features. The rubrics were used to assign a holistic score and a score for seven primary traits related to quality informative/explanatory texts. I counted the total number of children’s revisions, and the number of mechanically oriented and content-oriented revisions. Finally, I counted the number of particular linguistic features within each text. Each of these portions of the analyses will be described separately following a paragraph on data preparation.

Prior to scoring and counting, all identifying information pertaining to the condition and location were removed from the writings. Using a random number generator, I randomly assigned each participant an ID number. I kept a key linking the ID numbers to the children, conditions, and location in a locked filing cabinet. I then coded each writing piece with the child’s ID number and a second number that represented the condition under which the writing was composed, but the meaning of which was unknown to those who scored the writing. This enabled researchers to

score the written texts blind to participant and blind to condition. Additionally, all transcriptions of the writings were typed; the typed versions were scored except for instances in which the original text (such as viewing the illustration) was important to scoring. To assist with scoring, I trained a colleague to code all texts using the rubrics. The colleague is a former elementary language arts teacher and is seeking a doctoral degree with a focus on literacy. The colleague (referred to as the assistant researcher in the remainder of this paper) did not know the specific research question and subsequently did not know the hypothesis of the study. This was done intentionally to prevent any potential scoring bias. The assistant researcher coded all the samples according to the rubrics described below. Additionally, I scored a randomly selected subset for the purposes of estimating inter-rater reliability. Blind to condition, I did the counting for the revisions and the linguistic features. This seemed appropriate because the counts were straightforward and objective. For the total word count, I used an external program, Coh-Metrix (which will be described later in this chapter).

Rubric Scoring. Because I wanted to examine writing quality, scoring was carried out using children's final drafts (after revisions). To score each piece, first, the scorer analyzed the piece of writing and assigned it a holistic score based on the rubric (see Appendix H). The holistic rubric is based on the rubric used by Purcell-Gates, Duke, and Martineau (2007). It is a 3-point rubric and assesses the overall effectiveness of the writing as an informative/explanatory text. In addition to the rubric, I included anchor papers to use in the scoring. Blind to condition, I identified the anchor papers after children participated in the study; this way, I used papers

that were written specifically for these tasks (rather than for another, unrelated study) to use in the holistic scoring. Anchor papers were selected prior to establishing inter-rater reliability and were excluded from the pool of papers used to estimate inter-rater reliability.

In addition to the holistic score, writing quality was also evaluated with a primary trait analysis (see Appendix I). This rubric was used to evaluate features of quality in informative/explanatory texts. In order to determine the areas of analysis, I used the CCSS for informative/explanatory writing for second-grade and gleaned indicators of quality from the description. Additionally, I obtained several informational text writing samples of children written in the fall of second grade. From these texts, I gleaned traits of quality informative/explanatory text writing that might be expected from second-grade children at the beginning of the academic year. These markers of quality informative/explanatory text and the CCSS used in this rubric are as follows: text remains focused on topic, text includes accurate information, text includes details about the topic, text includes explanations or examples to support the reader's understanding, illustrations complement the picture on the page, text includes language used in informative/explanatory texts and texts include navigational features such as labels, headings, and table of contents.

It was important to score children's attention to audience in their writing. However, in order to do this the scorer/assistant researcher needed to know to which audience the child was writing. To prevent this from potentially biasing other scoring, the assistant researcher consulted information regarding for whom the

child was writing a particular text only after all primary trait and revisions analysis had been conducted. At that time, the assistant researcher had knowledge of the audience but was still blind to participant and purpose. The assistant researcher then determined for which audience the piece was written under and then scored the piece for the degree to which the child appeared to attend to the specific audience specified for that condition. In this study, attention to audience was typically demonstrated through dedications to the particular audience (e.g., "To [Librarian's Name]"), illustrations that included a portrait of the audience (often labeled as such or indicated as the child read their text for transcription), questions to the audience member (e.g., "Do you know that spiders are not actually insects?"), and providing biographical information about the author at the beginning or end of their texts addressed to the particular audience.

Inter-rater Reliability. I used 25% of the collected data to identify anchor papers as well as to train the assistant researcher to use the rubrics in order to score the texts and revisions. Throughout the training, the assistant researcher also scored the samples; we compared our scores and resolved any differences. After the training, we scored another 25% of writings to examine inter-rater reliability (IRR) and computing a Cohen's Kappa, established an IRR of .92. Once IRR was established, the assistant researcher scored the remaining samples.

Revision Counts. After assigning a holistic score and seven primary trait scores to determine writing quality, I examined the nature of the revisions. I used the copies of students' original writing and compared those to the revised pieces. Again, the analyses were conducted blind to condition. To assess revision, I counted

the number of revisions made between the initial draft and the final draft. Then, in order to determine the different types of revisions that children made, I counted the number of mechanical revisions and the number of content-oriented revisions. Mechanical revisions included revisions pertaining to spelling, punctuation, insertion of omitted words, and sentence structure. As students revised, they often erased words to write using improved handwriting; these revisions were also scored as mechanical revisions. Content-oriented revisions included revisions that primarily addressed the actual content or the meaning of the text. Typically, these revisions included adding more details in words or pictures and revising statements to reflect more accurate information. Although there was potential that a punctuation revision was made that could arguably be considered a content-based revision, in this study no such situation occurred. Children typically added ending punctuation where it was needed during their revisions and this was counted as mechanical revision.

Linguistic Feature Counts. In addition to the researcher-created rubrics, all texts were also scored using an external, count-based measure. All transcribed texts were entered into Coh-Metrix (McNamara, Louwerse, Cai, & Graesser, A., 2005) for analysis. Coh-Metrix is an automated text analyzer that produces counts or scores for a number of different measures such as word count and incidence scores of first person pronoun, single form. For this study, I used Coh-Metrix to obtain a word count for each text.

Duke and Kays (1998) identify important linguistic features of informative/explanatory texts. Two language patterns common to these types of

texts are timeless verb constructions and generic noun constructions. An example of a timeless verb construction from a child in this study was, “Flowers *grow* in soil.” In the previous example, the child also used generic noun constructions in the words *flowers* and *soil*. Because counts of these two features were not available on Coh-Metrix or any other external measures, but are features of informative/explanatory texts, I conducted a count of generic nouns and timeless verbs for each piece of writing and then computed a ratio of each to the total number of nouns or verbs that the child used in his or her writing.

Statistical Analysis

Once the data were scored, I used the statistical software SPSS (2012) to analyze and to test for differences in holistic and primary trait scores between the four different conditions. I first used repeated-measures ANOVA to analyze the results and determine if there were differences in writing quality among the four conditions. There are three underlying assumptions of ANOVA that must be satisfied: homogeneity of variance, normality, and independence of observations. However, because this study used repeated measures ANOVA, the assumption of independence of observation is automatically violated; therefore, this study also checked the assumption of sphericity using Mauchly’s test. Upon checking that the assumptions of repeated measures ANOVA were upheld in the data, I determined that, in fact, the data violated the assumption of normality. Therefore, I used Friedman’s test, which is a non-parametric test for repeated measures ANOVA. Rather than comparing means, the Friedman’s test assumes a null hypothesis that

all medians are equal across conditions. In addition to this test, I analyzed the data using *post hoc* tests and Bonferroni's correction for multiple comparisons.

However, after conducting the analyses and in analyzing the output, I determined that I was not able to fully address the research question. The Friedman's test revealed differences in distribution of scores; however, I was not able to include predictors such as classroom or gender in the model, nor could I determine interaction effects. Upon advice from a statistical consultant, I re-analyzed the data using multilevel logistic regression using the child, gender, and classroom as the level 2 variables and a random intercept for all models. The Friedman test was simply addressing the distributions and looking to see whether the different conditions had similar distributions. Multilevel logistic regression (both binary logistic regression and ordinal logistic regression) allowed me to better understand the reasons behind the results I obtained from the Friedman test. I used the logistic regression for the holistic scores and primary traits because those included ordinal variables. Multilevel logistic regression does not assume independence so it was appropriate to use in this case because the same children participated in each of the four conditions. For the variables that were counts, such as the number of total revisions, mechanical revisions, and the number of content-oriented revisions, I used a Poisson regression. I used Poisson regression because my data was not normally distributed. The assumptions of these Poisson regressions were that the data was dichotomous, nominal, ordered, and with a Poisson distribution (determined by examination of histograms).

The following list includes the analyses that I conducted from the data; the output enabled me to identify which a variable or variables (purpose, audience, the interaction of purpose and audience, gender, or classroom) were related to the change. For the analysis, I conducted the following tests:

- Holistic scores
 - internal audience vs. external audience
 - specified purpose vs. unspecified purpose
 - internal audience, specified purpose vs. internal audience, unspecified purpose
 - external audience, specified purpose vs. external audience, unspecified purpose
 - external audience, specified purpose vs. internal audience, unspecified purpose
- Number of revisions
 - internal audience vs. external audience
 - specified purpose vs. unspecified purpose
 - internal audience, specified purpose vs. internal audience, unspecified purpose
 - external audience, specified purpose vs. external audience, unspecified purpose
- Content-oriented revisions
 - internal audience vs. external audience
 - specified purpose vs. unspecified purpose

- internal audience, specified purpose vs. internal audience, unspecified purpose
- external audience, specified purpose vs. external audience, unspecified purpose
- Mechanically oriented revisions
 - internal audience vs. external audience
 - specified purpose vs. unspecified purpose
 - internal audience, specified purpose vs. internal audience, unspecified purpose
 - external audience, specified purpose vs. external audience, unspecified purpose
- All primary traits (individually)
 - internal audience vs. external audience
 - specified purpose vs. unspecified purpose
 - internal audience, specified purpose vs. internal audience, unspecified purpose
 - external audience, specified purpose vs. external audience, unspecified purpose

Chapter 4 will provide the results of the statistical tests. The chapter will begin with the results from the Friedman's test followed by the results of the multilevel logistic regression tests, both binary and ordinal. The chapter will conclude with results from the Poisson regressions for revision counts and for counts of linguistic features.

CHAPTER 4

RESULTS

The previous chapter described the participants and the methodology used in this study. This chapter will present the findings from the data analyses. Recall that the research question guiding the study was: How does the quality of young children's writing for both specified and unspecified purposes compare when writing for an internal audience versus writing for an external audience? All data was analyzed using SPSS 21 (2012).

Friedman Test

Due to the fact that this study used a within-subjects design and because the resulting data violated assumptions of repeated measures ANOVA, a Friedman test was run on the holistic scores and the primary trait scores to determine whether there were statistical differences between median scores among the four conditions. Pairwise comparisons were performed with a Bonferroni Correction for multiple comparisons.

Holistic scores. The calculated medians, means and standard deviations for holistic scores are reported in Table 2 and the comparison results are reported in Table 3. Holistic scores were statistically significantly different under the four conditions, $\chi^2(3) = 59.157, p < .005$. *Post hoc* analysis revealed statistically significant differences in holistic scores between external audience, specified purpose (Mdn = 2) and internal audience, specified purpose (Mdn = 1), ($p < .001$); external audience, specified purpose (Mdn = 2.00) and internal audience, unspecified purpose (Mdn = 1) ($p < .001$); external audience, unspecified purpose

(Mdn = 2) and internal audience, specified purpose, (Mdn = 1), ($p < .001$); external audience, unspecified purpose (Mdn = 2) and internal audience, unspecified purpose, (Mdn = 1), ($p < .001$). However, there was not a statistically significant difference between external audience, specified purpose and external audience, unspecified purpose; nor was there a statistically significant difference between internal audience, specified purpose and internal audience, unspecified purpose.

Table 2

Descriptive Statistics for Holistic Scores

Condition	Median	Mean	Std. Deviation
External Specified	2	2.03	.577
Internal Specified	1	1.28	.506
Internal Unspecified	1	1.35	.533
External Unspecified	2	2.13	.563

Table 3

Post hoc Pairwise Comparisons for Holistic Score

Conditions (Sample-Sample2)	Test Statistic	Std. Error	Std. Test Statistic	Significance	Adjusted Significance ($p < .05$)
H2 – H3	-.162	.289	-.563	.573	1.000
H2 – H1	1.275	.289	4.417	< .001	< .001
H2 – H4	-1.462	.289	4.417	< .001	< .001
H3 – H1	1.112	.289	-4.503	< .001	< .001
H3 – H4	-1.300	.289	-4.503	< .001	< .001

Table 3 (cont'd)

H1 – H4	-.188	.289	-.650	.516	1.000
---------	-------	------	-------	------	-------

Note. H1 = holistic score for external audience, specified purpose, H2 = holistic score for internal audience, specified purpose; H3 = holistic score for internal audience, unspecified purpose, H4 = holistic score for external audience, unspecified purpose

Primary trait scores. A Friedman Test was also run on each of the primary traits scores from the researcher-created rubric to determine whether there were differences between condition distributions for each of the seven primary traits. The traits included focus, accuracy, details, illustrations complementing text, language of informational texts, navigational features, and evidence of addressing the specified audience. Again, pairwise comparisons were performed with a Bonferroni Correction for multiple comparisons. All primary traits were statistically significant for audience except for the trait of navigational features. Purpose was not statistically significant for any of seven primary traits.

Table 4 shows the medians, means, and standard deviations for focus scores for each of the conditions. Table 5 shows the results of the *post hoc* analysis of the Pairwise comparisons. Focus scores were statistically significantly different under the four conditions, $\chi^2 (3) = 44.107, p < .005$.

Using a significance level of .05, *post hoc* analysis (see table 4) revealed statistically significant differences in focus scores between external audience, specified purpose (Mdn = 2) and internal audience, specified purpose (Mdn = 1), ($p < .001$); external audience, specified purpose (Mdn = 2) and internal audience, unspecified purpose (Mdn = 1) ($p = .019$); external audience, unspecified purpose (M = 1.88) and internal audience, specified purpose, (Mdn = 1), ($p < .001$); external

audience, unspecified purpose (Mdn = 2) and internal audience, unspecified purpose, (Mdn = 1), ($p = .019$). However, there was not a statistically significant difference between external audience, specified purpose and external audience, unspecified purpose. There was not a statistically significant difference between internal audience, specified purpose and internal audience, unspecified purpose.

Table 4

Descriptive Statistics for Focus Scores

Condition	Median	Mean	Std. Deviation
External Specified	2	1.88	.335
Internal Specified	1	1.28	.452
Internal Unspecified	1	1.45	.504
External Unspecified	2	1.88	.335

Table 5

Post hoc Pairwise Comparisons of Focus Scores

Conditions (Sample-Sample2)	Test Statistic	Std. Error	Std. Test Statistic	Significance	Adjusted Significance ($p < .05$)
F2 – F3	-.350	.289	-1.212	.225	1.000
F2 – F1	1.200	.289	4.157	< .001	< .001
F2 – F4	-1.2000	.289	-4.157	< .001	< .001
F3 – F1	.850	.289	2.944	.003	.019
F3 – F4	-.850	.289	-2.944	.003	.019
F1 – F4	.000	.289	.000	1.000	1.000

Note. F1 = focus score for external audience, specified purpose, F2 = focus score for internal audience, specified purpose; F3 = focus score for internal audience, unspecified purpose, H4 = focus score for external audience, unspecified purpose

Akin to focus scores medians, accuracy scores were also statistically significantly different under the four conditions, $\chi^2(3) = 62.473, p < .005$. *Post hoc* analyses also determined statistically significant differences between internal audience, specified purpose (Mdn = 1) and external audience, specified purpose (Mdn = 2) ($p < .001$), internal audience, specified purpose (Mdn = 1) and external audience, unspecified purpose (Mdn = 2) ($p < .001$), internal audience, unspecified purpose and external audience, specified purpose ($p < .001$), and internal audience, unspecified purpose (Mdn = 1) and external audience, unspecified purpose (Mdn = 2) ($p < .001$). However there were no statistically significant differences between internal audience, specified purpose and internal audience, unspecified purpose ($p = 1.000$); nor were there significant differences between external audience, specified purpose and external audience, unspecified purpose ($p = 1.000$). Table 6 shows medians, means, and standard deviations for accuracy scores under the four conditions; Table 7 reports pairwise comparisons for median accuracy scores.

Table 6

Descriptive Statistics for Accuracy Scores

Condition	Median	Mean	Std. Deviation
External Specified	2	1.78	.480
Internal Specified	1	1.15	.427
Internal Unspecified	1	1.10	.545
External Unspecified	2	1.85	.362

Table 7

Post hoc Pairwise Comparisons of Accuracy Scores

Conditions (Sample- Sample2)	Test Statistic	Std. Error	Std. Test Statistic	Significance	Adjusted Significance (p < .05)
A2 – A3	.062	.289	.217	.829	1.000
A2 – A1	1.262	.289	4.373	.000	< .001
A2 – A4	-1.375	.289	-4.763	.000	< .001
A3 – A1	1.200	.289	4.157	.003	< .001
A3 – A4	-1.312	.289	-4.547	.003	< .001
A1 – A4	-.112	.289	-.390	1.000	1.000

Note. A1 = accuracy score for external audience, specified purpose, A2 = accuracy score for internal audience, specified purpose; A3 = accuracy score for internal audience, unspecified purpose, A4 = accuracy score for external audience, unspecified purpose

Table 8 shows the medians, means, and standard deviations for students' scores pertaining to the degree to which they included details in their texts for each of the conditions. Table 9 shows the results of the *post hoc* analysis of the pairwise comparisons. Details scores were statistically significantly different under the four conditions, $\chi^2(3) = 33.013, p < .005$.

Similar to the previously discussed traits, using a significance level of .05, *post hoc* analysis (see Table 8) revealed statistically significant differences in detail scores between external audience, specified purpose (Mdn = 2) and internal audience, specified purpose (Mdn = 1), ($p = .011$); external audience, specified purpose (Mdn = 2) and internal audience, unspecified purpose (Mdn = 1) ($p = .038$);

external audience, unspecified purpose (Mdn = 2) and internal audience, specified purpose, (Mdn = 1), ($p = .004$); external audience, unspecified purpose (Mdn = 2) and internal audience, unspecified purpose, (Mdn = 1), ($p = .015$). However, as was the case with focus scores and accuracy scores, there was not a statistically significant difference in the distribution of scores between external audience, specified purpose and external audience, unspecified purpose; nor was there a statistically significant difference in the distribution of scores between internal audience, specified purpose and internal audience, unspecified purpose.

Table 8

Descriptive Statistics for Detail Scores

Condition	Median	Mean	Std. Deviation
External Specified	2	1.65	.533
Internal Specified	1	1.23	.480
Internal Unspecified	1	1.15	.483
External Unspecified	2	1.85	.362

Table 9

Post hoc Pairwise Comparisons of Detail Scores

Conditions (Sample- Sample2)	Test Statistic	Std. Error	Std. Test Statistic	Significance	Adjusted Significance ($p < .05$)
D2 – D3	.112	.289	.390	.697	1.000
D2 – D1	-.900	.289	-3.118	.002	.011
D2 – D4	.988	.289	3.421	.001	.004
D3 – D1	-.788	.289	-2.728	.006	.038

Table 9 (cont'd)

D3 – D4	.875	.289	3.031	.002	.015
D1 – D4	.088	.289	.303	.762	1.000

Note. D1 = details score for external audience, specified purpose, D2 = details score for internal audience, specified purpose; D3 = details score for internal audience, unspecified purpose, D4 = details score for external audience, unspecified purpose

The results from the Friedman test for the trait of illustrations complementing written text were similar to those of focus, accuracy, and details. Table 10 shows the descriptive statistics for students' scores pertaining to the degree to which illustrations complemented written text for each of the conditions. Table 11 shows the results of the *post hoc* analysis of the pairwise comparisons. Illustration scores were statistically significantly different under the four conditions, $\chi^2 (3) = 33.996, p < .005$.

Using a significance level of .05, *post hoc* analysis (see Table 11) revealed statistically significant differences in illustration scores between external audience, specified purpose (Mdn = 2) and internal audience, specified purpose (Mdn = 1), ($p = .009$); external audience, specified purpose (Mdn = 2) and internal audience, unspecified purpose (Mdn = 1) ($p = .163$); external audience, unspecified purpose (Mdn = 2) and internal audience, specified purpose, (Mdn = 1), ($p < .001$); external audience, unspecified purpose (Mdn = 2) and internal audience, unspecified purpose, (Mdn = 1), ($p = .007$). However, again there were not statistically significant differences between external audience, specified purpose and external audience, unspecified purpose mean scores, nor between internal audience, specified purpose and internal audience, unspecified purpose mean scores.

Table 10

Descriptive Statistics for Illustration Scores

Condition	Median	Mean	Std. Deviation
External Specified	2	1.65	.662
Internal Specified	1	0.93	.656
Internal Unspecified	1	1.08	.730
External Unspecified	2	1.48	.716

Table 11

Post hoc Pairwise Comparisons of Illustration Scores

Conditions (Sample- Sample2)	Test Statistic	Std. Error	Std. Test Statistic	Significance	Adjusted Significance (p < .05)
I2 – I3	-.275	.289	-.953	.341	1.000
I2 – I1	-.912	.289	-3.161	.002	.009
I2 – I4	1.212	.289	4.200	.000	< .001
I3 – I1	-.638	.289	-2.208	.027	.163
I3 – I4	.938	.289	3.248	.001	.007
I1 – I4	.300	.289	1.039	.299	1.000

Note. I1 = illustration score for external audience, specified purpose, I2 = illustration score for internal audience, specified purpose; I3 = illustration score for internal audience, unspecified purpose, I4 = illustration score for external audience, unspecified purpose

The Friedman test for children's scores on their use of appropriate language of informational text (e.g., use of timeless verbs) also showed effects based on audience rather than specified or unspecified purpose. Table 12 shows the medians, means and standard deviations for the language of informational text scores for

each of the conditions. Table 13 shows the results of the *post hoc* analysis of the pairwise comparisons. Informational text language scores were statistically significant under the four conditions, $\chi^2(3) = 50.798, p < .005$.

Using a significance level of .05, *post hoc* analysis (see table 13) revealed statistically significant differences in language of informational text scores between external audience, specified purpose (Mdn = 2) and internal audience, specified purpose (Mdn = 1), ($p < .001$); external audience, specified purpose (Mdn = 2) and internal audience, unspecified purpose (Mdn = 1) ($p = .002$); external audience, unspecified purpose (Mdn = 2) and internal audience, specified purpose, (Mdn = 1), ($p < .001$); external audience, unspecified purpose (Mdn = 2) and internal audience, unspecified purpose, (Mdn = 1), ($p = .001$). Again, there was not a statistically significant difference between external audience, specified purpose and external audience, unspecified purpose mean scores; nor was there a statistically significant difference between internal audience, specified purpose and internal audience, unspecified purpose mean scores.

Table 12

Descriptive Statistics for Language of Informational Text Scores

Condition	Median	Mean	Std. Deviation
External Specified	2	1.70	.516
Internal Specified	1	1.03	.620
Internal Unspecified	1	1.13	.686
External Unspecified	2	1.75	.439

Table 13

Post hoc Pairwise Comparisons of Language of Informational Texts Scores

Conditions (Sample- Sample2)	Test Statistic	Std. Error	Std. Test Statistic	Significance	Adjusted Significance (p < .05)
L2 – L3	-.150	.289	-5.20	..603	1.000
L2 – L1	1.175	.289	4.070	< .001	< .001
L2 – L4	-1.275	.289	-4.417	< .001	< .001
L3 – L1	1.025	.289	3.551	< .001	.002
L3 – L4	-1.125	.289	-3.897	< .001	.001
L1 – L4	-.100	.289	-.346	1.000	1.000

Note. L1 = language score for external audience, specified purpose, L2 = language score for internal audience, specified purpose; L3 = language score for internal audience, unspecified purpose, L4 = language score for external audience, unspecified purpose

Friedman test results for mean scores of navigational features yielded statistically significant differences among conditions, $\chi^2(3) = 18.297, p < .005$; however, the *post hoc* pairwise comparisons yielded no statistically significant differences between any of the medians. Table 14 includes descriptive statistics for the trait scores and Table 15 shows results of the *post hoc* Pairwise comparisons for the traits. All adjusted p values were higher than .05, indicating that all distributions of scores were similar despite differences in audience and specification (or non-specification) of purpose. The findings of this trait caused me to pursue other statistical tests to get more information on reasons to explain why the test statistic showed effects for the overall model yet the *post hoc* analysis showed no statistically significant differences the distribution of scores when each condition was

compared. The results of the logistic regression I conducted to gain more information will be addressed later in this chapter.

Table 14

Descriptive Statistics for Scores for Navigational Features

Condition	Median	Mean	Std. Deviation
External Specified	0	0.15	.362
Internal Specified	0	0.20	.516
Internal Unspecified	0	0.03	.158
External Unspecified	0	0.45	.749

Table 15

Post hoc Pairwise Comparisons of Scores for Navigational Features

Conditions (Sample-Sample2)	Test Statistic	Std. Error	Std. Test Statistic	Significance	Adjusted Significance (p < .05)
N2 – N3	.212	.289	.736	.462	1.000
N2 – N1	.250	.289	.866	.386	1.000
N2 – N4	-.638	.289	-2.208	.027	.163
N3 – N1	-.038	.289	-.130	.897	1.000
N3 – N4	-.425	.289	-1.472	.141	.846
N1 – N4	-.388	.289	-1.342	.179	1.000

Note. N1 = navigational feature score for external audience, specified purpose, N2 = navigational features score for internal audience, specified purpose; N3 = navigational features score for internal audience, unspecified purpose, L4 = navigational features score for external audience, unspecified purpose

Finally, similar to most of the previously discussed primary traits, scores regarding children addressing audience in their writing were also statistically

significantly different under the four conditions, $\chi^2 (3) = 41.271, p < .005$. Table 16 shows the medians, means, and standard deviations for scores regarding addressing audience in text, and Table 17 shows the comparisons.

Post hoc analysis revealed statistically significant differences in addressing audience scores between external audience, specified purpose (Mdn = 1) and internal audience, specified purpose (Mdn = 0) ($p = .002$); external audience, specified purpose (Mdn = 1) and internal audience, unspecified purpose (Mdn = 0) ($p = .002$); external audience, unspecified purpose (Mdn = 1) and internal audience, specified purpose, (Mdn = 0), ($p < .001$); external audience, unspecified purpose (Mdn = 1) and internal audience, unspecified purpose, (Mdn = 0), ($p < .001$). However, again, there was not a statistically significant difference between external audience, specified purpose and external audience, unspecified purpose; nor was there a statistically significant difference between internal audience, specified purpose and internal audience, unspecified purpose.

Table 16

Descriptive Statistics for Addressing Audience Scores

Condition	Median	Mean	Std. Deviation
External Specified	1	1.15	.540
Internal Specified	0	0.45	.639
Internal Unspecified	0	0.45	.597
External Unspecified	1	1.03	.620

Table 17

Post hoc Pairwise Comparisons of Addressing Audience Scores

Conditions (Sample- Sample2)	Test Statistic	Std. Error	Std. Test Statistic	Significance	Adjusted Significance (p < .05)
Aud2 – Aud3	.013	.289	.044	.965	1.000

Table 17 (cont'd)

Aud2 – Aud1	-1.051	.289	-3.596	< .001	.002
Aud2 – Aud4	1.244	.289	4.252	< .001	< .001
Aud3 – Aud1	-1.038	.289	-3.552	< .001	.002
Aud3 – Aud4	1.231	.289	4.210	< .001	< .001
Aud1 – Aud4	.192	.289	.658	.511	1.000

Note. Aud1 = addressing audience score for external audience, specified purpose, Aud2 = addressing audience score for internal audience, specified purpose; Aud3 = addressing audience score for internal audience, unspecified purpose, Aud4 = addressing audience score for external audience, unspecified purpose

In sum, the Friedman tests showed that holistic writing scores were affected by audience but not by purpose. Findings were the same for many of the primary trait scores, including focus, accuracy, details, illustrations, language of informational texts, and addressing audience. For navigational features, the model was significant, but the effects of the individual variables showed no significance. To gain further insight in the data for the navigational features, as well as the other traits, I decided to perform multilevel logistic regressions.

Multilevel Statistical Model

After running the Friedman test on the primary traits, I determined that there was a difference in distribution of scores for the four conditions among

holistic scores and all of the primary trait scores; however, I was not able to look at the interaction effects nor was I able to look at the predictors of gender and classroom. In addition, the Friedman test was only telling me that there were differences in distributions of the scores not accounting for any predictors that may have influenced the results nor any interactions effects of the variables. Therefore, I used a multilevel statistical model for all variables. This test allowed me to analyze the results using the following predictors: audience, purpose, the interaction of audience and purpose, gender, and the classroom.

Using the child as the grouping variable and the intercept and gender as level 2 variables, I set up several multilevel statistical models using a random intercept for all models. The random intercept accounted for the fact that this was a within-subjects design and that all children were starting at different points. From there, I could determine the impacts of the various conditions. Because students met in the same writing groups each time we met, I also checked for and confirmed that there were not grouping effects.

For the holistic scores and the primary trait scores of details, language, illustration, navigation, and addressing the audience, I used multilevel ordinal regression because those variables had more than two categories represented. For the primary traits of focus and accuracy, I used a multilevel binary logistic regression because the dataset for those variables did not include the full range of possible scores, including instead only two scores per variable. For the primary trait of accuracy, there were scores spanning from 0 to 2. However, only six scores of 0 were included in the data. The statistical software was reporting error scores with

so few zeros; at the advice of the statistical consultant, I combined the scores of 0 with the scores of 1. As a result, the accuracy scores represented only two categories of rubric scores and were analyzed similar to focus scores using the binary logistic regression.

Holistic scores. The ordinal regression model for holistic scores with audience, purpose, gender, and the interaction of audience and purpose (hereafter audience*purpose) as predictors was statistically significant, $\chi^2(6,152) = 9.176$, $p < .001$ (see Table 18). The results reported in Table 18 also show that the impact of audience was statistically significant. When the audience was an external audience, the estimated odds of a child achieving a higher holistic score were 22.695 times greater. The impact of purpose and the interaction of audience and purpose were not statistically significant. The predictors of gender and classroom were not significant.

Table 18

Multilevel Ordinal Logistic Regression for Holistic Scores

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/152	9.176	<.001	
Audience		1/152	54.504	<.001	
Purpose		1/152	1.491	.224	
Audience*Purpose		1/152	0.007	.932	
Gender		1/152	0.080	.778	
Classroom		2/152	0.134	.875	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Threshold 0	1.036 (.584)	2.818	.078	.888	8.939
Threshold 1	4.755 (.717)	116.178	< .001	28.202	478.597
Audience	3.122	22.695	< .001	7.613	67.658

Table 18 (cont'd)

Purpose	(.553) -.468	.626	.374	.222	1.766
Audience*Purpose	(.525) .066	1.068	.926	.262	4.351
Gender	(.711) .099	1.104	.852	.388	3.141
Classroom	(.529)				
Class 3	.496	1.643	.408	.504	5.355
Class 2	(.598) .700	2.013	.296	.539	7.528
	(.668)				

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Primary trait scores. Because all students scored either a 1 or a 2 for the primary trait of focus, there were only two categories represented; therefore, I used a multilevel binary logistic regression. The binary regression model for focus scores with audience, purpose, gender, classroom, and audience*purpose as predictors was statistically significant, $\chi^2(6, 153) = 6.433, p < .001$ (see Table 19). The results reported in Table 19 also show that the impact of audience was statistically significant. When the audience was an external audience, the estimated odds of a child achieving a higher score for focus were 9.526 times greater. The relationship of purpose, gender, classroom and the interaction of audience and purpose to the focus scores were not statistically significant.

Table 19

Multilevel Binomial Logistic Regression for Focus Scores

Test of Model Effects	df1/df2	F	p
Corrected Model	6/153	6.433	<.001
Audience	1/153	36.714	<.001
Purpose	1/153	.663	.417
Audience*Purpose	1/153	.663	.417

Table 19 (cont'd)

Gender			1/153	2.132	.146
Classroom			2/153	1.193	.306
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Intercept	-.0134 (.493)	.874	.785	.330	2.314
Audience	2.254 (.590)	9.526	< .001	2.970	30.555
Purpose	-.683 (.482)	.505	.159	.195	1.311
Audience*Purpose	.683 (.839)	1.979	.417	.378	10.374
Gender	-.633 (.454)	.515	.146	.210	1.264
Classroom					
Class 3	.336 (.505)	1.399	.508	.516	3.794
Class 2	.888 (.575)	2.431	.124	.781	7.570

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

As mentioned earlier, scores for the accuracy of the information that children provided in their texts did range from 0-2; however there were only six incidents in which a child received a score of 0. The statistical software (SPSS) gave error messages when I performed the multilevel ordinal logistic regression. A statistical consultant helped me determine that these errors were due to the small number of scores for the third category. I merged the six 0 scores with the 1 scores because there were so few 0 scores and both were below a score of 2. I then ran a multilevel binary logistic regression. Similar to the findings of focus scores, accuracy scores with audience, purpose, gender, classroom, and the interaction of audience and purpose as predictors was statistically significant, $\chi^2(6, 153) = 9.347, p < .001$ (see

Table 20). The results reported in Table 20 also show that the impact of audience was statistically significant. When the audience was an external audience, the estimated odds of a child achieving a higher holistic score were 37.470 times greater. The impact of purpose and the interaction of audience and purpose were not statistically significant.

Table 20

Multilevel Binomial Logistic Regression for Accuracy Scores

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/153	9.347	<.001	
Audience		1/153	56.061	<.001	
Purpose		1/153	.430	.513	
Audience*Purpose		1/153	.055	.815	
Gender		1/153	.082	.776	
Classroom		2/153	.600	.550	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Intercept	-2.148 (.706)	.117	.003	.029	.470
Audience	3.624 (.652)	37.470	< .001	10.342	135.757
Purpose	-.184 (.608)	.832	.762	.250	2.764
Audience*Purpose	-.204 (.873)	.815	.815	.145	4.576
Gender	.179 (.627)	2.208	.776	.347	4.128
Classroom					
Class 3	.792 (.728)	2.208	.278	.524	9.307
Class 2	.503 (.771)	1.653	.516	.360	7.589

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

The remainder of the primary traits all had scores ranging from 0 to 2.

Therefore, I used a multilevel ordinal logistical regression model to analyze the

results. From the statistical tests, I determined similar results for the traits of details, illustrations complementing texts, language of informative/explanatory texts, and evidence of addressing audience. For each of these traits, the model using audience, purpose, gender, classroom, and the interaction between audience and purpose as predictors proved to be significant. In each case, it was the audience variable that was significant; the presence of an external audience increased the likelihood of a higher score on the rubric. The results are provided for each trait in Table 21 (details scores), Table 22 (scores for illustrations complement text), Table 23 (language of informative/explanatory texts), and Table 24 (scores for addressing audience).

Table 21

Ordinal Logistic Regression for Details Scores

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/152	5.030	<.001	
Audience		1/152	29.895	<.001	
Purpose		1/152	.587	.445	
Audience*Purpose		1/152	.063	.954	
Gender		1/152	.003	.914	
Classroom		2/152	.090	.802	
Parameter		B(SE)	Odds Ratio	p	95% Confidence Level Lower Upper
Threshold 0		-3.106 (.745)	.045	< .001	.010 .195
Threshold 1		1.690 (.605)	5.419	.006	1.638 17.924
Audience		2.158 (.529)	8.652	< .001	3.045 24.583
Purpose		.366 (.522)	1.443	.484	.514 4.049
Audience*Purpose		-.177 (.718)	.838	.806	.203 3.462
Gender		.016	1.016	.976	.368 2.805

Table 21 (cont'd)

	(.514)				
Classroom					
Class 3	.486	1.204	.749	.382	3.790
	(.580)				
Class 2	.575	1.777	.380	.489	6.457
	(.653)				

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Table 22

Ordinal Logistic Regression for Illustrations Scores

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/152	6.156	<.001	
Audience		1/152	35.392	<.001	
Purpose		1/152	.641	.424	
Audience*Purpose		1/152	1.106	.294	
Gender		1/152	.010	.953	
Classroom		2/152	1.037	.356	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Threshold 0	-2.247 (.698)	.106	.002	.027	.419
Threshold 1	1.418 (.664)	4.128	.034	1.111	15.334
Audience	1.903 (.500)	6.704	< .001	2.496	18.009
Purpose	-.088 (.460)	.915	.848	.369	2.271
Audience*Purpose	.740 (.703)	2.096	.294	.522	8.409
Gender	.040 (.676)	1.041	.953	.274	3.954
Classroom					
Class 3	.841 (.768)	2.318	.276	.508	10.578
Class 2	-.332 (.845)	.717	.695	.135	3.808

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Table 23

Ordinal Logistic Regression for Scores Pertaining to Language of Informational Text

Test of Model Effects			df1/df2	F	p
Corrected Model			6/152	8.143	<.001
Audience			1/152	47.275	<.001
Table 23 (cont'd)					
Purpose			1/152	.782	.378
Audience*Purpose			1/152	.005	.942
Gender			1/152	1.623	.205
Classroom			2/152	1.079	.343
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Threshold 0	-2.247 (.698)	.106	.002	.027	.419
Threshold 1	1.418 (.664)	4.128	.034	1.111	15.334
Audience	2.852 (.565)	17.317	< .001	5.672	52.872
Purpose	-.356 (.470)	.700	.449	.277	1.770
Audience*Purpose	.055 (.743)	1.056	.942	.243	4.587
Gender	-.819 (.643)	.441	.205	.124	1.570
Classroom					
Class 3	1.083 (.741)	2.954	.146	.683	12.770
Class 2	.457 (.780)	1.580	.559	.338	7.381

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Table 24 *Ordinal Logistic Regression for Addressing Audience Scores*

Test of Model Effects		df1/df2	F	p
Corrected Model		6/152	7.447	<.001
Audience		1/152	41.659	<.001
Purpose		1/152	.386	.535
Audience*Purpose		1/152	.458	.500
Gender		1/152	2.434	.121
Classroom		2/152	1.212	.300

Table 24 (cont'd)

Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Threshold 0	.865 (.577)	2.376	.135	.760	7.423
Threshold 1	4.386 (1.688)	80.344	< .001	20.616	313.112
Audience	2.261 (.504)	9.593	< .001	3.544	35.970
Purpose	-.019 (.489)	.981	.969	.374	2.578
Audience*Purpose	.460 (.679)	1.584	.500	.414	6.060
Gender	.809 (.518)	2.245	.121	.806	6.249
Classroom					
Class 3	-.095 (.583)	.909	.870	.287	2.878
Class 2	.860 (.646)	2.363	.185	.660	8.463

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

For the remaining trait, navigational features, I also ran an ordinal logistic regression. Similar to the previously discussed traits, the model for scores addressing children's use of navigational features in their writing was statistically significant, $\chi^2(6, 152) = 2.753$, $p = .014$ (see Table 25). In contrast to the previously discussed trait, the interaction of audience and purpose was also significant. This meant that when given an external audience, the odds that a child used navigational features increased by 33.506 but only when children were not given a specified purpose.

Table 25

Ordinal Logistic Regression for Navigational Features Scores

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/152	2.753	.014	
Audience		1/152	6.600	.011	
Purpose		1/152	.241	.624	
Audience*Purpose		1/152	7.578	.007	
Gender		1/152	.009	.926	
Classroom		2/152	1.350	.262	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Threshold 0	4.22 (1.222)	83.271	< .001	7.444	931.546
Threshold 1	5.972 (1.280)	392.366	< .001	31.273	4,922.732
Audience	3.484 (1.125)	32.575	.002	3.531	300.538
Purpose	2.122 (1.163)	8.347	.070	.839	83.014
Audience*Purpose	-3.606 (1.315)	.027	.007	.002	.365
Gender	.073 (.672)	1.076	.913	.285	4.059
Classroom					
Class 3	.078 (.798)	1.081	.923	.223	5.230
Class 2	.737 (.810)	2.090	.364	.422	10.359

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

In sum, the multilevel logistic regressions mirrored the results of the Friedman test for holistic scores and the primary traits of focus, accuracy, details, illustrations, language of informative/explanatory tests, and addressing the audience in that the presence of an external audience increased the likelihood that children would achieve higher scores. The Friedman test showed that scores of navigational features were statistically significantly different among the four

conditions; however, the multilevel logistic regression revealed an interaction effect. This interaction effect meant that an external audience was more likely to produce higher scores but only when purpose was unspecified. In addition to the interaction effects, the multilevel logistic regression allowed me to include gender and the child's classroom as predictors in the model. Neither gender nor classroom was significant in any of the models.

Linguistic Feature Counts

In addition to the researcher-created rubric, I also analyzed the children's writing using linguistic feature counts including a ratio of the generic nouns to total number of nouns used, a ratio of the timeless verbs to total number of verbs used, and a total word count. These were all count measures and after checking their distribution using histograms, I found that all data was skewed toward zero and followed the typical pattern of a Poisson Regression; therefore, these measures were all analyzed using the Poisson Regression. Table 26 depicts the descriptive statistics for the linguistic feature counts.

Table 26

Descriptive Statistics for Linguistic Counts

Count	Minimum	Maximum	Mean	Standard Deviation
Generic Nouns	0	1	.5361	.260
Timeless Verbs	0	1	.338	.291
Total Number of Words	4	180	50.38	28.296

Generic noun constructions. Table 27 shows the results for the Poisson Regression for the number of generic nouns that children used in their writing. The model was statistically significant at the .05 level, $F(6, 153) = 42.550, p = .000$. The only predictor that was statistically significant was audience. When writing for an external audience, the proportion of generic nouns to the total number of nouns children used in their writing increased by .49; in other words, children increased their use of generic nouns by 49%.

Table 27

Poisson Regression for Generic Nouns

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/153	42.550	.000	
Audience		1/153	241.654	.000	
Purpose		1/153	3.368	.070	
Audience*Purpose		1/153	.551	.459	
Gender		1/153	2.378	.125	
Classroom		2/153	1.974	.142	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Intercept	-.713 (.163)	.490	.000	1.034	-.391
Audience	1.330 (.124)	3.780	.000	1.084	1.575
Purpose	.177 (.123)	1.193	.154	-.067	.420
Audience*Purpose	.133 (.179)	1.142	.459	-.221	.486
Gender	-.257 (.773)	.773	.125	-.586	.072
Classroom					
Class 3	.254 (.187)	1.289	.175	-.115	.623
Class 2	.412 (.217)	1.510	.060	-.017	.841

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Timeless verb constructions. The model for timeless verbs was also significant at the .05 level (see Table 28), $F(6, 153) = 21.838, p = .000$. Writing for an external audience was significant, but so was the interaction between audience and purpose. The statistically significant interaction effect means that the impact of the external audience was different depending on whether children were writing for a specified or unspecified purpose. When there was an unspecified purpose and the target was an external audience, the increment in the number of timeless verbs children used was 2.83 times more. When children wrote for an external audience and a specified purpose, the increment increase was 5.25 times more. In addition, other control variables including gender and classroom influenced the number of timeless verbs children used. Specifically, boys were more likely to use the timeless verbs constructions and children in Classroom 3 were more likely to use the timeless verb construction.

Table 28

Poisson Regression for Timeless Verbs

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/153	21.838	.000	
Audience		1/153	113.028	.000	
Purpose		1/153	.935	.335	
Audience*Purpose		1/153	6.081	.001	
Gender		1/153	11.779	.015	
Classroom		2/153	4.284	.015	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Intercept	1.367 (.201)	.255	< .001	-1.764	-.969
Audience	1.041 (.173)	2.831	<.001	.698	1.383

Table 28 (cont'd)

Purpose	-.188 (.194)	.829	.336	-.571	.196
Audience*Purpose	.618 (.250)	1.855	.015	.123	1.113
Gender	-.658 (.192)	.518	.001	-1.038	-.279
Classroom					
Class 3	.600 (.215)	1.823	.006	.177	1.024
Class 2	.504 (.250)	1.655	.045	.011	.996

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Word count. As indicated in Table 29, the model for word count was also significant at the .05 level, $F(6, 153) = 20.854$, $p = .000$. Audience was significant but, as was the case with timeless verbs, the effects differed based on the purpose. When writing for an internal audience, there were not statistically significant differences in the total number of words that children wrote based on the purpose. However, when writing for an external audience, when the purpose was unspecified, there was an incremental increase of 16% in the word count. When children were given a specified purpose, there was an incremental increase of 35% in the total number of words children produced.

Table 29

Poisson Regression for Word Count

Test of Model Effects	df1/df2	F	p
Corrected Model	6/153	20.854	.000
Audience	1/153	100.172	.000
Purpose	1/153	6.344	.013
Audience*Purpose	1/153	11.500	.001
Gender	1/153	.261	.610
Classroom	2/153	.307	.736

Table 29 (cont'd)

Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Audience	.149 (.032)	1.160	<.001	1.089	1.236
Purpose	-.020 (.033)	.981	<.001	.918	1.048
Audience*Purpose	.152 (.045)	1.164	.001	1.066	1.272
Gender	.063 (.123)	1.065	.559	.835	1.359
Classroom					
Class 3	.104 (.139)	1.109	.459	.842	1.461
Class 2	.014 (.155)	1.015	.926	.746	1.379

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Revision Counts

For the three revision measures, histograms showed data was skewed toward zero and these measures were counts so I used a Poisson regression that included audience, purpose, gender, classroom, and the interaction of purpose and audience as predictors. The descriptive statistics for these counts are included in Table 30. Table 31, Table 32, and Table 33 report the findings from these statistical tests. Table 29 shows the results for the total number of revisions that children made. As indicated, this model was not statistically significant, $F(6, 153) = 0.997$, $p = .429$. None of the predictors impacted the total number of revisions. However, as reported in detail in the following subsection, I also ran models for mechanically oriented revisions and content-oriented revisions. The sum of these two types of revisions was equal to the total number of revisions. Both mechanically oriented revisions and content-oriented revisions showed purpose as being significant.

Table 30

Descriptive Statistics for Revisions Counts

Count	Minimum	Maximum	Mean	Standard Deviation
Total Number of Revisions	0	17	3.27	3.007
Mechanical Revisions	0	10	1.04	1.853
Content-Oriented Revisions	0	12	2.31	2.475

Table 31

Poisson Regression for Total Number of Revisions

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/153	.997	.429	
Audience		1/153	1.106	.295	
Purpose		1/153	1.931	.167	
Audience*Purpose		1/153	.648	.422	
Gender		1/153	2.023	.157	
Classroom		2/153	.400	.671	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Audience	.022 (.120)	1.022	.857	.806	1.296
Purpose	-.193 (.127)	.825	.132	.642	1.060
Audience*Purpose	.141 (.176)	1.152	.422	.814	1.629
Gender	.295 (.208)	1.343	.157	.891	2.024
Classroom					
Class 3	.055 (.233)	1.056	.814	.667	1.673
Class 2	-.178 (.263)	.837	.498	.498	1.406

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Mechanically oriented revisions and content-oriented revisions. As seen in Table 32, the corrected model for mechanically oriented revisions was not statistically significant at the .05 level, $F(6, 153) = 1.999$, $p = .069$, but purpose was significant. The corrected model may have a p-value slightly higher than .05 as a result of including all of the other variables such as audience, classroom, and gender in the model that were not significant. As mentioned, purpose was significant at the .05 level. When writing for a specified purpose, children increased the number of mechanical revisions by 58%; in other words, they made 1.581 times more mechanically oriented revisions when writing for a specified purpose as opposed to an unspecified purpose.

Table 32

Poisson Regression for Number of Mechanically Oriented Revisions

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/153	1.999	.069	
Audience		1/153	.258	.612	
Purpose		1/153	6.902	.009	
Audience*Purpose		1/153	.066	.798	
Gender		1/153	.758	.385	
Classroom		2/153	2.271	.107	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Audience	.121 (.247)	1.129	.623	.694	1.838
Purpose	.458 (.229)	1.581	.048	1.004	2.487
Audience*Purpose	-.081 (.318)	.922	.798	.492	1.726
Gender	.330 (.379)	1.391	.385	.658	2.941
Classroom Class 3	.245	1.278	.552	.566	2.886

Table 32 (cont'd)

Class 2	(.412) -.826 (.507)	.438	.105	.161	1.192
---------	---------------------------	------	------	------	-------

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Table 33 reports Poisson regression results for the number of content-oriented revisions that children made. This model was borderline for being statistically significant at the .05 level, $F(6, 153) = 2.167$, $p = .050$; however, as the case with the mechanical revisions, this p-value might also be due to the number of variables included in the model that were not statistically significant. When looking at the predictors, the model did show that purpose was statistically significant indicating that when children wrote for an unspecified purpose, they made 48% fewer content-oriented revisions.

Table 33

Poisson Regression for Number of Content-Oriented Revisions

Test of Model Effects		df1/df2	F	p	
Corrected Model		6/153	2.167	.050	
Audience		1/153	2.031	.156	
Purpose		1/153	8.714	.004	
Audience*Purpose		1/153	2.569	.111	
Gender		1/153	1.433	.233	
Classroom		2/153	.013	.987	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Audience	-.019 (.137)	.981	.891	-0.290	1.149
Purpose	-.483 (.157)	.617	.002	-0.792	-0.174
Audience*Purpose	.340 (.212)	1.405	.111	-0.079	0.759
Gender	.257	1.293	.233	-0.167	.682

Table 33 (cont'd)

	(.412)				
Classroom					
Class 3	.039 (.243)	1.040	.873	-0.440	.518
Class 2	.014 (.269)	1.014	.958	-.517	.545

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

Audience-oriented revisions. This study also measured audience-related revisions. However, there were no instances of revisions made that clearly and specifically addressed the audience so there was a floor effect for that measure.

Motivation Measure

The model for the questions asking children about their interest in the task was not statistically significant, $\chi^2(6, 153) = .528, p = .786$ (see Table 34). Children predominantly responded that they agreed with each of the three statements used in the motivation measure. In only a few instances did children choose “I don’t know.” None of the other responses were chosen. As a result, the motivation measure had ceiling effects. Results for the first questions are shown in Table 34. For the other two questions, asking whether they enjoyed the task and whether they tried their best, children responded, “yes” 100% of the time; therefore, those results were not put into a model.

Table 34

Binary Logistic Regression for Motivation Measure

Test of Model Effects	df1/df2	Chi-squared	p
Corrected Model	6/153	.528	.786
Audience	1/153	1.110	.294

Table 34 (cont'd)

Purpose		1/153	.100	.752	
Audience*Purpose		1/153	1.110	.294	
Gender		1/153	.179	.673	
Classroom		2/153	.089	.915	
Parameter	B(SE)	Odds Ratio	p	95% Confidence Level	
				Lower	Upper
Audience	1.312 (.881)	3.713	.139	.651	21.182
Purpose	.853 (.780)	2.346	.276	.503	10.951
Audience*Purpose	-1.312 (1.245)	-1.054	.299	.023	3.153
Gender	.324 (.767)	1.383	.673	.304	6.291
Classroom					
Class 3	.190 (.896)	1.209	.833	.206	7.095
Class 2	-.223 (.942)	.800	.813	.124	5.149

Note. The following reference categories were used for analysis: Audience: Internal, Purpose: Unspecified, Gender: Male, Classroom: Classroom 1

In sum, this study found that when writing for an external audience, children had greater odds of higher holistic scores as well as the primary traits of focus, accuracy, details, illustrations complementing the test, language features of informational texts, addressing audience, and navigational features; there was also an interaction effect with navigational features. Purpose had a statistically significant effect on children's revisions. When children were given a specified purpose, they made more revisions in their writing. The next chapter will discuss the findings reported in this chapter and suggest implications for instruction as well as implications for future research.

*For effect sizes, please contact the author of this dissertation at
blockme2@msu.edu.

CHAPTER 5

DISCUSSION

Key Findings

This study examined the effects of providing young children with both an external and internal audience for both specified and unspecified purposes when asking them to compose and revise a piece of informative/explanatory text. This chapter will discuss findings related to audience and purpose and will then address instructional implications, research implications, and limitations of the study.

Audience. A key finding of this study is that young children produced higher quality informative/explanatory writing when they were given an external audience. The children's holistic scores were, on average, significantly higher, meaning that their text worked better as an informative/explanatory text when writing for an external audience than when writing for an internal audience. When writing to an external audience, children received higher scores relating to particular traits of writing. The writing was more focused, children included more well-developed details, and the information they provided was more accurate. Children were more likely to use the appropriate language of informational texts, and illustrations complemented texts more often when writing for an external audience than writing for their classroom teacher, an internal audience. For navigational skills, audience also had a statistically significant positive impact but there was an interaction effect between audience and purpose, meaning that audience had a significant positive impact only when children did not have a specified purpose for their writing. In summary, all primary traits were positively

impacted by an external audience. Audience was also significant in the number of words children produced, the number of generic nouns present in their texts, and the number of timeless verb constructions children used in their informative/explanatory texts. Audience, however, did not have a statistically significant impact on the number or type of revisions.

Revision. As just noted, there were no statistically significant differences in the number of revisions based on the type of audience to whom children wrote. This result is not entirely surprising as during revision sessions in this study, children did not typically make a large number of revisions. The mean number of total revisions was 3.27. Chanquoy (2001) purports that beginning writers do not naturally revise their work and the revisions they do make often are not of substance. Furthermore, the younger the child, the less likely he or she will revise (Chanquoy, 2001). On the whole, young children typically struggle with revision in their writing (Hayes, 1996; 2004). Boscolo and Ascorti (2004) concur with Hayes that revision is difficult for young children but found that children were much more likely to revise when they worked in a partnership with another person (either a classmate or teacher) and had opportunities to answer questions and talk about their writing. The small number of revisions observed in this study may have been due to the nature of the design in that second-grade students had to be self-directed in their revision and were not given an opportunity to confer with peers or a teacher.

Despite research suggesting that older students often addressed audience more in revision than in their initial drafts, this study found floor effects for

audience-oriented revisions. In fact, there were no such revisions. There are a few possible explanations for this finding. One might be that with so few revisions of any kind, audience-oriented revisions were unlikely. Another explanation might be related to genre. Many of the studies with older children used persuasive texts (e.g., Crowhurst & Piche, 1979; Frank, 1992; Midgette, Haria, & MacArthur, 2008; Roen & Wiley, 1988). Arguably, because the purpose of a persuasive text is to sway the opinion of the target audience, audience has a more central role in a persuasive text than it does in an informative/explanatory text. A final explanation for this floor effect could be that children are less attentive to audience. Wollman-Bonita (2001) found that young children could attend to audience; however, because they can attend to audience does not mean they do so as much as or to the same degree as older students do.

Purpose. The second part of my research question addressed specified and unspecified purposes for writing. Although audience had a significant positive impact on overall writing quality, purpose did not result in differences in overall writing quality. It is possible that purpose indeed does not matter for young children's writing. Another reason purpose may not have had statistically significant effects is that children assumed a purpose when writing for a librarian. In both external audience conditions, upon learning they would be writing for a librarian, children immediately talked about the various people who might read their texts despite the fact that only in one condition did the librarian give children a purpose for their writing and even then the purpose given was never for others to read their books.

Revision. As noted earlier, children in this study made few revisions, only 3.27 on average. Not surprisingly, purpose did not have a statistically significant impact on total number of revisions. However, surprisingly, purpose did have a statistically significant impact on mechanically oriented and content-oriented revisions.

Despite finding no effects in terms of total number of revisions, purpose did impact the type of revision children made. Upon analyzing the revision data, I found that when children were given a purpose, they were more likely to make mechanical revisions than not to make mechanical revisions. In fact, children made 58% more mechanical revisions when writing for a specified purpose. During the designated revision time, children were quick to add periods to their sentences, correct capitalization, and make handwriting more legible. On the whole, they were very concerned with making sure their work was punctuated correctly. When they described the nature of their revisions, children often commented about the importance of punctuation in producing good writing. For example, one child commented, "I have to put in the periods to have good writing."

A related finding from this study was that the children made 48% fewer content-oriented revisions when writing for an unspecified purpose than when they were writing for a specified purpose. As indicated previously in this dissertation, content-oriented revisions included revising text to aid meaning as well as revising illustrations to help provide more meaning to the text. Although children tend to make fewer content-oriented than mechanical revisions (e.g., Chanquoy 2001; McCutchen, Francis, & Kerr, 1997), it encouraging that they would make fewer of

this type of revision when asked to write for an unspecified versus a specified purpose. These results may suggest that the purpose for writing is an important consideration for young children during the revision process. The relationship between purpose and revision in this age group warrants further research.

Situational Motivation. My hypothesis included motivation as one reason why children might produce higher quality writing when composing text for an external audience versus an internal audience and for a specified versus an unspecified purpose. This hypothesis could not be examined with the aforementioned motivation measures because the measures showed ceiling effects. The data recorded through video recording and field notes might reveal differences in situational motivation by condition; however, examining those data is beyond the scope of this dissertation.

Instructional Implications

The findings from this study suggest the need for a shift in the writing children do in school. Currently, the most common audience for whom children write is the classroom teacher (Duke, 2000a) or classroom peers. This study found that writing for an external audience is more likely to result in higher quality writing. It may be the case that young children need more opportunities to write for an external audience in their school writing and providing those opportunities to write for an external audience will yield higher quality of writing among young children. Some examples of external audiences for whom children might write an informative/explanatory text include younger children, community members, or patrons at a particular venue.

Furthermore, Duke (2000a) observed that children in schools in areas of low socio-economic status (SES) have fewer opportunities to write for external audiences. In this study, the participants were children from low-SES backgrounds and were writing for local librarians. The study found that writing for an external audience does matter, and therefore, it may be important for schools serving children from a low-SES background, to offer children at least as many opportunities to write for an external audience as their higher-SES peers.

This study also suggests the importance of writing purpose, specifically as it affects revision. Based on my personal experience, it seems that children are not often provided with a specified purpose for their writing, and other scholars have observed the same (Duke, Caughlan, Juzwik, & Martin, 2012). Given that revision is difficult for young children (e.g., Chanquoy, 2001; Hayes, 1996, Hayes 2004) and this study found purpose significantly impacted revision, it could be the case that providing a specified purpose would lead young children to more deeply engage in the revision process. In their book, Duke, Caughlan, Juzwik, and Martin (2012) give many examples in which teachers engaged their students in writing informative/explanatory texts for a purpose. In one example, students gathered information and composed books to be used in foreign schools whose students receive English-language instruction but which have few reading materials available. In another example, a teacher leading a summer school program for young children had her students collect information and produce animal guidebooks for a local zoo (Duke et al., 2012).

Similarly, the results of this study have important implications for writing assessment. If we want children to produce their best piece of writing during an assessment, this study suggests we should provide them with a specific external audience. If we want them to be more likely to make mechanical and content-oriented revisions during assessments, we should provide them with a specific purpose for their writing.

Implications for Further Research

Although finding the relationship between an external audience and higher quality writing of informative/explanatory texts among young children is important and significant, the results also suggest the need for further research. This study found that audience affected quality and not revision and purpose affected revision but not quality. This study is worth replicating and conducting in different ways to determine whether this same pattern is upheld.

Another important area of research will be instructional strategies to incorporate external audiences and specified purposes into young children's writing experiences in school. There is a need for studies that uncover potential instructional strategies. As an example, future studies might address the ways in which children are introduced to the external audience. As another example, in this study, I used video recordings of the external audience. Would inviting the audience member into the classroom impact writing quality differently?

This study only looked at children's writing of informative/explanatory texts. Future research may address whether audience specification and purpose matter in other genres and whether or not it influences writing quality in the same way it did

for informative/explanatory texts in this study. This study examined second-graders' writing; future research might also address whether audience specification and purpose matter for younger children.

Finally, more research needs to be done to better understand the revision process. Research has shown that young children typically do not engage in much revision and are much less likely to do so when asked to do it independently (Chanquoy, 2001; Hayes 1996; Hayes, 2004). However, this study found that purpose had an effect on the number of content revisions and the number of mechanical revisions that children made. Though significant, it is important to note that relationship between mechanical revisions and purpose was with a p-value at .048 so the significance was just under the .05 threshold for being statistically significant. This suggests that in some circumstances, purpose may play a role in encouraging children to revise. Future research might replicate this study with more students or might address whether or not this holds true with younger children and in different genres. Because most of the revisions were mechanical in nature, future research might also address what it might take to support students instructionally to revise their writing for content.

An important direction for new research is to look at long-term effects of providing children with an external audience and a specified purpose. In this study, the presence of an external audience led to children producing higher quality writing on that occasion. New research will need to address whether having children write for external audiences regularly over time helps them to become stronger writers or improves writing growth.

Limitations

There were some limitations to this study. For one, the researcher led the writing sessions. Although the classroom teachers and the librarians were all video recorded and students watched the video, the researcher was delivering the instructions for the writing. It is possible that some children perceived the researcher as a target audience for the writing and were generally more motivated to write given the novelty of the situation. However, whatever impact this limitation may have had, it was not enough to eliminate the differences in writing quality between the internal and external audience.

Another limitation is related to the within-subjects design. Although a within-subjects design has many advantages related to control, it may have been the case that children put forth less effort when writing for their teacher in this study than they might otherwise have put forth if, in the counterbalancing, they had previously had an opportunity to write for the librarian, a comparatively more interesting audience.

The writing sessions were timed, and children had less time to complete a piece than they typically do during regular classroom instruction. Children were also not given an opportunity to collaborate with peers nor did they confer with a teacher. Therefore, the writing context was different from the ways in which children write during instructional time. This limitation suggests the need for more research to address the instructional context and to determine the impact of an external audience when children are engaged in writing during regular or more similar writing instruction.

Finally, in this study, when children watched the video of the librarian, they often made comments about the inferred purpose such as “So many kids are going to read my book so I have to do my best.” This was despite the fact that the librarian never indicated that other patrons would read the books, and in one condition, the librarian did not indicate a specific purpose for the books, children commonly assumed that writing for a librarian meant that their books would be read by a large number of library patrons. This may be a general challenge of this type of research—that it is difficult to separate external audience and purpose as young children may infer purpose given the particular audience.

Conclusion

This study was an initial study looking at the impact of audience specification and purpose specification on the quality of young children’s writing of informative/explanatory texts. Previous studies had found a relationship between an external audience and specified purpose and higher quality writing for older children (e.g., Cohen & Riel, 1989); this study found a similar relationship among young children in their composition of informative/explanatory texts. This finding is significant in that it suggests the need to make a shift from predominantly asking young children to write for their teacher to providing opportunities for children to write for an external audience. The CCSS have given renewed attention to writing and call for students to have opportunities to write for external audiences. This study found that the CCSS’s emphasis on an external audience may yield higher quality writing among young children.

The intent of schooling is to provide students with the skills and experiences they need to be successful in the world outside of school. Writers in the real world (the world outside of school) write typically for an external audience and a specific purpose. Providing young children with opportunities to write for an external audience and specific purpose will allow them to engage in writing for reasons similar to those that skilled writers do. Based on the results found from this study, opportunities to write for an external audience will likely yield higher quality writing among young writers and revision will be encouraged by providing a specified purpose for their writing.

APPENDICES

Appendix A

Consent and Permission Letters

Informed Consent for Writing Study— Parent/Guardian Consent

Dear Parent or Guardian,

We are inviting your child to participate in a research study titled *The Impact of Identifying a Specific Purpose and External Audience for Writing on Second Graders' Writing Quality*. Researchers are required to provide a consent form to inform you about the study, to state that participation is voluntary, to explain any risks and benefits of participation, and to allow you to make an informed decision. You should feel free to ask the researchers any questions.

This project is designed to explore how giving children an external audience and a specific purpose for writing affects writing quality. A member of a Michigan State University (MSU) research team, with experience with children, will meet with small groups of children from your child's classroom. Prior to meeting in small group sessions, the researcher will administer a short writing fluency assessment. This assessment should take no longer than 5 minutes. This will be used to determine the number of words children write per minute. During each small group writing session, children will be asked to listen to a prompt, to watch a video of the specific audience, and to write a text in response. Children will be asked to write explanatory informational texts about familiar topics such as birds or fruit. After completing the text, each child will read his or her written text, and the researcher will write what the child reads. In addition, children will be asked questions about their interest in completing the tasks. With your consent, your child will be taken in a small group to do this writing. The total out of class time for each child will be approximately 20-30 minutes for each of eight writing sessions. We will first seek verbal assent by asking your child about his/her willingness to participate in the study, and if at any time your child appears uncomfortable during the writing task, we will stop. Usually, children find working in these small groups activities to be enjoyable. Your child's teacher will work with the researcher to ensure that your child will not miss any important core curricular activities while he or she completes the writing tasks. Writing experience is good for children, so participating in the tasks may benefit your child. Additionally, these writing sessions will be video-recorded. The video will allow the research to analyze children's behaviors and dispositions during the writing sessions.

There are no foreseeable risks to participating in the study, and there is no penalty for refusing to participate in this study. Children's writing, transcripts of the writing, analysis of the writing, responses to engagement questions, and the video-

recordings will be kept strictly confidential. Only the researchers and MSU's IRB office will have access to the writings, the accompanying transcriptions, and the videos. All information (including a key associating names with the ID numbers) will be kept in a locked filing cabinet in the researcher's office or in a password protected digital form for up to five years after the study is completed. We will not include your child's name in any presentations or publications based on the study. Your child's privacy and that of your child's school and district will be protected to the maximum extent allowed by law. Through participation in this project, we believe that the field will gain an increased understanding of factors related to improved writing quality among young children.

If you agree to allow the researchers to meet with your child in a small group setting and to use your child's writing and responses for our study, please check "yes" on the attached letter, sign, and return it to your child's teacher. Your child's participation is voluntary. If you change your mind, or your child changes his or her mind, you may withdraw your consent at any time. You may refuse to have your child participate in the study. If you choose not to have your child participate in the small groups, please check "no" on the attached letter, write your child's name, and return it to your child's teacher. As a thank you for returning this form with yes or no checked, your child will receive a small pencil or sticker regardless of whether you choose to have your child be interviewed.

If you need further information about this study, please contact Dr. Nell K. Duke, 620 Farm Lane, 346 Erickson Hall, College of Education, Michigan State University, East Lansing, MI 48824, email: nkduke@umich.edu or Meghan K. Block, 620 Farm Lane, 153 Erickson Hall, College of Education, Michigan State University, East Lansing, MI 48824, (517) 899-3481, email: blockme2@msu.edu. If you have questions or concerns about your role and rights as a research participant, or would like to register a complaint about this study, you may contact, anonymously (if you wish), the Michigan State University's Human Research Protection Program at (517) 355.2180, FAX (517) 432.4503 or email irb@msu.edu or regular mail at 408 W. Circle DR., 207 Olds Hall, Michigan State University, East Lansing, MI 48824.

Do you voluntarily allow your child's writing to be included in this study? Please check the appropriate box below.

Yes ☐

No ☐

Do you voluntarily allow your child to be video-recorded during the writing session? Please check the appropriate box below and sign this letter.

Yes ☐

No



(Signature)

(Printed Name)

(Date)

(Child's Name)

Please sign one copy and return it to your child's teacher. Please keep the second copy for your records.

Permission for Writing Study— Teacher Permission

The purpose of this research project is to explore the relationship between giving children both an external audience and a specific purpose when they write and the subsequent writing quality. To conduct the study, we are asking teachers to allow a member of a Michigan State University (MSU) research team, with experience with children, to meet with small groups of children from your child's classroom. During these meetings, children will be asked to listen to a prompt, watch a video of the specific audience, and to compose a text in response. Children will be asked to write explanatory informational texts about familiar topics. The total out of class time for each group of students will be 30 minutes and there will be a total of eight writing sessions.

We are currently looking for teachers to participate in this study. The purpose of this letter is to describe the study, to describe your role, and to see your permission to collect data in your classroom.

We are seeking your consent to participate in this study that will take place from November 2012 through January 2012. Specifically, we are asking you to agree to the following:

1. Distribute and collect parent consent forms that we provide.
2. Allow the researcher to administer a whole group writing fluency assessment which should take about 5 minutes to administer.
3. Allow the researcher to meet with small groups of students (10 total students) for 30 minutes twice a week for four weeks.
4. Allow the researcher to video record the writing sessions.

Only the research team and the MSU IRB office will have access to students' writing. All materials will be kept in a locked filing cabinet in a researcher's office or in a password-protected digital form for up to five years following the study. All work will be labeled with your ID number rather than your name or the name of a child, school, or district. A key associating the ID numbers with the data will be kept in a locked filing cabinet accessible only to the research team. In any papers that might result from the study, your classroom and school would be given a pseudonym and any identifying characteristics would be deleted or masked. With regard to the research itself, your privacy will be protected to the maximum extent allowed by law.

There are no foreseeable risks to participating in this study. You may withdraw your consent at any time. There is no penalty for refusing to participate in this study. Potential benefits are that you and your students' participation will help the researchers learn more about young children's writing when given an external

audience and a specific purpose. Your students who participate will also have the benefit of writing a total of four explanatory informational texts.

If you need further information about this study, please contact Dr. Nell K. Duke, 620 Farm Lane, 346 Erickson Hall, College of Education, Michigan State University, East Lansing, MI 48824, email: nkduke@umich.edu or Meghan K. Block, 620 Farm Lane, 153 Erickson Hall, College of Education, Michigan State University, East Lansing, MI 48824, (517) 899-3481, email: blockme2@msu.edu. If you have questions or concerns about your role and rights as a research participant, or if you would like to register a complaint about this study, you may contact, anonymously (if you desire), the Michigan State University's Human Research Protection Program at (517) 355-2180, fax (517) 432-4503, or email irb@msu.edu or regular mail at 408 W. Circle Drive, 207 Olds Hall, Michigan State University, East Lansing, MI 48824.

By signing this form, I voluntarily agree to facilitate the conduct of this study as described above.

(Signature)

(Printed Name)

(Date)

Permission for Writing Study— Principal Permission

This study, titled *The Impact of Identifying a Specific Purpose and External Audience for Writing on Second Graders' Writing Quality* is designed to explore the relationship between giving children both an external audience and a specific purpose when they write and the subsequent writing quality. To conduct the study, we are asking teachers to allow a member of a Michigan State University (MSU) research team, with experience with children, to meet with small groups of children from your child's classroom. During these meetings, children will be asked to listen to a prompt, watch a video of the specific audience, and to compose a text in response. Children will be asked to write explanatory informational texts about familiar topics. The total out of class time for each group of students will be 20-30 minutes per session, and there will be a total of eight writing sessions.

The study will take place in January and February. The eight writing sessions will take place over a four-week period. Prior to meeting in small group sessions, the researcher will administer a short writing fluency assessment to determine the number of words children write per minute. During small group sessions, students will be asked to write on four different topics. Students will be asked to write in response to a specific prompt on one day, and then will have the opportunity to revise their work during the following session. After each writing session, children will also be asked questions to gauge their level of engagement in completing the task. All writing will be transcribed by having the child read his or her work while the researcher writes exactly what the child says. Each session will be video-recorded to aid in analyzing children's behaviors during the writing.

This study involves research done by a research team from Michigan State University. Only the research team and the Michigan State University IRB Office will have access to the writings and the video-recordings. All materials will be kept in a locked filing cabinet in a researcher's office or in password-protected digital form for up to five years following the study. All writings will be labeled with an ID number rather than with the name of a child, school, or district. A key associating the ID numbers with the data will be kept in a locked filing cabinet accessible only to the research team. In any papers that might result from this study, we would not use your name, the name of your school, or any of the teachers' or students' name or any identifying characteristics. Results of this study will be shared with you upon your request. There are no foreseeable risks to participating in the study. Students in your district will likely benefit from extra opportunities for writing explanatory informational texts.

You can indicate your permission for the teachers in your school to participate in the study by signing this letter. We will then seek permission from the classroom teachers and from the students' parents. The participation of your school in this study is voluntary. Participants in the study may refuse to participate in certain

procedures. You may withdraw your permission at any time. There is no penalty for refusing to participate in this study.

If you need further information about this study, please contact Dr. Nell K. Duke, 620 Farm Lane, 346 Erickson Hall, College of Education, Michigan State University, East Lansing, MI 48824, email: nkduke@umich.edu or Meghan K. Block, 620 Farm Lane, 153 Erickson Hall, College of Education, Michigan State University, East Lansing, MI 48824, (517) 899-3481, email: blockme2@msu.edu. If you would like to register a complaint about this study, you may contact, anonymously (if you desire), the Michigan State University's Human Research Protection Program at (517) 355-2180, fax (517) 432-4503, or email irb@msu.edu or regular mail at 408 W. Circle Drive, 207 Olds Hall, Michigan State University, East Lansing, MI 48824.

By signing this form, I voluntarily agree to let the second grade teachers and students in my school participate in this study (provided they provide informed consent) as described above.

(Signature)

(Printed Name)

(Date)

Appendix B

Protocol for Writing Fluency Assessment

1. Say, "Today, I'm going to have you do a quick writing. I'm going to tell you a topic and I want you to write all about the topic. You will have three minutes to write. If you don't know how to spell a word, just do the best you can to write it."
2. Distribute paper and pencils.
3. Say, "I'm going to read you the topic. Then I want you to take 1 minute to think about it. I'll say stop after one minute. Then you will have 3 minutes to write."
4. Say, "We are going to write all about school. I want to know all about your school. I want you to take 1 minute to think. Put your pencils on your desks. Start thinking now".
5. Set the timer for one minute. When it rings, say "Ok, we're ready to write. Now you have 3 minutes to write all about school. Remember to just do your best with spelling. Pick up your pencils. Start writing now."
6. When the time rings, say "Please put your pencils down."
7. Collect the paper. Say, "Thank you so much for writing with me today. I can't wait to read your writing."

Appendix C

Child Assent

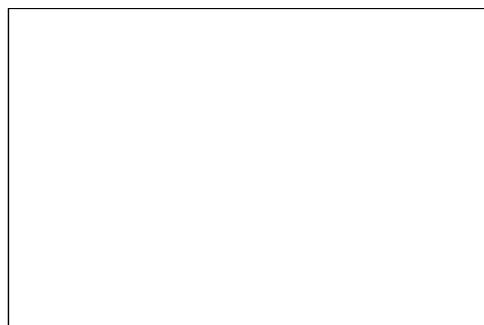
Hi

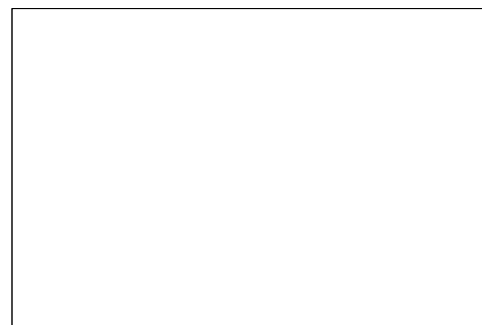
I would like to have you write a book for me. After you write, I'm going to ask you to read me what you wrote. I will write down what you say so I can remember later. I will also video record so I can watch and listen again later if I need to. This will help me learn about how boys and girls write. You may stop at any time. Would you like to do this activity with me? Do you have any questions about what we are going to do?

Child's Name: _____

Date: _____

Appendix D
Writing Paper





Appendix E

Protocols for Administering Writing Assessments

Writing Prompt 1:

1. Say, “We are going to watch a short video of [insert person’s name]. She is a librarian at the public library. She wants to read examples of second-graders’ writing on [insert topic] so she can get ideas for when she orders books for her library. She will look for books similar to the ones you write.”
2. Show the video and place a photograph of the librarian on the table.
3. Say, “I have paper and a booklet for you (hold up the paper and the booklet). You may use these for your writing. The paper is blank (show the paper). Hold up the booklet. The booklet has some spaces for you to draw and space for you to write. This booklet is a place for you to write information about [insert topic] for _____ to read. I am going to put a picture of _____ right here on the table for you to look at as you write.”
4. Distribute paper and pencils.
5. Say, “It is ok to draw pictures but make sure to write words, too. If you want to write a word that you don’t know how to spell, just do the best you can to write it.”
6. When children ask how to spell words, simply tell them “Do the best you can.”
7. After 20 minutes, tell the children it is time to stop writing.

8. Transcribe each child's writing on a separate paper. Begin by asking the child to read his or her book to you. As the child reads, write exactly what the child says.
9. As you transcribe with each child, place the provided books on the table and allow the other children to read.

Revision Session for Writing Prompt 1:

1. Say, "I read through your books about [insert topic] for _____. They are almost ready to give to her. Today, I want you to read through your book and make sure it is just the way you want it for _____ to read. We're going to watch the video of _____ again and then we will write."
2. Show the video and place the photograph of the child on the table.
3. "I am going to give your booklet back to you (hold up the booklet). I want you to reread what you wrote. You may make any changes you want.
4. Distribute booklets and pencils.
5. Say, "It is ok to draw pictures but make sure to write words, too. If you want to write a word that you don't know how to spell, just do the best you can to write it."
6. When children ask how to spell words, simply tell them, "Do the best you can."
7. After 15 minutes, tell the children it is time to stop writing.
8. Transcribe each child's writing on a separate paper. Begin by asking the child to read his or her book to you. As the child reads, write exactly what the child says.

9. After transcribing, ask the child, "Can you tell me about the revisions you made?" Write child's answer under the transcription.
10. As you transcribe with each child, place the provided books on the table and allow the other children to read.

Writing Prompt 2:

1. Say, "We are going to watch a short video of [insert person's name]. She is a librarian at the public library. She wants second graders to write some books about [insert topic]."
2. Show the video and place a photograph of the teacher on the table.
3. Say, "I have paper and a booklet for you (hold up the paper and the booklet). You may use these for your writing. The paper is blank (show the paper). (hold up the booklet). The booklet has some spaces for you to draw and space for you to write. This booklet is a place for you to write information about birds."
4. Distribute paper and pencils.

Say, "It is ok to draw pictures but make sure to write words, too. If you want to write a word that you don't know how to spell, just do the best you can to write it."
5. When children ask how to spell words, simply tell them "Do the best you can."
6. After 20 minutes, tell the children it is time to stop writing.

7. Transcribe each child's writing on a separate paper. Begin by asking the child to read his or her book to you. As the child reads, write exactly what the child says.
8. As you transcribe with each child, place the provided books on the table and allow the other children to read.

Revision Session for Writing Prompt 2:

1. Say, "I read through your books about [insert topic] for _____. They are almost ready to give to him/her. Today, I want you to read through your book and make sure it is just the way you want it for your teacher to read. We're going to watch the video of him/her again and then we will write."
2. Show the video and place the photograph of the librarian on the table.
3. Say, "I am going to give your booklet back to you (hold up the booklet). I want you to reread what you wrote. You may make any changes you want."
4. Distribute booklets and pencils.
5. Say, "It is ok to draw pictures but make sure to write words, too. If you want to write a word that you don't know how to spell, just do the best you can to write it."
6. When children ask how to spell words, simply tell them, "Do the best you can."
7. After 15 minutes, tell the children it is time to stop writing.
8. Transcribe each child's writing on a separate paper. Begin by asking the child to read his or her book to you. As the child reads, write exactly what the child says.

9. After transcribing, ask the child, "Can you tell me about the revisions you made?" Write child's answer under the transcription.
10. As you transcribe with each child, place the provided books on the table and allow the other children to read.

Writing Prompt 3:

1. Say, "We are going to watch a short video of your teacher. She is really interested in [insert topic] and is hoping you can write her some books to read so she can learn more about [insert topic]."
2. Show the video and place a photograph of the teacher on the table.
3. Say, "I have paper and a booklet for you (hold up the paper and the booklet). You may use these for your writing. The paper is blank (show the paper). (hold up the booklet). The booklet has some spaces for you to draw and space for you to write. This booklet is a place for you to write information about birds for _____ to read. I am going to put a picture of _____ right here on the table for you to look at as you write."
4. Distribute paper and pencils.
5. Say, "It is ok to draw pictures but make sure to write words, too. If you want to write a word that you don't know how to spell, just do the best you can to write it."
6. When children ask how to spell words, simply tell them "Do the best you can."
7. After 20 minutes, tell the children it is time to stop writing.

8. Transcribe each child's writing on a separate paper. Begin by asking the child to read his or her book to you. As the child reads, write exactly what the child says.
9. As you transcribe with each child, place the provided books on the table and allow the other children to read.

Revision Session for Writing Prompt 3:

1. Say, "I read through your books about [insert topic] for _____. They are almost ready to give to her. Today, I want you to read through your book and make sure it is just the way you want it for _____ to read. We're going to watch the video of _____ again and then we will write."
2. Show the video and place the photograph of the teacher on the table.
3. Say, "I am going to give your booklet back to you (hold up the booklet). I want you to reread what you wrote. You may make any changes you want."
4. Distribute booklets and pencils.
5. Say, "It is ok to draw pictures but make sure to write words, too. If you want to write a word that you don't know how to spell, just do the best you can to write it."
6. When children ask how to spell words, simply tell them, "Do the best you can."
7. After 15 minutes, tell the children it is time to stop writing.
8. Transcribe each child's writing on a separate paper. Begin by asking the child to read his or her book to you. As the child reads, write exactly what the child says.

9. After transcribing, ask the child, "Can you tell me about the revisions you made?" Write child's answer under the transcription.
10. As you transcribe with each child, place the provided books on the table and allow the other children to read.

Writing Prompt 4:

1. Say, "Today, we are going to watch a short video of your teacher. She wants you to write a book about [insert topic]."
2. Show the video and place a photograph of the teacher on the table.
3. "I have paper and a booklet for you (hold up the paper and the booklet). You may use these for your writing. The paper is blank (show the paper). (hold up the booklet). The booklet has some spaces for you to draw and space for you to write. This booklet is a place for you to write information about birds."
4. Distribute paper and pencils.

Say, "It is ok to draw pictures but make sure to write words, too. If you want to write a word that you don't know how to spell, just do the best you can to write it."
5. When children ask how to spell words, simply tell them "Do the best you can."
6. After 20 minutes, tell the children it is time to stop writing.
7. Transcribe each child's writing on a separate paper. Begin by asking the child to read his or her book to you. As the child reads, write exactly what the child says.

8. As you transcribe with each child, place the provided books on the table and allow the other children to read.

Revision Session for Writing Prompt 4:

1. Say, "I read through your books about [insert topic] for your teacher. They are almost ready to give to him/her. Today, I want you to read through your book and make sure it is just the way you want it for your teacher to read. We're going to watch the video of him/her again and then we will write."
2. Show the video and place the photograph of the teacher on the table.
3. Say, "I am going to give your booklet back to you (hold up the booklet). I want you to reread what you wrote. You may make any changes you want."
4. Distribute booklets and pencils.
5. Say, "It is ok to draw pictures but make sure to write words, too. If you want to write a word that you don't know how to spell, just do the best you can to write it."
6. When children ask how to spell words, simply tell them, "Do the best you can."
7. After 15 minutes, tell the children it is time to stop writing.
8. Transcribe each child's writing on a separate paper. Begin by asking the child to read his or her book to you. As the child reads, write exactly what the child says.
9. After transcribing, ask the child, "Can you tell me about the revisions you made?" Write child's answer under the transcription.

10. As you transcribe with each child, place the provided books on the table and allow the other children to read.

Appendix F

Video Scripts

Video 1 for Writing Prompt 1:

Librarian was filmed near a shelf of books.

Librarian: "My name is _____. I am a librarian at the public library. I want to read some examples of second-graders' writing on [insert topic]. I am ordering books for the library and I will look for books similar to the ones you write."

Video 2 for Writing Prompt 2:

Librarian was filmed near a shelf of books.

Librarian: "My name is _____. I am a librarian at the public library. I want second graders to write books about [insert topic]."

Video for Writing Prompt 3:

Teacher was filmed in the classroom.

Teacher: "I am really interested in [insert topic]. I am hoping you can write me a book about [insert topic] so I can learn more about [insert topic]."

Video for Writing Prompt 4:

Teacher was filmed sitting in the classroom.

Teacher: "Today, I would like you to write a book all about [insert topic]. I'm looking forward to reading your work."

Appendix G

Situational Motivation/Engagement Measure

Figure 2: Situational Motivation Measure

Name: _____ Date: _____

1. I thought doing this writing was interesting.



Yes



Sometimes



No



I don't know

2. I liked writing this book.



Yes



Sometimes



No



I don't know

3. I tried my best on this writing.



Yes



Sometimes



No



I don't know

Appendix H

Holistic Rubric

Score	Description
0	No written text
1	Text is of low quality for an informative/explanatory text.
Anchor Paper for 1	<p>17-3</p> <p>I love butterflies. My favorite butterfly is a Monarch. On a Monarch butterfly's wing, they are orange and black, but their wings are really fragile. Once I saw a Monarch butterfly come toward my car and it hit the windshield. And its wing broke. I was sad, but I hate spiders. They creep me out! But, I think my favorite insect is a butterfly.</p>
2	Text is of average quality for an informative/explanatory text.
Anchor Paper for 2	<p>Insects</p> <p>Insects are interesting. Some can fly. Some can't. Butterflies can fly. Ants can't fly. They are red and they crawl. Insects have 6 legs. Spiders have 8 legs so they are not insects. (No illustrations or navigational features)</p>
3	Text is of high quality for an informative/explanatory text.
Anchor Paper for 3	<p>34-1</p> <p>Birds</p> <p>I am going to tell you about little and big birds. When birds hatch, they cannot fly because they are wet. When they are dry, they try to fly. Birds eat worms, spiders, and insects. When the baby birds are born, their mom hunts for their food. When they get older, they hunt for their own food and have babies. That's how it works. Birds are good fliers. (Included detailed illustrations with captions and labels)</p>

Appendix I

Primary Trait Rubric

Table 35: Primary Trait Rubric for Writing Quality

	0	1	2
Text remains focused on topic	No written text	Topic is present, but text often deviates from the topic	Text is focused on the topic throughout the piece.
Anchor Paper for Focus		<p>Insects</p> <p>Pg. 1 Butterflies are my favorite. I love butterflies are the favorite in fact!</p> <p>Pg. 2 I love spiders and rabbits too.</p> <p>Pg. 3 Ants are insects too. The end.</p>	<p>All About Bugs</p> <p>Pg. 1 Ladybugs can bite. Only the red ones can. Did you know that? 1.p</p> <p>Pg. 2 A bee can sting you. It hurts badly. 2.p</p> <p>Pg. 3 A horsefly can hurt you too. 3.p</p> <p>Pg. 4 A tick can go in your hair and bite you. 4.p</p> <p>Pg. 5 C. 2 Flies are kind of like a horsefly, but they are not. Flies also eat a lot of trash. 5.p</p> <p>Pg. 6</p>

Table 35 (cont'd)

			<p>Butterflies are colored many colors. 6.</p> <p>Pg. 7 Ants are red and black. Red ones bite. 7.p</p> <p>Pg. 8 Slugs are gushy and yuck.</p> <p>Pg. 9 Beetles slink bad.</p> <p>Pg. 10 Bugs can bite.</p> <p>Pg. 11 C.3 Some bugs cannot bite. Did you know that?</p>
Text includes accurate information	No written text	Accurate information is present, but not all information is accurate.	Accurate information is present and well-developed.
Anchor Paper for Accuracy		<p>Birds</p> <p>Pg. 1 Birds can fly high and birds eat worms.</p> <p>Pg. 2 Birds are smarter than people.</p> <p>Pg. 3 Birds can fly south in the summer to stay warm.</p>	<p>Insects</p> <p>Pg. 1 All insects have six legs.</p> <p>Pg. 2 One big insect is a praying mantis. They can kill, but only enough to kill other small insects.</p> <p>Pg. 3</p>

Table 35 (cont'd)

		<p>Pg. 4 Birds have small baby birds.</p> <p>Pg. 5 Birds are reptiles.</p> <p>Pg. 6 Birds are cool too. They eat seeds and feed babies.</p> <p>Pg. 7 Birds are like dinosaur birds, but dinosaur birds are bigger.</p> <p>Pg. 8 Birds are small. Some birds are very small.</p> <p>Pg. 9 Birds can fly fast and hop fast too.</p>	<p>Spiders are not insects. They have eight legs instead of six.</p> <p>Pg. 4</p> <p>Bees are insects that sting. Their sting can hurt a person.</p>
Text includes details about the topic	No details present.	Text includes details but details are not developed using explanations or examples.	Text includes many details and they are well-developed using explanations and examples
Anchor Paper for Details		<p>Insects</p> <p>Pg. 1 Insects are all colors.</p> <p>Pg. 2 Bugs are insects.</p> <p>Pg. 3 Flies are insects.</p> <p>Pg. 4</p>	<p>Fruit: A Reference Book</p> <p>Front Matter: Written in [Name of Town and State]</p> <p>Pg. 1 Watermelon are tasty, but you can't eat the peel. They also have black seeds</p>

Table 35 (cont'd)

		<p>Butterflies are insects.</p> <p>Pg. 5 Caterpillars are insects.</p> <p>Pg. 6 Insects are gross. They hibernate in winter.</p>	<p>that you should not eat.</p> <p>Pg. 2 Oranges have rinds (ri-nds) which are the peel you can't eat on an orange.</p> <p>Pg. 3 Grapes are tasty and you can even eat their skin. They can be green or purple.</p> <p>Pg. 4 Butternut squash is sometimes considered (cun-sid-erd) a fruit because it has lots of seeds inside.</p> <p>Pg. 5 Grapefruit is a sour fruit. Sometimes the inside is pink. They are juicy.</p> <p>Pg. 6 Kiwi are brown with hair. The inside is green with black seeds.</p> <p>Pg. 7 Pears are about 5 inches tall. They are green fruits. They grow on trees.</p>
--	--	--	---

Table 35 (cont'd)

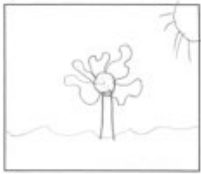
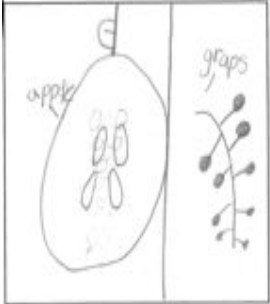
Illustrations complement text on the page	No illustration is included and/or no text is included	Illustrations and text are present.	Illustrations complement details and are well-developed.
Anchor Paper for Illustrations		 <p><u>To grow flowers</u> <u>you have to</u> <u>get them water</u> <u>and soil.</u></p>	 <p><u>Apples have seeds.</u> <u>Grapes do NOT have</u> <u>seeds.</u></p>
Text includes language typically used in informational texts (e.g., timeless verbs, generic nouns, some specialized vocabulary)	No evidence of language of informative/explanatory texts.	Language of informative/explanatory texts is present at times.	Language of informative/explanatory text is included and well-developed throughout the piece.

Table 35 (cont'd)

<p>Anchor Paper for Language of Informational Texts</p>		<p>Birds</p> <p>Pg. 1 Birds are fun to me. Birds are interesting.</p> <p>Pg. 2 Birds eat seeds and worms. They make nests.</p> <p>Pg. 3 The bald eagle is a sign of the USA. He flies high. He likes the U.S.A.</p> <p>Pg. 4 Some birds are small. This bird is eating a worm.</p> <p>Pg. 5 I like birds.</p>	<p>Birds</p> <p>Pg. 1 Birds fly. They live up in trees in nests.</p> <p>Pg. 2 Birds catch worms and they can fly high.</p> <p>Pg. 3 Ducks are birds, but they don't eat worms.</p> <p>Pg. 4 Chickens are noisy birds.</p> <p>Pg. 5 Birds eat worms and they are awesome</p>
<p>Text includes navigational features typically found in informational texts (e.g., table of contents, glossary, index, headings)</p>	<p>Text includes no navigational features.</p>	<p>Text includes navigational features or shows evidence of attempts at navigational features.</p>	<p>Text includes well-developed navigational features.</p>

Table 35 (cont'd)

Anchor Paper for Navigationa l Features	No Navigational Features Present	Cover Fruit Pg. 1 (Picture talk bubble) Yummy (Attempted a table of contents but is incomplete) Do you know that fruit is good for you? Apples are green, red, and yellow too. (footer) page 1 Pg. 2 Bananas are yellow. They turn brown when they are old. (footer) page 2 Pg. 3 Apples have seeds. Grapes do not have seeds. (footer) page 3 Pg. 4 Limes are yellow and green. Grapes are purple and green. (footer) page 4	Front Matter: In this book people learn about the parts of a flower. Back Front Matter: (Diagram of a flower) The Parts of a Flower are... Roots Stem Petals Leaves Contents 1 Tulips 1 2 Roses 3 3 Sunflowers 5 4 Roots 7 5 perennials 9 6 Leaves 11 7 Stems 12 Pg. 1 Chapter 1: Tulips Tulips are very pretty, but prickly (pri-kole) 1 Pg. 2 Tulips are red and green but the roots are brown. 2 Pg. 3 Chapter 2: Roses Roses have prickly things called thorns. 3 Pg. 4 The leaves of dead
--	-------------------------------------	---	--

Table 35 (cont'd)

			roses are down and the tops are flat.
Text shows evidence of attention to specific audience.	No evidence present.	Attention to specific audience is present.	Attention to audience is present and well-developed.
Anchor Paper for Attention to Audience		Child included drawings of the librarian in the illustrations of the text. No other references to audience were made.	<p>In front matter:</p> <p>To: Miss Linda</p> <p>My name is [student's name]. I am in second grade. I am writing this book for your library.</p> <p>At the end: I hope you liked this book about birds, Miss Linda</p>

Word count:

Revision:

of changes:

of mechanical changes (spelling, punctuation, sentence structure, insertion of omitted word):

of content-oriented changes (those that involve changes to the meaning or content of the text)

REFERENCES

REFERENCES

- Ainley, M., Hidi, S., & Berndorff, D. (2002). Interest, learning, and the psychological processes that mediate their relationship. *Journal of Educational Psychology, 94*, 545-561.
- Alamargot, D., Caprossi, G., Chesnet, D., & Ros, C. (2011). What makes a skilled writer?: Working memory and audience awareness during text composition. *Learning and Individual Differences, 21*(5), 505-516.
- Bakhtin, M. M., & Holquist, M. (1981). *The dialogic imagination: Four essays*. Austin: University of Texas Press.
- Benton, S. L., Corkill, A. J., Sharp, J., Downey, R., & Khramtsova, I. (1995). Knowledge, interest, and narrative writing. *Journal of Educational Psychology, 87*, 66-79.
- Boscolo, P., & Ascorti, K., (2004). Effects of collaborative revision on children's ability to write understandable narrative texts. In L. Allal, L. Chanquoy, & P. Largy (Eds.), *Studies in writing: Revision: Cognitive and instructional processes* (pp. 9-20). Norwell, MA: Kluwer.
- Brandt, D. (1990). *Literacy as involvement: The acts of writers, readers, and texts*. Carbondale, IL: Southern Illinois University Press.
- Chanquoy, L. (2001). How to make is easier for children to revise their writing: A study of text revisions from 3rd through 5th grades. *British Journal of Educational Psychology, 71*, 15-41.
- Cohen, M. & Riel, M. (1989). The effect of distant audiences on students' writing. *American Educational Research Journal, 26*, 143-159.
- Crowhurst, M., & Piche, G. L. (1979). Audience and mode of discourse effects on syntactic complexity in writing at two grade levels. *Research in the Teaching of English, 13*, 101-109.
- Cutler, L. & Graham, S. (2008). Primary grade writing instruction: A national survey. *Journal of Educational Psychology, 100*, 907-919.
- Donovan, C. A. (2001). Children's development and control of written story and informational genres: Insights from one elementary school. *Research in the Teaching of English, 35*, 394-447.
- Duke, N. K. (2000a). For the rich it's richer: Print experiences and environments offered

- to children in very low- and very high-socioeconomic status first-grade classrooms. *American Educational Research Journal*, 37, 441-478.
- Duke, N. K. (2000b). 3.6 minutes per day: The scarcity of informational texts in first grade. *Reading Research Quarterly*, 35(2), 202-224.
- Duke, N. K. (2008, May). *The impact of a project-based approach to building informational literacy (PABIL) on first graders' informational reading and writing*. Research Poster at the International Reading Association, Atlanta, GA.
- Duke, N. K., Cuaghlin, S., Juzwik, M. M. & Martin, N. M. (2012). *Reading and writing genre with purpose in k-8 classrooms*. Portsmouth, NH: Heinemann.
- Duke, N. K., & Kays, J. (1998). "Can I say 'once upon a time'?: Kindergarten children developing knowledge of information book language. *Early Childhood Research Quarterly*, 13(2), 295-318.
- Englert, C. S. (1992). Writing instruction from a socio-cultural perspective: The holistic dialogue and social enterprise of writing. *Journal of Learning Disabilities*, 25, 153-172.
- Flower, L., Hayes, J. R. (1980). The cognition of discovery: Defining a rhetorical problem. *College Composition and Communication*, 31, 21-32.
- Frank, L. A. (1992). Writing to be read: Young writers' ability to demonstrate audience awareness when evaluated by their readers. *Research in the Teaching of English*, 26, 277-298.
- Freedman, A., & Medway, P. (1994). Locating genre studies: Antecedents and prospects. In A. Freedman & P. Medway (Eds.), *Genre and the new rhetoric* (pp. 1-20). London: Taylor & Francis.
- Gottfried, A. E., (1990). Academic intrinsic motivation in young elementary school children. *Journal of Educational Psychology*, 82, 525-538.
- Graesser, A.C., McNamara, D.S., & Kulikowich, J.M. (2011). Coh Metrix: Providing multilevel analyses of text characteristics. *Educational Researcher*, 40, 223-234.
- Greeno, J. G., Collins, A. M., & Resnick, L. B. (1996). Cognition and learning. In D. Berliner and R. Calfee (Eds.), *Handbook of Educational Psychology* (pp. 15-41). New York: MacMillan.
- Gutherie, J. T., Hoa, L. W., Wigfield, A., Tonks, S. M., & Perencevich, K. C. (2006). From spark to fire: Can situational reading interest lead to long-term reading motivation. *Reading Research, and Instruction*, 45(2), 91-113.
- Hayes, J. R. (1996). A new framework for understanding cognition and affect in writing.

- In M. C. Levy and S. Randell (eds.), *The science of writing* (pp. 1-27). Mahwah, NJ: Erlbaum.
- Hayes, J. R. (2000). A new framework for understanding cognition and affect in writing. In R. Indrisano & J. R. Squire (Eds.), *Perspectives on writing: Research, theory, and practice* (pp. 6-44). Newark, DE: International Reading Association.
- Hayes, J. R. (2004). What triggers revision? In L. Allal, L. Chanquoy, & P. Largy (Eds.), *Studies in writing: Vol 13. Revision: Cognitive and instructional processes* (pp. 9-20). Norwell, MA: Kluwer.
- Hidi, S., Berndorff, D., & Ainley, M. (2002). Children's argument writing, interest, and self-efficacy: An intervention study. *Learning and Instruction, 12*, 429-446.
- Huot, B. (1990). The literature of direct writing assessment: Major concerns and prevailing trends. *Review of Educational Research, 60*, 237-263.
- IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.
- Jeong, J., Gaffney, J. S., & Choi, J-O. (2010). Availability and use of informational texts in second-, third-, and fourth-grade classrooms. *Research in the Teaching of English, 44*, 435-456.
- Kent, T. (ed.). (1999). *Post-process theory: Beyond the writing process paradigm*. Carbondale and Edwardsville, IL: Southern Illinois University Press, 1999.
- Kroll, B. M. (1984). Audience adaptation in children's persuasive letters. *Written Communication, 1*, 407-426.
- Langer, J. A. (1985). Children's sense of genre: A study of performance on parallel reading and writing tasks. *Written Communication, 2*, 157-187.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Leu, D., Keech, C., Murphy, S., & Kinzer, C. (1982). Effects of variation in writing test prompt upon holistic scores and other factors. In J. Gray (Ed.) *Properties of writing tasks: A study of alternative procedures for holistic writing assessment, a final report* (pp. 15-23). Berkley: University of California, Berkley, College of Education, Bay Area Writing Project.
- McAndrew, D. A. (1982). *The effects of an assigned rhetorical context on the syntax and holistic quality of the writing of first year college students*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 8303225).

- McCutchen, D. (2006). Cognitive factors in the development of children's writing. In A. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 115-130). New York: Guilford.
- McCutchen, D., Francis, M., & Kerr, S. (1997). Revising for meaning: Effects of knowledge and strategy. *Journal of Educational Psychology*, 89(4), 667– 676.
- McNamara, D.S., Louwerse, M.M., Cai, Z., & Graesser, A. (2005). Coh-Metrix version 3.0. Retrieved [November 5, 2012], from <http://cohmetrix.memphis.edu>.
- Midgette, E., Haria, P., & MacArthur, C. (2008). The effects of content and audience awareness goals for revision on the persuasive essays of fifth- and eighth-grade students. *Reading and Writing*, 21, 131-151.
- Mitchell, M. (1993). Situational interest: Its multifaceted structure in the secondary school mathematics classroom. *Journal of Educational Psychology*, 85, 424–436.
- Moss, B. (2008). The information text gap: The mismatch between non-narrative text types in basal readers and 2009 NAEP recommended guidelines. *Journal of Literacy Research*, 40, 201-219.
- National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common Core State Standards for English language arts and literacy in history/social studies, science, and technical subjects*. Washington, DC: Authors.
- Nolen, S. B. (2001). Constructing literacy in kindergarten: Task structure, collaboration, and motivation. *Cognition and Instruction*, 19(1), 95-142.
- Olinghouse, N. G., Zheng, J., & Morlock, L. (2012). State writing assessment: Inclusion of motivational factors in writing tasks. *Reading & Writing Quarterly: Overcoming Learning Difficulties*, 28(1), 97-119.
- Porter, D. & O'Sullivan, B. (1999). The effect of audience age on measured written composition, *System*, 27, 65-77.
- Purcell-Gates, V., Duke, N. K., & Martineau, J. A. (2007). Learning to read and write genre-specific text: Roles of authentic experience and explicit teaching. *Reading Research Quarterly*, 42, 8-45.
- Rafoth, B. A. (1985). Audience adaptation in the essays of proficient and nonproficient freshman writers. *Research in the Teaching of English*, 19, 237-253.
- Redd-Boyd, T. & Slater, W. H. (1989). The effects of audience specification on undergraduates' attitudes, strategies, and writing. *Research in the Teaching of English*, 23(1), 77-108.

- Roen, D. H. and Willey, R. H. (1988). The effects of audience awareness on drafting and revising. *Research in the Teaching of English*, 22, 75-88.
- Schunk, D. H. (1991). Goal setting and self-evaluation: A social cognitive perspective on self-regulation. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (pp. 85–113). Greenwich, CT: JAI.
- Singh, K., Granville, M., & Dika, S. (2002). Mathematics and science achievement: Effects of motivation, interest, and academic engagement. *The Journal of Educational Research*, 95, 323-332.
- Turner, J. C. (1995). The influence of classroom contexts on young children's motivation for literacy. *Reading Research Quarterly*, 30, 410–441.
- Weiser, M. E., Fehler, B. M., & Gonzalez, A. M. (Eds). (2009). Preface. *Engaging audience awareness: Writing in an era of new literacies* (pp. ix-xvi). Urbana, IL: National Council for Teacher of English.
- Wollman-Bonilla, J. E. (2001). Can first-grade writers demonstrate audience awareness?. *Reading Research Quarterly*, 36, 184-201.