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ANALYZING STUDENT WRITING: A MULTIPLE CASE STUDY EXPLORING
KINDERGARTEN TEACHER KNOWLEDGE OF EARLY
WRITING DEVELOPMENT

by

Nanette Mills Watson

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Education

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2021

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ABSTRACT

Analyzing Student Writing: A Multiple Case Study Exploring Kindergarten Teacher
Knowledge of Early Writing Development

by

Nanette Mills Watson, Doctor of Philosophy

Utah State University, 2021

Major Professor: Cindy D. Jones, Ph.D.
Department: Teacher Education and Leadership

Writing is a complex task that requires the coordination of multiple cognitive processes and component skills. Given this complexity, early writing follows a developmental progression of learning concepts and procedures that are necessary for conventional writing. Consequently, kindergarten teachers should provide writing instruction and experiences that supports students on the developmental level that is appropriately aligned to their strengths and needs.

The purpose of this qualitative multiple case study was to examine (a) kindergarten teachers' knowledge of early writing development, and (b) how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction. A study such as this is essential to better understand the responsiveness of kindergarten teachers to the developmental writing needs of their students.

The five participating kindergarten teachers each had education in early childhood, 3 or more years of experience teaching kindergarten, and rated themselves positively as a teacher of writing. Data were collected through an online questionnaire, a semistructured interview, and student writing sample analysis tasks. The within case analysis provided a qualitative description of each individual teacher including their instructional practices for writing. The cross-case analysis provided an in-depth description of the proposed teacher-student interactions from the student writing sample analysis tasks.

Analysis of the data revealed two themes. First, although teachers offered a variety of targeted teacher-student interactions, the proposed interactions that focused on supporting students' composing skills were limited. Second, although many of the proposed interactions were influenced by the developmental nature of writing, some were influenced by administrative goals or mandated testing, others were seen as a product of maturation. These findings are a step toward understanding kindergarten teachers' knowledge of early writing development and how this influences the instruction they provide.

(226 pages)

PUBLIC ABSTRACT

Analyzing Student Writing: A Multiple Case Study Exploring Kindergarten Teacher Knowledge of Early Writing Development

Nanette Mills Watson

The developmental nature of early writing warrants targeted instruction in writing concepts and skills in kindergarten classrooms. Given the complexity of writing and early writing development, research into kindergarten teacher knowledge of early writing development and how this influences instructional practices is appropriate.

To conduct this research, data was collected from an online questionnaire, a semistructured interview, and student writing sample analysis tasks of five kindergarten teachers. Qualitative data analysis was conducted and provided descriptions of individual teachers' instructional practices for writing and an in-depth description of the proposed teacher-student interactions from the student writing sample analysis tasks. Findings revealed that influences other than knowledge of early writing development exist and impact instructional practices of writing.

DEDICATION

To my husband, J. Cody Watson,
and our children, Carter, Ashley, Amelia, William, and Jacob.

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I am blessed to have so many to thank for their support in this challenging, yet enlightening, endeavor. I could not have completed this program and research without the support of my amazing family, friends, and professors.

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Thank you to the kindergarten teachers who participated in this study. After the most challenging year of online and/or blended learning due to the COVID pandemic these teachers offered their time and knowledge to this work.

Sincere gratitude to my friends and neighbors. Thank you for the support, for the interest in my work, and for the treats and encouraging words.

To my mom, thank you for teaching me the value of education. To my dad, thank you for your love and concern. To my siblings and in-laws, thank you for your continued interest in this project and your support.

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Nanette Mills Watson

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CHAPTER I

INTRODUCTION

Writing is increasingly recognized as a crucial component of literacy instruction in the kindergarten classroom. Moreover, writing is a complex and demanding task for young children because of the interaction of the cognitive effort, attentional control, and self-regulation required for the task (Graham & Harris, 2013). Nevertheless, it is because of this complexity that it is necessary to expose children to writing experiences and instruction at a young age to build a strong foundation and allow more time for mastery of writing skills to occur. Tolchinsky (2016) stated that children learn to master writing by being exposed to writing and by using writing. Providing effective early instruction will maximize young children's writing development (Lienemann et al., 2006).

Early childhood and primary grade teachers are encouraged to provide developmentally appropriate writing experiences for their students, not only for the benefits of growth in writing skills but for the building of literacy and language proficiencies (Clay, 2010; Diamond et al., 2008; Watanabe & Hall-Kenyon, 2011). For many children, kindergarten is their formal introduction to schooling and the early experiences that students have shape their understanding of literacy (White, 2013). Whereas literacy is a combination of the interdependent skills of listening, speaking, reading, and writing, early writing experiences can impact foundational literacy skills and subsequent academic success. Furthermore, the development of writing skills has been found to be beneficial to the development of reading skills (Clay, 2010; Diamond et al., 2008; Puranik et al., 2011; Ritchey, 2008). Writing integrates the early literacy skills of

concepts of print, letter knowledge, and phonological awareness, and each of these emergent skills predicts later literacy success (National Early Literacy Panel, 2008).

Statement of the Problem

Early literacy skills are strongly correlated with the later literacy skills of reading and writing (National Early Literacy Panel, 2008). Reading and writing have a reciprocal relationship (Biancarose & Snow, 2004; Graham & Harris, 2013; Jones & Reutzel, 2015; Lee & Al Otaiba, 2017); however, writing receives less attention in research and in the classroom (Coker et al., 2018a). In fact, The National Commission on Writing (2003) has deemed writing “the neglected “R” in the three R’s of schooling. This is concerning due to the impact that writing may have on various aspects of life. Indeed, writing is a multifaceted tool utilized for personal expression, communicating, and learning (Graham & Harris, 2013). Writing is recognized as essential for academic and vocational success (Graham & Hebert, 2010). Graham and Perin (2007) emphasize the importance of writing by stating that it is “not just an option for young people-it is a necessity” (p. 3). In academics, writing is both an outcome and a means of organizing knowledge, as it is used for learning and for assessing learning (Graham & Hebert, 2010). Acknowledging the importance of developing competency in writing and realizing that gains in writing skills support growth in reading ability increases the significance of understanding the precursors to conventional writing.

Writing involves the coordination of complex cognitive processes (Berninger & Winn, 2006) along with the knowledge of phonological and orthographic systems of

English (Lee & Al Otaiba, 2017) that develop over time with proper instruction and practice. Though literacy skills develop over time, the early years (birth through 8 years old) are a critical period for this development (Neuman et al., 2000). Notably, literacy skills do not develop naturally. Children need to be provided with wide exposure to print and experiences that support them in developing an understanding of the functions and concepts of print. Some children are offered rich home literacy experiences and/or preschool attendance and activities that facilitate the necessary foundational literacy learning (Burns & Casbergue, 1992; Hall et al., 2015; Purcell-Gates, 1996; Senechal et al., 1998). However, not all children are afforded rich literacy experiences. Individual differences in children's experiences with print cause a wide variation of student literacy skills. In a typical kindergarten classroom, there can be as much as a 5-year range in skills (Ritchey, 2008). It is imperative that teachers consider the initial range of kindergarten student abilities if they are to support students in developing their writing skills. For this reason, Graham and Harris (2013) emphasize the need for teachers to understand the importance of writing, how it develops, and how to effectively teach it.

When teachers understand the developmental nature of writing and the necessity of explicit instruction of writing skills, they can better support students in acquiring the essential writing skills through developmentally appropriate literacy interactions and through modeling (Teale & Sulzby, 1986; Vygotsky, 1978). Neuman and Roskos (1993) studied the influence of adult mediation on writing activities in preschool play centers. During the intervention, adults interacted with children to provide one of three levels of support: (a) actively assisting children in literacy-related play, (b) monitoring and

observing children in the play setting, and (c) a nonintervention group. During the highest level of support, adults interacted with children, encouraged conversations, and modeled how the writing materials could be used. Children receiving the highest level of mediation made the greatest progress on writing outcomes, while children in the lower mediation groups made only slight progress. The results of this study indicated that children may make greater gains when they participate in learning interactions mediated by adults.

There is wide variation in the amount and type of writing instruction provided in the early grades (Coker et al., 2018a; Cutler & Graham, 2008; Puranik et al., 2014). Although there are several components of writing that teachers can and should teach, teachers may have a singular focus in writing instruction, which leaves instruction for other components lacking. For instance, Coker et al. observed first-grade classrooms and coded the witnessed instruction as either skills-based instruction (e.g., handwriting, keyboarding, spelling, grammar, and punctuation) or composing instruction (e.g., process writing, narrative composing, informative composing, and sharing of student or teacher writing). The results of this observational study determined that when skills-based instruction was more common, students' composing skills were weaker. Similarly, when composing instruction was a priority, spelling scores were lower. For children to improve their overall writing skills, instruction is most beneficial when based on a child's current skill level and is responsive to the child's developmental needs (Cress & Holm, 2017). To accomplish this, it is critical for kindergarten teachers to understand the developmental nature of early writing and to provide targeted instruction to support children in their

writing development, thus providing differentiated assistance to support writing development (Cress & Holm, 2017). Teacher knowledge of writing development and subsequent teacher-student interactions highly influence the quality of the learning opportunities in the classroom (Hamre & Pianta, 2007). When teachers use scaffolding to help children create a piece of writing in kindergarten, children make significant, accelerated progress in writing over the course of the school year, including the use of appropriate spelling and directionality in written texts (Bodrova & Leong, 1998).

When teachers have a refined understanding of early writing development, they can then use student writing samples to determine a student's writing strengths and needs. "Scaffolding considerations are dependent on the knowledge of writing development. With this knowledge the teacher can provide the next step" (Cress & Holm, 2017, p. 94). In fact, teacher analysis of kindergarten students' writing may be one of the most important instructional tasks that influences development of early writing skills. Given this, a better understanding of kindergarten teachers' knowledge of early writing development and how this knowledge is used to analyze students writing to inform instruction is needed.

Purpose and Research Questions

The purpose of this study was to examine (a) kindergarten teachers' knowledge of early writing development, and (b) how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction.

Specifically, this study addressed the following questions.

1. What is the participating kindergarten teachers' knowledge of early writing development?
2. Given select kindergarten student writing samples:
 - a. What teacher-student interactions will the participating kindergarten teachers propose to initiate?
 - b. What components of writing are the focus of these teacher-student interactions from the student writing sample analysis?

Delimitations, Limitations, and Assumptions

Writing is a multifaceted skill that requires the coordination of multiple understandings and skills (Berninger & Winn, 2006; Puranik & Lonigan, 2014). Consequently, it is important for children to be taught these concepts and skills early in order to build a foundation of knowledge and skills for successful writing to occur. Kindergarten writing is an underrepresented topic in early literacy research. The research that is available on early childhood writing reveals there is large variability in the amount of time kindergarten teachers spend on writing (Puranik et al., 2014) with writing being absent in some early childhood classrooms (Coker et al., 2018a)

Research reveals that many teachers do not have a writing curriculum, thus making their knowledge of writing essential for planning and implementing writing instruction (Cutler & Graham, 2008). Additionally, the type of writing instruction most often observed in early childhood classrooms is not effective in improving students' writing achievement (Coker et al., 2018a). In observations conducted by Coker et al. teachers often favored a skills-based approach to writing instruction, favoring handwriting, spelling, and mechanics, opposed to a process-based approach focusing on

composing including generating ideas for writing and producing connected text. Favoring one approach over the other, may not meet students' needs concerning writing development.

As an early childhood educator, I understand the value of writing instruction. The time that I have spent teaching and observing in early childhood classrooms has confirmed the variability of skills that students bring to the classroom. With teacher knowledge often being the sole source for curriculum planning, I see the need for a study to explore kindergarten teacher knowledge of early writing development and how teachers use this knowledge to analyze student writing to plan teacher-student interactions. Therefore, this multiple case study sought to provide a description of experienced, full-time kindergarten teachers' knowledge of early writing development and how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction.

To answer the research questions, the following inclusion criteria was determined for the participants of the study. The kindergarten teachers were (a) currently be teaching full-day kindergarten, b) have an early childhood endorsement, (c) had 3 or more years of experience teaching kindergarten, and (d) positively rate themselves as a teacher of writing. Defining the participants with this criterion describes the scope and provides boundaries to the study.

To increase trustworthiness in case study research, Yin (2018) recommends implementing a case study protocol and creating a case study database. Both recommendations were included in this study. The case study protocol explicitly

documented the procedures that were followed including stating the objectives, the data collection procedures, and an outline for reporting the case study. The case study database was created by organizing and documenting the data collected. Not only does this allow for ease in replication of this study, but it also allows for inspection of the data apart from the researcher's report on the data.

The qualitative nature of this study limits the generalizability of findings to the greater population. However, the method of multiple case study design, including five participants, and the data collection including an initial survey, a questionnaire, student writing sample analysis tasks, and a semistructured interview enabled the student researcher to provide a rich description of each case. Additionally, the study design allowed for cross-case analysis. The in-depth within case and cross-case analysis provided a detailed description of the phenomenon under study.

A limitation to consider is that the writing samples used in the writing sample analysis tasks are decontextualized, and they were the only source of knowledge that the participant has about the student. Typically, teachers know more about the student's knowledge, behavior, and background when planning instructional strategies. The proposed teacher-student interaction the participant described may be different than one they would implement in the classroom with having more background about the child. However, a decontextualized writing sample is similar to the first few days/weeks of kindergarten when the teacher is getting to know the students and would likely have to make decisions about instruction based on a writing sample rather than student background. Additionally, teacher-student interactions in the classroom may differ from

those proposed by participants due to differences in the classroom setting including more knowledge about the student's skills and time constraints in the classroom.

An assumption of this study is that kindergarten teachers are willing to candidly discuss their writing instructional practices. Guidelines for conducting interviews were followed to help ensure the openness of the participants. The student researcher worked to establish a professional rapport with each participant to ensure the truthfulness and sincerity of the participants.

Significance of the Study

Research about kindergarten writing instruction is scarce; much attention has been paid to children's early reading development, while less attention has been paid to children's early writing development (Coker et al., 2018a). Studies have revealed, unfortunately, that primary grade teachers often feel underprepared to teach writing (Cutler & Graham, 2008). Correspondingly, observation studies report that early writing instruction is limited in early childhood classrooms (Coker et al., 2018a, 2018b; Puranik et al., 2014). This study seeks to better understand the breadth and depth of kindergarten teachers' knowledge of writing development and how teachers use this knowledge to analyze student writing to plan and implement writing instruction. A study such as this is essential to better understand the responsiveness of kindergarten teachers to the developmental writing needs of their students. This multiple case study seeks to provide the field of literacy education with a description of kindergarten teacher knowledge of early writing development and how this knowledge is used to analyze student writing to

inform teacher-student interactions and subsequent instruction. The information provided may influence teacher education and district administration to provide instruction and resources to support kindergarten teachers in gaining more knowledge about early writing development and writing instruction.

Definitions of Key Terms

Conceptual knowledge: a domain of the emergent writing framework; an understanding of the purposes and basic structure of writing, including an awareness of concepts of print and an understanding that print carries meaning and recognition of the directional pattern of print (Puranik & Lonigan, 2014).

Conditional knowledge (in reference to teacher knowledge): the understanding of application of a subject, or “the when, where, and why” of the subject (Almasi & Fullerton, 2012; Archer & Hughes, 2011).

Composing: the translation of ideas into some form of written output (e.g., a mark, a drawing, a letter, or a word; Bingham et al., 2017).

Composing instruction: writing instruction that includes process writing, narrative or informative composing, and sharing of student or teacher writing (Coker et al., 2018a).

Conventional writing: written language that includes correct concepts of print, spelling, and punctuation; or “writing that has the attributes of adult writing in terms of spelling and communication” (Cress & Holm, 2017).

Declarative knowledge (in reference to teacher knowledge): the information and facts of the subject being considered, referred to as “the what” of the topic (Almasi &

Fullerton, 2012; Archer & Hughes, 2011).

Early writing: the developmental process of learning the concepts and procedures necessary for conventional writing (Ritchey, 2008).

Early Writing-9 (EW-9): a 9-point scale designed to score the continuum of early writing skills (Campbell et al., 2019).

Emergent literacy: literate knowledge, processes, and written products of children from infancy through kindergarten as they move from nonconventional to conventional means of communication and representation (Teale & Sulzby, 1986).

Generative knowledge: a domain of the emergent writing framework; involves the ability to produce writing beyond the letter or single word level by creating and composing thoughts and ideas into a linguistic representation (Puranik & Lonigan, 2014).

Kindergarten: typically, the first formal schooling provided. In the United States, children begin this grade the fall after turning age five (Puranik et al., 2014).

Non-conventional writing: writing that does not demonstrate most of the acceptable rules and uses of writing to communicate or represent (National Association for the Education of Young Children, 1998)

Primary grades: in the United States, most often referring to first through third grades (Cutler & Graham, 2008; Graham et al., 2003).

Procedural knowledge (in reference to the emergent writing framework): the skills concerning the mechanics of writing: including alphabet knowledge, letter formation, name writing, and the spelling of simple words (Puranik & Lonigan, 2014).

Procedural knowledge: understanding the skills or steps required to put

information into action or “the how” of implementing subject knowledge (Almasi & Fullerton, 2012; Archer & Hughes, 2011).

Scaffold: an instructional technique to support learners to function at levels higher than their zone of proximal development (Wood et al., 1976)

Skills-based instruction: writing instruction that includes guidance in handwriting, keyboarding, spelling, grammar, and punctuation (Coker et al., 2018a).

Translation: converting one type of representation into another type of representation. In writing, there are two components: encoding thoughts and ideas into meaningful words, phrases, clauses, and sentences and the transcription of the sentences into written language (Fayol M. , 2016; Flower & Hayes, 1981).

Transcription skills: the mechanics of converting sentences, phrases, and words into written symbols and includes handwriting, spelling, and punctuation (Berninger & Winn, 2006; MacArthur & Graham, 2016).

Text generation: the process by which the writer translates his or her planned ideas into meaningful words, phrases, and sentences (Berninger & Winn, 2006).

Writing development: the development of basic understandings of written language by children in the primary years, specifically, the relationship between oral and written language. This includes the ability to generate language at the word, sentence, and text levels and the development of skills such as handwriting and spelling (Tolchinsky L., 2016).

CHAPTER II

LITERATURE REVIEW

Early writing skills are an essential component of early literacy development. The acquisition of early writing skills is understood as a developmental progression, with its origins early in life, rather than beginning when a child starts school (Teale & Sulzby, 1986). The experiences and activities involving print in which children are engaged in before formal schooling aid in building a foundation of early writing abilities (Purcell-Gates, 1996). Likewise, a lack of experience with print may restrain the development of early writing skills. As a result of early experiences and activities influencing children's early writing abilities, children enter kindergarten with a range of proficiency in early writing skills (Ritchey, 2008). Due to the diversity in writing proficiencies of kindergarten children and the developmental nature of writing, children require targeted instruction to support their development of writing skills. As such, the needs of writers vary “from one situation to the next; it is unlikely that teachers who make little or no effort to adapt their instruction will be effective in meeting the needs of their weakest students” (Graham et al., 2003, p. 289).

Clearly, it is important for kindergarten teachers to meet the literacy development needs of their students including development in writing. In order to do so, they must understand early writing development and use this knowledge to identify a child's strengths and needs regarding early writing. Furthermore, it would be beneficial to apply this knowledge of early writing development in the analysis of kindergarten students' writing to inform teacher-student interactions. Schickedanz (1999) suggests, “Children's

errors often show us what they know about the conventions of writing, as well as what they have not yet learned” (p. 115). When teachers understand early writing development and can analyze student work to determine the student's strengths and needs, they are better prepared to provide targeted instruction to support students in their writing development (Clay, 1993).

This study pursues a better understanding of kindergarten teachers' knowledge of writing development and how this knowledge may be used to analyze kindergarten student writing to inform teacher-student interactions. Thus, the purpose of this review of the literature is to evaluate and synthesize prior research exploring 9a) early writing development, 9b) kindergarten teacher knowledge of early writing development, and (c) how this knowledge may be used to analyze student writing to inform teacher-student interactions. To examine the current literature and provide a background for the study, I first present the theoretical foundation of the study by describing models of early writing development. Then, I evaluate the existing literature about teacher knowledge of early writing development and how this knowledge can be applied to analyze student writing samples to inform teacher-student interactions in kindergarten classrooms.

Models of Writing Development

The multidimensional task of writing requires the development and coordination of many component skills, including, but not limited to, cognitive abilities, language skills, and emergent literacy skills (Berninger & Winn, 2006; Clay, 1975; Puranik & Lonigan, 2014). Researchers have studied writers and the processes they use (Berninger

& Winn, 2006; Flower & Hayes, 1981; Juel et al., 1986) and from this research models of writing have been produced that provide a framework to study the processes of writing and the development of early writing concepts and skills. Due to the complexity of writing, there are several models of writing development. Indeed, with new research, newer models build on previous models to further our understanding of writing processes and development. These models can be used as a framework to understand the complexity of writing development.

Cognitive Process Theory of Writing (Flower & Hayes, 1981)

Prior to the 1970s, writing research primarily focused on examination of the final written product. Beyond the final product, Flower and Hayes (1981) were interested the process of writing, specifically the connections of thinking, learning, and writing. This particular focus of study is considered a cognitive based approach to writing research. The goal of cognitive based research is to understand development and learning (MacArthur & Graham, 2016). Flower and Hayes desired to understand the cognitive processes that engage during writing, from the beginning, when the task is assigned, to the final draft. In their 2-year study, skilled adult writers were asked to describe the cognitive processes they engaged in while completing an expository writing task. The skilled adult writers were asked by the researchers to think aloud while they were writing. The thinking aloud protocols was done in an attempt to clarify the mental processes that occur during writing.

The think aloud descriptions provided by the skilled adult writers were coded and

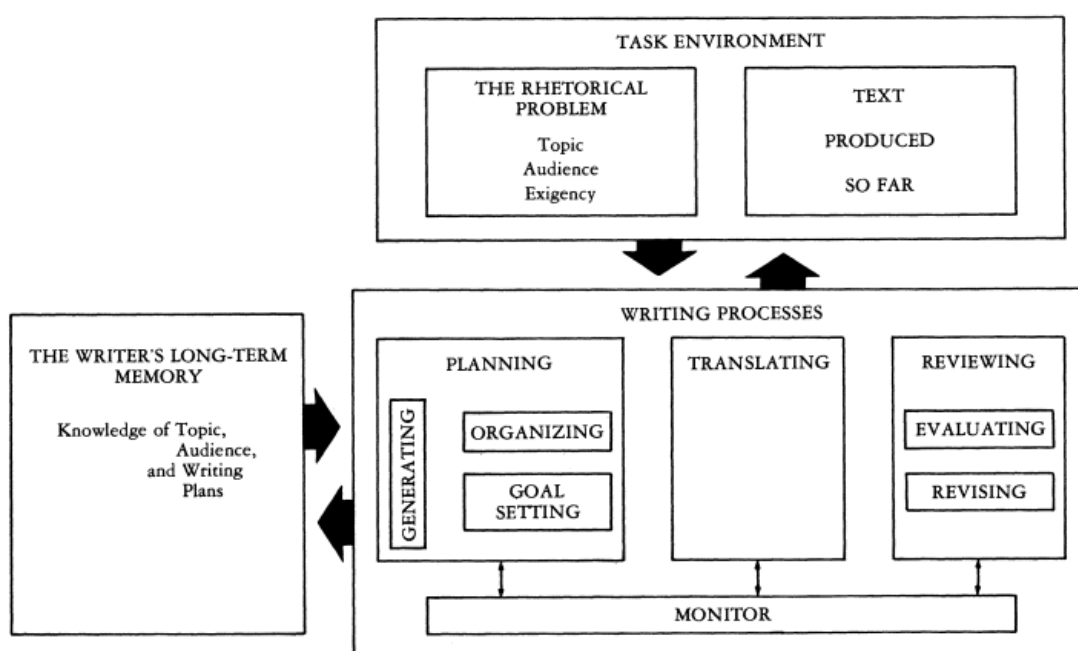
analyzed to examine alignment between the mental processes they utilized and the researchers' proposed model that includes the following three elements: the task environment, the writer's long-term memory, and the writing process. The task environment includes elements that are external to the writer, such as the resources available (e.g., notes, previous drafts). Also included in the task environment are the topic and the intended audience. The writer's long-term memory, another element of the researchers' model, supports not only the content knowledge for the writing topic, but also knowledge for discourse processes. Content knowledge is the factual knowledge about a subject; whereas discourse process knowledge is information about text genre and the mechanics of writing, including how to form letters, spell words, and edit. The last element of the researchers' model is the writing process. The writing process includes the key cognitive processes of planning, translating, and reviewing. Each of these key cognitive processes have subcomponents that can be described to further illustrate the complexity of cognitive process. Planning includes goal setting, generating ideas, and then organizing the ideas. The translating process is the process of representing ideas, images, and thoughts in written language. Lastly, the process of reviewing includes evaluating and revising, during which, the writer reads and evaluates what they have written and makes revisions as deemed necessary. A model of the cognitive process theory of writing is provided in Figure 1.

The cognitive process theory of writing was the first study to explain the mental operations of a skilled writer during the process of writing (Flower & Hayes, 1981), thus it is considered seminal work in the field of writing research. However, a limitation to

this model is that it does not provide information about the writing process for beginning writers. In the following model of writing, the simple view of writing (Juel et al., 1986), the researchers studied the writing process for novice writers.

Figure 1

A Cognitive Process Theory of Writing



Note. Flower and Hayes, 1981, p. 370. Copyright 1981 by the National Council of Teachers of English. Reprinted with permission (see Appendix H).

Simple View of Writing: Juel et al. (1986)

In contrast to identifying the cognitive processes of skilled adult writers, Juel et al. (1986) sought to explain the writing process for beginning writers. Through a longitudinal study with first- through second-grade students, who were in the process of developing their writing skills, the researchers hypothesized that writing quality is dependent on two basic components: spelling and ideation. The researchers selected to

focus on components that they determined were the “primary influences” on writing (p. 245). Using only two basic components, the researchers named the model the simple view of writing (Juel 1988; Juel et al., 1986). Although their proposed model uses only two components the authors defend their model stating, “a model is not wrong just because it is simple; it is only wrong if it yields false predictions” (p. 244).

Juel et al. (1986) affirmed that spelling and ideation are “global in nature” or complex and can be divided into subcomponents (p. 245). They recognize that spelling is influenced by letter name knowledge and phonemic awareness. Whereas ideation includes the ability to generate creative thoughts and to organize those ideas into sentences and text structures (Juel, 1988). The authors identified spelling as a lower-level skill and ideation as a higher-level skill; together, these two skills form the central components necessary for writing.

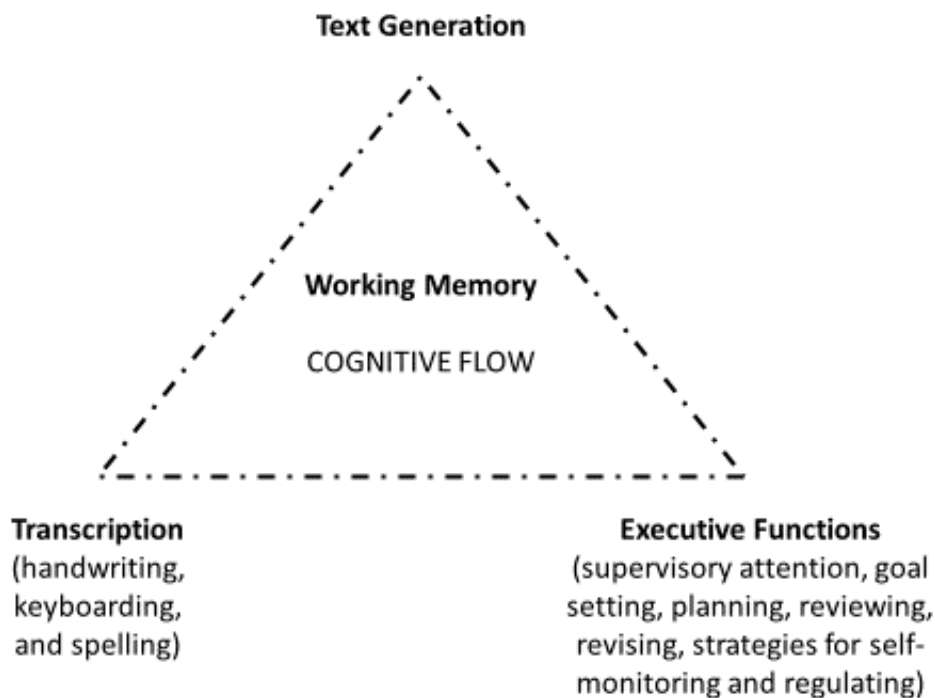
**Not-So-Simple-View of Writing:
Berninger and Winn (2006)**

Berninger and Winn (2006) provide empirical evidence for an expanded model of the simple view of writing (Juel et al., 1986) through a series of brain imaging studies investigating the cognitive processes of children who are in the process of learning and developing writing skills. The proposed model, the not-so-simple-view of writing (NSSVW; Berninger & Winn, 2006) expanded the previously suggested components of spelling and ideation to transcription skills and text generation, respectively, and integrated two newly recognized components of executive functions and working memory. Thus, making the four principal components in the NSSVW model

transcription, text generation, executive functions, and working memory. This model is shown in Figure 2. The working memory component is hypothesized to be central to the other three components and is used for accessing long term memory during composing and short-term memory when reviewing.

Figure 2

Not-So-Simple-View of Writing



Note. Berninger and Winn, 2006, p. 97, Republished with permission of Guilford Publications, Inc., from Handbook of writing research, MacArthur, Graham, & Fitzgerald; permission conveyed through Copyright Clearance Center, Inc.

Each of the four components of the NSSVW, transcription, text generation, executive functions, and working memory, are dependent upon and supported by multiple subskills and knowledge sources. Transcription skills, or translating language into text, involves the skills of handwriting or letter production, spelling, and keyboarding.

Handwriting is supported by the fine motor skills that are required for producing correct letter forms. Spelling, or orthographic knowledge, is supported by phonology (sound) and morphology (meaning) representations (Copp et al., 2019). Text generation or translating thoughts into discourse at the word, sentence, or text level is also known as composition. Text generation is supported by oral language, specifically vocabulary and syntax. Executive functions involve supporting the writer in coordinating the processes involved during writing, including regulating attention and staying on task, both are necessary for the composing processes of goal setting, planning, reviewing, and revising. Regulating attention not only focuses on the relevant task but also inhibits nonrelevant information. This is accomplished through self-monitoring, a crucial component of executive functions. Working memory includes the processes used to store and manipulate information and is comprised of both short-term memory and long-term memory. Long-term memory stores the knowledge necessary to work on and complete the processes of planning, composing, reviewing, and revising. Whereas short-term memory is only activated during reviewing and revising.

As previously described, Berninger and Winn (2006) illustrate the complex interaction of the multiple skills and knowledge sources necessary for writing, thus highlighting the dynamic nature of writing. Each of the components of the NSSVW model (e.g., transcription, text generation, executive functions, and working memory) are not only developed and supported by subcomponents or skills (e.g., fine motor skills, oral language skills, regulating attention, etc.) but each component interacts and supports the other components of the model. Therefore, this model accounts for the complexity of the

crucial cognitive processes of beginning writers.

Summary of Writing Models

Each of the writing models that were presented, in this chapter, have focused on the coordination of the cognitive processes that are necessary for writing. Accordingly, the cognitive writing process theory (Flower & Hayes, 1981) examined the writing process for skilled adult writers and detailed that the integral components to produce written text include: the task environment, the writer's long-term memory, and the writing process. The cognitive processes recognized in this model include planning, translating, reviewing, and revising. Furthermore, the simple view of writing (Juel et al., 1986) focused on the writing processes of novice writers and narrowed the complex process to the two primary components of spelling and ideation. Building on previous models of writing, Berninger and Winn (2006) added the essential features of executive functions and working memory to the primary components of text generation and transcription. Thus, giving a more complete description of the cognitive processes that are involved for novice writers. The three models presented in this chapter show progression in research and how research has shaped educators' understanding of the complexity of writing. The NSSVW model provides a comprehensive representation concerning the coordination of the cognitive processes that must be activated for early writers to be successful. Therefore, the NSSVW model was included in the framework of this study to investigate kindergarten teacher knowledge of early writing.

Early Writing Development

Early writing development is outlined in this portion of the chapter, by emphasizing the early writing concepts and skills that children need to understand about written language and the developmental progression of early writing. These foundational knowledges and skills are necessary to include in the framework of this study to support the purpose to describe kindergarten teachers' knowledge of early writing development.

Emergent Writing Framework: Puranik and Lonigan (2014)

Recognizing that multiple cognitive processes are necessary for writing led Puranik and Lonigan (2014) to describe the foundational concepts and skills that children need to understand before writing and that they put into use during early writing tasks. The authors characterize the early writing skills of their emergent writing framework into three distinct, yet interrelated domains: conceptual knowledge, procedural knowledge, and generative knowledge. Table 1 includes a summary of the three domains in the emergent writing framework.

Table 1

Emergent Writing Framework

Skill domain	Definition
Conceptual knowledge	The child understands the universal principles, including that print carries meaning and concepts of print, especially directionality.
Procedural knowledge	The child understands the symbolic nature of letters, including identifying letters and writing letter forms.
Generative knowledge	The child is able to convey meaning through writing at the word, sentence, and discourse levels

Puranik & Lonigan (2014)

Conceptual knowledge is an understanding of the purposes and basic structure of writing, including an awareness of concepts of print and an understanding that print carries meaning and recognition of the directional pattern of print. An awareness that print carries meaning is an often neglected writing competency; however, it is foundational for writing and a vital component of early writing development. Even though children may not have a complete knowledge of the written code, they can come to understand that writing represents a message (Clay, 1993; Puranik & Lonigan, 2014).

The two-year-old will put pencil to paper and scribble for the joy of movement or for the visually satisfying marks that appear. Nevertheless, somewhere between three and five years, most children become aware that people make marks on paper purposefully. In imitation, they may produce scribble writing, linear mock writing, or mock letters. (Clay, 1975, p. 48)

Additionally, other necessary language-specific features of writing are directionality (left to right in English writing) and spacing between words. The foundational understandings incorporated in the conceptual knowledge domain (e.g., print carries meaning and concepts of print) are necessary for early writing development. This is a missing component from any previous model or theory of writing.

Procedural knowledge encompasses the skills concerning the mechanics of writing: including alphabet knowledge, letter formation, name writing, and the spelling of simple words. Alphabet knowledge is the ability to identify uppercase and lowercase letter forms and the sounds they represent. Letter formation includes the development of simple characters (lines, dots, and letter-like forms) to complex characters (real letters). Also related to letter formation is the segmentation of letter units, or spaces between words (Puranik & Lonigan, 2014). Spelling of simple words is a procedural knowledge

skill that consists of representing the phonemes of language into written text. Procedural knowledge in the emergent writing framework can be likened to the transcription component (i.e., handwriting, spelling, and keyboarding) of the NSSVW (Berninger & Winn, 2006).

Generative knowledge is the third component of the emergent writing framework, and it involves the ability to produce writing beyond the letter or single word level. The generative knowledge domain includes text generation, which is creating and composing thoughts and ideas into a linguistic representation. An example of text generation for a novice writer is having a student describe an event or a picture. The oral activity of describing an event or a picture strengthens text generation skills by allowing the student to work through the process of translating ideas into words. The generative knowledge component can be equated to ideation in the simple view of writing (Juel et al., 1986) and text generation in the NSSVW (Berninger & Winn, 2006).

A major difference among the emergent writing framework (Puranik & Lonigan, 2014) and previously described models of writing is the inclusion of conceptual knowledge. The conceptual knowledge component describes universal principles and functions of the written code that must be understood before writing attempts take on meaning and are differentiated from drawings or scribbles. This framework of “writing-related concepts” has been included in this chapter to highlight the importance of the foundational concepts, such as conceptual knowledge (p. 455). Additionally, this framework provides another source, along with the previously described models of writing, to describe the skills and concepts that are necessary for success in writing.

Developmental Progression of Writing

Thus far, the cognitive processes, foundational concepts, and skills needed for writing have been described. Next, the developmental progression of children's markings and attempts at writing will be explained. Early writing follows a general developmental progression of increasingly sophisticated accomplishments starting with preconventional forms of writing and spelling and moving toward conventional forms (Clay, 1975; Sulzby, 1986). The general progressive pattern of children's early development as writers has been described in six categories: drawing, scribbling, letter-like forms, well-learned units, invented spelling, and conventional writing (Sulzby, 1986). Although these categories seem to signify a linear development, with "skills being mastered at one level prior to moving on to subsequent levels," it is important to note that early writing development should be viewed as quasi-linear where "skills are developing simultaneously so that children refine skills of varying complexity concurrently rather than sequentially" (Kaderavek et al., 2009, p. 106).

An in-depth description of each of the six categories of early writing development (Sulzby, 1986) is beneficial to understanding the skills and strategies that children acquire as they work toward conventional writing. Early writing often begins with drawings, such as using a picture to represent communication. For example, a child may draw a picture of a house representing a time they went to their grandma's house for a dinner with extended family. The subsequent category of writings often contains scribbles or wavy lines that stretch across a page. Although drawings and scribbles may not look like writing to an adult; when a child uses a picture or scribbles to represent a

thought or idea, it signifies that the child has conceptual knowledge of writing, including understanding the purpose of writing (Clay, 1975; Puranik & Lonigan, 2014). Likewise, a child may scribble across a page and then “read” their markings to another as if it were written language; this behavior shows that the child understands that print has meaning. The third developmental category involves letter-like forms: markings that resemble letter shapes but are not correct letter forms, and sometimes include numbers and symbols. After children have written with letter-like forms their writing begins to contain well-learned units that are often letters used at random, and not necessarily corresponding to speech sounds. The fifth developmental category, invented spelling, is produced when a child makes the connection between alphabet knowledge and phonological awareness. When using invented spelling, the child attempts to write words phonetically using the sounds heard in the spoken word and matching the letter to those sounds in which it represents. In the sixth and final category, conventional writing, the writing has qualities of proficient writing, such as solid understanding of directionality, the concept of a word, conventional spelling, and punctuation.

Although these categories frequently occur in early writing, it is important to highlight that “there is not just one developmental sequence that can be found in children's use of writing systems” (Sulzby, 1986, p. 70); hence, the quasi-linear progression of early writing development (Kaderavek et al., 2009).

The journey to skilled writing involves many small steps, false starts, plateaus, and regressions, along with some leaps forward and a few major developmental transitions along the way: The processes contributing to writing development cascade (overlap) and show developmental discontinuities. (Berninger & Winn, 2006, pp. 108-109)

Puranik and Lonigan (2011) concur and posit that the progression of writing development from drawing to conventional writing is task dependent. A child may revert to a less advanced writing category when asked to complete a more sophisticated writing task. For example, a child may spell his or her name correctly next to a drawing yet may resort to writing random letters or pseudowords when asked to write a grocery list. The reverse is also true, that a child may use a more advanced writing category for an easier task.

Flower and Hayes (1981) recognize that “so little of the writing process is automatic for children, they must devote conscious attention to a variety of individual thinking tasks which adults perform quickly and automatically” (p. 374). Accordingly, the writing tasks required for writing have been categorized into either low-order or high-order skills (Berninger & Winn, 2006). Transcription, turning ideas into linguistic representations and then turning linguistic representations into symbols of writing, include the skills of letter formation and correct spelling. These are often referred to as low-order skills (Berninger & Winn, 2006). Whereas text generation and executive function tasks are considered high-order skills. Fluency of lower-order skills is essential to early writing development to reduce the cognitive load for the higher-order task of composing. If a writer labors with handwriting or spelling, there is less cognitive capacity available for high-order tasks such as planning and composing (Hayes & Berninger, 2009). The opposite is true, when students are fluent in low-order tasks then more cognitive resources are available to support text generation (Coker et al., 2018a). This indicates that text generation is constrained by transcription skills.

The natures of early writing development are as multifaceted as the cognitive

processes and skills necessary for successful writing. The emergent writing framework (Puranik & Lonigan, 2014) concisely categorized the many concepts and skills that are crucial in the development of beginning writers. The researchers created this organizational framework to assist teachers in the assessment of young children's writing. Additionally, the general developmental progression that occurs for early writers is a source of knowledge that educators can use to describe and evaluate children's early writing attempts. Understanding what children know about writing (e.g., emergent writing framework) and the writing that they are able to produce (e.g., developmental progression) are necessary for teachers to determine what the child understands about writing and what is next for the child to learn. As the purpose of this study is to describe kindergarten teachers' knowledge of early writing development, the emergent writing framework (Puranik & Lonigan, 2014) and categories of developmental writing (Sulzby, 1986) are included in the framework of this study as together they provide a description of the concepts and skills that children need to learn.

Scales Used to Analyze Student Writing

A student's writing ability can be evaluated through analysis of writing samples (Clay, 1993). However, as previously described, there are multiple concepts and skills required for writing. Thus, using a scale to support writing sample analysis can assist teachers in evaluating the developmental progression of a child's writing and what a child understands to assist with scaffolding of writing instruction.

Puranik and Lonigan (2011) suggest that there is not a "gold standard for scoring

emergent writing” (p. 584). However, two scales, created by researchers, correspond to the conceptual knowledge of writing and to the progression of writing skills to assist teachers with analyzing student writing.

Clay (1993) created rating techniques that can aid teachers in the task of analyzing student writing. These rating techniques for writing samples are an observation task of the Observation Survey of Early Literacy Achievement (OSELA, Clay, 1993). The rating techniques include three concepts concerning writing: message quality, directional principles, and language level. Each of these concepts will be briefly described here. Additionally, Table 2 provides further detail about each concept addressed in the rating techniques. Message quality includes the concept that print carries meaning. Directional principles cover developing knowledge of directional patterns including spaces between words and arrangement on the page. Language level is the final component and includes descriptors for the sophistication of the written text from letters to words, sentences, and paragraphs.

The rating techniques provided by Clay (1993) support analysis of writing samples by recognizing the three knowledge levels (e.g., conceptual, procedural, and generative) addressed in the emergent writing framework by Puranik and Lonigan (2014). Teachers could use this scale to determine the level of student understanding (e.g., not yet satisfactory, and probably satisfactory) concerning the concepts and skills of message quality, directional principles, and language level.

The second scale to be described, was created by Campbell et al. (2019) who sought to create a scoring system applicable for early writing development. The authors

Table 2*Rating Techniques for Writing Samples*

Writing concepts and skills	Level of student understanding	Scoring criteria
Message quality	Not yet satisfactory	<ol style="list-style-type: none"> 1. The child has a concept of signs 2. The child has a concept that a message is conveyed 3. A message is copied 4. Repetitive use of sentence pattern
	Probably satisfactory	<ol style="list-style-type: none"> 5. Attempts to record own ideas 6. Successful composition
Directional principles	Not yet satisfactory	<ol style="list-style-type: none"> 1. No evidence of directional knowledge 2. Part of the directional pattern is knowledge 3. Reversal of directional pattern 4. Correct directional pattern
	Probably satisfactory	<ol style="list-style-type: none"> 5. Correct directional pattern and spaces between words 6. Extensive text without any difficulties of arrangement and spacing of text
Language level	Not yet satisfactory	<ol style="list-style-type: none"> 1. Alphabetical (letters only) 2. Word (any recognizable word) 3. Word group (any two-word phrase) 4. Sentence
	Probably satisfactory	<ol style="list-style-type: none"> 5. Punctuated story (of two or more sentences) 6. Paragraphed story (two themes)

Note. Clay (1993).

developed the Early Writing-9 (EW-9) scale to be more sensitive to “capturing incremental growth in children's writing abilities” (p. 943). The EW-9 scale differs from the rating techniques provided by Clay (1993) in that it focuses on students’ markings and letter formations and progression toward conventional writing and spelling. The EW-9 scale includes three pre-alphabet levels, two letter formation levels, and three levels reflecting progression in alphabetic principle and invented spelling and one level for conventional spelling. Table 3 provides the language level and scoring criteria for the EW-9.

Table 3*Early Writing-9 Scoring System (EW-9)*

Language level	Title	Scoring criteria
Pre-alphabetic	Scribble marks	<ul style="list-style-type: none"> • Random or mostly random
	Writing-like shapes or lines	<ul style="list-style-type: none"> • More intentional • Constrained units or wavy lines
	Lines represent words in speech	<ul style="list-style-type: none"> • Clear, horizontal lines • 1, 2, 3 rows • Stable lines
Letter formation	One or two recognizable letters	<ul style="list-style-type: none"> • Intentional • Independently identifiable • Mostly accurate form
	Three or more recognizable letters	<ul style="list-style-type: none"> • Same criteria as score of “4” • Little evidence of letter-sound correspondence
Progression in alphabetic principle	Beginning letter-sound (<25%)	<ul style="list-style-type: none"> • Letter-sound correspondence in at least 2 words after prompt (e.g., build a course)
	Medium letter-sound (25-49%)	<ul style="list-style-type: none"> • Several sounds (e.g., initial & final) in at least 2 words after prompt
	Phonetic or Invented Spelling	<ul style="list-style-type: none"> • Letter-sound in several words (including middle sounds) • One can “read” the message
Toward conventional	Toward Conventional Spelling	<ul style="list-style-type: none"> • Words spelled almost correctly (strong letter-sound correspondence) • Use of some orthographic patterns/rules

Note. Campbell et al. (2019)

The two scales, the EW-9 scale (Campbell et al., 2019) and the rating techniques from the OSELA (Clay, 1993), concentrate on different components of writing; yet, together, provide the necessary details for evaluating children’s writing. The EW-9 scale (Campbell et al., 2019) focuses on the developmental progression of students’ early writing efforts, segmenting children’s writing attempt into categories and subcategories.

An example of this sensitivity is in the three areas describing pre-alphabetic writing including, scribble marks, writing-like shapes or lines, and lines represent words in speech. Whereas, the EW-9 concentrates on the progression of the markings students use for writing, the rating techniques created by Clay include additional understandings that students need when writing, such as the message quality and directional principles. Therefore, the rating techniques Clay used alongside the EW-9 would support a teacher in analysis of student writing. These two scales are used in this study to recognize the components of writing that teachers discuss and focus on as they analyze student writing.

Sociocultural Perspective of Writing

In addition to describing the mental process of writing, it is necessary to recognize the social influences on writing (Prior, 2006). The sociocultural perspective, founded in the work of Vygotsky (1978) is a leading framework for writing research (Prior, 2006). Hodges (2017) explains that this theory highlights the social aspects of learning, especially the social collaboration between a student and a more knowledgeable other (MKO), or one who has a greater mastery of the content (e.g., parents, teacher, peers, authors of mentor texts). Children's early writing development is strongly associated with their experiences with books and print which is often mediated by an adult (Kaderavek et al., 2009). Two other central components of the sociocultural perspective are the zone of proximal development (ZPD) and scaffolding. Understanding ZPD and scaffolding leads to a more adequate view of the interaction between teacher and student and how it facilitates development of early writing skills in novice writers.

The ZPD is the range between a child's independent level and the child's level of execution with assistance (Vygotsky, 1978). A child's independent level consists of previously acquired abilities, thus making these abilities the child's strengths. Skills that are beyond the student's strengths are said to be in their ZPD. Once the student's strengths have been determined, support can be given to extend the student's strengths to the next level. However, it is important to note that there are tasks that fall outside a student's ZPD. Those tasks for which the student does not have prior knowledge or experiences will not support growth (Vygotsky, 1978). Bodrova and Leong (1998) clarified this concept when they explained that a story-writing task would be outside of a student's ZPD if the student is currently working on letter formation to write their name.

Scaffolds, according to sociocultural theory, are the learning supports teachers provide students (Wood et al., 1976). Scaffolding is a specific support that recognizes the student's ZPD and targets instruction in this area. In writing instruction, scaffolding may include instruction, explanations, providing feedback, or modeling writing practices. Berninger and Winn (2006) define the process of providing scaffolds as the teacher expertly guiding the learning process. In the context of teaching writing, it is important that teachers understand early writing development and the student's strengths and needs to provide instructional scaffolds that will assist students in their developmental progression.

The information about writing models, early writing development, and sociocultural theory informs this study and provides a framework for the research. The models of writing provide context for understanding the coordination of the multiple

cognitive processes that are required for success in writing. Additionally, the emergent writing framework (Puranik & Lonigan, 2014) and the general developmental progression describe and categorize the concepts and skills that young children need to learn to be successful in writing. Together, these models and frameworks describe the knowledge that teachers need to analyze each child's strengths and needs in early writing attempts. The sociocultural theory of writing illustrates the social aspect of learning to write and highlights the teacher's role in writing development. With the framework for this study established, the review of literature about kindergarten teacher knowledge of early writing development and teacher-student interactions during writing will be explained.

Review of the Research

Locating the Studies

This review of the research literature was conducted through a computer-assisted search of the following databases: Academic Search Ultimate, APA PsychInfo, Education Resources Information Center (ERIC), and Education Source. For the searches conducted, the search terms listed in Table 4 were used in combination. Variations of *writing development* descriptors were used in combination with the *analysis of writing sample* descriptors. An educational level was added as a third search term to narrow results. As articles were retrieved, the abstracts were reviewed to determine relevancy to this study. Furthermore, the literature review and reference sections from relevant articles were mined to identify additional sources.

Table 4*Search Terms*

Writing development	Analysis of writing samples	Educational level
Stages of writing development	Analysis of student writing to inform instruction	Kindergarten
Developmental stages of writing	Teacher analysis of student writing samples	Early childhood
Progression of writing development	Teacher analysis of student writing	Primary grades
Development of writing	Teacher perceptions of student writing	
Writing development	Using writing to understand literacy development	
Acquisition of writing skills	Analysis of student writing	
Writing acquisition	Student writing samples	

Inclusion/Exclusion Criteria

This search was restricted to studies published in English in peer-reviewed journals between 1980 and 2020 as it was during the late 1980s that the importance of writing instruction in kindergarten became an important focus of research. For example, in 1983, the editorial board of the National Association for the Education of the Young Child (NAEYC) rejected a manuscript of writing samples from young children with the rationale, “As you know, only oral language experiences are appropriate until children are 6.5 years old” (Schickedanz, 2018, p. 60). Some of the ground-breaking work that paved the way for children to receive writing instruction in early childhood settings are the following: invented spelling (Bissex, 1980; Read, 1971, 1975), the writing process (Flower & Hayes, 1981), and developmental writing (Clay, 1975; Gibson & Levin, 1975; Sulzby, 1986). Thus, research from this era is relevant to this study.

To identify relevant research, the titles and abstracts of possible articles were screened and then selected for review. Studies were considered if they examined kindergarten or primary grade teacher knowledge of early writing development and/or concerned teacher analysis of kindergarten or primary grade student writing samples. Also included were studies that explored kindergarten or primary grade teacher-student interactions relating to writing. Studies were limited to those regarding writing in the English language, as it has an opaque orthography, meaning that spelling does not transparently match phonology. Studies were not considered if the primary focus was on atypically developing children or English Learners. Table 5 presents an overview of relevant studies located in the computer assisted search. Additionally, Table 6 presents the relevant studies located in the computer-assisted search categorized by topic of the study.

Description of Studies

The computer-assisted search conducted for this review of the research literature yielded limited articles published in educational journals describing early writing development and/or teacher analysis of student writing samples. The hand-search of relevant articles' literature reviews and reference sections exposed a few additional articles.

Although articles were located that aligned with the search terms, the individual studies were limited in their scope. Some articles contained descriptive information of teacher knowledge of writing development, whereas others described processes of analyzing students' written work. However, no studies were located that reported teacher

Table 5*Overview of Relevant Studies Located in the Computer-Assisted Search*

Writing development	Analysis of writing samples	Level (can be embedded in another category)	Results	Relevant
Stages of writing development	analysis of student writing to inform instruction	kindergarten	none	
Stages of writing development	analysis of student writing to inform instruction	---	11 results	none
Developmental stages of writing	teacher analysis of student writing samples	kindergarten	None	
Developmental stages of writing	teacher analysis of student writing samples	early childhood	None	
Developmental stages of writing	teacher analysis of student writing samples	primary grades	None	
Development of writing in kindergarten	teacher analysis of student writing		82 results	6
Development of writing in early childhood	teacher analysis of student writing		166 results	3 new, some prior
Development of writing in primary grades	teacher analysis of student writing		140 results	2
Development of writing in kindergarten	teacher perceptions of student writing		10 results	1
Development of writing in primary grades	teacher perceptions of student writing		32 results	none
Progression of writing development	teacher perceptions of student writing	kindergarten	None	
Progression of writing development	kindergarten teacher perceptions of student writing		None	
Acquisition of writing skills	kindergarten teacher analysis of student writing		9 results	none
Development of young writers	using writing to understand literacy development		None	
Development of young writers	student writing samples	kindergarten	1 result	none
Writing development	writing ability testing	kindergarten	63 results	5
Writing acquisition	student writing samples	kindergarten	12 results	No new, 1 prior
Stages of writing development	analysis of student writing	kindergarten	18 results	none

Table 6*Relevant Studies Located in the Computer-Assisted Search Categorized by Topic*

Topic of Study	Number of relevant studies located in the computer-assisted search
Studies (interview, observation, survey) concerning teacher attitude, belief, and/or knowledge of writing development	4
Studies concerning analysis of student samples to understand/describe early writing development	3
Descriptive studies concerning describing writing development or analyzing student work	4
Correlational studies relating to success/growth in writing and other literacy skills	5
Studies exploring teacher-student interactions during writing	2
Reviews of literature, meta-analyses	0

knowledge of early writing development from analyzing student work or the components of writing that teachers emphasize during teacher-student interactions. For example, White (2013) explored the associations between quality of the teacher-child relationship and writing quality of kindergarten and first grade students but did not address teacher knowledge of writing or analysis of student writing samples. Instead of focusing on teacher knowledge of writing development, many articles focused on teacher beliefs or theories about writing development and instruction (Graham et al., 2003; Korth, et al., 2017; McCarthey & Kang, 2017; Wohlwend, 2009). Other articles focused solely on student writing samples, such as best practices for gathering writing samples from students (Price & Jackson, 2015) or a content analysis of the topics used in first grade writing journals (Manning et al., 1987). For example, as a teacher-researcher, Snyders (2014) analyzed kindergarten student writing samples to examine strategies and skills

that the students incorporate in their work and interviewed the students to determine the student's view of themselves as a writer. Moreover, other articles emphasized spelling error analysis in relation to reading ability (Lee & Al Otaiba, 2017) or the relationship between handwriting and spelling to written expression in kindergarten children (Puranik & Al Otaiba, 2012).

The remainder of the chapter will describe the findings, from the located studies, according to the topics that are relevant for this study including: teacher knowledge of early writing development, teacher analysis of student writing samples, scales used to analyze student early writing attempts, and teacher-student interactions related to writing.

Teacher Knowledge

While investigating knowledge growth in teachers, Shulman (1986) lamented that researchers often overlook “how subject matter is transformed from the knowledge of the teacher into the content of instruction” (p. 6). In consideration of Shulman’s concern, this study investigated the subject matter of early writing development and how the degree of the teachers’ knowledge concerning early writing development can be categorized through writing sample analysis tasks and responses to interview questions. Degrees or forms of knowledge can be described and categorized into three levels: declarative, procedural, and conditional (Archer & Hughes, 2011). Each of these forms of knowledge can be simply defined by the function words, what, how, when, where, and why.

Declarative knowledge is considered “the what” or the information and facts of the subject being considered (Almasi & Fullerton, 2012; Archer & Hughes, 2011). In

early writing development, declarative knowledge includes information about the concepts and skills that are necessary for writing to take place. These include understanding the complexity of the interaction of the cognitive processes of beginning writers (Berninger & Winn, 2006) and the categories of knowledge as outlined in the emergent writing framework (Puranik & Lonigan, 2014) and the general developmental progression of writing (Sulzby, 1986). For example, teachers would know that children must learn that print carries meaning. Declarative knowledge also includes one's beliefs and abilities about the subject (Almasi & Fullerton, 2012).

Next, procedural knowledge is referred to as "the how" or understanding the skills or steps required (Almasi & Fullerton, 2012; Archer & Hughes, 2011). Procedural knowledge is described as "transforming information into action" (Almasi & Fullerton, 2012, p. 12). Procedural knowledge, in relation to early writing development, would be knowledge of the skills and strategies that should be taught to support young learners in writing.

Last, conditional knowledge is "the when, where, and why" or the application of the subject (Almasi & Fullerton, 2012; Archer & Hughes, 2011). Conditional knowledge of early writing development is the knowledge of when to apply the procedural knowledge or skills and strategies of early writing instruction.

Teacher knowledge of early writing development can be described using these three forms of knowledge. Teachers may have a factual knowledge (e.g., declarative knowledge) of early writing development, but that may be the extent of their understanding of early writing development. Through interview and writing sample

analysis tasks, teacher knowledge on this subject can be further defined to specify the degree of knowledge that the teacher has in relation to early writing development. Using these categorizations of knowledge to describe teachers' understanding of early writing development assisted in describing the type and extent of knowledge that teachers acquire as they become more proficient in their knowledge of writing.

Teacher Knowledge of Writing and/or Writing Development

Teacher attitudes and beliefs are personal views; whereas teacher knowledge is factual information about a discipline that has been agreed upon by scholars. Teacher attitudes and beliefs about writing are often researched (Cutler & Graham, 2008; Harward et al., 2014). Conversely, research about teacher knowledge of writing is lacking. Teacher attitudes and beliefs may be researched because beliefs and attitudes have been found to influence the decision-making process about classroom instruction (Pajares, 1992). While that is the case, attitudes and beliefs about a content differ from a strong knowledge base about a content. Although, teacher attitudes and beliefs about writing may influence instruction they do not inform the field about teacher knowledge of early writing development.

To support each child in their growth in writing, it is imperative that teachers are aware of the emergent and individualized nature of writing development. The emergent phase of writing development that occurs during kindergarten is critical and should not be overlooked or rushed. Although, research concerning teacher knowledge of early writing development is scarce, what has been gleaned from the studies found in this literature

review will be shared.

Only two studies located in this literature review identified and provided details about teacher views of writing including teacher knowledge of writing development in the primary grades. Table 7 presents a description of the research methods utilized in both studies. Although both studies were case study design, one study included five participants, whereas the other study included two participants. Korth et al. (2016) involved five primary grade teachers, with varying years of teaching experience (2 to 21 years), as participants. The primary grade teachers included two second grade teachers, two first grade teachers, and one kindergarten teacher. The kindergarten teacher had a bachelor's degree with endorsements in early childhood education and middle school math. She also had 21 years of teaching experience. McCarthy and Kang (2017) included two kindergarten teachers, one experienced teacher (21 years) and one novice teacher, in her second year of teaching.

In the case study of five primary grade teachers, the researchers implemented semistructured interview as the primary data source (Korth, et al., 2017). The interview questions were related to the following themes: (a) teaching experience, (b) preparation for teaching writing, (c) implementation of a writing program in their classroom, (d) the aspects of writing the teacher considered important for young children, and (e) the aspects of writing that the teacher found challenging for young children. The teachers' answers to the questions concerning the aspects of writing that the teacher considered important and those that the teacher considered challenging for young children provided a description of the teachers' knowledge of early writing development. All five

Table 7*Overview of Studies Concerning Teacher Knowledge of Early Writing Development*

Characteristic	Korth, et al., 2016	McCarthy & Kang, 2017
Purpose	To examine how five kindergarten to second grade teachers perceived, implemented, and reflected on writing instruction in their classroom	To analyze the influences of teachers' views on writing and writing instruction
Design	Case study design	Case study design
Participants	Five teachers: one kindergarten, two first grade, and two second grade teachers	Two kindergarten teachers: one experienced and one novice
Site Selection	Participating schools were involved in a partnership with the university	Participating schools were involved in a partnership with the university
Data Collection	Semistructured interviews were the primary data source. Teachers were interviewed once by the authors and interviews consisted of questions regarding teaching experience, preparation for teaching writing, implementing a writing program, aspects of writing they considered important, aspects of writing they found challenging to teach. Two secondary data sources were included from the larger study: survey responses and observation data.	A professor and two graduate student research assistants conducted three classroom observations and three interviews per teacher about curriculum, professional development opportunities, beliefs about instruction, and talked about students' text during a school year. The observations and interviews took place three times during the year: beginning, middle, and end.
Data Analysis	The interviews were audio recorded and subsequently transcribed for analysis. A thematic analysis was employed to find patterns, relationships, and contrasts among the participants.	Observation data was summarized, and interview data was transcribed verbatim. Then both observational and interview data was categorized into sections (e.g., curriculum, philosophy, PD, and students' texts).
Results	Two meta-themes emerged from the data analysis: opportunities and obstacles. Opportunities included: preparation received, beliefs held, and instructional practices. Examples of obstacles are time, testing, and student abilities.	The experienced teacher used her philosophy and PD to adapt the curriculum to meet the needs of the students. Conversely, the novice teacher followed the curriculum explicitly and lacked a philosophy of learning to write.
Implications/ recommendations	The authors state that teachers need to improve their understanding of the development of emergent skills that are predictive of later writing success and learn how to incorporate this understanding to address the disconnect that they express between their beliefs and practices.	Teacher's abilities are influenced by their experience teaching writing, experiences with learning to write, and PD experiences. The authors state the need for more opportunities for both preservice education and PD programs to develop subject matter knowledge for teaching writing and understanding of learners and learning.

participating teachers expressed an awareness of the nature of early writing development by describing the emerging skills of young writers. Moreover, each teacher described the aspects of writing they considered important for young children to learn. In particular, the teachers expressed appreciation for the nonconventional writing attempts of their students and emphasized the importance of experimentation with writing and writing freedom. Teachers were certain not to dismiss children's early attempts of writing, including scribbles, pretend writing, copying, and particularly invented spelling. The interview comments from these primary grade teachers reflected an awareness of the developmental nature of early writing skills. The reported results provide a qualitative description of teacher knowledge of early writing development.

The case study by McCarthy and Kang (2017) included two kindergarten teachers as participants. The researchers employed interview and observation data to reveal that the two teachers had a contrasting knowledge of writing development. The teachers were interviewed three times during the year (September/October, January/February, April/May) by the researcher and/or the two graduate student research assistants. The semistructured interviews included questions concerning the curriculum, the teacher's philosophy of writing, professional development opportunities, and student work. Differing from the study by Korth et al. (2016) this study included teacher discussion of student writing samples from three students, from each teachers' class, during each of the interviews. The teachers were shown student writing samples and asked to comment on their development over the year. The findings from the interview and observation revealed that the experienced teacher and novice teacher have differing

philosophies of writing and used the curriculum in contrasting ways. The two teachers also focused on and spoke about student text differently.

The reported findings revealed that the experienced teacher, Dana, conveyed a sense of early writing development through her description of the instructional approach she incorporates in her classroom and through her evaluation of student work. Dana recognized that she had students at different stages of writing, from drawing pictures or random letters to some students writing words. As a result, she adapted the writing curriculum to meet the developmental needs of her students. When she talked about students' writing, she focused on the student's ideas and the student's understanding that print has meaning (e.g., *she is writing for the reader, so that we can understand it; her story does have a beginning, a middle, and an end*). She also remarked on the drawings, text, and features of print (e.g., *she has excellent illustrations; she leaves spacing, she uses capitalization and ending punctuation*). The authors remarked,

her talk about students' texts was deep and insightful; it was clear she knew the individual children and had specific goals for helping them...[she] appeared to have a coherent vision of learning to write that reflected a developmental view of children's writing; her beliefs about writing were reflected in the ways she talked about students' texts. (McCarthy & Kang, 2017, p. 407)

Conversely, the novice teacher did not clearly articulate a philosophy of writing, but simply stated what the curriculum provided. When she was observed, she strictly taught all students from the curriculum with little variation, the researchers noted that, “the students were expected to follow her example with accuracy” (McCarthy & Kang, 2017, p. 410). As she circulated the room, she was observed helping students with spelling, capitalization, and punctuation. When asked to review student writing, her

statements focused on handwriting (e.g., *[he] has the neatest handwriting; her biggest fall back is her handwriting, it is hard to read*). When the teacher compared her year of teaching writing in fifth grade to that of kindergarten, she said of the kindergarten student work, “There's not as much to look for.”, indicating her lack of understanding about early writing development and how to analyze student work (McCarthy & Kang, 2017, p. 411).

These two studies provide a description of the variation found among primary grade and kindergarten teachers' knowledge of early writing development. In both studies, teacher knowledge was evaluated using semistructured interviews as the primary data source. Additionally, McCarthy and Kang (2017) included teacher analysis of student writing samples in the interview process. After applying these research methods, teacher knowledge was qualitatively described in relation to degree of understanding or appreciation of early writing development. In the study by McCarthy and Kang, the diversity of teacher knowledge that was expressed was revealed in the instruction that the teachers provided and the comments the teachers made about student work. These two studies provide evidence that interview is a method that can be utilized as a means of evaluating teacher knowledge of student writing development. As neither study provided their interview questions, the interview topics and themes they provided were used to influence the writing and categorization of the interview questions for this study. The writing sample analysis conducted by McCarthy and Kang supports asking teachers to analyze and discuss student writing samples to provide additional information as a means to understand teacher knowledge of early writing development. This study provided

further understanding of teacher knowledge of writing development.

Teacher Analysis of Student Writing Samples

Writing is a complex task, that requires not only the processes of handwriting, spelling, and composition (Berninger & Winn, 2006; Kaderavek et al., 2009), but also analysis of the conceptual knowledge of print including an understanding that print carries meaning (Puranik & Lonigan, 2014). As these concepts, skills, and processes are being learned and developed in young children, writing may take a variety of forms beginning with drawings and scribbles then moving toward conventional writing (Clay, 1975; Sulzby, 1986). Given the developmental nature of writing there is wide variation in the scope of kindergarten children's writing skills (Ritchey, 2008). Thus, it is imperative that teachers understand the multidimensional aspect of writing and gain a knowledge of early writing development to effectively provide targeted instruction. Determining a student's writing strengths and needs would allow for a teacher to provide instruction appropriate for a student's ZPD. Clay (1993) stated that by observing children while they write or examining their written work, "we can learn a great deal about what they understand about print, and messages in print, and what features of print they are attending to" (p. 57).

This review of the literature yielded few studies that included teacher analysis of student writing samples. The located studies were reviewed and organized by who conducted the analysis of student writing samples, researcher analysis or teacher analysis. First, the studies that employed researcher analysis were reviewed to determine relevancy

to the proposed study. No studies within this category were determined relevant. Second, the studies that utilized teacher analysis were reviewed to determine relevancy to the proposed study. In addition to the study by McCarthy and Kang (2017), one study and one descriptive article were located and determined relevant to this proposed study. The purpose of teacher analysis of student writing samples varied depending on the study. Table 8 provides details about the studies that included teacher analysis of writing samples.

Table 8

Studies That Included Teacher Analysis of Student Writing Samples

Study	Description/type of writing sample	Frequency and quantity of sample gathering	Purpose of analysis
Copp et al. (2019)	Not specified	Not specified	Not specified and not revealed in data analysis or results.
McCarthy & Kang (2017)	Not specified	Student samples collected throughout the year. Quantity not specified.	To determine instructional practices advocated by the teacher.
VanNess et al. (2013)*descriptive article	Student writing from classroom assignments, not specified.	Not specified	To group students based on assessment data and provide feedback and needed scaffolds to students.

In two studies, employing teacher analysis, teachers were shown student writing samples and asked to describe the students' text (Copp et al., 2019; McCarthy & Kang, 2017). As previously explained in the section on teacher knowledge of early writing, the researchers in McCarthy and Kang asked the participating teachers to describe and talk about student writings during the three semistructured interviews throughout the year. The writing samples were from students in the teachers' classes, and the authors asked

the teachers to discuss the sample and to comment on the student's writing development over the course of the school year. The two teachers described the students' strengths and needs concerning writing, as shown by the written work. The experienced teacher commented on student work, focusing on the ideas, the drawings, and the features of print. Whereas the comments about student work from the novice teacher were mostly concerned with the student's handwriting or grammar usage. This interaction with a student writing sample allowed the researchers to qualitatively describe the participating teachers' understanding of early writing development. Similarly, Copp et al. provided teachers with student writing samples and asked, "Please look at this student sample. If you were going to tell a student teacher about the needs of this student, what would you say?" (p. 170). A limitation of this study is that, unfortunately, the interview data of teacher analysis of writing samples is not reported in the findings of this study.

Although it is not considered an experimental study, the descriptive article by VanNess et al. (2013) was deemed relevant. VanNess et al. described how a novice kindergarten teacher analyzes student writing using a writing scale adapted from Gentry's Writing Development Scale (Gentry, 2005) to provide individualized instruction to the students in her kindergarten classroom. The teacher used the scale to examine student writing to determine their strengths and needs to better group students for instruction and/or provide individualized instruction.

The nature of the study influenced the purpose for analysis of writing samples. The analysis of student writing samples in this study was conducted similarly to the interviews in McCarthy and Kang (2017) and Copp et al. (2019). The teacher was

shown researcher provided samples of student writing and then asked to describe the sample to determine the student's writing strengths and needs and to propose teacher-student interactions that they would initiate to support the student with their writing needs. Differing from these studies that have merely described the student work and then qualitatively reported these descriptions, the proposed study used a scale to interpret and code the teachers' descriptions of student writing. This allowed for the researchers to not only quantitatively explain the teachers' analysis, but to align their descriptions with previously determined levels of progression and to provide a more detailed account of the teacher's knowledge of writing development.

Teacher-Student Interactions

Teacher-student interactions, often described as a support or scaffold, are an important aspect of early writing instruction. A key feature of purposeful scaffolding is to provide instructional techniques that extend students' understanding with temporary supports that progressively adjust to the needs of the individual student (Hammond & Gibbons, 2005; Wood et al., 1976). Gentry (2005) stated,

Students often move through two or three levels of [writing] development during a kindergarten year; consequently, teachers always have students requiring a range of different instructional needs and responses. (p. 122)

This statement suggests that kindergarten students have different writing strengths and needs and therefore students require varied instruction to progress in their development of writing.

In a descriptive case study, Bodrova and Leong (1998) observed two kindergarten

teachers and instructed them to use highlighted lines to represent each word in each student's dictated message. To use this technique, the teacher asked the student to generate a message they wanted to communicate. Then, with help from the teacher, a line was drawn to represent each word in the message. Next, the student would write on each line to the best of their writing ability, whether that was scribbles, letter-like forms, or letters. This scaffolding technique was modeled repeatedly for the students. Eventually, the highlighted line became a tool that students could use on their own to support their writing projects. Similar to traditional scaffolds, the highlighted lines are meant to be a temporary support that students could discontinue when the support was no longer needed. This is just one example of a writing support or scaffold; conferring and other types of modeling are examples of writing supports (McCarthy & Kang, 2017). Supports and scaffolds during teacher-student interactions should vary depending on the needs of the student.

Level of Support During Teacher-Student Interactions

Gentry (2005) noted that writing supports, or scaffolds are meant to provide aid for the student to “complete the task at a higher level than the learner’s current level of functioning” (p. 123). Not all writing supports or scaffolds teachers provide are in the student’s ZPD and consequently do not provide the support necessary to help the student progress in writing development. In this review of the literature, two studies were located that evaluated the level of supports teachers provided during teacher-student interactions. It is important to note that the authors of the studies defined and classified low- and high-

level supports differently. Bingham et al. (2017) defined low-level supports as requiring a minimum cognitive demand of children. Whereas Copp et al. (2019) defined low-level supports as requiring a high cognitive demand for the child while the teacher support is low. Table 9 provides definitions and examples of low- and high-level supports as reported by both studies.

Table 9

Rating Teacher-Student Interactions During Writing

Study		Level of support offered		
Bingham et al. (2017)	Definition	Minimum cognitive demand of children		More cognitively challenging for children
	Examples	The teacher: provides words to trace, letter worksheets, or models correct letter formation without drawing attention to the letter's form. discusses print directionality. spells words for students to write. tells the student the letter instead of drawing the student's attention to letter sounds. writes the student's dictation without drawing attention to the writing.		The teacher: models correct letter form while drawing attention to the formation of a letter. draws the student's attention to written letters. draws the student's attention to letter sounds while the student writes. writes with the student and attends to the connection between oral and written language.
Copp et al. (2019)	Definition	Low cognitive demand for the child while the teacher support is high.	Medium cognitive demand for the child while teacher provides a medium level of support	High cognitive demand for the child while the teacher support is low.
	Examples	The teacher: provides a model (e.g., writes words for the child to copy, names letters, rereading the words for the child, taking dictation) directs the child to a specific action or response by asking a closed question	The teacher: provides structure for the child's thinking. provides sequencing support (in writing a word or sentence)	The teacher: provides motivation and encouragement. notes tasks to which children should attend

Bingham et al. (2017) observed 40 preschool teachers to investigate the types of writing-related supports teachers provided for students. Each of the 41 classrooms were observed once in the fall for approximately three hours (the length of the observation was dependent on classroom schedules). The researchers observed and recorded all writing activities and teacher-student interaction that occurred throughout the day. The researchers utilized the Writing Resources and Interactions in Teaching Environments measure (WRITE, Gerde et al., 2015) during the observations to evaluate the teacher student interactions. There are five categories in the WRITE observational measure including: writing environment, environmental print, teacher models writing, teacher scaffolds writing, and independent child writing. For the purposes of their study, the researchers used data from only three categories (teacher models writing, teacher scaffolds children's writing, and independent child writing) to investigate how teachers support children in their writing development. Within each of these three categories, teacher supports were then coded according to the quality level (i.e., high or low) of the support that was provided.

Bingham et al. (2017) categorized the level of support preschool teachers provided students during writing as either low- or high-level. These two categories of teacher-student supports were defined as, low-level supports provide "minimum cognitive demand of children," whereas, high-level supports were defined as a task that was "more cognitively challenging" for the student (p. 37). The low-level supports did not consider the student's strengths and needs, but simply acknowledged the student's work or helped the student do what they were already capable of completing (e.g., the

teacher reminded the student to write their name). Teacher-student interactions of encouragement and praise, including statements to motivate the student with their writing, were also categorized as low-level supports. During these observations, the researchers often noticed low-level supports such as a teacher saying the letter name when a student needed help writing a word. The authors stated:

teachers do not seem to have a wide range of strategies for supporting the component skills of spelling beyond naming letters. This is unfortunate because we know that supporting children to identify letter sounds and making connections between letters and letter sounds are important early literacy skills related to later reading achievement. (Bingham et al., 2017, p. 42)

High level supports were defined as teacher-student interactions which were purposeful, intentional, and expanded the student's current level of knowledge. Examples of high-level supports were explicit instruction in letter formation or supporting spelling by discussing letter sounds and allowing the student time to determine the correct letter sound.

Low-level supports accounted for 86.7% (234 of 270) of all observed teacher-student interactions. Bingham et al. (2017) expressed concern about the overwhelming percentage of low-level interactions, noting that these types of supports did not provide "high-demand learning opportunities for children... [and that] this is insufficient for promoting children's writing or general print-related literacy development" (p. 43). High-level supports afforded the students more opportunities to come to new understandings while being supported by the teacher. The researchers suggest that the number of low-level supports observed indicate that preservice and inservice teachers should be provided with targeted instruction in writing development.

In an observational study of four kindergarten classrooms, Copp et al., (2019) investigated the verbal scaffolds that teachers use to support children's orthographic knowledge. The first author gathered data that consisted of a survey, semistructured interviews, and 16 hours of classroom observations. The observations focused on teacher-student interactions during the daily 30 minutes of writing instruction. The researcher identified and analyzed 570 instances of teacher-student support. The instances of support were categorized into three classifications, low supports, medium supports, and high supports. The supports were defined as follows: (a) low-level supports are instances where teacher support is low and the writing task requires a high level of cognitive demand from the student, (b) medium-level supports are instances where the teacher provides a medium level of support for a task that requires a medium level of demand for the student, (c) high-level supports were those in which a high level of support was required from the teacher with a minimal effort required from the student.

The findings from the data analysis revealed that teachers used a variety of scaffolds, including low, medium, and high (Copp et al., 2019). The low-support strategies that teachers most often used were words of encouragement or praise that motivated students to continue the task. Another type of low-support strategies was the use of open-ended questions. Open-ended questions promote higher order thinking on the part of the student; the authors suggested these were more beneficial to improving student writing than motivational comments. The most often used medium-support strategy was the teacher providing structure or sequencing to the student's task. This was often in the form of providing questions to the student (e.g., "What sound comes next? "What is the

first word?). The authors state that “low- and medium-support strategies are critical because they afford the child an opportunity to attempt the task and then allow the teacher an opportunity to follow up on the child’s errors” (Copp et al., 2019, p. 178). However, high-support scaffolds were used most often. In high-level supports, the teacher provides a high level of support for a task and requires less input from the children. This is concerning because students are given less opportunities to think about the task and the ways in which to accomplish it and are simply given the answer from the teacher (e.g., the teacher tells the student the letter to write, rather than supporting the student to process and determine an invented spelling). The authors caution that “teachers [should] consider whether they are relying too heavily on teacher-directed strategies rather than responding to children’s needs with a range of supports” (p. 179).

Interestingly, in both studies, the supports that were most often observed were those that required less cognitive demand from the student. These interactions were ones in which the teacher was doing most, or all the work and the child was meant to observe or minimally participate. The findings of these two studies suggest that the variety of teacher scaffolds or supports are limited and when teachers do provide writing supports, they are often shallow and do not challenge the student to increase their knowledge and skills of writing.

Focus of Supports Offered During Teacher-Student Interactions

Early writing is a complex task that requires a conceptual knowledge of print along with the coordination of cognitive processes (i.e., transcription, text generation, and

executive functions) and procedural skills to be successful in writing (Berninger & Winn, 2006; Kaderavek et al., 2009; Puranik & Lonigan, 2011). Conventional writing requires the development of skills, abilities, and knowledges that must be taught or modeled for early learners (Gerde et al., 2015). Although primary grade teachers reported using a combination of skills instruction and composing instruction (Cutler & Graham, 2008), observations in kindergarten classrooms reveal that the majority of teacher-student interactions focus on handwriting (Puranik et al., 2014).

In the observational study of 40 preschool classrooms, Bingham et al. (2017) included an analysis of the component writing skills (e.g., handwriting, spelling, and composing) that were the focus of the observed teacher-student interactions. Instances of support that overlapped component writing skills were coded in each related category to capture the complexities of each supportive instance (e.g., the teacher shows the student how to form a letter [handwriting] while also drawing attention to the letter-sound correspondence [spelling]). Similar to the observations made by Puranik et al. (2014), handwriting was the most emphasized skill in teacher-student interactions; 58% of the observed supports were coded as handwriting instruction. The majority of the handwriting supports were considered low-level (i.e., minimum cognitive demand for the student) and included such activities as copying or tracing activities. Spelling and composing had fewer observed instances, 35.6% and 6.7% respectively. Even though handwriting is an important component of writing (Graham et al., 2000) the authors expressed concern about the near exclusive supports targeting handwriting by addressing the issue that children with less well-developed motor skills may avoid writing

opportunities altogether when narrowly focused on handwriting (Bingham et al., 2017)

Additionally, the researchers were interested in how the teachers' writing supports offered in the fall were related to the student writing outcomes that were measured in the spring. Handwriting and spelling support were not related to children's name writing ability or invented spelling. Only the composing supports were determined a statistically significant predictor of children's later name writing and spelling skills (Bingham et al., 2017). The authors note that "young children can engage in composing opportunities well before their developing motor skills and letter knowledge permit them to write well-formed letters and generate invented spellings" (p. 42).

From observational studies in preschool and kindergarten classrooms (Bingham et al., 2017; Copp et al., 2019) we know that when teachers provide writing support to students they are frequently "shallow and less targeted supports where teachers focused on writing in routine or repetitive ways" (Bingham et al., 2017, p. 41). Furthermore, teachers tend to focus their instructional supports to handwriting instruction. This narrow focus could be due to the limitation of curricular guidance or insufficient preparation to teach writing (Bingham et al., 2017; Cutler & Graham, 2008). Researchers suggest that the significant number of teacher-student interactions addressing handwriting may reflect a need for more support for teachers about early writing development to provide writing instruction in all areas of writing.

Need for Studies Involving Kindergarten Teachers

This literature review concentrated on studies concerning primary grade teacher

instructional practices and attitudes, beliefs, and/or knowledge of writing development. Oftentimes, such studies do not include kindergarten teachers. For example, Graham et al. (2003) survey about primary grade teachers' instructional adaptations for children experiencing difficulties with writing sampled 153 teachers, but excluded kindergarten teachers, focusing teachers from first through third grades. Similarly, Cutler and Graham (2008) conducted a national survey about primary grade writing instruction with 294 first through third grade teachers. However, Pressley et al. (1996) also surveyed primary grade teachers but included kindergarten teachers in their sample. They surveyed 83 primary grade teachers who were nominated by their supervisors as effective in educating their students to be readers and writers. The participants included kindergarten ($n = 23$), first grade ($n = 34$), and second grade ($n = 26$) teachers from across the country.

This review of the literature located only two studies focused solely on kindergarten teachers: Copp et al. (2019) and McCarthy and Kang (2017). Copp et al. was interested in the ways that kindergarten teachers' use verbal scaffolds to support children's development of orthographic knowledge. In their study, they included four kindergarten teachers with diverse teaching experiences and education levels; experience ranged from two- to ten-years of teaching and education level ranged from bachelor's degree only to bachelor's degree plus master's level coursework. In the case study by McCarthy and Kang, the authors were interested in how years of teaching experience and professional development opportunities influence teacher instructional approach, philosophy of writing, and talk about student texts. The authors chose an experienced kindergarten teacher with 21 years of teaching experience and a novice kindergarten

teacher with only a prior year experience teaching fifth grade (McCarthy & Kang, 2017). Table 10 provides details about type of study, number of participants, and number of kindergarten teacher participants in the located studies. The limited number of kindergarten teacher participants in the literature reveals the need for future studies to include kindergarten teachers to address their knowledge of writing development.

Table 10

Studies Concerning Primary Grade Teacher Attitudes/Beliefs, Instructional Practices, and/or Knowledge of Writing Development

Type of study	Study	Total # of teacher participants	# of kindergarten teacher participants
Survey	Cutler & Graham (2008)	174	0
	Graham et al. (2002)	153	0
	Pressley et al. (1996)	83	23
Interview, including observation	Bingham et al. (2017)	40	0
	Copp et al. (2019)	4	4
	Harward et al. (2014)	14	2
	Korth et al. (2016)	5	1
	McCarthy & Kang (2017)	2	2

Conclusion

Early writing involves the development of multiple cognitive processes (Berninger & Winn, 2006). The cognitive processes necessary for writing are visible in the skills of handwriting, spelling, and composing. Additionally, possessing a conceptual knowledge of writing (e.g., an understanding that print carries meaning, directionality of print, etc.) is part of the developmental process. Furthermore, theories of teaching and

learning suggest that the development of the cognitive processes necessary for writing are mediated by a more knowledgeable other (i.e., teacher; Vygotsky, 1978). Consequently, it is beneficial for teachers to have a sophisticated understanding of the multifaceted nature of early writing development to support students individual writing development.

Due to the coordination of cognitive processes that must be activated for early writers (Berninger & Winn, 2006) and diversity of early literacy environments (Purcell-Gates, 1996) children exhibit a range of proficiency in regard to writing (Gentry, 2005). Coker (2013) suggests that effective writing instruction can strengthen students' writing achievement. To be most effective, writing instruction should be targeted to support students in their writing needs (Bodrova & Leong, 1998; Cress & Holm, 2017). Clay (1975) recognized the importance of targeted writing instruction and surmised that teacher evaluation of student work could help teachers understand students' strengths and needs in writing; and, thus, direct the instruction they provide. Findings from this literature review suggest there is limited research concerning teacher analysis of student writing samples to guide instruction. The paucity of research suggests that there is a need for studies to investigate kindergarten teacher knowledge of early writing development and how this knowledge is used to evaluate student writing samples and inform teacher-student interactions.

CHAPTER III

METHODOLOGY

Writing is a multifaceted skill that requires a conceptual as well as a procedural knowledge of print (Puranik & Lonigan, 2014) and the interaction of multiple cognitive processes (Berninger & Winn, 2006). For this reason, educators advise that writing instruction begin early in schooling to provide a solid foundation for the skills necessary for writing (Lienemann et al., 2006; Tolchinsky, 2016; White, 2013). Purcell-Gates (1996) explored the home literacy experiences of 24 preschool and kindergarten children and determined that their experiences varied greatly, which influenced their literacy learning, including their understanding of and abilities related to writing. As a result of varied home literacy experiences, a typical kindergarten classroom may have children with a diverse range of writing abilities (Ritchey, 2008). Consequently, Clay (1975) warned against strictly using a structured writing program and instead suggested that teachers use student work to determine individual strengths and needs in writing. Although writing is a complex skill, early writing skills follow a predictable developmental pattern (Sulzby, 1986). When teachers understand early writing development and use skills of analysis, they can better evaluate students' writing abilities; and, therefore, provide differentiated teacher-student interactions to meet individual student needs. The purpose of this study is to explore (a) kindergarten teachers' knowledge of early writing development, and (b) how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction.

The research design, data collection, and analyses outlined in this chapter are

designed to facilitate increased understanding of kindergarten teacher knowledge of early writing development. Specifically, this study addressed the following questions.

1. How do the participating kindergarten teachers describe their knowledge of writing development?
2. Given select kindergarten student writing samples:
 - a. What teacher-student interactions will the participating kindergarten teachers propose to initiate?
 - b. What components of writing are the focus of these teacher-student interactions from the student writing sample analysis?

Although, national surveys have investigated primary-grade teachers' instructional practices of writing (Cutler & Graham, 2008; Graham et al., 2003; Pressley et al., 1996) and observational studies have documented writing instruction in the classroom (Coker et al., 2018a; Copp et al., 2019; Puranik et al., 2014), studies that explore kindergarten teacher knowledge of early writing development are limited. Moreover, in the review of the research, only two studies (Korth, et al., 2017; McCarthy & Kang, 2017) were located that employed kindergarten teacher analysis of student writing to inform instruction. The current study seeks to provide information to the limited literature concerning kindergarten teacher knowledge of early writing development and how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction.

Design

Multiple Case Study Research

The research design is important as it connects the collected data to the research questions and then, in the end, to the conclusion (Yin, 2018). Case study design begins

with identifying, defining, and bounding a specific case (Creswell & Poth, 2018; Yin, 2018) which can be an object, phenomenon, or condition to be studied (Stake, 2006). It allows researchers to explore beneath the surface of a situation and to provide an in-depth understanding and description of the phenomenon or condition (Creswell & Poth, 2018; Merriam & Tisdell, 2016; Stake, 2006; Zach, 2006). The bounded system is an important characteristic of case study research (Barone, 2011). The boundaries of the case are defined by what is included and what is excluded in the study, and aid in defining the scope of data collection (Yin, 2018). The research questions also assist in providing boundaries to the cases, including the relevant group, the type of evidence, and the priorities for data collection and analysis (Yin, 2018). Case study design is well suited for the current study as it can be utilized to provide a description of and facilitate understanding of complex situations, such as kindergarten teacher knowledge of early writing development and how this knowledge is used to analyze student writing to inform teacher-student interactions.

To provide a more robust study beyond a single case, a collection of cases or multiple cases can be studied (Barone, 2011; Stake, 2006; Yin, 2018). Utilizing a multiple case study design allows for comparing a selection of cases; and, thus, provides a more compelling illustration of a phenomenon (Barone, 2011; Stake, 2006) and allows for transferability (Merriam & Tisdell, 2016). Although, the results of a case study are not used for statistical generalizations (Yin, 2018) the findings can expand the description and understanding of a phenomenon (Merriam & Tisdell, 2016; Yin, 2018). Additionally, a multiple case study design allows for the exploration of themes within and across cases

to determine themes that are common and different to all cases; thus, allowing for stronger conclusions than examination of a single case (Creswell & Poth, 2018). In a multiple case study, the cases are often presented whole, with an accompanying cross-case analysis focused on the phenomenon of interest (Stake, 2006). Barone (2011) explains that “the redundancy of cases [in a multiple case study] is purposeful” (p. 9), suggesting that the similarities and differences of the multiple cases can be explored to understand the phenomenon better (Stake, 2006).

Context of the Study

Selecting Cases

Multiple case study design calls for a purposive sample, with participants selected explicitly to encompass instances in which the phenomena under study are likely to be found (Stake, 2006). A purposive sample is consistent with the strategy of homogeneous sampling and creates opportunities for intensive study and in-depth description of a subgroup (Stake, 2006; Zach, 2006). Participant inclusion criteria are necessary for the bounded system and are developed to maintain alignment with the purpose of this study.

The inclusion criteria for this study were participants who: (a) were currently teaching full-day kindergarten, (b) have an early childhood endorsement, (c) have three or more years of teaching experience in kindergarten, and (d) positively rate themselves as a teacher of writing. The inclusion criteria requiring the participant to teach full-day kindergarten was determined because teaching full-day theoretically provides the teacher with more teaching experience than a part-time teacher. The requirement for having

obtained an early childhood endorsement maintains that the participant has received additional instruction in child development and early childhood education. The requirement for three or more years of teaching kindergarten establishes that the participants are experienced in teaching this grade level. Additionally, teachers are no longer provisional in the state in which the study takes place after their first three years of teaching. In a previous study concerning kindergarten teacher knowledge of writing, the two participating teachers were a novice teacher and an experienced teacher and the differences between their years of experience was explored through their beliefs and instructional practices concerning writing (McCarthy & Kang, 2017). In the current study, all participants were experienced kindergarten teachers, which allowed for exploration of the similarities and differences among experienced teachers.

The final requirement for inclusion criteria is a positive rating of self as a teacher of writing. A self-evaluation rating provides an indication of the teacher's beliefs about their level of knowledge and about their capabilities. Teacher's beliefs about their capabilities determine the energy that they expend on an activity, such as writing. Moreover, Pajares (1992) explained that "beliefs...play a critical role in defining behavior and organizing knowledge" (p. 325). This study provided a qualitative description of experienced, full-day kindergarten teachers' knowledge of early writing development and how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction.

Sample Size

In multiple case study design, sample size is an important consideration. Stake

(2006) recommends including more than four cases to “show enough of the interactivity between programs and their situations” and fewer than ten cases, because too many cases present “more uniqueness of interactivity than the research team and readers can come to understand” (p. 22). In previous studies, few kindergarten teachers were interviewed about writing instruction, specifically two teachers (McCarthy & Kang, 2017) and four teachers (Copp et al., 2019). Thus, the number of participants was limited to five kindergarten teachers, whose similarities and differences were explored to describe and provide understanding of their knowledge of early writing development.

Recruitment Protocol

To obtain the sample, ten school districts in a mid-western state with full-day kindergarten programs were selected to be contacted because they offer several full-day kindergarten classes. Therefore, these school districts would more likely have teachers that meet the initial inclusion criteria. The university’s Institutional Review Board (IRB) reviewed the research proposal and gave approval to directly contact teachers as the research study did not involve school time, would not take place on school property, and did not require any personal/sensitive information regarding the district, school, staff, parents, or students.

A recruitment flyer (Appendix A) was created to inform potential participants about the research study including general purpose, participant criteria, willingness to provide information in a questionnaire and interview format, time requirements of participation, and financial compensation. As per the time requirement, participants were asked to dedicate three to four total hours to the study: one hour for the questionnaire,

one and a half hours for the semistructured interview, and one hour for member checking.

A financial incentive was offered to potential participants to increase the likelihood of completing the initial survey. Potential participants were informed that the first 20 potential participants to complete the initial survey would receive a \$20 gift card and the next 20 potential participants to complete the initial survey would receive a \$10 gift card. The \$20 bonus incentive was offered to encourage participants to promptly complete the survey. Participants who were selected to complete the full study were financially compensated with an additional \$100 gift card.

Also included in the recruitment email was a link to the online initial survey that was used to better verify participants who meet the previously mentioned inclusion criteria. The initial survey also included questions about teaching experience and efficacy for teaching the content areas of math, reading, and writing (Appendix B). These three subject areas (math, reading, and writing) are used in the initial survey as to not indicate the topic of study to the potential participants at this stage of the recruitment process. Participants were asked to rate their level of knowledge (Pajares, 1992), including rating their knowledge of the three subject areas and their knowledge of kindergarten students' capabilities as compared to other kindergarten teachers.

Completion of the initial survey put the potential participants into a recruitment pool from which the student researcher then selected those who best fit the inclusion criteria, including those who rated themselves positively as a teacher of writing. The initial survey was emailed to 354 kindergarten teachers in 10 school districts. The first three questions in the online initial survey included statements that participants were

expected to answer with a yes or no. An answer of no for any of the three statements let the potential participant know they did not qualify to complete the survey. They were then blocked from continuing the initial survey and thanked for their time. The first three questions were: (a) I confirm that I am currently a full-day kindergarten teacher, (b) I confirm that I have an early childhood endorsement, and (c) I confirm that I have three or more years of teaching experience in kindergarten.

Sixty-nine kindergarten teachers began the initial survey; 13 did not finish. Of the 56 who completed the survey, 29 did not meet the initial inclusion criteria of being a full-time kindergarten teacher (5 teachers), with an early childhood endorsement (17 teachers), and had 3 years of teaching experience (7 teachers). A total of 27 kindergarten teachers met the initial inclusion criteria of being a full-day kindergarten teacher, having an early childhood endorsement, and 3 or more years of experience teaching kindergarten. Answering yes to the first three questions allowed the potential participants access to complete the initial survey in entirety.

These 27 potential participants were narrowed to 13 potential participants by using the additional inclusion criteria of positively rating themselves as a teacher of writing. The positive rating of self as a teacher of writing was established from answers to two questions on the initial survey. One of the questions asked the participant to use a scale to estimate their knowledge for teaching writing in kindergarten. The provided scale was a 5-point Likert scale with the following ratings: lacking, beginning, approaching proficient, proficient, and highly proficient. Participants selected the rating of self along the provided scale and were asked to explain why they gave themselves that rating. As

the inclusion criteria was a positive rating of self, the ratings of proficient or highly proficient were reflective of that. Five teachers rated themselves as highly proficient and eight rated themselves as proficient.

The second question used to support a positive rating as a teacher of writing asked the participants to estimate their knowledge as compared to the average kindergarten teacher for teaching kindergarten writing. The provided scale for this question was a 5-point Likert scale with the following ratings: 1 = less knowledgeable, 2 = below average, 3 = average, 4 = above average, and 5 = more knowledgeable. This question was also followed up with a statement asking the participant to provide a rationale for the rating they assigned themselves. Of the 13 teachers who positively rated themselves as a teacher of writing (e.g., highly proficient, or proficient), four rated themselves as more knowledgeable, three rated themselves as above average, and six rated themselves as average. The rating that potential participants selected for self as compared to the average kindergarten teacher did not elevate or diminish their positive rating of self that was selected in the first question. A rating of average or greater was determined sufficient to support and align with the potential participants' positive rating of self.

At this point in data collection, the student researcher was contacted by a school district administrator and asked to submit a request to conduct external research within the district before continuing the research. Twelve of the 13 potential participants were from three school districts. These three school districts were contacted for a research request and permission to continue the study within their district. This decision narrowed the participant pool from 13 to 12. Two districts granted permission; the third district

would not review research requests due to the late time in the school year. This action again narrowed the participant pool from 12 to 10.

From the 10 kindergarten teachers who met all inclusion criteria, the four teachers with the highest positive ratings of self (e.g., highly proficient plus more knowledgeable, highly proficient plus above average, and proficient plus above average) were contacted via email and invited to participate in the full study. One teacher accepted the invitation, one teacher declined stating she would not be able to meet the time requirement for the full study, and two did not respond to the two email attempts to contact. At this point, the remaining six teachers who rated themselves as proficient plus average were contacted via email and invited to participate in the full study. They were asked to respond within a week to the invitation. Four accepted the invitation to participate and two did not respond to the email.

Participants

Interview dates and times were then scheduled with each of the five kindergarten teachers who were selected and accepted the invitation for full participation in this multiple case study. Informed consent was obtained from each participant using a protocol approved by the IRB. Additionally, each participant selected a pseudonym to be used for this study. Table 11 provides demographic information about each participant including the rating that they assigned themselves on the two questions on the initial survey.

It should be noted that the initial inclusion criteria for the participants was established as full-day kindergarten teachers who had an early childhood endorsement.

Table 11*Demographic Information of Participating Kindergarten Teachers*

Participant pseudonyms	Educational background	Endorsements earned	Years of experience teaching kindergarten	Positively rated self as a teacher of writing	Rating of self-compared to the average kindergarten teacher	Type of kindergarten session
Katherine	Bachelor + hours	Early Childhood Reading Level 1	29	Highly Proficient	More knowledgeable	Full day
Beth	Master + hours	Early Childhood ESL	9	Proficient	Average	Half-day
Zoey	Bachelor	Early Childhood ESL	4	Proficient	Average	Half-day
Alice	Bachelor + hours	Early Childhood ESL	5	Proficient	Average	Full day
Rebecca	Master + hours	ESL Educational Technology	11	Proficient	Average	Full day

and 3 or more years of teaching experience in a kindergarten classroom. The additional inclusion criteria included a positive rating of self as a teacher of writing. After participants were selected and the interview process had begun, it became known that the term full day was interpreted as either: (a) a teacher who teaches one class of students for a full day, or (b) a teacher who teaches two sessions of students for a full day. Thus, the selected participants included three teachers who taught one class of kindergarten students for a full day and two teachers who taught two sessions of kindergarten students for a full day. For the purposes of this study, teachers who taught one class of students for a full day were considered full-day classrooms and teachers who taught two sessions of students for a full day were considered half-day classrooms. Additionally, it was discovered that one participant did not have an early childhood endorsement, but through her teacher education program was certified to teach grades kindergarten through eighth and, therefore, marked that she was endorsed to teach early childhood.

Data Collection

For this study, data collection for each case consisted of an initial survey (described previously), an online questionnaire, an in-depth semistructured interview, and student writing sample analysis tasks with each participant.

Questionnaire

The student researcher and faculty researcher adapted interview questions from previous studies and developed questions that addressed the focus of this study to create the online questionnaire (Copp et al., 2019; Harward et al., 2014). The questions were also reviewed for clarity by a kindergarten teacher, an early childhood administrator, and an experienced educator with specialized training in writing instruction. The questions were developed to explore the participants' understanding of early writing development including the participants' preparation to teach writing, current classroom practices concerning writing, ideal writing instruction views, and understanding of development for typical kindergarten children (Appendix C). Two questions asked the participants to describe resources that prepared them to teach writing in kindergarten. Five questions asked the participants to describe their current classroom practices concerning writing, including time spent on writing, writing opportunities and assignments, and teacher-student interactions. Two questions asked the participants to share what they believed would be ideal writing instruction and writing experiences in a kindergarten classroom. Last, two questions focused on the participants' knowledge of kindergarten student capabilities as it related to writing.

Semistructured Interview

Interview is an often-employed data collection procedure in case study research (Merriam & Tisdell, 2016; Yazan, 2015) as it reveals another's perspective that otherwise could not be observed, such as thoughts, intentions, and feelings. Each of the key elements for conducting effective interviews including beginning the interview, asking good questions, the nature of the interaction between the interviewer and respondent, and recording and evaluating the data were taken into consideration when planning and administering the interview (Merriam & Tisdell, 2016). An interview is guided by a list of questions; however, in semistructured interview, exact wording and order of the questions is flexible. Merriam (1988) stated that "questions are at the heart of interviewing" and therefore require attention to provide clear language that allow for collection of the desired information (pp. 80-81).

Patton (1980) warned that the purpose of the interview is to not put the researcher's perceptions into the participant, but to access the participant's perspective. This can be accomplished by the researcher building a rapport with the participant, while remaining neutral to the content that the participant shares. To establish rapport and allow the respondent to feel comfortable in sharing information, the semistructured interview began with open-ended questions that asked participants to clarify their responses from the online questionnaire that they previously completed.

Some questions for the semistructured interview were derived from previous research (Copp et al., 2019; Harward, et al., 2014) and amended to fit the purpose of this study (Appendix D). Whereas some questions were written by the student researcher and

faculty researcher. The semistructured interview questions were reviewed by a kindergarten teacher for clarity. Additionally, the questions were aligned to one or more of the research questions to maintain focus on the phenomenon under study (Zach, 2006). For this study, each participant was interviewed individually and recorded via video conferencing. Recording the semistructured interview and writing samples analysis task allowed the student researcher in-the-moment listening and allowed for a more thorough review after administration.

Student Writing Sample Analysis Task

After participants completed the semistructured interview, they were asked to complete student writing sample analysis tasks. These tasks were conducted during the same video conferencing call as the semistructured interview and were transcribed along with the interview.

The student writing sample analysis tasks were designed to evaluate knowledge of early writing development and how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction. The student researcher previously gathered deidentified student samples of writing from kindergarten teachers to provide an authentic representation of the variation of student writing abilities in a typical kindergarten classroom. It is important to note that none of the kindergarten teachers who provided writing samples participated in the study.

The student researcher then reviewed each sample and compared it with the language level and scoring criteria of the EW-9 Scoring System (Campbell et al., 2019). The EW-9 has four language levels: (a) pre-alphabetic, (b) letter formation, (c)

progression in alphabetic principle, and (d) toward conventional. The writing samples were then reviewed and scored, using the same criteria, by the faculty researcher who has expertise in early childhood writing. The student researcher and the faculty researcher together chose four authentic writing samples, one to represent each language level of the EW-9 (Appendix E). The four samples were then reviewed by a kindergarten teacher who agreed with the rating of each writing sample.

During the student writing sample analysis task, each of the four samples were shown to the participant, one at a time, then the student researcher asked questions to guide the analysis of the writing sample (Appendix F). The questions and the order of the questions were prepared by the student researcher and faculty researcher to offer the participant an opportunity to share their knowledge of early writing development as assessed by analysis of student writing samples. The first question guides the teacher to analyze the writing sample to determine the student's writing strengths. The second question asks the teacher to describe a teacher-student interaction they would propose to initiate with the student to help them develop writing skills. Prompts were given to guide the participant to fully describe this interaction. The third question requests that the participant provide a rationale for the order in which the proposed teacher-student supports would be offered to the kindergarten student. The fourth, and final question, asks the participant about how they developed that approach and/or where they learned that skill.

Researcher Notes

Along with the previously mentioned data, researcher notes or field notes

(Merriam & Tisdell, 2016) were also included as part of the collected data. Researcher notes were taken during the semistructured interview and student writing sample analysis task. During these tasks, the student researcher captured details that were beneficial for remembering during data analysis. The researcher notes also contained a reflective component where the student researcher noted feelings, reactions, and speculations. These in-the-moment interpretations aided in later data analysis. The notes were taken by pen and paper but were typed in narrative format in the interview log under the appropriate time stamps and interview questions to allow for ease in finding desired information (Merriam & Tisdell, 2016). The researcher notes are considered raw data and were added to the other data collected to aid in data analysis.

Data Analysis

Transcription

As previously stated, the semistructured interviews were video recorded. The video conferencing application provided a verbatim transcript of the semistructured interview and student writing sample analysis tasks. The verbatim transcript was transferred to a word document for data management and organization. The student researcher and an undergraduate research assistant recorded the participant responses from the verbatim transcript to an interview log. The interview log contained the questions asked, the participant's response, a time stamp of the response, and the researcher's notes. Noting the time stamped locations of the statements in the recording allowed the student researcher to return to the recording for further information when

needed. Additionally, creating the interview log allowed the student researcher to become more familiar with the data and this supported the analysis process (Braun & Clarke, 2012). Figure 3 provides an example layout of the interview log.

Figure 3

Example of Interview Log

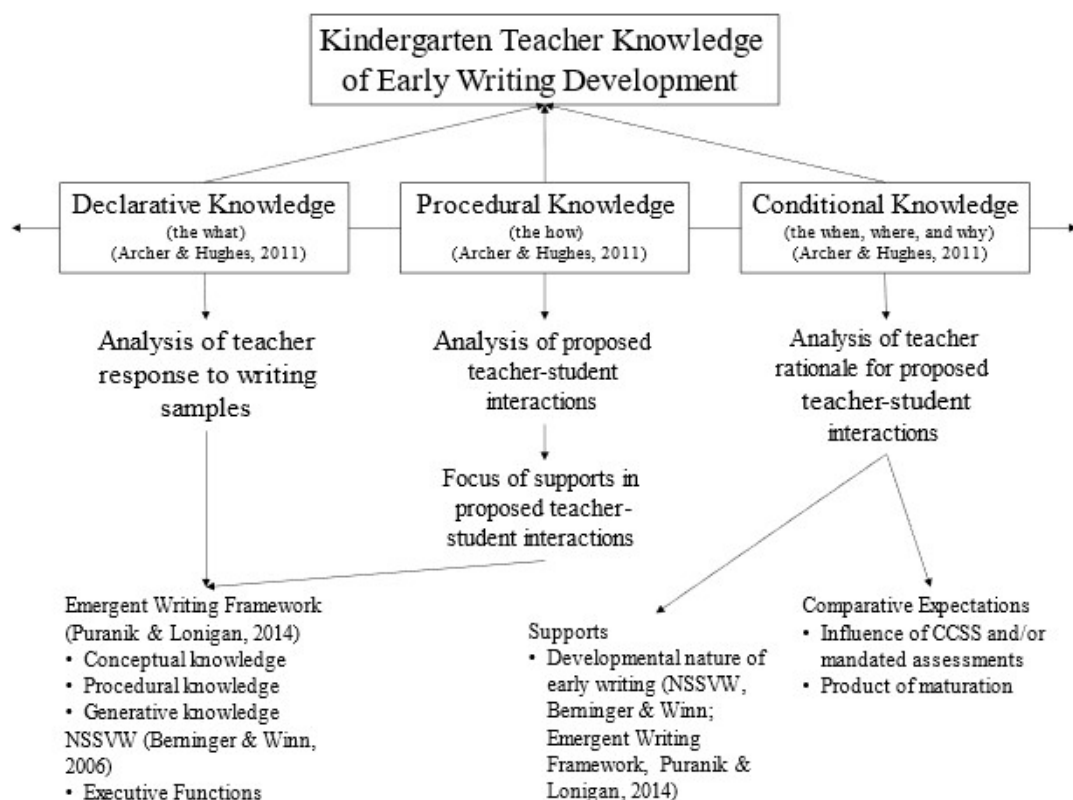
Ex: Date of Interview and Name of Respondent	
Ex: Interview question	
Ex: Time Stamp of Statement 1:06	
Respondent's comments	Researcher's notes
Ex: Student researcher questions and comments and participants responses to questions (excluding fillers/disfluencies)	Ex: Researcher observations about what was said

Coding

A characteristic of qualitative research is the analysis of data, which often occurs simultaneously with data collection (Creswell & Poth, 2018; Merriam & Tisdell, 2016). This simultaneous act allowed both the data collection and analysis to be dynamic as the researcher moved back and forth between the two. As data collection and analysis occurred in tandem, the focus remained on the phenomenon under study. Table 12 shares the alignment of research questions with data sources and analysis. In this study, thematic analysis, “a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a data set,” was used to review the data for patterns and themes. (Braun & Clarke, 2012, p. 57). Thematic analysis can be conducted with the qualitative approach of inductive and deductive coding. Figure 4 provides an example of the analysis process including both deductive and inductive codes.

Table 12*Alignment of Research Questions with Data Sources and Analysis*

Research question	Data sources	Data analysis
How do the participating kindergarten teachers describe their knowledge of writing development?	Initial Survey Questionnaire Semistructured Interview	Thematic coding including within-case and cross-case analysis Member-checking Peer debriefing
Given a sample of kindergarten student writing samples: (a) What teacher-student interactions will the participating kindergarten teachers propose to initiate?	Analysis Task Semistructured Interview	Thematic coding including within-case and cross-case analysis Member-checking Peer debriefing
Given a sample of kindergarten student writing samples: (b) What components of writing are the focus of these teacher-student interactions from the student writing sample analysis?	Analysis Task Semistructured Interview	Thematic coding including within-case and cross-case analysis Member-checking Peer debriefing

Figure 4*Data Analysis Process and Coding*

Deductive coding is a top-down approach, with codes that are devised prior to data collection from the theory, the research questions, and the focus of inquiry (Braun & Clarke, 2012; Merriam & Tisdell, 2016; Stake, 2006). The data was first reviewed with deductive codes that were derived from existing research and from the research questions. The initial list of codes was adapted from the NSSVW (Berninger & Winn, 2006) and from the emergent writing framework (Puranik & Lonigan, 2014). This model and framework were selected as they include many concepts and skills related to writing that are evident in the process of early writing development.

In the literature review of this study, teacher level of support during writing was discussed as teachers provide scaffolded instruction to allow a student to complete a more difficult task than could be successfully accomplished without the support. Classroom observation studies (Bingham et al., 2017; Copp et al., 2019) were cited to further describe the levels of support that teachers were offering students during writing time. In this study, participating teachers proposed teacher-student interactions during the analysis of student writing samples. It was intended that these interactions would be analyzed for level of support that the teacher was providing. However, it was determined there was not enough information about how the teacher would enact the proposed teacher-student interaction to categorize and/or place levels on the support that was described.

The codebook (see Appendix G) was developed through a process of refining deductive or theory-driven codes derived from the literature and from creating and defining inductive or data-driven codes drawn from the data. To begin, the theory-driven codes of conceptual knowledge, procedural knowledge, and generative knowledge

domains (Puranik & Lonigan, 2014) and executive functions (Berninger & Winn, 2006) were briefly defined in the codebook. Developing a codebook is an iterative process that requires revisiting the theory and the data to outline the codes, definitions, and examples of the codes (DeCuir-Gunby et al., 2011).

After the first interview, the student researcher used the codebook to code the participant's responses from the writing sample analysis tasks. Phrases of text from the participant's responses were assigned to a code. Next, the student researcher and faculty researcher together reviewed the initial coding of the first participant's responses. During this process, the student researcher and faculty researcher reviewed the participant's responses and discussed the phrases that were assigned to codes. These conversations included questioning of code labels and definitions to provide clarity. After coding sessions, the student researcher returned to the literature to clarify definitions. Coding the data together allowed each researcher to share their reasons for utilizing certain codes and allowed for discussion of examples from the data. This process was repeated for the remaining four participants. Coding was discussed until consensus was achieved.

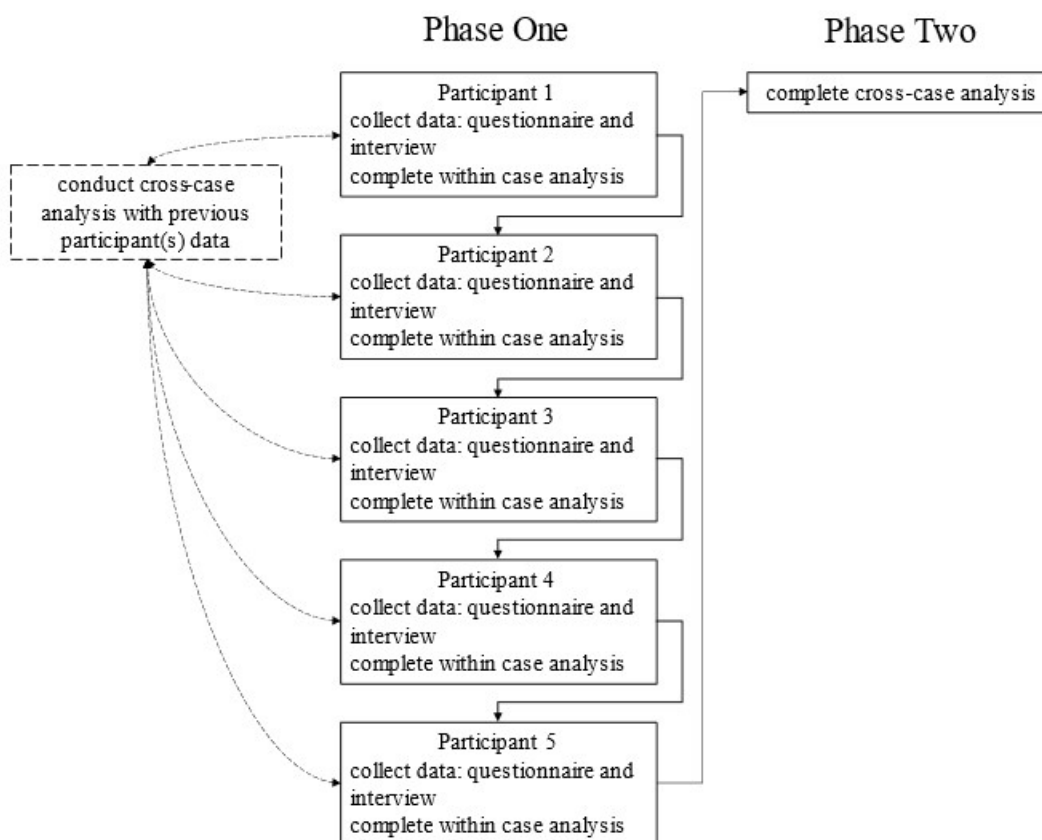
Open coding was also used, indicating that any segment of data might be determined useful as it is reviewed and separated into units by theme or category (Creswell & Poth, 2018). This is an inductive or bottom-up approach that allows the participant responses to drive the analysis; thus, allowing all data to be applied towards answering the research questions. The entirety of data including questionnaire, semistructured interview, which includes the writing sample analysis, were reviewed and analyzed multiple times to allow for refinement of themes. The iterative process of data

collection and analysis revealed new patterns in the data. As new categories and themes were identified, earlier collected data was reanalyzed (Zach, 2006).

Each case was analyzed in its entirety before being compared with other cases. This within-case analysis allowed for each case to each be presented whole (Stake, 2006). Cross-case analysis occurred at the conclusion of each within case analysis. Cross-case analysis allowed for patterns and themes to be synthesized across the cases. Figure 5 represents the phases for data collection and analysis and displays how analysis for one case occurred before subsequent cases are conducted.

Figure 5

Data Collection and Analysis Phases



Ensuring Research Trustworthiness

Trustworthiness is an alternative measure for validity and reliability in case study research (Merriam & Tisdell, 2016). Specifically, trustworthiness in this context is based on the rigor in which the researcher approaches and carries out a research study (Guba & Lincoln, 1982). This study has been structured to address the aspects of trustworthiness with the desire to achieve credibility, transferability, dependability, and confirmability (Zach, 2006). Each of these standards of trustworthiness will receive attention in the following section.

Credibility

Credibility, the accuracy of the conclusions drawn, in qualitative research studies is ensured through a series of steps taken throughout the process of data collection and analysis by the researcher. These include: (a) triangulation, (b) member checking, (c) reflexivity, and (d) peer review (Merriam & Tisdell, 2016). Each of these steps will be defined and discussed in more detail in the following sections.

Triangulation

The theory of triangulation is taken from “navigation or land surveying, wherein two or three measurement points enable convergence on a site” (Merriam & Tisdell, 2016, p. 244). In qualitative research, Denzin (1978) suggested there are four types of triangulation including the use of multiple methods, multiple sources of data, multiple investigators, or multiple theories to confirm emerging findings. Triangulation provides strength to a case study and increases the confidence that the study has represented the

phenomenon accurately (Creswell & Poth, 2018). In the current study, triangulation occurred with multiple sources of data and multiple investigators. The multiple sources of data included the questionnaire, the semistructured interviews, and the student writing sample analysis task. This variety of data is relevant to the focus of this study and assisted in supporting findings of the research questions. Furthermore, the multiple investigators involved the student researcher and their interaction with the participants through member checking and a faculty researcher serving as a peer reviewer. Credibility is established upon the “agreement among competent others that the description, interpretation, evaluation, and thematics of an educational situation are right” (Eisner, 1991, p. 112).

Member Checking

Member checking or respondent validation is another step to provide rigor and credibility to case study research (Merriam & Tisdell, 2016). Member checking refers to checking with the participant concerning their responses and the researcher’s interpretation of the data to determine if they accurately reflect their perceptions. Member checking or allowing the participant to be involved in data analysis and interpretation, is a valuable method of ensuring accuracy in the study findings (Creswell & Poth, 2018).

Member checking or respondent validation was employed to provide rigor and credibility to the study. After the interview, the student researcher created a within case analysis of the participant using all data sources. The within case analysis was then sent to individual participants for review. The participants were asked to review the within case analysis and verify accuracy of information and interpretations. Each participant

provided positive feedback about their individual within case analysis and provided approval for its use.

Reflexivity

Reflexivity is the examination of the researcher's beliefs and practices during the research process and how these may influence the research (Yin, 2018). Additionally, it is the awareness of the researcher's positionality and bias informed by the researcher's background including professional experience and personal interests (Zach, 2006). The student researcher has a background in early childhood education teaching preschool and understands the value of writing instruction and writing experiences beginning early in the early years to provide a foundation for writing development. In this study, the student researcher was sensitive to positionality and strived to prevent it from influencing the participant's responses and the analysis of data.

Peer Debrief

Creswell and Poth (2018) suggest that credibility is also established by including others beyond the researcher and participants. Seeking an external check of the methods and data analysis, including coding and interpretations, by one who is familiar with the research "keeps the research honest" (Creswell & Poth, 2018, p. 263). In this study, a researcher with expertise in early childhood writing participated in the analysis of transcripts and refinement of codes.

Transferability

The transferability, or generalizability to the population, of case study research is

limited (Yin, 2018). Stake (2006) asserts that “power of the case study is the attention to the local situation,” not in generalization (p. 8). However, including multiple cases instead of single case design, does increase the transferability (Merriam & Tisdell, 2016). In this study, purposive sampling was applied, and rich descriptions of the data were provided to offer context for evaluating the transferability of the findings (Zach, 2006).

Dependability

Dependability, or reliability, refers to the replicability of the results of the research (Yin, 2018). However, in qualitative research results may vary because human behavior is not static. Therefore, dependability in qualitative researcher is established by the results being consistent with the data collected (Merriam & Tisdell, 2016). To clarify, dependability is ensured through a trail of detailed documentation to the degree that an outsider would get the same results. This is accomplished through using an established case study protocol and being explicit about procedures and operations employed during data collection and analysis.

Confirmability

Confirmability is the final standard of trustworthiness in qualitative research. It is “the degree to which the findings of the research study could be confirmed by other researchers” (Korstjens & Moser, 2018, p. 121). Steps to achieve confirmability are taken during the interpretation process embedded in the analysis process including reflexivity and peer debriefing. Doing so supports that analysis is grounded in the data and not simply in the researcher’s viewpoint.

Summary of Methods

This research study investigated kindergarten teacher knowledge of early writing development and how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction. The data analyzed included an initial survey, questionnaire, student writing sample analysis tasks, and a semistructured interview, which includes the student writing sample analysis task. Thematic analysis was utilized with deductive and inductive coding (Braun & Clarke, 2012; Stake, 2006). Attention was placed on credibility, transferability, dependability, and confirmability in an effort to ensure trustworthiness in this study (Korstjens & Moser, 2018; Merriam & Tisdell, 2016; Zach, 2006). This multiple case study may provide the field of education with more information about kindergarten teacher knowledge of early writing development and how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction. This information may be helpful to teacher education and district administration to plan ways in which to support kindergarten teachers in writing instruction and teacher-student interactions during writing.

CHAPTER IV

RESULTS

Introduction

Five kindergarten teachers were selected to participate in a multiple case study to explore (a) kindergarten teachers' knowledge of early writing development, and (b) how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction. Participation in the study included completion of an online questionnaire, a semistructured interview, and a kindergarten student writing sample analysis task. These data sources were then used to address the research questions for this study.

In this chapter, the results of within case analysis of individual participants is presented. The within case analysis is a description of each participant that includes their education, experience, and current teaching practices all with a focus on knowledge of early writing development. This is done to align with the coding processes outlined in chapter three. The within case analysis presents an overview of the participants and provides a narrative to describe their teacher knowledge of early writing development, including declarative, procedural, and conditional knowledge.

A cross-case analysis is also presented in this chapter. The cross-case analysis provides a rich description of the teacher-student interactions that were proposed during the kindergarten student writing sample analysis tasks. The cross-case analysis specifically aligns with the teacher procedural knowledge component of the coding

process outlined in chapter three. Describing the proposed teacher-student interactions will allow for a deeper understanding of how teachers implement their knowledge of early writing development after analysis of student writing samples.

Within-Case Analysis

As described in Chapter III, within case-analysis was used to evaluate each case in its entirety prior to comparison with other cases. The within case analysis for individual participants was developed from information collected through the online questionnaire and the semistructured interview and is supported and reflected by their own statements. Each participant shared information about writing instruction and practices in their classroom. Additional information derived from the writing sample analysis task were used to establish an overview of teacher knowledge of early writing development and the instructional approaches the participant proposed to provide each student. The within case analysis provides a qualitative description of the participating kindergarten teachers' knowledge of early writing development.

First Participant: Katherine

Teaching Experience and Preparation to Teach Writing

Katherine has 29 years of experience teaching kindergarten, plus 5 years teaching third and fourth grades. Early in her career, she received professional development (PD) that she acknowledges as having influenced the methods she uses when teaching writing. The PD she received included classes and time spent observing model teachers. She

determined the classroom observation times, in which the model teachers implemented the teaching practices highlighted in the PD classes, to be the most beneficial. She stated, “We went to some classes, and I never really felt like I could put it together until...I went into the classrooms of these teachers and observed them.” She acknowledged that seeing the teacher interact with the students as they were implementing the teaching techniques allowed her to learn the teaching practices more fully. Katherine indicated, “PD classes and things like that are definitely helpful...but I think the number one thing for me is being able to hear what the PD has to say and then observing...then I see the full picture.” She identified that seeing the work in action, among the model teachers and the students, along with learning about it in a class helped to solidify her understanding of the practices.

Current Classroom Writing Instruction

Writing time in her full-day kindergarten classroom is approximately 30 minutes at the beginning of the year and increases to approximately 60 minutes by the end of the year. Half of the writing time is spent in interactive writing and the other half of the time the students are writing in journals. Interactive writing is a major component of writing instruction in Katherine’s kindergarten classroom. She connects writing topics to the units of study. During whole group interactive writing, Katherine asks open ended questions to help the students generate text. The students are given time to think and to talk to their neighbors. As sentences are produced, the class selects, with guidance from Katherine, the sentence they want to write. Before writing the sentence, the students count the words in the sentence. Students are then selected to assist with writing the

sentence by sharing the pen or taking turns writing the words. However, the whole class is involved in the interactive writing as they are each counting syllables, segmenting phonemes, air-writing letter formations, and other assigned tasks. Katherine explains one way she motivates her students to write is to keep them busy.

I keep everybody busy. There's a child coming up who is going to be writing. There's another child who comes up who is the spacer person. There's another child coming up to find the word in the room to show everybody where it is. Often, we have that same word in many different places in the classroom. So, I'll say, can you think of another place to go find that word, can you think of another place, and...there are kids going all over the room looking for that word. If we are working on a letter, everyone is making...the letter in the air with their fingers. All that movement and everybody having an opportunity to go find something and show someone where it is...that builds this excitement.

Along with segmenting the words into syllables and phonemes and discussions about letter formation, other mini lessons are taught during interactive writing. Katherine explained that sentence structure is taught by focusing on uppercase letters at the beginning of the sentence and putting punctuation at the end of the sentence.

Katherine also motivates her students to become writers by teaching them the following word building strategies, the word is either in your brain, in the room, or you can sound it out. She feels these three strategies teach students that they have the capabilities and resources necessary for writing and helps them to write words independently. She states,

I talk a lot to them about how you can write anything your heart desires, if you use those three strategies...If it isn't in their brain, if it isn't in the room, then I teach them that they can sound it out.

In her classroom, students are taught to sound out words by counting the syllables, then they segment each syllable into phonemes. To reinforce segmenting phonemes, she uses

Elkonin boxes and chips to represent the sounds in words.

Katherine maintains high expectations for each of the students in her classroom. She recognizes that they have varying strengths and needs, and she learns their strengths and uses that knowledge to support them in their learning. She mentioned that sometimes a student will “know just a small handful of sight words...so [during interactive writing] they are often the one that [I will select to] write the sight word that they know.” As one of the ways she supports students who have difficulty with a writing task, she states she is “diligent in helping them to be successful at something that I know that they can be successful at.” Additionally, she selects a focus student to work with one-on-one for the day. She visits with the focus student during independent reading and independent writing. Students who are struggling, or have more needs in writing, have a turn to be the focus student in the rotation more often than other students, she states, “...struggling students are getting my one-on-one attention more frequently.”

Writing Sample Analysis Tasks

Identified student strengths. When analyzing the student writing samples, Katherine was quick to describe teacher-student interactions she would provide to support the student in improving their writing. During the analysis of the pre-alphabetic writing sample, Katherine mentioned the student’s strengths were use of periods, left to right directionality, and she mentioned the scribble writing resembled cursive (see Table 13). The teacher-student interaction she proposed was to focus on letter formation. As a side note, Katherine mentioned letter formation is typically taught during interactive writing lessons at the beginning of the school year. She then proceeded to describe

teacher-student interactions that would personalize the learning for this particular student. Katherine said she would begin with having the student form the letters of their name. Along with letter formation and name writing, Katherine suggested she would teach the student to look around the room and copy words from the classroom name wall, sight word wall, word bank, etc. This strategy is offered to teach the student what conventional writing looks like. Katherine stated the strategy of ‘look around the room’ will support the student to “...understand the idea of putting the letters on the paper to look like the letters.”

Table 13

Katherine’s Responses to Writing Sample Analysis Task Question One

Writing sample level	Identified student strengths
Pre-alphabetic sample	“I can see periods...appears to be their writing...probably from left to right, left to right...looks like cursive.”
Letter formation sample	“I see the letter m...they’re making letters...it could be sounding words out...random letters.”
Progression in alphabetic principle	“It looks like they have a number of sight words down. It looks like they’re sounding words out really well...that looks really, really good.”
Toward conventional	“This looks wonderful!”

Focus of Supports in proposed teacher-student interactions. Among the four writing samples, Katherine proposed a total of 14 supports she would initiate with the students to improve their writing development (see Table 14). Although the proposed supports ranged among the three domains of the emergent writing framework, including conceptual knowledge, procedural knowledge, and generative knowledge (Puranik & Lonigan, 2014), a majority of the proposed supports (9 supports) were focused on

transcription skills from the procedural knowledge domain including: letter formation, copying words, use of uppercase and lowercase, and punctuation. The following paragraphs will describe the types of supports that Katherine proposed and how they align with the domains of the emergent writing framework.

Table 14

Katherine's Responses to Writing Sample Analysis Task Question Two

Writing sample level	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Pre-alphabetic sample	"Start forming letters, maybe forming their name...I would introduce the concept of look around the room, go copy words...copy kids' names...copy the sight words...teach them how to make the letters"	Letter formation Use of environmental print Word formation
Letter formation sample	"I would encourage them to listen for the first letter sound, to put a simple sentence together. Once again look around the room to find those words that start with those letters...find a word in the room...copy the word, the whole word."	Alphabet knowledge Composing ideas into text Use of environmental print Word formation
Progression in alphabetic principle	"The first thing I would do is get this child a space stick ...teach them to leave spaces between the words...talk to them [about] starting your sentence with a capital letter and ending your sentence with a period and putting all the letters in the sentence lowercase, except for the first letter... I would sit down and write [with] him...want them to be writing the letters on the lines, the correct way"	Spacing Uppercase and lowercase correct usage Punctuation Letter formation
Toward conventional	"This looks wonderful! I would really start working with periods... to give them an idea of where a sentence starts and where it ends...starting your sentence with a capital letter...all other letters lowercase except for the name...encourage extending the sentence. I think this looks wonderful."	Punctuation Uppercase and lowercase correct usage Composing ideas into text

Some of the universal principals of print or concepts of print are, language is written with letters, clusters of letters are called words, and spaces separate words (Clay, 1993). Katherine's proposed teacher-student interactions that supported students in

understanding the universal principals of print were “look around the room” and using a space stick to provide proper spacing between words. Teaching the students to look around the room for certain letters and words draws attention to conventional writing and the use of print in the environment. It teaches students what print looks like.

Teacher-student interactions that Katherine proposed that supported students in gaining a procedural knowledge of print were letter formation including the use of lined paper for correct letter formation, the correct use of uppercase and lowercase letters, listening for letter sounds, and using a period for punctuation. The generative knowledge domain of the emergent writing framework includes conveying meaning at the word and sentence level (Puranik & Lonigan, 2014). This knowledge was supported in proposed teacher-student interactions of putting a sentence together and extending a sentence. Executive functions in writing include regulating attention, focusing attention on the writing task and remaining on task (Berninger & Winn, 2006). None of the teacher-student interactions Katherine proposed during the analysis of student writing samples involved executive functions. To describe kindergarten teacher knowledge of executive functions and the role they play in early writing development and a writing task Katherine was asked to please describe how she supports or instructs students to focus their attention on a writing task. Katherine said she tells the students they need their full brain to work on a writing task and should therefore limit conversations and other distractions. At the beginning of the year, she reinforces this by giving students a marshmallow who are working quietly on their writing during writing time. If she has a student who completes their writing before writing time is over, she tells them, “You

write until the teacher tells you time's up. You don't tell the teacher you're done. You just keep writing." She then offers support and reminders to students that they can extend their sentence or story they are working on by using the writing time to draw a picture that matches their writing, or they can start writing a new story or new sentence.

Description of teacher-student interactions. The teacher-student interactions Katherine proposed were temporary supports that varied depending on the needs of the student. She explained how she reminds the students of the three strategies she teaches at the beginning of the year, "[the words you want to write are either] in your brain, around the room, or [you can] sound it out." If the word isn't in their brain, she reminds the students of resources around the room (e.g., word walls, environmental print, etc.) that are available to support them in writing. Katherine states, "...it's a rarity that I will ever tell a child how to spell a word." When a student needs support in sounding out a word, she models and teaches additional strategies to segment the word into syllables and then into phonemes. She also asks the student to determine the sound and match it with a letter when deciphering how to spell a word. Letter formation is explicitly taught at the beginning of the year and referred to throughout the school year, as necessary.

Second Participant: Beth

Teaching Experiences and Preparation to Teach Writing

Beth has nine years of experience teaching kindergarten, and an additional 4 years shared among second, fifth, and sixth grades. She believes a mentor teacher has been the most helpful resource for her when it comes to teaching writing. She explained she was

able to work alongside a mentor teacher. That experience was influential in shaping how she teaches writing because she was able to observe the mentor teacher's instruction and follow her example. She has taken what she learned from this teacher and currently uses it in her own classroom.

Current Classroom Writing Instruction

In Beth's half-day kindergarten classroom, the students spend approximately 20 minutes daily in a writing center. This amount of time does not change from the beginning of the year to the end of the year. She believes that while 20 minutes of daily writing is not ideal, it is sufficient in kindergarten. She expressed the difficulty of finding more than twenty minutes daily for writing instruction and practice along with everything else she is required to teach. She stated, "It's not ideal at all. I don't have a lot of time to sit and do a writer's workshop with them, because of the time constraints of everything else that's being taught during the day."

Another limitation that impacts the writing instruction in her classroom is the scope and sequence that is provided by the district, along with the district mandated kindergarten writing assessments at the beginning, middle, and end of year. She expressed her frustration with this, "...even though it's in the core curriculum that we do narrative writing, the district doesn't care at all about narrative writing. Which is really unfortunate because kids can learn to write about themselves a whole lot easier than about other subject matter. None of the testing is about narrative at all." Although her ideal scope and sequence would be to include narrative writing at the first of the year before introducing opinion, and informational writing, she feels she must align her

instruction with the district assessments, thus, she teaches opinion at the beginning of the year, and then informational at the middle of the year and continues with informational writing through the end of the year.

Beth described a writing lesson that often becomes a favorite of her students. Each month, during the school year, Beth reads aloud three big story books, one each week. After the three books have been read, she creates an opinion writing page that the students complete. She creates a page that includes the titles of the books and the students “...circle which one was their favorite and then they have to write the title of the book...copying it off what they circled.” The students then write a sentence about what they liked about the book. They can also include a drawing and label their picture. Beth rationalized the drawing by stating, “...in the kindergarten core it says that they can do it by writing, drawing, or dictation.” A focus of this writing activity is the students generating the text. The students “come up with their opinion of...why they like something and then...keep that thought.” As the students generate their opinions, Beth helps them remember their thought by asking them to “...count out how many words are in their sentence...then they have to remember [the number of words in their sentence] ...and then they have to write out those words by sounding them out themselves.” To support students who need assistance with generating text, Beth provides sentence frames (e.g., “I like this because...”) so as not to overwhelm the students.

Beth explained the response she would provide a student who asks how to spell a word, “I would tell them first to try to sound it out. Then if they didn’t know how to sound it out, we do the movements with it and break it apart.” At the beginning of the

year, as she teaches the letters and the sounds they represent, Beth teaches hand movements that correlate with each letter and sound. She explained, "...a lot of the kids can associate the kinesthetic movement with the letter to be able to write it." For example, the hand movement for the short A sound is mimicking holding and taking a bite of an apple. Beth uses a variety of teaching practices to support students in segmenting the sounds in words in order to write them. She described another example of how she supports student learning of the letter-sound relationship. This instructional activity is independent of her regular writing instruction. She provides a word and has the students isolate one sound in the word. Then she has the students replace that sound with another sound to create a new word. This task is repeated a few times. She described an example lesson:

So, we're going to get from the word cat to the word hat. [I will ask the students] 'Which sound did you hear change?' Then isolate and say it was the first sound. [Again, asking the students] 'Okay, so if it was a letter C what letter is it now?' ...I will say from hat to hit and then hit to hip. I'll change one letter at a time. I always tell them; you have to have a vowel in there every single time.

Even though this type of lesson is not technically during her writing instruction time, she notes that it benefits the students' writing.

Writing Sample Analysis Tasks

Identified student strengths. When analyzing the student writing samples, Beth identified the writing strengths by indicating what the student is able to do (see Table 15). When analyzing the pre-alphabetic writing sample, Beth noticed the student's use of periods throughout the writing and stated, "...they have an idea of what writing is supposed to look like with the periods." In the same writing sample, she stated, "They're

not doing a whole lot. That’s just scribbles.” These comments dismiss the student’s attempt at writing. However, as she continued looking for student writing strengths, and she recognized the markings the student made were “...a little bit of what writing is supposed to look like.” Comments such as these indicate that the student created the markings with intention and validates the writing produced by this student who she considers to be “...very novice, very beginner.” For each of the writing samples, Beth identified and described the student strengths. When analyzing the toward conventional writing sample, along with the statement, “This is amazing writing,” she explained that the student is writing in sentences and puts two vowels together when spelling words, thus providing a description of what she considers to be amazing about this particular writing sample.

Table 15

Beth’s Responses to Writing Sample Analysis Task Question One

Writing sample level	Identified student strengths
Pre-alphabetic sample	“They can make a period...They’re not doing a whole lot. That’s just scribbles...They’re trying to make the lines of where they would write...they have an idea of what writing is supposed to look like with the periods...Maybe they have seen some cursive writing. They’re very novice, very beginner”
Letter formation sample	“They have some letter formation...looks like letters that they’ve copied...They’re starting to get the formation of it, but they don’t really have sentence structure at all.”
Progression in alphabetic principle	“They started with an uppercase I. The sight words they have [spelled them correctly] am, have, and with...They understand how to sound words out. They have a lot of good stuff going on here.”
Toward conventional	“This is amazing writing. This student already is writing sentences at the beginning of the year...having two vowels together, that’s really great... they’re really doing good having the ‘th’ already there”

Focus of supports in proposed teacher-student interactions. Beth had a total of 12 interactions she proposed to initiate with students during the writing sample analysis task (see Table 16). She considered each student’s writing strengths as evidenced in the writing samples and proposed an interaction that would support the student with the next step of their writing development. Although the proposed supports ranged among the three domains of the emergent writing framework, including conceptual knowledge, procedural knowledge, and generative knowledge (Puranik & Lonigan, 2014), a majority of the proposed supports (10 supports) were transcription skills from the procedural knowledge domain including: letter formation, spelling, and punctuation. One proposed interaction was in the generative knowledge domain. This support was proposed during

Table 16

Beth’s Responses to Writing Sample Analysis Task Question Two

Writing sample level	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Pre-alphabetic sample	“Practicing letter writing...what the letters are and learning the sounds...learning basic letter formation.”	Letter formation Alphabet knowledge
Letter formation sample	“Working more on lined paper, so they could get it on the lines... (speaking as if to the student) let’s see what you can do, write this word...CVC words, cat, dog, etc... (speaking as if to the student) What letters do you already know? What sounds do you already know?”	Letter formation Spelling: phonetic Alphabet knowledge
Progression in alphabetic principle	“Work on those finger spaces, punctuation...encourage them to write another sentence. I would just ask them try to write another sentence of what they are doing. I would probably have them check [the spelling] of the sight word my. I wouldn’t change the [phonetic] spelling of the word having.”	Spacing Punctuation Generate a sentence Spelling: memorization
Toward conventional	“This student...needs a bit more work to get those sight words...working with them about the appropriate placement for uppercase and lowercase letters...adding punctuation.”	Spelling: memorization Uppercase and lowercase correct usage Punctuation

analysis of the progression in alphabetic principle writing sample, Beth stated she would ask the student to extend their writing by writing another sentence. She supported this interaction by asking the student open-ended questions and providing prompts to aid the student in generating thoughts.

When asked how she developed the responses she proposed, she mentioned the knowledge that she has gained with the years she has spent teaching, “I’ve taught kindergarten for a long time now...seeing what other kindergarteners have been able to do, are capable of...I work hard to see what best practices are and how I can best support the students...I am a teacher, a teacher who likes to learn.”

Description of teacher-student interactions. The teacher-student interactions Beth proposed and described offered the student the opportunity to attempt tasks on their own and to think about and provide responses to open ended questions. For example, Beth said she would ask the student, “Let’s see what you can do. Can you write this word [CVC] words? What sounds do you know already?” This type of interaction requires the student to think about their learning which allows for deeper processing of the material as opposed to interactions in which the teacher does most of the work or gives the students the answer (Bingham et al., 2017). Another example of a targeted interaction was during analysis of the progression in alphabetic principle writing sample. Beth said she would ask the student to extend the sentence they had written. She supported this task by asking the student open-ended questions and providing writing prompts, such as asking the student to consider “...why they had a good dinner with their family or what they had for dinner with their family.”

Third Participant: Zoey***Teaching Experiences and Preparation to Teach Writing***

Zoey has a bachelor's degree, an early childhood endorsement, and an English as a Second Language endorsement. She recently completed her third year of teaching kindergarten. She is a full-time teacher who teaches two half-day sessions of kindergarten. Zoey has taught in two districts and has had professional development opportunities in both districts that have influenced her as a teacher of writing. In the first district, she attended workshops for kindergarten teachers. She explained that in one of the workshops the teachers were taught about a district-created kindergarten writing rubric. She described the rubric and how the teachers and students used it to evaluate student writing attempts and writing development. She stated,

... [it is] a special system for students to check their writing and kind of grade themselves. [It is] a rainbow writing system... [if the student] only had one word or just letters they were assigned a color and they would try to move up the color scale to full sentences.

As a new teacher in the second district, she was assigned a mentor teacher who arranged days and times for her to observe other kindergarten teachers in the district. Zoey believed these observation times were beneficial, stating, "I really enjoyed actually watching other teachers teach writing...I got to see how they set up writer's workshop or how they set up interactive writing."

Current Classroom Writing Instruction

Writing instruction in Zoey's kindergarten classroom significantly changes from

the beginning of the year to the end of the year. She explained that she spends approximately 40 minutes per week on writing instruction at the beginning of the year and then this increases to approximately 80 minutes per week by the end of the school year (averages to 8-16 minutes per day). The rationale she provided for the time spent on writing is twofold. First, she feels the amount of time spent on writing instruction is sufficient for students who attend half-day kindergarten. Second, she explained that this amount of time supports student development, stating "...[student] attention spans are shorter [at the beginning of the year], but by the middle and end of the year they have greater stamina for writing and so we are able to spend more time doing it."

To plan writing instruction, Zoey uses the core curriculum and focuses writing lessons on the three modes of writing addressed in the core: narrative, opinion, and informational text. She begins the year with narrative writing instruction and offers opportunities for student choice in writing. Some writing assignment examples are "a story or something that they have done or a favorite thing." During the middle of the year, she begins teaching opinion writing and then teaches informational writing. She explains, "...by the end of the year we are able to do different kinds of writing."

Zoey explains that teaching writing is a "gradual process" with the following description of writing instruction in her kindergarten classroom:

At the beginning of the year, [I] have to start with the very basics...just getting a picture on the page is a first step and [the students] being able to talk about [their] picture. From there, [I] start teaching the alphabet and once the students get comfortable with all the sounds then [I] move into [teaching about] labeling the picture and putting a letter with it.

She described the type of writing instruction she provides as "direct instruction." During

a direct instruction lesson, she focuses the instruction on a specific writing skill, such as, “...starting with a capital letter, having spaces, or putting a period at the end.” She models the skill, provides an example to the whole group, and then has the students “...practice it and go try it on their own.” Toward the end of the year, the instruction changes into a “...workshop style where [the students] get to choose what they want to write about.” She continues to provide mini lessons on writing skills or spelling throughout the year.

Zoey believes, “...being able to hear sounds in words and stretch it out so they can write down the sounds they hear” is the most important aspect of writing instruction that kindergarten students must learn. She recognizes that hearing a long word can be “daunting” for a student to try to write out, however, focusing on only the first sound can help the student with this task. When a student asks how to spell a word, she said, “I don’t tell them how to spell a word. I always say, ‘stretch it out or what’s the first sound that you hear.’” She explained even if they only get the first sound, “...that’s great...it’s important for them to feel successful just knowing the first sound and then growing from there.”

To motivate her students with writing assignments, Zoey offers choice, allowing her students “...to write whatever they want...giving them freedom of choice is a good motivational tool that I use.” She said her students are often interested in animals, so she will find books or videos about the topic they are interested in and that often inspires them to write about it. Another way she motivates her students to write is to show them examples of writing from students in other grades. As they walk in the hallways of the

school, she will point out the writing that students in other grades display and say, “We’re only five or six years old and we’re already able to write a sentence, pretty soon we’ll be able to write five sentences.” She explained that this is “...motivating for them to know that they’re going to grow and be able to do [more writing].”

Writing Sample Analysis Tasks

Identified student strengths. The first task Zoey was asked to do when analyzing the student writing samples was to identify what the student can do as a writer. As each sample was presented, Zoey thoughtfully identified and described the student strengths in detail (see Table 17). Not only did her comments identify students’ strengths from the markings on the page, but she hypothesized the students were conveying messages in each of the writings. When analyzing the pre-alphabetic writing sample, her first comment revealed that she had determined the student had a conceptual knowledge of writing including the recognition that print conveys meaning, “They are able to make

Table 17

Zoey’s Responses to Writing Sample Analysis Task Question One

Writing sample level	Identified student strengths
Pre-alphabetic sample	“They are able to make symbols for what they’re trying to say. Their little scribbles are symbols, they mean something in their mind.”
Letter formation sample	“They are able to write letters in the alphabet...sound out some words and some sight words...I see the word ‘I’ and the letter M...they are able to write letters.”
Progression in alphabetic principle	“They are able to label a picture...sound out words...they’re able to write sight words... the first letter is capitalized... and they’re able to draw a picture to go with what they wrote, so it matches.”
Toward conventional	“They are able to write sight words and sound out words to put on the paper... they are able to do phonemic spelling. They’re able to put spaces between their words...a pretty great writer.”

symbols for what they're trying to say.” This was also the case when she analyzed the letter formation sample as she hypothesized that the student intentionally formed particular letters, “I see the word ‘I.’”

Focus of supports in proposed teacher-student interactions. Zoey had a total of 13 interactions she proposed to initiate with students after analyzing the student writing samples (see Table 18). She considered each student’s writing strengths, as evidenced in the writing samples, and then proposed an interaction that would support the

Table 18

Zoey’s Responses to Writing Sample Analysis Task Question Two

Writing sample level	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Pre-alphabetic sample	“First of all, I would ask them what it says and...if they’re pointing to it then I know they understand their symbols are representing words that they’re saying. I would make sure that they know the letters and sounds.” (Depending on the ideas generated, support would be given to write those words) “Let’s look at the sight word wall...let’s look how to write the word ‘the.’”	Composing ideas into text Print conveys meaning Alphabet knowledge Use of environmental print Word formation
Letter formation sample	“First, I would ask them ‘What did you write?’...I can get a better idea of what they wrote to understand where to go next. I might say, ‘It looks like you did a space between I and your next word’...from asking that I can get a better idea of what they wrote. [I would say,] ‘it’s great that you got some letters on your paper, now let’s think of sounds of the words that you’re writing and put those down.’”	Composing ideas into text Print conveys meaning Alphabet knowledge
Progression in alphabetic principle	“I would have them read their writing to me. I would ask them questions to see if they notice they don’t have finger spaces between words...that’s something I would have them practice on their next writing...putting a finger space between each word.”	Composing ideas into text Spacing
Toward conventional	“Most of their letters are uppercase...I would probably show them an example from a book to show them how the first letter is the only one that is capital in a sentence and the rest are lowercase, unless it’s a name... [Next, I would say] ‘Your writing looks great and you’re sounding out words.’ Some sight words are misspelled...I would have them look at the word wall to find them and learn how to spell those.”	Uppercase and lowercase correct usage Spelling: memorization Use of environmental print

student in developing their writing skills. She proposed supports in each of the three domains of the emergent writing framework (Puranik & Lonigan, 2014): conceptual knowledge (5 supports), procedural knowledge (5 supports), and generative knowledge (3 supports).

The proposed supports categorized in the conceptual knowledge domain are use of environmental print, spacing between words, and understanding that print conveys meaning and is used for communication. The proposed supports categorized in the procedural knowledge domain are transcription skills including alphabet knowledge, the correct use of uppercase and lowercase letters, and copying sight words. Generative knowledge is translating ideas into text or conveying meaning through writing, and this was supported by interactions that asked the student to read their writing and allowed the student to explain the writing they produced.

Description of teacher-student interactions. The interactions Zoey proposed recognized the current abilities of the student. Not only were the students' abilities recognized, but in the proposed teacher-student interactions Zoey validated the students' writing attempts with specific praise, "It's great that you put some letters on your paper...your writing looks great and you're sounding out words." These statements praise student work as well as student effort and describe what skills the student is attempting and mastering.

Zoey's responses to three of the four writing samples were to first ask the student to read their writing to her (see Table 19). These comments validate student's attempts at composing ideas and thoughts into text and conveying a message. When asked how she

developed these responses, she explained in her undergraduate literacy courses she learned that sometimes a student's writing "...doesn't look like writing to adults, but to them it's their writing and their symbols that they're using to display their speech."

Table 19

Zoey's Responses that Focused on the Student Reading their Writing Aloud

Writing sample level	Responses that focused on the student reading their own writing
Pre-alphabetic sample	"First of all, I would ask them what it says."
Letter formation sample	"First thing I would ask them is, 'What did you write?' and then they would tell me and then I can get a better idea of what they wrote."
Progression in alphabetic principle	"I would have them read [their writing] back to me."

Fourth Participant: Alice

Teaching Experience

Alice has a bachelor's degree in elementary education with a minor in early childhood education. Additionally, she has an early childhood endorsement, an English as a second language endorsement, and is currently working towards a master's degree. She has six years of teaching experience in early childhood classrooms. She taught one year in preschool "...right out of college, I moved to rural Alaska and taught preschool," one year of second grade, and recently completed her fourth year of teaching full-day kindergarten.

Preparation to Teach Writing

She highlighted several resources she believes have prepared her to teach writing

in kindergarten including a specific writing course, a mentor teacher, her current kindergarten team of teachers, and a book. She noted a literacy course she took during her undergraduate education that taught her about a developmental writing continuum. She explained the continuum,

[Writing] starts with...scribbles, then they're working on pictures, then they're matching the beginning sound...then the next step is...beginning sound and the ending sound, then the final phase would be trying to add in some vowels and think about phonetic spelling ...how they can map the sounds appropriately.

She has used the knowledge about the developmental writing continuum throughout her teaching career. Additionally, she spoke highly of the mentor teacher with whom she worked during her teacher preparation program. She expressed that the teacher's instructional practices and the resources she utilized have influenced writing instruction in her own classroom. She stated,

My mentor in my teacher preparation program was absolutely phenomenal. I student taught in a kindergarten classroom. [The teacher] used a lot of phonics and phonemic awareness resources that have been hugely impactful for teaching [writing] skills...the importance [she placed] on writing and giving students freedom and time to write was a big component of her writer's workshop model.

Alice currently works with a team of two other kindergarten teachers who she describes as working well together, she states, "...we're a really close-knit team." They plan grade level writing instruction together. She explained, "...so the three of us working together, design our progression throughout the year for different engaging topics...we work on a lot of sentence stems and filling in the blank, we also do a lot of tree charts." Lastly, she mentioned a book she read during her "...teacher preparation courses and even now" and how it has helped improve the writing instruction she provides and her understanding of vertical alignment in English language arts.

Current Classroom Writing Instruction

Alice teaches full-day kindergarten. Her class spends approximately 45 minutes per day on writing instruction and practice. Time spent on writing instruction does not vary from the beginning of the year to the end of the year. She believes, "...students need to have a strong foundation in writing because it will help them be successful in many other areas of school" and she explained "...working for 30-40 minutes is developmentally appropriate." Furthermore, she describes writing instruction and practice in her full-day kindergarten classroom,

We work as a grade-level team to have a common writing block for 45 minutes. We read a story and then write facts and information about the topic. We do this for the whole year. At the beginning, the students write more pictures and single word responses. At the end of the year, students write for the whole time.

Alice described what writing instruction looks like at the beginning of the year in her full-day classroom, "At the beginning of the year we co-write [by]...forming letters and matching letters to sounds, then [we learn] the concept that words have meaning. After that, we connect thoughts and ideas to writing." Writing instruction begins with "...sentence starters and community writing, then students move to writing independently." She described a community writing session,

If we are writing, 'Bats can fly.' [I'll say] 'Okay first we're going to write a capital B. Here we go. Remember we're going to start on the left.' It's very scripted. I am doing it on the board and they're doing it on their paper right with me. For the friends who are the kindergarten students who struggle with that visual 'see something, do something,' because a lot of them have a hard time developing that [visual] tracking. I will take a highlighter and write it directly above the line [on their paper]. That way they can touch their finger and say, 'Okay here is the B, I write the B. Here's the A, I write the A.' That way they have that visual reference to track with the eventual goal being we write it on the smart board together or on the chart paper together and they can [write it on their paper].

Alice explained that the above description is typical writing instruction in her classroom during the first of the year. During the second month of school, she begins a gradual release and will "...give [the students] a topic and a word bank that has been generated together based off a text. We are always referring back to the text because that is what we're asked to do... [in the] standards."

When asked, 'What aspects of writing instruction do you feel are most challenging for kindergarten students?' Alice responded,

Getting students to an independent level of writing...students struggle with confidence [in their abilities]. I hear all the time, 'How do you spell? What does that look like? I don't know what to write?' It is just getting the pen on the paper, just do something.

She supports students when they question their writing attempts by "...encouraging about any attempt at writing...even if [they write] random letters strings... [I say], 'That's awesome! You did such a good job writing. I wonder if next time [you could] try to add some finger spaces.'...encouraging them." Another method she uses to support students in developing confidence in their writing is to get them to share their writing with each other. She accomplishes this by partnering students with peers and then they "...read their writing to each other." She explained how this activity builds confidence and teaches the students that their words have meaning and can be shared with others.

Writing Sample Analysis Tasks

Identified student strengths. To answer the first question of the writing sample analysis tasks, Alice thoughtfully reviewed each sample and described in detail the writing strengths of each student (see Table 20). When analyzing the pre-alphabetic and

letter formation samples, Alice valued the students' attempts at writing and acknowledged that the students were likely conveying a message or expressing meaning. In the letter formation sample she mentioned, "It appears that they were handwriting their name...they have the word 'I.'" Statements such as these show appreciation and give value to the student's writing attempts. Alice thoroughly described student strengths on each writing sample. Her initial remark when analyzing the toward conventional sample was generic, "This is fantastic." However, she continued the analysis and listed numerous examples of what the student is able to do as a writer.

Table 20

Alice's Responses to Writing Sample Analysis Task Question One

Writing sample level	Identified student strengths
Pre-alphabetic sample	"They understand that they're obviously writing something...they're expressing meaning through writing. They understand that writing is supposed to be on the line, and they understand that the letters have some formation to them."
Letter formation sample	"It appears that they were handwriting their name...working on practicing capital and lowercase...letter formation looks great...pretty good control over the formation of letters...they have the word 'I'...they're starting to get spaces, they're not writing the letters on top of each other."
Progression in alphabetic principle	"...able to express thoughts about a topic, they are able to stay on topic, they're able to match a picture to a sentence, they are able to spell sight words. They're understanding those longer words like 'dinner' and 'family' and multisyllabic words where they have to really stretch them out. They even have the [drawing] labeled."
Toward conventional	"This is fantastic. They have concepts of print figured out, they have the spaces, they have the letter formation...they have their name, they have common sight words spelled, they have a picture that matches...they understand the /r/ sound...they're matching vowels in a really reasonable way...they got blends and diagraphs. She writes her name in appropriate case, so that's good. She knows how to spell her brother's name."

Focus of supports in proposed teacher-student interactions. Alice had a total of 17 teacher-student interactions she proposed to initiate with students after the analysis

of student writing samples (see Table 21). She thoughtfully considered the student strengths in writing she identified and thoroughly described the teacher-student interactions she would employ to support the student in development of writing skills. Although she proposed supports in each of the three domains of the emergent writing framework (Puranik & Lonigan, 2014), most of the proposed supports were in the procedural knowledge domain (11 supports). These supports ranged from letter formation

Table 21

Alice's Responses to Writing Sample Analysis Task Question Two

Writing sample level	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Pre-alphabetic sample	"I would encourage drawing a picture...figuring out what they want to say and then helping them match letters to what they're trying to say...I would watch how they're writing to see which direction they're going...it appears they need help with spacing their letter and their words...so using spaceman or a finger space between their words... then we can start to work on some letter formation."	Composing ideas into text (2x) Spelling: phonetic Directionality Spacing Letter formation
Letter formation sample	"I would ask them to read it to me...matching meaning to letters...getting them to start matching more letters to meaning...by picking out beginning sounds of words that they want to write...they should know [the spelling of] the word 'the.'"	Composing ideas into text Spelling: phonetic Spelling: memorization
Progression in alphabetic principle	"Finger spacing would be the next [skill to learn] ...finger spaces would be really helpful...I would fix that capital H in have...reminding about a period...remind them about [spelling] the word my."	Spacing Uppercase and lowercase correct usage Punctuation Spelling: memorization
Toward conventional	"First, I would clean up the sight words...thinking about casing...lowercase letters...really practicing the lowercase letter formation and reminding them how English works, that we write in lowercase unless it's a name or the first word of the sentence or proper noun...next would be a period...the last thing I would do would be the vowels [help her hear the vowels]."	Spelling: memorization Uppercase and lowercase correct usage Punctuation Spelling: phonetic

to spelling to the correct use of uppercase and lowercase letters and the correct use of punctuation. In three of the four samples, working on spelling sight words was a proposed support (see Table 22). The three proposed teacher-student interactions that supported foundational understandings in the conceptual knowledge domain were directionality and spacing. The three proposed teacher-student interactions of the generative knowledge domain supported the skill of composing ideas into text.

Table 22

Supports Proposed by Alice that Focus on Spelling Through Memorization

Writing sample level	Proposed teacher-student interactions that focus on spelling through memorization
Letter formation sample	“...they should know the word ‘the.’ That’s a common sight word.”
Progression in alphabetic principle	“I would remind them about the word ‘my’...that’s a hard sight word for them to understand...they y is making the long I sound.”
Toward conventional	“I would clean up the sight words first...because those are easy fixes.”

Knowledge/skill development. When Alice was asked how she developed the types of responses she provided, she spoke about a college course, a writing practicum, and her experience working with students.

College was very helpful for that. My writing practicum course...the teacher prep class was helpful...and then... you see over time and knowing what kids [begin kindergarten] with, and if they [begin] with this sets of skills, then this is where you go next. Also thinking about the writing continuum; knowing that if they are starting with scribbles the next step is they are going to start doing random letters strings, so we need to get them learning the letters, but they also then have to be able to hold the pencil to be able to write the letters. There are those things that you have from experience and working with students.

The combination of the teacher preparation courses, and experience teaching children

seem to be the most influential resources she draws upon when proposing ways to support student writing skills. Alice explicitly states how influential experience is, “I think the most helpful thing is just having the time and the exposure with kids...knowing what 5- and 6-year-olds can do.”

Description of teacher-student interactions. Alice provided rich detail in describing the proposed teacher-student interactions. The proposed teacher-student interactions included explicitly teaching a concept. In the following example, Alice explained how important it is for students to learn that their writing should be used to communicate or convey meaning,

...I think...really stressing this to them, that they're writing to mean something so someone else can read it. If they are not able to have spaces or understand what someone is saying, then what is the point of writing? ...it has to have meaning...that one is a really good real-world skill for them.

The interactions she proposed also included open ended questions and these allowed the student to think more deeply about their writing. In one interaction she asked the student to read their writing aloud. In two other interactions, Alice asked the student to “...hear the vowels in words” and “...match letters to what they’re trying to say.” Alice was cognizant of the type of support she offered students and explained she often starts with “...the least intensive intervention to the most intensive intervention.”

She described how she supports students to gain confidence in their writing abilities and to be able to work on their own by teaching them about resources they can use, “...here's the sight word wall. [Now] you know how to spell ‘our.’” Other interactions that included the use of tools for writing were using the spaceman tool and using a star sticker to provide a cue for directionality.

Fifth Participant: Rebecca***Educational Background and Teaching Experience***

Rebecca has an undergraduate degree in family and consumer studies along with a master's degree in elementary education. Although she does not have an early childhood endorsement, she is certified to teach grades kindergarten through eighth because of the coursework she completed in the master's program. Additionally, she has endorsements in English as a second language and educational technology. She also has begun coursework toward a reading endorsement. Rebecca has taught for 13 years, all of which have been in the same school district. She has taught kindergarten and second grades. She expressed her feelings about completing her 12th year teaching kindergarten, by stating, "...kindergarten is definitely where my heart lies."

Preparation to Teach Writing

When asked what she feels has prepared her to teach writing in kindergarten, she said workshops and books have been helpful. The workshops she has attended are district workshops, typically one day events either at the beginning or the end of the school year. Additionally, she stated she has "...read different professional development books about writing" and explained these have helped her "...understand early childhood development that comes along with writing." When asked to describe her understanding of early childhood development of writing she stated,

With kids, especially young kids, the cognitive development [is] being able to transfer thoughts from inside their head to text...kindergarten writing is especially difficult because the fine motor skills...they lack fine motor skills...teaching them pencil grip and all the basics before you can even dive into actual writing.

Current Classroom Writing Instruction

Rebecca explained that writing instruction in her classroom follows her ideal scope and sequence. She begins the year with having the students draw pictures, then move to simple labels, next the students write simple sentences, lastly, she ends the year teaching the students to write multiple sentences. She explained this progression is necessary to support the students who enter her classroom,

...a majority of kids come in not knowing any letter names or sounds. It is impossible for them to write because they have no correlation with a letter and its sound... You can see kids that have experience with preschool, or they have been in daycare where they draw or color versus kids who do not have exposure to that.

To support the students who have little to no prior experience with writing, she begins the school year with drawing pictures, reading stories, and doing picture walks through books. These instructional practices are designed to support students' knowledge of telling stories and generating ideas, including adding details. She explained the instructional activities that support writing which she implements during the first half of the school year.

We tell all our stories through pictures. We read a lot of storybooks, and we do a lot of picture walks where we look at the pictures in a book to see if we can figure out the story without reading the text. I have them dive in by telling stories with pictures and I always encourage them to add more detail. So, they'll draw a quick house and the stick figure of themselves, and I'll say, 'Tell me about your picture.' Then they'll say, 'Oh, this is me outside playing in the garden. I was picking flowers.' Next, I'll say, 'Okay, let's add the flowers. Add that detail so that we can see that that's part of the story.'

She continued to explain that by October or November many students are ready to start adding labels to the pictures. She explained, "They'll draw a picture and then I'll have them do simple labels...even if it's just the beginning sound that they're writing, they are

still labeling their picture.” She indicated that by about December, the students in her classroom are beginning to write “...simple sentences to describe what’s happening in their picture.”

Rebecca provides both explicit instruction in writing and time for free writing. She explained she often teaches a mini-lesson or reads a story to the students and has them write using a sentence stem. She also explained that she likes to offer time for free writing, usually during center time. She explained how free writing supports student motivation to write and increases the quality of their writing:

I think that free writing gets them really motivated because they get to choose whatever they want to write about, and they get excited to tell you about the things that they have been doing in their life or things that have been happening at home or something like that. You get good writing when they do that.

She expanded on this thought, “I feel like they need that explicit writing instruction, but you get better writing when you allow them to write their stories or come up with their own ideas, so I try to do both.”

Just as the writing activities and assignments progress through the school year in her classroom, the time her students spend on writing increases through the school year. Rebecca teaches full-day kindergarten, and she begins the year spending ten minutes per day on writing which increases to 20 to 30 minutes by the end of the school year. She explained this is to support the students’ stamina for writing. She explained,

...it is all about building that stamina. Beginning [the year], I’ll set a timer for the students to write for just three minutes. We’ll write for three minutes for a week and then I’ll add a minute to the timer...that whole time we’re focusing [on the writing task] ...by the end of the year, they’re able to write for that entire 20-to-30-minute block because they’ve built stamina over time.

Writing Sample Analysis Tasks

Identified student strengths. As Rebecca analyzed the student writing samples, she easily noted two to three writing strengths for each student (see Table 23). During the analysis of the pre-alphabetic writing sample, Rebecca’s comments indicated she validated the student’s writing attempts and saw writing strengths in even the most novice writing sample. She determined the student was gaining a foundational understanding of the concepts of print. She stated, “[The student can] ...hold a pencil and put something down on paper and understand that there’s a sequence to writing, so they can see that there are lines and it’s not just one solid scribble.”

Table 23

Rebecca’s Responses to Writing Sample Analysis Task Question One

Writing sample level	Identified student strengths
Pre-alphabetic sample	“Hold a pencil and put something down on paper and understand that there’s a sequence to writing, so they can see that there’s lines and it’s not one solid scribble.”
Letter formation sample	“They have an understanding of letter-sound correspondence...it looks like they have some basic understanding of writing structure because they have capital and lowercase letters...also some simple word understanding because I see the word ‘I.’”
Progression in alphabetic principle	“This kindergarten student is able to label, and they are able to use their writing to describe the picture.”
Toward conventional	“This student is able to write simple sentences and use letter-sound correlation.”

Each sample was evaluated individually, and student strengths were determined simply from the sample of writing and not compared to what the typical kindergarten student should be accomplishing at a certain time during the year. Rebecca was able to look at the sample and determine that particular child’s writing strengths as evidenced in

the sample and then propose teacher student interactions. As Rebecca analyzed the toward conventional writing sample, she noted the student’s strengths as the ability to write simple sentences and use letter-sound correlations.

Focus of supports in proposed teacher-student interactions. Rebecca had a total of 13 teacher-student interactions she proposed to initiate with students during the writing sample analysis task (see Table 24). Six of the proposed teacher-student interactions were focused on the generative knowledge domain (Puranik & Lonigan, 2014) and supported students in composing ideas into text. As Rebecca described how

Table 24

Rebecca’s Responses to Writing Sample Analysis Task Question Two

Writing sample level	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Pre-alphabetic sample	“I would sit down with them and ask them what this said, and then I would write what they dictated to me. We would start with the basic beginning sound...so that they could see every word has a sound association, not just a scribble.”	Composing ideas into text Print conveys meaning Alphabet knowledge
Letter formation sample	“I would sit down with them and ask them...what the sentence was trying to state. (As if talking to the student) ‘What is the sentence that you’re trying to write?’ Then we would review it to see if there were sounds, we needed to add, if there was something that we needed to change to help with understanding.”	Composing ideas into text Spelling: sounding out Composing ideas into text (again)
Progression in alphabetic principle	“I would have the student read the sentence to me. Then we would talk about...where capital letters belong in a sentence...also talk about spacing...then I would encourage them to keep going because they’re doing a great job...maybe add more detail after this.”	Composing ideas into text Uppercase and lowercase letters Spacing Composing ideas into text
Toward conventional	“[I would sit] down with the student. I would read this sentence. Then I would bring to their attention the common words that are misspelled...are, the...I would refer them to the word wall to find the word and correct it.”	Composing ideas into text Spelling: memorization Use of environmental print

she would work with each student she began each interaction with a reading of the student's work either by the student or herself, as revealed in the following comments: "...have the student read the sentence to me...ask them what this said...I would read this sentence." These supports of having the student or the teacher read aloud the student's writing is a support that focuses on meaning or message conveyed through written text. Rebecca described two other supports that were also considered supportive of composing ideas into text. These proposed supports asked the student to add detail and make changes to the writing to support understanding.

Five of the proposed teacher-student interactions are considered to support students' procedural knowledge. These proposed interactions supported student learning of alphabet knowledge, word formation, spelling, and use of uppercase and lowercase letters. The two proposed teacher-student interactions that supported students' conceptual knowledge focused on using proper spacing between words and helping students recognize that print is used to convey meaning or share a message.

When Rebecca was asked to provide a rationale for the teacher-student interactions she proposed, she spoke about providing a foundation to writing and helping students gain an understanding that writing is used to share thoughts or convey a message. In her own words,

It is about giving them that beginning structure and understanding...that they understand that writing is having something down on the paper...helping them understand that writing is taking your thoughts and putting them down in a way that other people can read them...helping them push it to the next level so that they can see their thoughts come together.

When supporting students' writing and offering them support in the correct spelling of

high frequency words, she explained the correct spelling and referred the student to use the word wall to find and correctly spell the word. She noted that this supports students to use the tools around them to make corrections on their own. She also reasoned it is important to provide positive feedback while recognizing and praising all writing attempts. When Rebecca was asked how she developed the proposed responses, she said she has developed these responses over her years of teaching experience and using what she knows and understands about early child development.

Description of teacher-student interactions. Three of the four teacher-student interactions Rebecca proposed began with her “sitting down with the student.” This instructional approach allows the teacher to get on the same level as the student. Taking the time to sit with the student and discuss their writing validates their attempts and gives them nonverbal affirmation that the work they are doing is worthwhile.

Summary

The within-case analysis of each of the five participating kindergarten teachers provided a qualitative description of each individual participants’ knowledge of early writing development. Teacher knowledge of early writing development was revealed in participant responses to the questions on the questionnaire and the semistructured interview and reflected in their analysis of kindergarten student writing samples.

The participating teachers shared the resources and tools they considered to be most helpful in teaching them about writing including undergraduate level courses on writing, professional development workshops, observing model teachers, and educational books on writing. Additionally, when teachers proposed teacher-student interactions they

were asked where they learned the instructional practices and how they developed the type of response that they were proposing. Participating teachers referenced the resources that they described as the most helpful in learning to teach writing. Additionally, participating teachers explained that experience teaching kindergarten students has helped them learn how to support students' early writing development.

Cross-Case Analysis

To maintain focus on the second purpose of this multiple case study, exploring how kindergarten teacher knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction, a cross-case analysis was implemented to address the second research question, given select kindergarten student writing samples: (a) what teacher-student interactions will the participating kindergarten teachers propose to initiate; and (b) what components of writing are the focus of these teacher-student interactions from the student writing sample analysis? Section one provides a description of the teacher-student interactions that the participating kindergarten teachers proposed. Section two provides a description of the components of writing that were the focus of the proposed teacher-student interactions.

Section One: Description of Proposed Teacher-Student Interactions

During the kindergarten student writing sample analysis task, participating teachers were first asked to determine the student's strengths in writing. Next, the participating teachers were asked to propose teacher-student interactions that they would

initiate to support the student in developing writing skills. In this section, a qualitative description of the proposed teacher-student interactions for each writing sample (i.e., pre-alphabetic, letter formation, progression in alphabetic principle, and toward conventional) is provided. Although, the coding protocol was outlined in Chapter III, the coding terms and examples from participants' responses are provided in Table 25 for reference.

Description of Proposed Teacher-Student Interactions: Pre-alphabetic Writing Sample

The proposed teacher-student interactions for the pre-alphabetic writing sample (see Figure 6) among the five participants were similar (see Table 26). Three teachers were interested in what the student was communicating in their writing. To determine the student's intended message, two teachers proposed to ask the student to read their writing aloud; whereas the third teacher asked the student to draw a picture to match their writing. These three teachers said determining the message of the writing would better help them support the student to match letters to sounds, specifically the beginning letter sound.

Three teachers proposed letter formation as an important next step for the student's writing development. Two teachers proposed the use of word walls as a tool to help the student with letter and word formation. Additionally, three teachers recognized the value of alphabet knowledge and teaching the student letter-sound relationships. Only one teacher proposed working on directionality and spacing.

Table 25*Coding Terms and Examples from Participants' Responses*

Emergent writing framework domains	Coding terms	Examples of participant responses	
Conceptual knowledge	Use of environmental print	"I would introduce the concept of look around the room." "Let's look at the sight word wall."	
	Directionality	"...see which direction they are writing..."	
	Spacing	"I would get this child a space stick..." "...something I would have them practice...putting a finger space between each word."	
	Print conveys meaning	"I would write what they dictated to me." "...if they're pointing to it then I know that they understand that their symbols are representing words that they're saying."	
Procedural knowledge	Alphabet knowledge	"...practicing...what the letters are and learning the sounds."	
	Letter formation	"Start forming letters." "...learning basic letter formation." "Working a bit more on lined paper..." "...writing letters on the lines, the correct way."	
		Word formation	"...copy words...copy kids' names."
		Spelling: phonetic	"...write this word...CVC words, cat, dog..." "...picking out beginning sounds of words that they want to write." "...helping them to match letters to what they want to say."
	Spelling: memorization	"Some sight words are misspelled...I would have her look at the word wall to find them and learn how to spell those." "First, I would clean up the sight words." "I would bring to their attention the common words that are misspelled." "...remind them about spelling the word my."	
	Uppercase and lowercase correct usage	"...starting your sentence with a capital letter...all other letters lowercase." "...appropriate placement for uppercase and lowercase letters." "...we write in lowercase unless it's a name or the first word of the sentence or a proper noun."	
	Punctuation	"I would start talking about periods." "...adding punctuation." "...reminding about a period."	

(table continues)

Emergent writing framework domains	Coding terms	Examples of participant responses
Generative knowledge	Composing ideas into text	<p>"I would have the student read the sentence to me." "...maybe add more detail after this." "I would ask them what it says." "...figuring out what they want to say..."</p>
	Word level composing	No examples from participant responses
	Phrase level composing	No examples from participant responses
	Sentence level composing	"...to put a simple sentence together." "...encourage them to write another sentence."
Executive functions	Focusing attention on the task	<p>"...finding things that are interesting to them that they would be motivated to write about." "...writing time is a time when we have to use our full brain."</p>
	Remaining on task	<p>"...write during writing time." "...we write the whole time." "...building writing stamina."</p>

Figure 6

Pre-Alphabetic Writing Sample

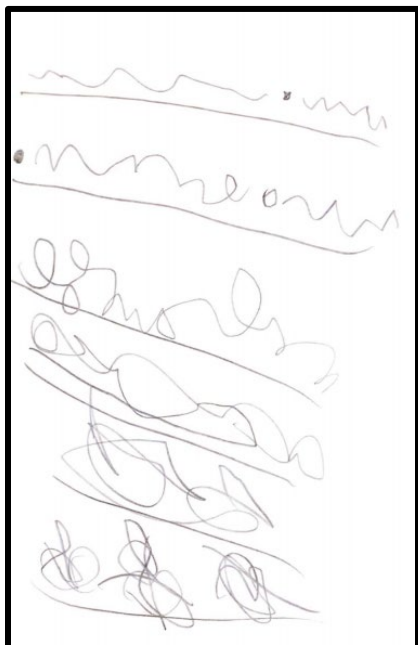
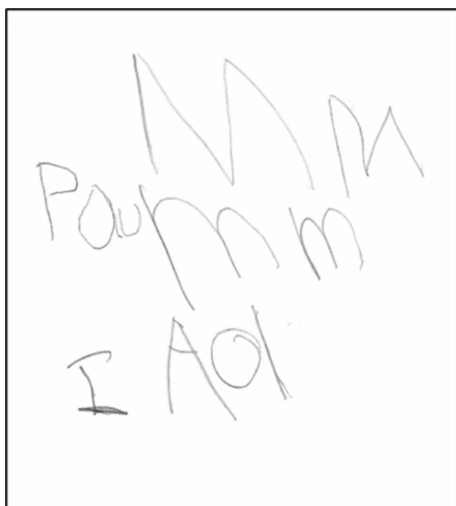


Table 26*Participant Responses to Writing Sample Analysis Task Question Two: Pre-Alphabetic Writing Sample*

Participant pseudonyms	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Katherine	“Start forming letters, maybe forming their name...I would introduce the concept of look around the room, go copy words...copy kids’ names...copy the sight words...teach them how to make the letters”	Letter formation Use of environmental print Word formation
Beth	“Practicing letter writing...what the letters are and learning the sounds...learning basic letter formation.”	Letter formation Alphabet knowledge
Zoey	“First of all, I would ask them what it says and...if they’re pointing to it then I know they understand their symbols are representing words that they’re saying. I would make sure that they know the letters and sounds.” (Depending on the ideas generated, support would be given to write those words) “Let’s look at the sight word wall...let’s look how to write the word ‘the.’”	Composing ideas into text Print conveys meaning Alphabet knowledge Use of environmental print Word formation
Alice	“I would encourage drawing a picture...figuring out what they want to say and then helping them match letters to what they’re trying to say...I would watch how they’re writing to see which direction they’re going...it appears they need help with spacing their letter and their words...so using spaceman or a finger space between their words... then we can start to work on some letter formation.”	Composing ideas into text Spelling: phonetic Directionality Spacing Letter formation
Rebecca	“I would sit down with them and ask them what this said, and then I would write what they dictated to me. We would start with the basic beginning sound...so that they could see every word has a sound association, not just a scribble.”	Composing ideas into text Print conveys meaning Alphabet knowledge

Description of Proposed Teacher-Student Interactions: Letter Formation Writing Sample

During analysis of the letter formation writing sample, all five participating teachers proposed teacher-student interactions that focused on the letter-sound relationship (see Figure 7). These interactions ranged from listening to the first sounds in words to spelling consonant-vowel-consonant (CVC) words (see Table 27). The

Figure 7*Letter Formation Writing Sample*

participating teachers recommend supporting the student to use knowledge of letters and sounds to match the sounds, specifically beginning sounds of words, and form letters to write the words the student is trying to write. Three teachers began the teacher-student interaction by asking the student to read their writing aloud or asked the student to tell them what they were writing. In addition, one teacher recommended introducing lined paper to the student to work on correct letter formation.

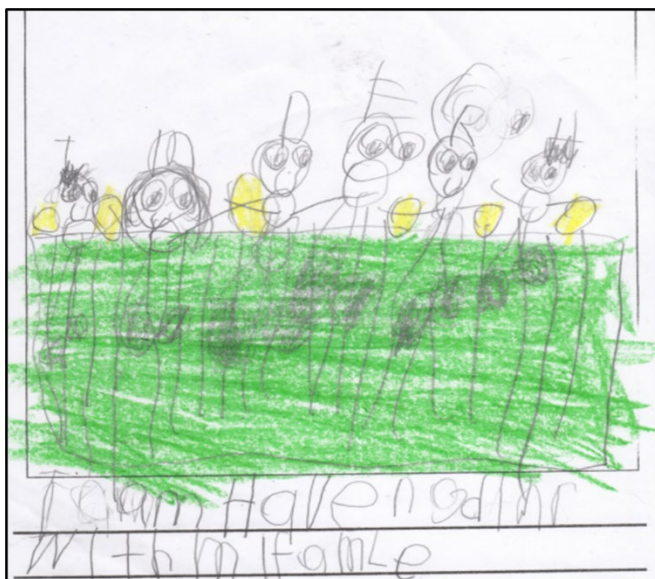
Description of Proposed Teacher-Student Interactions: Progression in Alphabetic Principle Writing Sample

As the participating kindergarten teachers analyzed the progression in alphabetic principle writing sample (see Figure 8), all five proposed teaching the student correct spacing (see Table 28). Three teachers recommended teaching the student about the proper use of uppercase and lowercase letters. Additionally, three teachers suggested

Table 27*Participant Responses to Writing Sample Analysis Task Question Two: Letter Formation Writing Sample*

Participant pseudonyms	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Katherine	“I would encourage them to listen for the first letter sound, to put a simple sentence together. Once again look around the room to find those words that start with those letters...find a word in the room...copy the word, the whole word.”	Alphabet knowledge Sentence level composing Use of environmental print Word formation
Beth	“Working more on lined paper, so they could get it on the lines... (speaking as if to the student) let’s see what you can do, write this word...CVC words, cat, dog, etc... (speaking as if to the student) What letters do you already know? What sounds do you already know?”	Letter formation Spelling: phonetic Alphabet knowledge
Zoey	“First, I would ask them ‘What did you write?’...I can get a better idea of what they wrote to understand where to go next. I might say, ‘It looks like you did a space between I and your next word’...from asking that I can get a better idea of what they wrote. [I would say,] ‘it’s great that you got some letters on your paper, now let’s think of sounds of the words that you’re writing and put those down.’”	Composing ideas into text Print conveys meaning Alphabet knowledge
Alice	“I would ask them to read it to me...matching meaning to letters...getting them to start matching more letters to meaning...by picking out beginning sounds of words that they want to write...they should know [the spelling of] the word ‘the.’”	Composing ideas into text Spelling: phonetic Spelling: memorization
Rebecca	“I would sit down with them and ask them...what the sentence was trying to state. (As if talking to the student) ‘What is the sentence that you’re trying to write?’ Then we would review it to see if there were sounds we needed to add, if there was something that we needed to change to help with understanding.”	Composing ideas into text Spelling: phonetic Composing ideas into text (again)

reminding the student about correct use of punctuation by reminding them to end the sentence with a period. Two teachers proposed to work with the student on composing skills, by asking the student to add details or write another sentence. Only one teacher proposed having the student work on letter formation with the use of lined paper.

Figure 8*Progression in Alphabetic Principle Writing Sample*

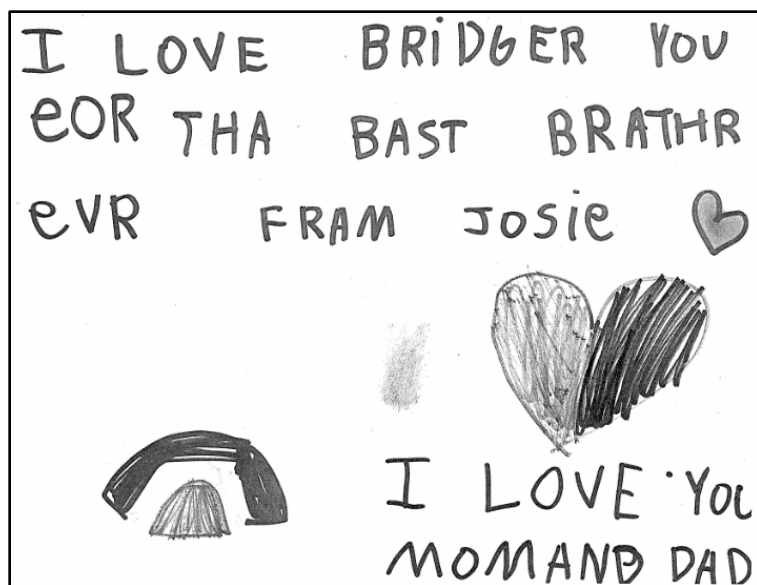
Description of Proposed Teacher-Student Interactions: Toward Conventional Writing Sample

The most common proposed teacher-student interactions for the toward conventional writing sample (see Figure 9) among the five participants were the correct use of uppercase and lowercase letter formation and the correct spelling of high frequency words (see Table 29). Four teachers proposed interactions to support students in using an uppercase letter to begin a sentence and writing the remaining letters in lowercase. Additionally, four teachers recommended correcting the spelling of high frequency words. Two of these teachers suggested referring the student to use the word wall to correct spelling on their own. Three teachers noticed the sentence was missing punctuation and suggested adding a period. One teacher proposed beginning the teacher-student interaction by having the student read their work aloud, which supports

Table 28*Participant Responses to Writing Sample Analysis Task Question Two: Progression in Alphabetic Principle Writing Sample*

Participant pseudonyms	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Katherine	“The first thing I would do is get this child a space stick ...teach them to leave spaces between the words...talk to them [about] starting your sentence with a capital letter and ending your sentence with a period and putting all the letters in the sentence lowercase, except for the first letter... I would sit down and write [with] him...want them to be writing the letters on the lines, the correct way”	Spacing Uppercase and lowercase correct usage Punctuation Letter formation
Beth	“Work on those finger spaces, punctuation...encourage them to write another sentence. I would just ask them to try to write another sentence of what they are doing. I would probably have them check [the spelling] of the sight word my. I wouldn’t change the [phonetic] spelling of the word having.”	Spacing Punctuation Sentence level composing Spelling: memorization
Zoey	“I would have them read their writing to me. I would ask them questions to see if they notice they don’t have finger spaces between words...that’s something I would have them practice on their next writing...putting a finger space between each word.”	Composing ideas into text Spacing
Alice	“Finger spacing would be the next [skill to learn] ...finger spaces would be really helpful...I would fix that capital H in have...reminding about a period...remind them about [spelling] the word my.”	Spacing Uppercase and lowercase correct usage Punctuation Spelling: memorization
Rebecca	“I would have the student read the sentence to me. Then we would talk about...where capital letters belong in a sentence...also talk about spacing...then I would encourage them to keep going because they’re doing a great job...maybe add more detail after this.”	Composing ideas into text Uppercase and lowercase letters Spacing Composing ideas into text

composing. Another interaction that supports composing was proposed by a different teacher as she said she would encourage the student to extend the sentence. Only one teacher suggested working with the students on phonetic spellings and listening to the vowel sounds in the words.

Figure 9*Toward Conventional Writing Sample***Summary**

The cross-case analysis of proposed teacher-student interactions highlighted the similarities and differences in the supports the participating teachers described. Each proposed teacher-student interaction was purposeful and intentional to increase the student's understanding and skills related to early writing. During analysis of the progression in alphabetic principle writing sample, all five participating teachers recommended the same interaction of teaching correct spacing. However, in many of the writing samples, three or more teachers recommended the same teacher-student interaction to support the student.

Table 29*Participant Responses to Writing Sample Analysis Task Question Two: Toward Conventional Writing Sample*

Participant pseudonyms	Proposed teacher-student interactions	Focus of proposed teacher-student interactions
Katherine	“This looks wonderful! I would really start working with periods... to give them an idea of where a sentence starts and where it ends...starting your sentence with a capital letter...all other letters lowercase except for the name...encourage extending the sentence. I think this looks wonderful.”	Punctuation Uppercase and lowercase correct usage Composing ideas into text
Beth	“This student...needs a bit more work to get those sight words...working with them about the appropriate placement for uppercase and lowercase letters...adding punctuation.”	Spelling: memorization Uppercase and lowercase correct usage Punctuation
Zoey	“Most of their letters are uppercase...I would probably show them an example from a book to show them how the first letter is the only one that is capital in a sentence and the rest are lowercase, unless it’s a name... [Next, I would say] ‘Your writing looks great and you’re sounding out words.’ Some sight words are misspelled...I would have them look at the word wall to find them and learn how to spell those.”	Uppercase and lowercase correct usage Spelling: memorization Use of environmental print
Alice	“First, I would clean up the sight words...thinking about casing...lowercase letters...really practicing the lowercase letter formation and reminding them how English works, that we write in lowercase unless it’s a name or the first word of the sentence or proper noun...next would be a period...the last thing I would do would be the vowels [help her hear the vowels].”	Spelling: memorization Uppercase and lowercase correct usage Punctuation Spelling: phonetic
Rebecca	“[I would sit] down with the student. I would read this sentence. Then I would bring to their attention the common words that are misspelled...are, the...I would refer them to the word wall to find the word and correct it.”	Composing ideas into text Spelling: memorization Use of environmental print

Section Two: Description of the Focus of Proposed Teacher-Student Interactions

To analyze the components of writing, the participating kindergarten teachers focused on in the proposed teacher-student interactions, participant responses were coded

at the word and phrase level. After the participant responses were coded, they were counted to determine how many of each type of response was proposed (see Table 30). The procedural knowledge domain had the most proposed interactions (40 interactions), followed by the conceptual knowledge (15 interactions) and generative knowledge (14 interactions) domains, each with the same number of proposed interactions. However, the participating teachers did not propose any teacher-student interactions that involved the executive functions component during the kindergarten student writing sample analysis

Table 30

Focus of the Proposed Teacher-Student Interactions from Analysis of Kindergarten Student Writing Samples

Emergent writing framework domains	Coding terms	Number of proposed teacher-student interactions	Number of proposed teacher-student interactions per writing domain
Conceptual knowledge	Use of environmental print	5	15
	Directionality	1	
	Spacing	6	
	Print conveys meaning	3	
Procedural knowledge	Alphabet knowledge	6	40
	Letter formation	5	
	Uppercase and lowercase correct usage	7	
	Word formation	4	
	Spelling: phonetic	5	
	Spelling: memorization	7	
	Punctuation	6	
Generative knowledge	Composing ideas into text	12	14
	Word level composing	0	
	Phrase level composing	0	
	Sentence level composing	2	
Executive functions	Focusing attention on the task	0	0
	Remaining on task	0	

tasks. To determine how the participating teachers support executive functions during writing tasks, the participating teachers' responses to question 7 during the semistructured interview was analyzed and coded. Question seven asked the participants to describe how they support or instruct students to focus their attention on a writing task.

Teacher-Student Interactions that Support Conceptual Knowledge

Conceptual knowledge is the understanding of the universal principles of print, including concepts of print and the knowledge that print conveys meaning (Puranik & Lonigan, 2014). The codes used to analyze the data were based in research of writing (Clay, 1975; Puranik & Lonigan, 2014). The codes that were used to capture the conceptual knowledge domain are the use of environmental print, directionality, spacing, and the concept that print conveys meaning.

Spacing

Spacing between letters and words was the most often proposed teacher-student interaction in the conceptual knowledge domain with a total of six interactions. Every participant proposed to work on spacing during analysis of the alphabetic principle writing sample. Some examples from participant responses concerning spacing are “The first thing I would do is get this child a space stick...” and “...work on those finger spaces.”

Use of Environmental Print

Use of environmental print is another component in the conceptual knowledge

domain. Participating teachers proposed to have students use print around the room to support their writing development (five interactions). In three instances, it was accompanied with copying words from a sight word wall to correct the spelling of the sight word. In two proposed teacher-student interactions, this component was used to introduce the student to print around the room and reinforce the concept that print conveys meaning and that letters are written together to form words.

Print Conveys Meaning

Print conveys meaning is the awareness that ‘what I say can be written down’ and that print is used for communication (Clay, 1993). Only three proposed teacher-student interactions focused on the concept that print conveys meaning. Two of those interactions were suggested during analysis of the pre-alphabetic writing sample, “...understand their symbols are representing words that they’re saying...” and, “I would write what they dictated to me.”

Directionality

Directionality is the direction of written English including top to bottom, left to right, return sweep, and page arrangement. Directionality was brought up once in the analysis of student writing samples. Alice, noting the student’s scribble writing on the pre-alphabetic writing sample, stated, “...I would watch how they’re writing to see which direction they’re going...” She noted that the student had period-like markings at the beginning of a line of scribble writing, and this caused her to wonder about the directionality of the writing. She knows that directionality is a foundational skill to

conventional writing. Alice explained how she helps students who are learning directionality:

...for kids who have a hard time with directionality I put a star sticker on the left hand of their name plate. They line their paper up under their name plate and know 'I always put my pencil under the star, and this is where I start writing.' So, they know to go from the left to the right, and then we teach return sweep. You always go back to the star. You always go back to the left to start writing. I would probably start there because, once they understand the directionality, then we can start to work on some letter formation and move into that.

Teacher-Student Interactions that Support Procedural Knowledge

The procedural knowledge domain of the emergent writing framework involves understanding the symbolic nature of letters, including identifying letters and writing letter forms. The following codes were derived from writing research and were used to code proposed interactions that support procedural knowledge: alphabet knowledge, letter formation, correct use of letter casing, word formation, spelling, punctuation (Clay, 1993; Puranik & Lonigan, 2014). Forty of the 70 total proposed interactions were coded as supports in the procedural knowledge domain. The component of writing that was focused on most during proposed teacher-student interactions was spelling, including spelling phonetically (5 interactions) and spelling through memorization (7 interactions). A description of the interactions is presented in the order of most proposed teacher-student interactions to least proposed teacher-student interactions.

Spelling: Phonetically or Through Memorization

Proposed teacher-student interactions that were focused on spelling were coded as either phonetic spelling or spelling through memorization. Phonetic or invented spelling

is when the student is supported to listen to the sounds in words and write the letter(s) that represent the sounds they hear. An example of the proposed teacher-student interactions focused on spelling phonetically is, "...picking out beginning sounds of words that they want to write."

Spelling through memorization is when the student is taught to remember the correct spelling of a word, often a high frequency word (e.g., sight word) or other common word such as a name. Spelling through memorization was coded when teachers focused the teacher-student interaction on correct spelling of a high frequency word or student name. For example, "...they should know [the spelling of] the word 'the.'"

Correct Use of Uppercase and Lowercase Letters

Correct usage of uppercase and lowercase letters was suggested in seven proposed teacher-student interactions. The teacher-student interactions the participants proposed to initiate to support students' proper use of uppercase and lowercase letters often involved an explanation of where uppercase letters belong (e.g., at the beginning of a sentence, or a name). Each of the participating teachers recommended teaching the correct use of uppercase and lowercase letters in at least one writing sample. Zoey rationalized this interaction by stating, "...in the core...being able to have the first letter uppercase in a sentence, the rest of the [letters] lowercase and then also on the end of year kindergarten state test, that's one of the sections of grading...capitalization."

Punctuation

Punctuation, specifically the use of periods was the focus of six proposed

interactions. Three of the participants recommended working with the student concerning use of periods for both the alphabetic principle and toward conventional writing samples. Alice rationalized teaching punctuation, stating, "...it is a standard... interestingly, it is not graded on our writing assessments at all. But it is a convention of English that you need to have punctuation. So, we teach it."

Alphabet Knowledge

Alphabet knowledge is defined as recognizing letter name, form, and sound relationships; it was a proposed teacher-student interaction six times. Teacher-student interactions that focused on listening for the first sounds in the words or learning the letters and coordinating sounds were coded as alphabet knowledge. Alphabet knowledge interactions were only proposed in the pre-alphabetic and letter formation writing sample. An example of supporting alphabet knowledge is Zoey's statement that she would tell the student, "...it's great that you got some letters on your paper, now let's think of sounds of the words that you're writing and put those down."

Letter Formation

Letter formation, or handwriting, is the process of creating recognizable letters, including proper formation. Letter formation interactions were proposed five times throughout the writing sample analysis. Two of the letter formation interactions were concerned with using lined paper and forming the letters properly on the lines. The other three letter formation interactions were proposed during analysis of the pre-alphabetic writing sample and were focused on teaching the student basic letter formation.

Word Formation

The final component discussed in the procedural knowledge domain is word formation. Teacher-student interactions that involved the student writing words by tracing or copying were coded as word formation. There were four word formation interactions; all involved having the student copy words from the walls, specifically word walls, in the kindergarten classroom. An example of this is, “Let’s look at the sight word wall...let’s look how to write the word ‘the.’”

Teacher-Student Interactions that Support Generative Knowledge

The generative knowledge domain of the emergent writing framework involves translating thoughts and ideas either verbally or by written text (Puranik & Lonigan, 2014). The codes created for this domain were based in writing research and are divided into two main components: (a) composing ideas into text, and (b) composing connected text. The code of composing ideas into text was used for actions that involved the student orally translating thoughts and ideas. The code of composing connected text was further divided into the discourse levels of word level, phrase level, and sentence level. The codes of composing connected text at the word level and phrase level were included to recognize the sequence of composing, although no participant responses were coded as such.

Composing Ideas into Text

The most often proposed component in the generative knowledge domain was composing ideas into text. This was proposed 12 times during the analysis of the writing

samples. Four of the five participants proposed it at least once. Rebecca proposed composing ideas into text six times. She began every proposed teacher-student interaction by asking the student to read their writing to her. Zoey also began three of the proposed teacher-student interactions by asking the student to read their writing. Asking the student to read their writing aloud supports translating thoughts and ideas into words, phrases, and sentences.

Sentence Level Composing

Composing connected text is producing written communication at any of the following levels: the word, phrase, or sentence level. Two participating teachers suggested sentence level composing; however, none of the teacher-student interactions focused on word or phrase level composing. The proposed teacher-student interactions that focused on sentence level composing involved asking the student to put a sentence together or to write another sentence. An example of this is during analysis of the toward conventional writing sample when Beth proposed to, "...encourage them to write another sentence."

Teacher-Student Interactions that Support Executive Functions

Along with transcription skills (i.e., handwriting, keyboarding, and spelling) and text generation (i.e., translation of thoughts and ideas into language), Berninger and Winn (2006) include executive functions (i.e., self-regulation, focusing attention, and remaining on task) as a central component of writing in the NSSVW model. Executive functions involve attention related skills that include focusing attention on the writing task and

remaining on task and are a vital component of early writing development (Kent et al., 2014). Although none of the participants proposed an interaction that supported executive functions during the analysis of the writing samples, each participant described how they support or instruct students to focus their attention on a writing task. The participants were asked to describe how they support or instruct students to focus their attention on a writing task.

Focusing Attention on the Writing Task

The participants described different approaches they employ to help students focus their attention on a writing task. In Beth's classroom, writing is a center time activity. The students have 20 minutes to work in the writing center and they know they need to get their work done in the allotted time. She plans a reading game or activity after the writing center and that motivates the students to stay on task and finish the writing center work. She said,

...They have to show me that they have quality writing work. They know they have 20 minutes to get their writing done...if they choose to goof off then that's what they'll be doing for the next 20 minutes [instead of the reading game or activity].

Zoey uses a change of materials and scenery to help her students focus on writing tasks. She explained that she allows the students to move around the room and in the warm weather allows them to go outside and write. She also said allowing students to write about what they are interested in keeps them focused on writing. She stated, "...finding things that are interesting to them that they would be motivated to write about."

Katherine teaches her students that writing time is a quiet time in her classroom. She

explains it to her students in this way:

...a good writer has to think about what they're going to write. They have to be able to use their whole brain. You can't talk to your neighbor because you can't do two things at once...writing time is a time when we have to use our full brain...this is how it works in this class.

Rebecca has discussions with her students about what on task behavior looks like to support her students in focusing on writing tasks. She explained:

...[if] I notice a bunch of kids are off task...we will come back to the carpet, we'll talk about what the job is that we're supposed to be doing...we talk about what it's supposed to look like. We give good examples and bad examples and then we go out and try it.

The participating teachers have identified various methods to support kindergarten students to focus their attention on writing tasks.

Remaining on Task

The participating teachers described different ways they support students in remaining on task. Both Katherine and Alice stated that they explain to the students that when it is writing time the students must continue writing during the allotted time. Katherine said she tells the students, "You write until the teacher tells you your time's up. You don't tell the teacher that you're done. You just keep writing." She further supports the students by explaining that they can "...either draw a picture that matches their story, or they can start writing a new story or brand-new sentence."

Zoey and Alice support their students to remain on task by asking them to add details to their writing. Zoey has them read their writing to her and will start a discussion with them about the details they could add. She explains to them that adding details makes their writing more interesting and gives the reader more information. Alice also

encourages her students to remain on task by adding details. She explained, “Once they learn the word ‘and’ that’s a huge game changer because then they can [write] ‘spiders are black and little’...they can start to expand thoughts and build sentence structure.”

Alice and Rebecca both spoke about building writing stamina in kindergarten students. Alice explained that at the beginning of the year she only requires the students to write for five minutes, but by the end of the year, she expects them to write for up to 30 minutes. Rebecca explained that sitting and writing for even a 3-minute block of time is difficult for a five-year-old who has not been in a structured setting before. She uses a timer to help her students build stamina with writing. She said she sets a timer for three minutes, and the students will be expected to write for the full three minutes each day for the week. The following week, she will add a minute to the timer. By the end of the year, her students can write for a 20- to 30-minute writing block.

Conclusion

This multiple case study of five kindergarten teachers used data from an online questionnaire, a semistructured interview, and a kindergarten student writing sample task to provide a qualitative description of (a) kindergarten teachers’ knowledge of early writing development, and (b) how this knowledge is used to analyze student writing to inform teacher-student interactions and subsequent instruction. First, a within case analysis of the individual participants was presented to provide an overview of teacher knowledge of early writing development and the instructional approaches for writing that participants described. This was followed by a cross-case analysis that provided a

description of the proposed teacher-student interactions during the kindergarten student writing sample analysis tasks. This description included close examination into the types of proposed teacher-student interactions and the components of writing that were the focus of the proposed teacher-student interactions. A discussion of the results is provided in the following chapter.

CHAPTER V

DISCUSSION

Introduction

This multiple case study of five kindergarten teachers was designed to address the following research questions.

1. What is the participating kindergarten teachers' knowledge of early writing development?
2. Given select kindergarten student writing samples:
 - a. What teacher-student interactions will the participating kindergarten teachers propose to initiate?
 - b. What components of writing are the focus of these teacher-student interactions from the student writing sample analysis?

The collected data allowed for a deep analysis and rich qualitative description of the kindergarten teachers' knowledge of early writing development and instructional practices associated with writing. This chapter focuses on the findings of the data analysis related to teacher knowledge of early writing development and the proposed teacher-student interactions from the kindergarten student writing sample analysis.

In response to the first research question in this study, "*What is the participating kindergarten teachers' knowledge of early writing development,*" the data collection and analysis provided a qualitative description of the kindergarten teachers' knowledge of early writing development and instructional practices associated with writing. Each of the participants made statements that reflected an understanding of a developmental view of early writing. These statements were reviewed and organized to determine the degree of

knowledge of the subject matter, early writing development. The three degrees of knowledge are categorized into three levels: declarative, procedural, and conditional (Archer & Hughes, 2011). In this study, the degrees of knowledge are thought to be on a continuum beginning with declarative knowledge, an understanding or knowing the facts of the subject matter. Next on the continuum is procedural knowledge; this is represented in being able to put declarative knowledge into action. This is also reflected in an understanding of the skills and strategies that should be taught. The third and final degree on the knowledge continuum is conditional knowledge; this is represented in understanding when, where, or why the skills or strategies are taught to support development in early writing.

Each of the five participants made comments that reflected declarative knowledge of early writing development. A straightforward example of declarative knowledge of early writing development was noted in the statement by Alice when she described the developmental writing continuum. She thoroughly explained the process of developmental writing beginning with scribbles and pictures and noted the steps of letter formation and spelling, moving toward conventional writing. Rebecca also spoke directly about developmental writing when she recognized the cognitive development necessary for translating thoughts into text, as well as an awareness of the fine motor skills necessary for transcription. An additional example of declarative knowledge of early writing development was recognized in Zoey's statement of the gradual process of writing instruction and that student's writing often has meaning to them even when it does not look like conventional writing.

Participant responses that reflected a procedural knowledge of early writing development were also recognized in the data. Some example responses were given during the semistructured interview. Katherine described the many and varied instructional practices she employs to teach to every student. For example, during whole class, interactive writing experiences some students are sharing the pen, while others are finding words around the room, or segmenting sentences or words or producing letter formations through air writing. Not only do these many activities support student engagement, but they provide students with opportunities to learn the multiple complexities of writing. Rebecca's description of writing experiences in her classroom also reflects a procedural knowledge of early writing development. She explains that students begin the year drawing pictures, then writing simple labels, next advancing to simple phrases or sentences, progressing to writing multiple sentences. Other participant responses reflected a procedural knowledge of early writing when they described the instructional practices they employ, such as, direct instruction, teacher modeling, offering student choice of topics, and providing sentence starters and/or shared experiences.

Conditional knowledge, the when, where, or why skills or strategies are taught, was also reflected in participant responses. For instance, Alice and Rebecca both explained why it is valuable to teach students that writing is used to communicate or convey meaning. They emphasized that writing is meant to be read and to have meaning. Rebecca explained that "writing is taking your thoughts and putting them down in a way that other people can read them." Both participants highlighted this point by stating that knowing this is a necessary, real-world skill for students.

Degree of teacher knowledge impacted instructional decisions and/or analysis of writing samples. Each of the participants explained the developmental nature of early writing which accounted for declarative knowledge of the subject; however, this was not sufficient to be reflected in their instructional decisions. There were some disconnects between declarative knowledge and the instructional practices to teach writing. These can be seen in the two themes that are discussed in this chapter.

Teacher knowledge of early writing development was revealed in participant responses to the questions on the questionnaire and the semistructured interview and reflected in their analysis of kindergarten student writing samples. These responses were reviewed and determined to be a degree of teacher knowledge. Similar to the findings in Korth et al. (2016) and McCarthey and Kang (2017), it would be helpful for educators to have knowledge of early writing development and enact such knowledge to differentiate writing instruction based on the child's development level, strengths, and needs. Setting individual goals and differentiating instruction allows students to reach their potential more fully (Al Otaiba et al., 2011).

Two themes will be discussed in this chapter. First, although teachers offered a variety of targeted teacher-student interactions, the proposed interactions that focused on supporting students' composing skills were limited. Second, many of the proposed interactions were influenced by the developmental nature of writing, however, some were influenced by administrative goals such as Common Core State Standards (CCSS; (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010) or mandated testing and some were seen as a product of

maturation. Also in this chapter, the educational recommendations and suggestions for future research are discussed.

Teacher-Student Interactions Focused on Composing

The models and theories of early writing development, presented in this study, emphasize the multidimensional aspect of early writing development and highlight the importance of teaching and developing the multiple concepts and skills in order for students to become successful in conventional writing (Berninger & Winn, 2006; Puranik & Lonigan, 2014). During analysis of the kindergarten student writing samples, the participating teachers proposed a variety of supports they would initiate with the students. The supports ranged from teaching foundational skills (i.e., concepts of print, spacing, etc.) to supporting transcription skills (i.e., letter formation and spelling) to composing (i.e., generating thoughts and ideas into text). However, the teacher-student interactions that focused on composing were proposed less often than other supports. This finding aligns with findings from observational studies of preschool and kindergarten classrooms (Bingham et al., 2017; Puranik et al., 2014).

The purpose of writing is to communicate, either to communicate with others (e.g., letters, emails, narrative, etc.) or communicate with oneself (e.g., to-do lists, journal entry, etc.). Graham and Harris (2013) discuss the many uses of writing, “to share information, tell stories, create imagined worlds, explore who we are, combat loneliness, and chronicle our experiences” (p. 5). Although the purpose of writing is to express ideas, transcription skills seem to take precedence in kindergarten instruction. In this study, a

majority of the proposed teacher-student interactions focused on transcription skills; almost a quarter of the interactions focused on concepts of print including spacing and use of environmental print. For example, "...remind them about [spelling] the word my..." and "...using spaceman or a finger space between their words." Conversely, a focus on composing skills accounted for only one-fifth of the proposed teacher-student interactions.

Of the 69 proposed teacher-student interactions, 14 were coded as composing. Twelve of those interactions were coded as "composing ideas into text" and two were coded as "sentence level composing" (see Table 31). From the 12 "composing ideas into text" interactions, eight of those supports involved the teacher asking the student to read aloud what they had written. These interactions support the student to translate their thoughts and ideas into oral speech which can then be transcribed by the teacher to teach the student about writing. Quinn et al. (2021) stated that "oral outputs are a particularly important component of young children's composing because they provide context for the messages that children produce in writing" (p. 87). Other proposed interactions that were coded as 'composing ideas into text' included "I would encourage drawing a picture," "...maybe add more detail after this," and "...change to help with understanding." Not only do these interactions support the student to develop and share the meaning of their writing, but they also "consider the connection between children's oral and written communication" (Quinn et al., 2021, p. 82). Two other composing supports were coded as 'sentence level composing' as they focused on generating text at the sentence level as opposed to the word or phrase levels. These proposed interactions

were, "...to put a simple sentence together," and "I would just ask them to try to write another sentence of what they are doing."

Table 31

Proposed Teacher-Student Interactions Coded as Composing

Types of composing	Definition	Examples of proposed teacher-student interactions
Composing ideas into text	Any action that supports the student in translating thoughts/ ideas into text. (e.g., verbal communication/open ended questions, draw/labeling a picture).	<ol style="list-style-type: none"> 1. "First of all, I would ask them what it says..." 2. "I would encourage drawing a picture...figuring out what they want to say..." 3. "I would sit down with them and ask them what this said..." 4. "First, I would ask them 'What did you write?'...I can get a better idea of what they wrote to understand where to go next." 5. "I would ask them to read it to me..." 6. "I would sit down with them and ask them...what the sentence was trying to state." 7. "...if there was something that we needed to change to help with understanding." 8. "I would have them read their writing to me." 9. "I would have the student read the sentence to me." 10. "I would encourage them to keep going because they're doing a great job...maybe add more detail after this." 11. "...encourage extending the sentence." 12. "[I would sit] down with the student. I would read this sentence."
Sentence level composing	Written text at the sentence levels, including recognizable words connected to make a logical sentence.	<ol style="list-style-type: none"> 1. "...to put a simple sentence together." 2. "...encourage them to write another sentence."

It is also worth noting that six of the composing supports were proposed by one teacher with the other composing supports divided between the other four teachers. One teacher proposed composing three times, whereas two teachers proposed it twice. One teacher only proposed composing once.

Composing (i.e., translation) is a complex process and an integral component of early writing development (Fayol et al., 2012). Bingham et al. (2017) explained the substantial benefits of students' composing efforts, "composing encourages children to think about what they want to write, make choices about which words or letters to use, and to recognize that they are communicating through their writing." Additionally, two of the four recommendations from the Institute of Education Sciences (IES) Teaching Elementary School Students to be Effective Writers: A Practice Guide (Graham et al., 2012) highlight the importance of teaching students composing skills to help students become effective writers (i.e., Recommendation Two: students should learn the writing process, which includes planning for purpose, what to say, and how to say it; Recommendation Three: students should learn sentence construction to develop and communicate ideas).

Although the participating teachers understand early writing development as supported by their experience teaching kindergarten and educational backgrounds in early childhood, they proposed composing supports less often than the other types of supports. A possibility for the focus on foundational skills and transcription skills may be due to the concrete nature of these skills. Handwriting, spelling, directionality, and spacing are skills that may be easier to measure and assess as either correct or incorrect. Conversely,

composing skills may be more difficult to evaluate as there is “limited consensus around the construct and difficulties with operationalizing it in a manner that is easily measured” (Quinn et al., 2020, p. 82).

Also, teachers may believe there is a sequential order to skills and that conceptual and procedural skills should be taught and mastered before generative skills, rather than taught and developed together as the theories and models of writing suggest (Berninger & Winn, 2006; Puranik & Lonigan, 2014). Though mastery of foundational concepts and transcription skills is necessary, supporting composing skills is equally important. Handwriting, spelling, and composing are “separate constructs” and key elements of writing development; it is important to remember that they “emerge concurrently” (Kaderavek et al., 2009, p. 106). Moreover, in an observational study by Bingham et al. (2017), findings revealed that preschool teachers’ practices to support students composing skills were a significant predictor of children’s name writing and spelling skills, including invented spelling. These findings suggest that it is important for teachers to understand that a narrow focus on conceptual knowledge and procedural knowledge of writing instead of supporting generative knowledge, may be limiting to a student’s overall development of writing.

Influences on Proposed Interactions

Targeted instruction is provided by first identifying a student’s strengths or current ability level, then providing instruction and support that will help the student complete a task that is at a slightly more difficult level (Cress & Holm, 2017). This type

of instruction allows a student to improve their knowledge and skills by offering support that builds on what they already know and can do. The participants' responses to question one of the writing sample analysis task (i.e., From this sample of writing, what is the kindergarten student able to do as a writer?) were an indicator of the participants' ability to identify a student's writing strengths from a writing sample. It is beneficial for teachers to first identify what a student can do as a writer (the student's writing strengths), before determining instruction that will best support the student's development as a writer (Cress & Holm, 2017).

In this study, the proposed teacher-student interactions were targeted, taking into account students' strengths and expanding the student's current knowledge and skills related to writing. Additionally, the participating teachers were asked to provide rationales for why and when they would initiate the proposed interactions. From these rationales, it was identified that not all proposed teacher-student interactions were initiated based on the developmental nature of writing.

Influence of the Developmental Nature of Early Writing

Some of the rationales the participating teachers provided revealed their understanding of early writing development as a continuum ranging from foundational concepts and skills to conventional writing. For example, Alice provided the following rationale for the supports she proposed in the pre-alphabetic writing sample, "These are foundational skills for setting them up for success...laying foundational skills to help them be successful writers." Furthermore, when Rebecca analyzed the pre-alphabetic

writing sample, she explained that the interaction of having the student dictate their writing to her would develop the foundational skill that print conveys meaning, "...help them understand that writing is taking your thoughts and putting them down in a way that other people can read them." Likewise, Zoey rationalized asking the student to read their writing to her, "They need to know that the verbal speech they're saying can be connected to the alphabet...understand the letter names and sounds." Each of these rationales explained that the teachers' proposed interactions would support the students in learning foundational concepts and skills related to early writing development.

Helping students progress from a foundational concept or skill to a more sophisticated concept or skill was another example of how teachers utilized the developmental nature of writing to support students to reach the next stage of writing (Cress & Holm, 2017). The following rationale statements indicate the participating teachers' knowledge of phases or stages of writing development and supporting students to increase their current ability level. When asked to provide a rationale for the proposed teacher-student interaction during analysis of the letter formation writing sample, Katherine said, "...to move them along to the next step." Likewise, Alice explained that when she plans instruction for students she works from "...the least intensive intervention to the most intensive intervention." Rebecca also explained how her interactions of correcting letter casing and spacing were supporting student development when she stated, "...the student has a good understanding of sound, so the next step is to clean up the writing and make it easier to read." Each of these rationales revealed the participating teachers' level of understanding of the emergent nature of early writing development, by

discussing foundational skills or supporting the student to the next developmental level.

Influence of Core Standards and Mandated Assessments

Although some of the teacher-student interactions were proposed with early writing development in mind, some of the rationales provided by the participating teachers reflected the influence of CCSS or mandated assessments. The implementation of the CCSS brought renewed awareness to the importance of writing (Graham & Harris, 2013). However, there are some limitations to the CCSS for early writing development. For example, the CCSS were written from a top-down perspective, beginning with the knowledge and skills that students need upon high school graduation to be college and career ready (Coker, 2013; Cress & Holm, 2017). This top-down approach “sacrifices what we know about the developmental process of writing” (Coker, 2013, p. 28) as the focus remained on college and career readiness and not foundational concepts and skills that are necessary for writing. Another limitation of the CCSS is that some of the concepts and skills necessary for writing (i.e., alphabet and print knowledge) are not in the writing standards but are found in the language standards suggesting “less integration of these standards than they really are” (Coker, 2013, p. 28). Both limitations heighten the need for teacher knowledge of early writing development to support kindergarten student growth in writing concepts and skills.

To measure students’ progress in meeting CCSS, many states require yearly testing of writing with students in specific grades. Although mandated testing may increase the amount of time teachers dedicate to teaching writing, it does not mean that

students will be taught concepts and skills that will support early writing development.

Graham and Harris (2013) posit that mandated testing often restricts writing instruction to what is measured. Some of the provided rationales substantiate this concern.

The following rationales provided by the participating teachers indicate a focus on how the CCSS and/or state and district assessments influence instruction teachers provide. Zoey explained how mandated assessments influence why she would teach correct use of uppercase and lowercase letters over teaching correct spelling, "...capitalization is in the core and on the end of the year test...spelling is not tested, invented spelling is fine...so, I would work on capitalization...to prepare them for later grades." Similarly, Beth explained how the CCSS and mandated testing influences how she plans writing instruction for the year. She stated that her ideal scope and sequence for writing lessons would be to begin the year teaching narrative writing, then move to opinion writing, then end the year with informational writing. Instead, she feels impressed to spend more time on opinion writing and informational writing as they are tested, and narrative writing is not. She does this even though she believes it is more developmentally appropriate to begin teaching writing with narrative genre. She expressed concern about this, noting, "[It] is really unfortunate because kids can learn to write about themselves a whole lot easier than about other subject matter." Alice also expressed that she feels pressure to plan writing instruction to help students do well on the end of year assessments, "It's a fairly standard routine...for the end of year kindergarten state assessment [the students are expected to] write three sentences on a nonfiction topic...three sentences cold about a topic. That is pretty much the format that

we follow.”

Pressure to ensure each student meets core curriculum standards and state or district mandated testing may limit teachers’ ability to support each student on their individual developmental path. Understanding when, where, and why early writing concepts and skills should be taught is a crucial component of early writing instruction.

Influence of Maturation

During the writing sample analysis task, it was noted that some proposed interactions were influenced by the age of the student or the time of year the product was completed rather than the individual student’s strengths and needs. For example, some of the participating teachers questioned whether the sample had been completed by a kindergarten student or questioned the time of the year that the sample was written. A maturationalist view considers development to be contingent on age or intrinsic development, with growth “starting from the inside and proceeding outward” (Teale & Sulzby, 1986, p. ix). Regarding student work as a product of maturation places limitations on the instruction teachers provide. As such, teachers may have a limited view of their influence on students’ skills, believing that skills may “unfold automatically” with age (Teale & Sulzby, 1986, p. ix). This view often leads teachers to incorporate a wait and see approach. Additionally, this view may limit the support teachers provide if a student has met the skill level expectations for a certain age or time of school year.

One participant expressed interest in knowing what time of year the student completed the writing sample, “Do you know when this child, do you have the dates as to when [the child did this writing]?” Continuing to express concern about the time of the

school year, the teacher explained how she would view student work differently depending on when during the year the work was completed, “When my students get to this point...” or “For me, at the very beginning of the year, I would be going wow, that’s thumbs up at this point in time.” Likewise, another participating teacher asked, “Are these writings, are we thinking that they’re the beginning of the year? That does make a big difference to me in kindergarten. There’s a huge difference between beginning of the year writing and end of the year writing.” During analysis of another sample, this same teacher commented, “If this was a beginning of the year student, I would not freak out at all about this at this point...If this was a middle of the year writer, I would be extremely concerned.” These statements are reflective of the time in the school year that the writing sample was produced; thus, possibly limiting the teachers’ awareness of early writing development and individual student development.

Analysis of writing and proposed interactions that is highly based on time of the school year that a writing sample was created may cause discord between declarative teacher knowledge of early writing development and procedural and conditional knowledge of early writing development. If teachers are more focused on grade level expectations, then the individual strengths and needs of students may become less of a factor when planning and implementing instruction.

Each student enters kindergarten with varying knowledge and skills related to their previous experiences (Purcell-Gates, 1996). Some of the participating teachers spoke about this saying, “...a lot of our kids do not come in knowing any letters or sounds versus other schools where most of their kids have gone to preschool” and “...you

can see kids that have experience with preschool, or they've been in daycare where they draw and color versus kids who don't have exposure to that.” Differentiated instruction in writing is necessary for kindergarten students, not only for students who have had fewer literacy experiences, but also for students who already meet grade level expectations (Cress & Holm, 2017). These advanced students may not be supported or taught beyond their current abilities because they are considered on or above grade level. When teachers perceive student work to be amazing or wonderful for a certain time during the school year (e.g., “...this is amazing beginning of the year writing”), they may provide fewer additional supports to that student. If a student receives less support because they currently meet grade level expectations this may lead to a potential delay in the student’s writing development.

Educational Recommendations

This work contributes to the limited literature on kindergarten teacher knowledge of early writing development and how kindergarten teachers use this knowledge to analyze student writing and propose teacher-student interactions to support student learning. In this chapter, two themes from the data have been discussed, (a) teacher-student interactions supporting composing skills were proposed less often than other supports, and (b) beyond being influenced by early writing development, proposed interactions were also influenced by institutional goals or by maturation. In this section, recommendations to support preservice and inservice teachers will be presented to address these themes. The delivery method (e.g., coursework, practicum experiences, or

professional development opportunities through workshops and/or observation) for providing support for pre-service and in-service teachers will be discussed, along with the knowledge and practices necessary to address the themes determined in this study.

Focus on Theories and Models of Early Writing Development

It may be beneficial for pre-service and in-service teachers to carefully consider theories and models of early writing development to inform instruction. Berninger and Richards (2002) state,

...all components of the writing system should be taught and practiced throughout writing development, well before developing writers are expected to approach adult levels of writing competency. (p. 190)

Careful consideration of early writing development may help teachers to recognize the importance of supporting all components of writing to better promote writing development for their students.

Teachers may employ available resources such as the emergent writing framework (Puranik & Lonigan, 2014) to plan and implement instruction that will support kindergarten students' conceptual knowledge, procedural knowledge, and generative knowledge. The NSSVW model (Berninger & Winn, 2006) is another resource that may be used to recognize that concepts and skills of writing are not developed sequentially, but are developed in concert with each other, with each skill supporting development of the other skills. It is possible that use of these resources may support a refined knowledge of early writing development. They may also be used to assist with assessment of student work. The emergent writing framework was developed

“to provide an organizational framework for the assessment of young children’s writing” (Puranik & Lonigan, 2014, p. 454). Likewise, the NSSVW may also be used to assess student achievement in writing.

Using either of these organizational tools to assess student writing may help teachers diagnose student needs and therefore better provide differentiated instruction.

Berninger and Winn (2006) suggest that when students are not

...developing in age-appropriate ways...diagnostic assessment is needed to pinpoint which of the relevant processes...is interfering with normal development of a specific functional system; and those assessment findings should be translated into instructionally relevant intervention. (p. 106)

When teachers assess student work, they can use these resources to determine students’ strengths and needs in each of the component areas of the models. Teachers may then use this information to plan instruction that will support students’ development in writing.

Focus on Instructing for and Measuring Composing

Research concerning early writing often reduces children’s writing to transcription skills (e.g., procedural knowledge); as such, this represents a narrow view of early writing development (Quinn & Bingham, 2019) by limiting composing skills (e.g., generative knowledge). Results of this study indicate there is also a limited focus on composing in classroom instructional practices. Recent research suggests that this constraint may be due to the limited consensus around the definition of composing, the nature of composing development, and the measurement of composing (Puranik et al., 2020; Quinn & Bingham, 2019).

A recent review of the literature on composing in early childhood led Quinn et al.

(2021) to conclude that composing is often either seen as convention or intention. When educators focus on the conventions of the writing, composing is measured by the product that is produced, typically transcription skills. This approach is a cognitively focused approach that uses coding of students' written products to document composing (Quinn & Bingham, 2019). Conversely, when educators focus on intention, composing performance is measured by students' intentions behind the drawings or markings. This is a socioculturally focused approach that uses observation or other representational ways to document composing performance. As teachers measure students' composing abilities, they may want to consider focusing on convention and intention as this promotes a more well-rounded evaluation of student writing that better aligns with theories of early writing development. A focus on convention would measure transcription skills or code-based knowledge. Whereas a focus on intention would measure the student's ability to compose thoughts and ideas into a linguistic representation. Applying both perspectives when evaluating students' strengths and needs will provide a comprehensive view of the students' meaning making abilities and skills in writing conventions.

In this study, one participating teacher proposed teacher-student interactions that supported composing in each of the writing samples. The first proposed interaction for each writing sample was that either the student or the teacher would read aloud the writing. This seemingly small interaction supports translating thoughts and ideas into text and validates the student's attempt at communicating.

Another method to support students' composing is to engage students in dialogue about a topic, either a teacher directed or student driven topic. Exploring the topic orally

with the student prior to writing allows the student to think aloud and plan what they want to write (Gentry, 2005). Likewise, Puranik et al. (2020) recommend methods for measuring and instructing composing:

Perhaps eliciting ideas orally may reveal organizational capacities that are obscured by tasks that require the production of text. If students exhibit difficulties with generating ideas and organizing thoughts, instruction could focus on these two elements without the additional burden of writing. Once students are able to generate ideas and organize text, teachers could further support the writing process by helping students spell words or form letters. (p. 2504)

Supporting students composing abilities through oral activities may be incorporated into teachers' instructional practices. As a student orally expresses what they want to write, teachers may provide sentence frames using the student's own language to scaffold their idea into the discourse level (e.g., a word, phrase, or sentence) that the student will be successful in writing. Another method to support generating ideas is to allow students to draw pictures as a prewriting activity (Gentry, 2005).

Focus on Delivery Methods for Instructing Teachers

Teacher education and professional development that supports teachers in learning the current findings from writing research, including new understandings of early writing development and instructional practices to support students' writing development, may benefit both pre-service and in-service teachers. As learning opportunities are planned for teachers, it may be beneficial to reflect on what the participating teachers identify as helpful learning experiences. Four of the five participating teachers indicated that the resource they found helpful was observing and/or teaching with a mentor teacher. This practice was referenced many times throughout the

semistructured interview and during the kindergarten writing sample analysis tasks. Learning opportunities that includes observing or working with a mentor teacher may help to support teachers' professional knowledge, skills, and practice.

Limitations and Suggestions for Future Research

As with all research, there were some limitations to the present study that should be noted. This study was concerned with proposed teacher-student interactions during analysis of decontextualized student writing samples. Although this replicates classroom practices for the beginning of the year as teachers are in the beginning stages of assessing students, teachers typically have more information about each student and the context of the writing sample than was provided in this study. This limitation may have caused teachers to propose different interactions than they would initiate in the classroom.

Additionally, this study assumed that kindergarten teachers are aware of the elements of their teaching and would be able to relate this knowledge to the semistructured interview questions about their teaching practices. It is possible that the methods and questions used to explore teacher knowledge did not fully capture all teachers know about early writing development. Thus, more detailed questioning along with direct observation may identify further information. Another limitation to consider is the social desirability bias, as teachers rated themselves as a teacher of writing and provided answers to the questionnaire and interview questions, they may have overreported desirable elements.

Additionally, purposive sampling was applied in this multiple case study to

provide a rich description of kindergarten teacher knowledge of early writing development. The inclusion criteria helped to establish boundaries of the cases; thus, defining the scope of this study. Future studies may use different inclusion criteria to investigate a different sampling of teachers. Changing the inclusion criteria of teaching experience to novice teachers or pre-service teachers might reveal different results. Additionally, modifying the positive rating of self as a teacher of writing may reveal different results.

Another suggestion for future research would be to include different questions that may elicit more detailed responses during the kindergarten student writing sample analysis task. In this study, the teachers were asked to propose an interaction. Most often the teacher told the researcher what they would do with the student. For example, “I would introduce the concept of look around the room.” Other times the participating teacher would use dialogue as if talking directly to the student. For instance, “Let’s look at the sight word wall.” These statements when teachers used dialogue as if speaking to the student were determined to provide a more detailed picture of the proposed teacher-student interaction. In a future study, asking the participating teachers to describe the proposed teacher-student interaction more fully as if they were talking to the student could provide informative data.

Conclusion

Writing requires the coordination of multiple foundational understandings and cognitive processes (Berninger & Winn, 2006; Puranik & Lonigan, 2014). Because of the

complex nature of writing, this study examined teacher knowledge of early writing development and how it influenced proposed teacher-student interactions during a student writing sample analysis task. The analysis of the collected data provided a rich description of the participating kindergarten teachers' knowledge of early writing development and revealed how their knowledge affected the teacher-student interactions they proposed to initiate with students.

In summary, results of this study revealed two themes that were each discussed along with educational recommendations to address these themes. First, the interactions that focused on supporting students' composing skills were proposed less often than supports for foundational and transcription skills. To address this concern, instruction for pre-service and practicing teachers may focus on defining composing by both convention and intention. This aligns with the theories of writing and supports teachers' use of alternative methods (e.g., oral, drawing, etc.) for measuring student composing skills. Second, some of the proposed interactions were influenced by the developmental nature of writing, whereas others were influenced more by institutional goals or mandated assessments. To support teachers in planning interactions aligned with early writing development, it is recommended that they use organizational tools that align with the developmental nature of writing as they evaluate student abilities and plan instruction. In efforts to support teacher knowledge and use of early writing development, students are likely to benefit by receiving enhanced support to develop writing skills.

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APPENDICES

Appendix A
Recruitment Flyer

KINDERGARTEN TEACHERS

Enroll in a Research Study

QUALIFIED PARTICIPANTS MUST:

- Teach full-day kindergarten
 - Have 3+ years kindergarten teaching experience
 - Have an Early Childhood Endorsement
- AND
- Be willing to commit 2-3 hours to the study, if selected



QUALIFIED PARTICIPANTS RECEIVE:

- Financial compensation for time, including \$100 for participants who complete the study



ENROLL NOW FOR A STUDY EXPLORING KINDERGARTEN INSTRUCTION

Complete the initial survey to see if you qualify to complete the study.
The initial survey should take 15 minutes to complete.

CLICK ON THE SURVEY LINK PROVIDED IN THE EMAIL

****The FIRST 20 survey participants will receive a \$20 gift card.****

The next 20 survey participants will receive a \$10 gift card.

Please complete the survey before 5/15/2021

FOR QUESTIONS CONCERNING THE STUDY:

Cindy Jones, Ph.D.
cindy.jones@usu.edu

FOR INTERESTED PARTICIPANTS:

Nanette M. Watson, M.Ed.
nanette.watson@usu.edu

Appendix B

Initial Survey

Initial Survey

The initial survey was created using the survey software tool, Qualtrics. It was emailed to potential participants as identified by administrators. The results of the initial survey helped to further refine the participant selection process in regard to teachers who positively rate their knowledge of writing.

Directions for the participant: Please complete the following initial survey. For questions concerning “kindergarten students” please consider a typically developing kindergarten child (excluding non-neurotypical and children with special needs).

1. I confirm that I am currently a full-day kindergarten teacher.
 - a. Yes
 - b. No
2. I confirm that I have an early childhood endorsement.
 - a. Yes
 - b. No
3. I confirm that I have three or more years of teaching experience in kindergarten.
 - a. Yes
 - b. No
4. I agree to be contacted for potential participation in the study. All information provided will remain confidential and will only be utilized for this research study.
 - a. Yes
 - b. No
5. Please write your first and last name.
6. Please include your email address. This will be used to send your incentive. It will also be used to contact you, if selected, for participation in the full research study.
7. To adhere to confidentiality agreements, a pseudonym will be used during data analysis and reporting. Please choose a pseudonym.
8. Please describe your education.
 - a. Please indicate the highest level of education received:
 - i. Bachelor’s
 - ii. Bachelor’s + credit hours
 - iii. Master’s
 - iv. Master’s + credit hours
 - v. Doctorate
 - vi. Other: please specify
 - b. Please indicate educational endorsements earned:
 - i. Early Childhood

- ii. English as a Second Language
- iii. Reading Level I
- iv. Reading Level II
- v. Gifted and Talented
- vi. Other: please specify

9. Please indicate each grade you have taught and the number of years teaching at that grade level.

Grade Level	Years Taught
Kindergarten	
First	
Second	
Third	
Fourth	
Fifth	
Sixth	
Other, please specify	

10. Please specify your gender

- a. Male
- b. Female
- c. Non-binary/third gender
- d. Prefer not to say

11. Please specify your race/ethnicity (check all that apply).

- a. American Indian or Alaskan Native
- b. Asian
- c. Black or African American
- d. Caucasian
- e. Hispanic or Latino or Spanish origin
- f. Native Hawaiian or Other Pacific Islander
- g. Other: please specify
- h. Prefer not to say

12. Please specify how much time (e.g., minutes) you devote DAILY to **math** in your kindergarten.

13. Please specify how much time (e.g., minutes) you devote DAILY to **reading** in your kindergarten.

14. Please specify how much time (e.g., minutes) you devote DAILY to **writing** in your kindergarten.

15. Please specify how much time (e.g., minutes) you devote WEEKLY to **math** in your kindergarten.
16. Please specify how much time (e.g., minutes) you devote WEEKLY to **reading** in your kindergarten.
17. Please specify how much time (e.g., minutes) you devote WEEKLY to **writing** in your kindergarten.

For the following questions, please use the scale provided to estimate **your knowledge for teaching** specified content areas in kindergarten. The numbers represent a degree on a continuum.

18. Use the scale provided to estimate **your knowledge for teaching math** in kindergarten.

1 Lacking	2 Beginning	3 Approaching Proficient	4 Proficient	5 Highly Proficient
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19. Please explain why you gave yourself that rating.

20. Use the scale provided to estimate **your knowledge for teaching reading** in kindergarten.

1 Lacking	2 Beginning	3 Approaching Proficient	4 Proficient	5 Highly Proficient
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21. Please explain why you gave yourself that rating.

22. Use the scale provided to estimate **your knowledge for teaching writing** in kindergarten.

1 Lacking	2 Beginning	3 Approaching Proficient	4 Proficient	5 Highly Proficient
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23. Please explain why you gave yourself that rating.

For the following questions, please indicate your estimation of **your knowledge as compared to the average kindergarten teacher**, by marking any one of the five

responses. The numbers represent a degree on a continuum. You will be asked to provide a rationale for the estimation you provided.

24. Use the scale provided to estimate **your knowledge as compared to the average kindergarten teacher for teaching kindergarten math**. You will be asked to provide a rationale for the estimation you provided. Do you think you are more knowledgeable, less knowledgeable, or about the same as the average kindergarten teacher for teaching kindergarten math?

1 Less knowledgeable	2 Below average	3 Average	4 Above average	5 More knowledgeable
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Please provide a rationale for that rating concerning teaching kindergarten math.

THE TABLE WITH INDICATORS WERE REPEATED FOR EACH QUESTION

25. Use the scale provided to estimate **your knowledge as compared to the average kindergarten teacher for teaching kindergarten reading**. You will be asked to provide a rationale for the estimation you provided. Do you think you are more knowledgeable, less knowledgeable, or about the same as the average kindergarten teacher for teaching kindergarten reading?
26. Please provide a rationale for that rating concerning teaching kindergarten reading.
27. Use the scale provided to estimate **your knowledge as compared to the average kindergarten teacher for teaching kindergarten writing**. You will be asked to provide a rationale for the estimation you provided. Do you think you are more knowledgeable, less knowledgeable, or about the same as the average kindergarten teacher for teaching kindergarten writing?
28. Please provide a rationale for that rating concerning teaching kindergarten writing.
29. Use the scale provided to estimate **your knowledge as compared to the average kindergarten teacher for understanding kindergarten student capabilities**. You will be asked to provide a rationale for the estimation you provided. Do you think you are more knowledgeable, less knowledgeable, or about the same as the average kindergarten teacher for understanding kindergarten student capabilities?

30. Please provide a rationale for that rating concerning understanding kindergarten student capabilities.
31. Use the scale provided to estimate **your knowledge as compared to the average kindergarten teacher for understanding kindergarten student academic needs.** You will be asked to provide a rationale for the estimation you provided. Do you think you are more knowledgeable, less knowledgeable, or about the same as the average kindergarten teacher for responding to kindergarten student academic needs?
32. Please provide a rationale for that rating concerning responding to kindergarten student academic needs.

Appendix C
Questionnaire

Questionnaire

This questionnaire was created using the survey software tool, Qualtrics and emailed to the five teachers who are selected to participate in the study. They received the questionnaire three days before their scheduled interview with instructions to complete it by 8 p.m. the day prior to the scheduled interview.

Directions for the participant: Please complete the following questionnaire. For questions concerning “kindergarten children” please consider a typically developing kindergarten child (excluding non-neurotypical and children with special needs).

1. What resource(s) has prepared you to teach writing in kindergarten? Please check all that apply.
 - a. specific writing course(s)
 - b. person(s)/mentor(s)
 - c. conference presentation(s)
 - d. workshop(s)
 - e. book(s)
 - f. other, please specify below
 - g. none of the above
2. Please describe the resource(s) that you feel has been most helpful in preparing you to teach writing in kindergarten.
3. Please describe how you decide what to teach kindergarten students about writing.
4. Please describe your ideal scope and sequence of writing instruction in the kindergarten year.
5. Please describe some specific writing assignments that you assign kindergarten students throughout the school year.
 - a. first of the year
 - b. middle of the year
 - c. end of the year
6. Please describe a typical teacher-student interaction you have with a student about writing.
7. How many minutes per week do you spend on writing instruction in your kindergarten classroom?
 - a. At the first of the year
 - b. At the middle of the year
 - c. At the end of the year
 - d. Please provide a rationale for the amount of time spent on writing.
8. How much time do you think should be spent on writing instruction in a

kindergarten classroom? Why?

9. How do you evaluate or assess your students' writing development? Please describe.
10. What aspects of writing instruction do you feel are the most important for kindergarten children to learn?
11. What aspects of writing instruction do you feel are the most challenging for kindergarten children to learn?

Appendix D

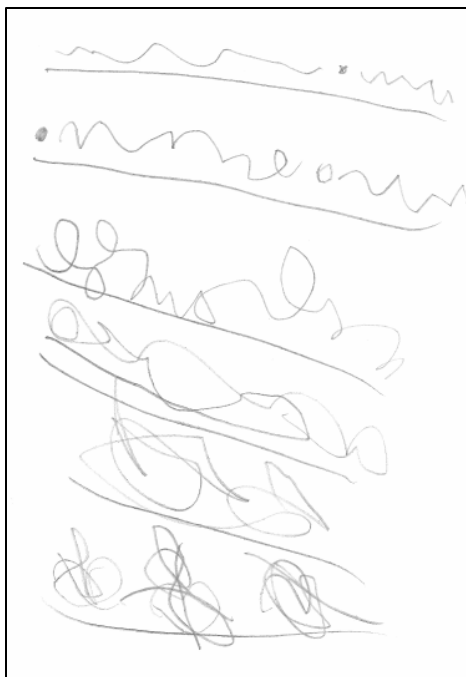
Semistructured Interview Questions

Semistructured Interview Questions

The student researcher began the interview by letting the teacher know they are interested in learning more about what writing instruction looks like in their kindergarten classroom.

1. Please list the top three ways that you motivate children to write.
2. Please list the top three activities that you use most often during writing time.
3. Please list the top three ways you help children who have difficulty with a writing task.
4. Please describe your most common response to, "How do I write a letter Y?"
5. Please describe your most common response to, "How do I spell this word?"
6. Please describe your most common response to, "I don't know what to write."
7. Please describe how you support/instruct students to focus their attention on a writing task.

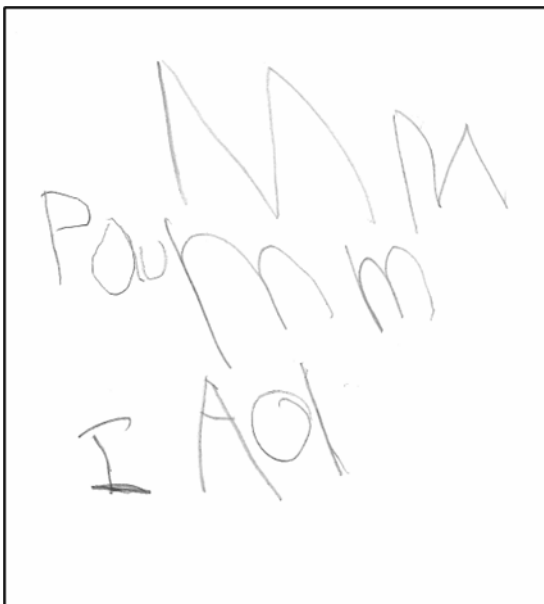
Appendix E
Student Writing Samples



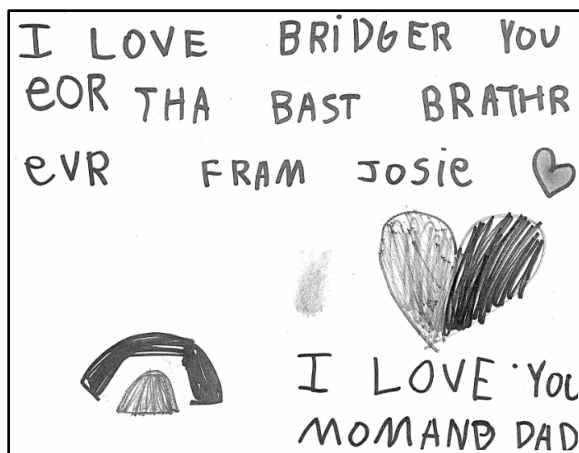
Pre-alphabetic



Progression in alphabetic principle



Letter formation



Toward conventional

Appendix F

Writing Sample Task Directions and Questions

Writing Sample Task Directions and Questions

Instructions to be given to the participant: Please look at this writing sample and answer the following questions about what you can determine about this student from analyzing their work.

The student researcher guided the analysis with the following questions.

1. From this sample of writing, what is the kindergarten student able to do as a writer? (Indicator of student strengths)
2. What teacher-student interaction(s) would you propose to initiate to support this student with what they need to learn next? (Indicator of prioritizing student needs)
 - a. Use the following prompts, if necessary:
 - i. What approach would you take?
 - ii. What would you do next?
3. Please provide a rationale for the order in which you provided those supports to the kindergarten student?
4. How did you develop this response? Where did you learn these skills?

Appendix G

Code Book for Early Writing Development

Code Book for Early Writing Development

Coding Phases

First Phase Coding

To describe kindergarten teacher knowledge of early writing development and instructional practices, this phase of coding focused on the teacher knowledge domains including declarative, procedural, and conditional (Archer & Hughes, 2011). To accomplish this, the participant responses during the interview, including responses to clarifying questions of the online questionnaire and semistructured interview questions, were reviewed by the student researcher. Thematic analysis was employed to determine and refine “patterns of meaning” or themes in the data (Braun & Clarke, 2012, p. 57). The codes for the themes are found in section one of this codebook.

The semistructured interview consisted of seven questions; each is listed below.

1. Please list the top three ways that you motivate children to write.
2. Please list the top three activities that you use most often during writing time.
3. Please list the top three ways you help children who have difficulty with a writing task.
4. Please describe your most common response to, “How do I write the letter Y?”
5. Please describe your most common response to, “How do I spell this word?”
6. Please describe your most common response to, “I don’t know what to write.”
7. Please describe how you support/instruct students to focus their attention on a writing task.

Second Phase Coding

To describe kindergarten teacher knowledge of early writing development, this phase of coding focused on teacher’s declarative (e.g., the what) knowledge (Archer & Hughes, 2011). To accomplish this, the participant’s responses to question one (i.e., From this sample of writing, what is the kindergarten student able to do as a writer?) of the writing sample analysis portion of the semistructured interview were analyzed. The participants’ responses to question one are a demonstration of the participants’ ability to determine a student’s writing strengths from a writing sample. Words and phrases from the participants’ responses that signify a strength in writing were coded with deductive or theory-driven codes that were created from the emergent writing framework (Puranik & Lonigan, Emergent writing in preschoolers: Preliminary evidence for a theoretical framework, 2014) and the NSSVW (Berninger & Winn, Implications of advancements in brain research and technology for writing development, writing instruction, and

educational evolution, 2006).

During the analysis and coding process, the student researcher and faculty researcher, together, reviewed the participant's responses and discussed the coding of words and phrases. Code labels were revised and defined as needed to provide clarity and to accurately represent the data. These codes are found in section two of this code book. Each participant's responses were coded and summarized individually (e.g., within case analysis) before cross analyzed with other participant responses.

Third Phase Coding

To further describe kindergarten teacher knowledge of early writing development, this phase of coding focused on teacher's procedural (e.g., the how) knowledge (Archer & Hughes, 2011). To do this, the participants' responses to question two from the writing sample analysis tasks were analyzed along with question seven from the semistructured interview. The responses to question two from the writing sample analysis tasks (i.e., What teacher-student interaction(s) would you propose to initiate to support this student with what they need to learn next?) are a demonstration of the participants' ability to determine a student's writing needs and an indicator of prioritizing those needs. The responses to question seven from the semistructured interview (i.e., Please describe how you support or instruct students to focus their attention on a writing task.) reveal how participants support students' executive functions during writing tasks.

Words and phrases in the participant's responses to question two in the writing sample analysis task and question seven in the semistructured interview were analyzed using the codes in section two of the code book. The codes were derived from research, including the emergent writing framework (Puranik & Lonigan, Emergent writing in preschoolers: Preliminary evidence for a theoretical framework, 2014) and the NSSVW (Berninger & Winn, Implications of advancements in brain research and technology for writing development, writing instruction, and educational evolution, 2006). The codes were again refined and defined by the student researcher and faculty researcher during coding. This analysis revealed the focus of supports in proposed teacher-student interactions.

Fourth Phase Coding

To further describe kindergarten teacher knowledge of early writing development, this phase of coding focused on teacher's conditional (e.g., the when, where, and why) knowledge (Archer & Hughes, 2011). To accomplish this, the participants' responses throughout the writing sample analysis tasks and specifically to question three (i.e., Please provide a rationale for the order in which you provided those supports to the kindergarten student?) were coded with inductive codes that were developed from the data through thematic analysis (Braun & Clarke, 2012). Participant responses throughout the writing sample analysis tasks that focused on 'when, where, and why' interactions would be initiated were also coded. The inductive codes for the fifth phase of coding are

found in section four.

Codes

Section 1

The following themes were drawn from the data, the participants' responses to the online questionnaire and the semistructured interview.

1. Education and Experience
 - a. Educational background: includes degrees earned or started, including endorsements.
 - b. Teaching experience: includes years of teaching and grades taught.
 - c. Preparation to teach writing: courses, experiences, or resources that the participant described as helpful in learning about writing development and writing instruction.
2. Current classroom writing instruction: explanations of instructional practices and/or descriptions of common writing assignments.

Section 2

The following codes are deductive or theory-driven codes that were created from the emergent writing framework (Puranik & Lonigan, 2014) and the NSSVW (Berninger & Winn, 2006). These codes were used for analysis and coding of questions one and two of the writing sample analysis task.

- Question one: From this sample of writing, what is the kindergarten student able to do as a writer?
- Question two: What teacher-student interaction(s) would you propose to initiate to support this student with what they need to learn next?

Coding the participants' responses to question one helped to provide insight into the participating kindergarten teachers' declarative knowledge (Archer & Hughes, 2011) of early writing development. Moreover, coding the participants' responses to question two revealed information regarding the participating kindergarten teachers' procedural knowledge (Archer & Hughes, 2011) of early writing development.

1. Conceptual knowledge (of the student): The student understands the universal principles of print, including concepts of print and the knowledge that that print carries meaning (Puranik & Lonigan, 2014)

- a. Concepts of Print: the awareness of how print works, including the conventions of written language (Clay, 1993).
 - i. use of environmental print (e.g., look around the room, use of word wall).
 - ii. directionality including top to bottom, left to right, return sweep, and page arrangement (Clay, 1975).
 - iii. spacing (e.g., proper spacing between letters and words, use of tools to support proper spacing).
 - b. Print conveys meaning: the awareness that ‘what I say can be written down’ and that print is used for communication (Clay, 1993).
2. Procedural Knowledge (of the student): The student understands the symbolic nature of letters, including alphabet knowledge, writing letter forms, and spelling (Puranik & Lonigan, 2014).
- a. Alphabet knowledge: recognizing the letter name, form, and sound relationships.
 - b. Letter formation: the process/physical act of creating recognizable letters to conventional letters, including proper letter formation and placement of letters on lines. (e.g., tall letters, small letters, use of lined paper).
 - c. Correct use of uppercase/lowercase letter forms (e.g., use of uppercase at the beginning of a sentence).
 - d. Word formation (e.g., words are written by tracing or copying).
 - e. Spelling: the sound symbol relationship at the alphabetic stage.
 - i. phonetic or invented spelling: attempting to spell a word using one or more for the sounds contained in the spoken word (e.g., strong connection of letter sound relationships and/or use of orthographic patterns).
 - ii. spelling through memorization (e.g., spelling high frequency words).
 - f. Use of punctuation marks (e.g., use of periods, question marks, commas, etc).
3. Generative knowledge (of the student): The student can convey meaning by translating thoughts and ideas into words, phrases, or sentences (Puranik &

Lonigan, 2014).

- a. Composing ideas into text: any action that supports the student in translating thoughts/ideas into text. (e.g., verbal communication/open ended questions, draw/labeling a picture).
 - b. Composing connected text: written text at the word, phrase, and sentence levels.
 - i. word level: any recognizable word (ex: child writing own name/familiar name).
 - ii. phrase level: any recognizable two or more-word phrase.
 - iii. sentence level: recognizable words connected to make a logical sentence.
4. Executive functions (of the student): “A complex system that regulates focused attention” including remaining on task, conscious attention, cognitive presence, and cognitive engagement (Berninger & Winn, 2006, p. 97).
- a. Focusing attention on the task (e.g., instructional practices to keep students engaged in the writing task, discussing the importance of focus, or change of scenery or materials to keep focus, etc.)
 - b. Remaining on task (e.g., explaining to students that they write for the allotted time, supporting students in adding details to their writing, and using a timer to increase writing time throughout the year to build writing stamina)

Section 3

The following codes include inductive codes that were developed from the data through thematic analysis (Braun & Clarke, 2012). These inductive codes were used to code participants’ responses to question three from the writing sample analysis tasks to provide a description of the reasons why the participating teachers proposed certain teacher-student interactions. Participant responses that aligned with reasons or rationales for interactions throughout the writing sample analysis tasks were also coded with these codes.

- Question three: Please provide a rationale for the order in which you provided those supports to the kindergarten student?

Coding the participants’ responses to question three with this set of codes provided an additional description of the participating kindergarten teachers’ conditional knowledge (Archer & Hughes, 2011) of early writing development.

1. Developmental nature of early writing: an explanation or rationale for providing a support to a student that takes into account the foundational skills (e.g., "...directionality is a life skill...laying foundational skills to help them be successful writers.") or the phases of writing development (e.g., "...to move them to the next step").
2. Influence of CCSS and/or Mandated Assessments: an explanation or rationale for providing a support to a student that is influenced by a set of skills as outlined in the CCSS and/or a state or district assessment (e.g., "...capitalization is in the core and on the end of the year test...").
3. Product of maturation: an explanation or rationale for providing a support to a student that is more concerned with age of student (e.g., "Was this actually from a kindergarten student?") or time of school year (e.g., "Do you know when this child, do you have the dates as to when [the child did this writing]?") over the current ability level of the student.

Appendix H
Permissions Granted

From: Tom Tiller <ttiller@ncte.org>
Sent: Tuesday, March 2, 2021
To: Nanette Watson <nanette.watson@usu.edu>
Subject: RE: Permission request

Dear Nanette Watson,

Greetings, and I hope you and yours are well. I apologize for the delay in responding to your request—we are working through a pandemic-related backlog.

NCTE is happy to grant permission for you to use the following material in your dissertation:

Flower, Linda, and John R. Hayes. "Figure 1: Structure of the Writing Model" (p. 370) from "A Cognitive Process Theory of Writing," *College Composition and Communication* 32.4 (Dec. 1981): 389–401.

In the credit line in which you acknowledge the requested content, the authors, and the source, please add these words: "Copyright 1981 by the National Council of Teachers of English. Reprinted with permission."

This permission is granted free of charge. Please note that a new permission would be needed if your dissertation were to be published. No changes may be made to the original material without permission from NCTE.

Thank you for your interest in NCTE publications.

Best,

Tom

Tom Tiller | Permissions Coordinator
National Council of Teachers of English
ttiller@ncte.org
www.ncte.org



Nanette Watson <nanette.watson@aggiemail.usu.edu>

Fw: [EXT] RE: Permission request

Nanette Watson <nanette.watson@usu.edu>
 To: Nanette Watson <nanette.watson@aggiemail.usu.edu>

Tue, Jun 1, 2021 at 8:47 PM

From: Tom Tiller <tiller@ncte.org>
Sent: Tuesday, March 2, 2021 8:23 PM
To: Nanette Watson <nanette.watson@usu.edu>
Subject: [EXT] RE: Permission request

Dear Nanette Watson,

Greetings, and I hope you and yours are well. I apologize for the delay in responding to your request—we are working through a pandemic-related backlog.

NCTE is happy to grant permission for you to use the following material in your dissertation:

Flower, Linda, and John R. Hayes. "Figure 1: Structure of the Writing Model" (p. 370) from "A Cognitive Process Theory of Writing," *College Composition and Communication* 32.4 (Dec. 1981): 389–401.

In the credit line in which you acknowledge the requested content, the authors, and the source, please add these words: "Copyright 1981 by the National Council of Teachers of English. Reprinted with permission."

This permission is granted free of charge. Please note that a new permission would be needed if your dissertation were to be published. No changes may be made to the original material without permission from NCTE.

Thank you for your interest in NCTE publications.

Best,
 Tom

Tom Tiller | *Permissions Coordinator*
 National Council of Teachers of English
 tiller@ncte.org
 www.ncte.org



From: Nanette Watson <nanette.watson@usu.edu>
Sent: Tuesday, January 12, 2021 11:31 AM
To: Permissions Requests <PermissionsRequests@NCTEO365.onmicrosoft.com>
Subject: Permission request

Permissions Coordinator,

I am a doctoral student at Utah State University. I am currently writing my dissertation and would like permission to use the figure on page 370 from the article by Flower and Hayes. The specific articles is Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365-387.

Could you please let me know what your policy is regarding use of figures and tables?

Thank you,

Nanette M. Watson, M.Ed.
Literacy Clinic Co-Assistant Director
Utah State University
Emma Eccles Jones College of Education and Human Services
School of Teacher Education and Leadership
nanette.watson@usu.edu
mobile: 801.675.6026

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Nanette Watson <nanette.watson@aggiemail.usu.edu>

Fw: [EXT] Re: copyright permission

Nanette Watson <nanette.watson@usu.edu>
To: Nanette Watson <nanette.watson@aggiemail.usu.edu>

Tue, Jun 1, 2021 at 8:47 PM

From: k_campbell@berkeley.edu <k_campbell@berkeley.edu>
Sent: Wednesday, February 10, 2021 11:26 AM
To: Nanette Watson <nanette.watson@usu.edu>
Subject: [EXT] Re: copyright permission

Hi Nanette,

Thanks for your email. Your investigation of teacher knowledge of kindergarteners' writing development is an important area of inquiry.

You are welcome to use the image of my EW9 (figure 2).

The student writing samples belong to the Tools of the Mind organization in Colorado, so I don't own the copyright for those.

Best of luck with your dissertation! I'm interested in reading the final product. If you can, please send me a copy.

Sincerely,
Kelly

Sent from my iPhone

On Feb 9, 2021, at 3:16 PM, Nanette Watson <nanette.watson@usu.edu> wrote:

I am a doctoral student at Utah State University and am currently working on my dissertation. I am citing an article from the journal Reading and Writing, <https://doi.org/10.1007/s11145-018-9893-y>. In this article there is a figure, figure 2 EW-9 scoring systems, found on page 949. I would like permission to use a copy this figure in my dissertation.

If possible, I would also like permission to use the examples of student work, found in the figure, as part of my research concerning kindergarten teacher knowledge of early writing development.

Please let me know if either request could be granted.

Thank you,

Nanette M. Watson, M.Ed.
Literacy Clinic Co-Assistant Director
Utah State University
Emma Eccles Jones College of Education and Human Services
School of Teacher Education and Leadership
nanette.watson@usu.edu
mobile: 801.675.6026

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CURRICULUM VITAE

NANETTE M. WATSON

nawatson2@wsd.net

phone: 801.675.6026

EDUCATION

Doctor of Philosophy in Education, 2016-2021

Utah State University, Logan, Utah

Curriculum and Instruction Specialization

Concentration in Literacy Education and Leadership

Master of Education, 2016

Utah State University, Logan, Utah

Elementary Education

Bachelor of Science, 2001

Weber State University, Ogden, Utah

Elementary Education

Concentration in Literacy and Child and Family Studies

Professional Licenses

Elementary Education, Grades 1-8

Early Childhood Education, Grades K-3

Professional Educational Endorsements

Reading Level I (Basic)

Reading Level II (Advanced)

PROFESSIONAL WORK EXPERIENCE

Reading Specialist, Weber School District (2021-present)

Responsibilities include managing and organizing administration of school-wide reading assessments (screening and diagnostic) and coordination and implementation of reading interventions for children assessed and determined in need of intensive intervention.

Adjunct Instructor, Utah State University (Fall 2021)

Responsibilities include instruction of preservice teachers in language development in children, and curriculum development, instructional methods, and assessment in the areas of writing and spelling.

Graduate Teaching Assistant & Co-Assistant Director, USU Literacy Clinic (2020-present)

School of Teacher Education and Leadership, Utah State University
Teaching responsibilities include instructing preservice teachers in reading assessment and intervention in preparation for a tutoring experience in the USU Literacy Clinic.
Co-Assistant Director responsibilities include management and coordination of Literacy Clinic operations including, but not limited to, receiving registrations, communicating with participating families, placing tutors and students, managing undergraduate teaching fellows, and organizing clinic materials.

Graduate Teaching Assistant, USU Literacy Clinic (2018-2020)

School of Teacher Education and Leadership, Utah State University
 Responsibilities include instruction of preservice teachers in reading assessment and intervention, supervision of the USU Literacy Clinic tutoring experience, and mentoring undergraduate teaching fellows.

Preschool Teacher, Weber School District (2016-2018)

Responsibilities included setting-up and organizing preschool classrooms, conducting professional development meetings for preschool staff, mentoring preschool teachers, aligning participating families' paperwork to meet state requirements, teaching family literacy workshops at multiple sites within the district, conducting in-home visits, and teaching preschool.

Preschool Director and Teacher, Little Scholar Preschool (2009-2016)

Owned and operated the preschool. Responsibilities included teaching classes for 3-year-old and 4-year-old students. Planned curriculum, organized field trips and learning activities, and communicated with parents. Handled all administrative duties, including: registration, paperwork, and finances for the preschool.

Elementary School Teacher, Weber School District (2002-2004)

Responsibilities included Grade 6 Teacher, Grade 2 Math Teacher, helped implement school-wide reading motivation program, planned and organized school-wide family literacy nights.

PUBLICATIONS

Journal Articles (Peer-Reviewed)

Watson, N. M., Jensen, R., & Jones, C. D. (2017). *Targeted reading interventions for kindergarten and first grade students*. Teachers College Record, ID Number: 22217.

Mohr, K. A. J., Ding, G., Strong, A., Branum, L., **Watson, N.,** Priestly, K. L., Juth, S., Carpenter, N., Lundstrom, K. (2017). *Reading the past to inform the future: 25 years of The Reading Teacher*. The Reading Teacher, 71(3), pp. 251-264.

PRESENTATIONS

National/International (Refereed)

Jones, C.D., **Watson, N.**, & Brown, L. (2020, November). Educate to Liberate: The Symbiosis of SEL and Literacy. Presentation at the Association of Literacy Educators and Researchers Conference, Santa Fe, NM (Conference cancelled).

Jones, C.D., Brown, L., & **Watson, N.** (2019, November). *The Use of Biographies for Social and Emotional Competency Development*. Presentation at the Association of Literacy Educators and Researchers Conference, Corpus Christi, TX.

Jones, C. D., **Watson, N. M.**, & Bunnell, G. (2018, October). *Social and Emotional Competency Development*. Presentation at the annual meeting of Northern Rocky Mountain Educational Research Association Conference, Salt Lake City, UT.

State (Refereed)

Watson, N. M. & Bunnell, G. (2021, March). *Word Knowledge=World Knowledge: Effective Vocabulary Instruction*. Presentation at the annual meeting of the Utah Association for the Education of Young Children, online.

Watson, N. M., Bunnell, G., & Jones, C. D. (2020, August). *Purposeful Play for Building PA: Phonological Awareness*. Presentation at the annual meeting of the Utah Association for the Education of Young Children, Ogden, UT.

Watson, N. M., Magill, C., & Jones, C. D. (2019, October). *Institute of Education Sciences: Creation, Purpose, and Scope*. Presentation at the annual meeting of the Utah Literacy Association, Sandy, UT.

Watson, N. M., Jones, C. D., Bunnell, G., & Parker, N. (2019, March). *Instructional Ideas for Supporting the Development of Phonological Awareness*. Presentation at the annual meeting of the Utah Association for the Education of Young Children, Ogden, UT.

Jones, C. D., **Watson, N. M.**, Bunnell, G., & Parker, N. (2018, November). *Teaching Sequential Text Structure: Books that are Exemplary Models and How to Use Them*. Presentation at the annual meeting of the Utah Chapter of International Literacy Association, Provo, UT.

Jones, C. D., **Watson, N. M.**, & Page, M. (2018, November). *Phonological Awareness Instruction: Scope and Sequence*. Presentation at the annual meeting of the Utah Literacy Association, Provo, UT.

Watson, N. M. (2018, March). *The Power of Sound: Phonological Awareness*. Workshop presented at the annual meeting of the Utah Association of Education of Young Children, Salt Lake City, UT.

State (Invited)

Bunnell, G., Jones, C. D., **Watson, N. M.**, DeCoursey, K. (2020, August). *Words, Words, Words! Ideas for Effective Vocabulary Instruction*. Presentation at the annual meeting of the Jordan School District Special Educators, South Jordan, UT.

Jones, C. D., Bunnell, G., Breitenstein, J., **Watson, N. M.**, & Parker, N., (2019, October). *Questions and Answers: Teaching Students to Locate and Use Text Evidence*. Presentation at annual conference of Utah Literacy Association, Sandy, UT.

Watson, N. M. & Jones, C. D. (2019, August). *Supporting the development of phonological awareness: what, why, and how*. Presentation at the annual meeting of Jordan School District Special Educators, South Jordan, UT.

UNIVERSITY TEACHING

Utah State University, Logan, Utah
College of Education and Human Services
Undergraduate Courses

ELED 4030 – Teaching Language Arts Adjunct Instructor (Fall 2021)

This course prepares undergraduate students to understand language development in children, and curriculum development, instructional methods, and assessment in the areas of writing and spelling.

ELED 4040 – Reading Assessment and Intervention, Graduate Teaching Assistant (Fall 2020, Spring 2021)

This course prepares undergraduate students to use data from reading assessments to identify students' reading strengths and needs and plan interventions.

ELED 4042/3 – Reading Assessment and Intervention Practicum, Graduate Teaching Assistant (Fall 2018, Spring 2019, Fall 2019, Spring 2020)

This course is a clinical practicum experience for preservice teachers to implement their knowledge of reading assessment and interventions as they work with elementary students who struggle with learning to read.

SERVICE**Service To Professional Organizations**

Development Chair, Utah Association for the Education of the Young Child (2021-present)

Secretary, Utah Literacy Association (2019-2020)

Conference Abstract Review Committee, Assoc. of Literacy Educators & Researchers (2019)

Board Member, Ben Lomond Council, Utah Chapter of International Literacy Association (2002-2004)

President, Weber State University Student Council, Utah Chapter of International Literacy Association (2000-2001)

Reviewer For Refereed Journals

The Journal of Educational Research, American Educational Research Association (2019, October-present)

Service at Utah State University

Committee Member, Annual Emma Eccles Jones Early Childhood Symposium (2019)

Judge, USU Student Research Symposium (2019)

HONORS AND AWARDS

Graduate Student Teacher of the Year, School of Teacher Education and Leadership, Utah State University, 2019-2020

First Class Teacher Nominee, Weber School District, 2002

Beehive Service Project Award, Utah Council of the International Reading Association, 2001

PROFESSIONAL ASSOCIATIONS

National/International	<ul style="list-style-type: none"> Association of Literacy Educators and Researchers (ALER) International Literacy Association (ILA) Society for the Scientific Study of Reading (SSSR) National Association for the Education of Young Children (NAEYC)
State	<ul style="list-style-type: none"> Utah Literacy Association (ULA) Utah Association for the Education of Young Children (UAEYC)