

EXAMINING RELATIONSHIPS AMONG TEACHERS' PREPARATION,
EFFICACY, AND WRITING PRACTICES

By

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DEDICATION

For my amazing family:

Mom, you are a solid rock. I am forever grateful for your assistance, encouragement, and willingness to sacrifice to help me achieve my dream.

Dad, you have always been my biggest cheerleader. Thank you for all of “our talks”.

Chuck, my husband and life partner, thank you so much for your sacrifices, support, and encouragement. This journey would have been impossible and boring without you by my side.

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NOTE BENE

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INTRODUCTION

Thirty-one years ago, David Pierpont Gardner chaired the National Commission on Education Excellence. Tasked with reporting on the quality of education in America, the Commission issued a report in 1983 entitled, “A Nation At Risk: The Imperative for Educational Reform.” They reported that approximately 23% of American adults, 17% of 17-year-olds, and as many as 40% of minority youth were functionally illiterate based on tests of everyday reading, writing, and comprehension. Additional findings indicated a decline in SAT scores compared to scores in 1963. The Commission also reported two concerns regarding teacher preparation: too many future teachers were being drawn from the bottom quarter of students in both high school and college, and teacher preparation curriculum was heavily weighted on educational methods rather than subject matter knowledge. This report sparked concern regarding education and is often credited with starting educational reform research (Hunt, 2008).

Despite the years of research following this report, student academic achievement remains a national concern. The National Assessment of Educational Progress (NAEP) measures student progress throughout the nation (National Center for Educational Statistics, n.d.). This congressionally mandated project issues national report cards covering nine subjects based on periodic testing. The subjects reported on most frequently are mathematics, reading, writing, and science. Since 2003, NAEP has assessed students in math and reading at least every two years in grades 4 and 8 and every 4 years at grade 12. Writing and science assessments, however, have not been as consistent. While writing was assessed for grades 4, 8, and 12 in 2002 and 2007, and

grades 8 and 12 in 2011, the next assessment for students in grades 4, 8, and 12 is not scheduled until 2017, despite results indicating a continued deficiency in writing abilities. In 2002, only 28% of 4th-graders, 31% of 8th-graders, and 24% of 12th graders wrote at a skill level considered proficient, above proficient or advanced. In 2007, the results revealed a lack of significant progress, with 33% of 8th and 24% of 12th grade students performing at levels considered proficient, above, or advanced. In the 2011 NAEP report, results from the computer-based writing assessment indicated improvement in the level of performance in the 12th grade, with 27% of students writing at a skill level considered proficient or above, but a drop in the 8th grade percentage from 33% to 27%.

Research has demonstrated that teachers play a key role in the academic success of students and that teacher variables account for more variance in student achievement than other factors (Heck, 2009; Nye, Konstantopoulos, & Hedges, 2004). This study explores factors impacting effective teaching in writing. The purpose of this study was to deepen the field's understanding of Teacher Efficacy (TE) by looking at previously unexplored teacher characteristics that may impact teacher efficacy or distinguish between teachers with high and low efficacy in the area of writing. This was accomplished through an examination of the relationships between teacher preparation, attitudes, orientation, efficacy, and classroom practices in writing. The examination of teacher preparation involved the analysis of teachers' preparation to teach reading, math, science, social studies, and writing resulting from both their college coursework and post college experiences. In addition, teachers' attitudes towards both writing and teaching writing, efficacy for both teaching and teaching writing, orientation towards how writing should be taught, and use of evidence-based practices to teach writing were examined.

Before discussing the study, background information regarding writing, teaching writing, Bandura's social cognitive theory, efficacy, and the factors and measurement of teacher efficacy are presented to help develop and present the complex interactions of various constructs involved in teacher efficacy. Finally, the research questions and hypothesis that guided this study are presented.

Writing

Writing is a critical communication skill in our culture. In addition to opening avenues for communication, writing allows artistic expression, self-exploration, and the opportunity for increased knowledge and understanding (Graham, Harris, Fink, & MacArthur, 2001; NAEP, 2007; National Writing Project, 2010). Skilled writing is an invaluable and versatile tool that can be utilized to accomplish a variety of goals both in and out of school (Graham et al., 2012a; Olinghouse & Santangelo, 2010). Writing provides a medium to express ideas and views; maintain contact with friends, family and colleagues; demonstrate knowledge and understanding of a concept or topic; and present information for consumers and employers (Graham et al., 2012b; National Commission on Writing, 2005; Olinghouse & Santangelo, 2010). With American businesses spending approximately \$3.1 billion annually on writing remediation and nearly half of private and government employers reporting that writing skills impact promotion decisions, limited writing ability clearly impacts the social and economic landscape of our country (National Commission on Writing, 2005).

Writing is one of the most complex activities students perform in school (Baker et al., 2003; Olinghouse & Santangelo, 2010). Writers must balance a variety of tasks during the writing process, from letter formation, spelling, word choice, sentence

structure, and grammar usage to idea generation, planning, revising, and continually evaluating the product in terms of their goals, audience, and purpose. Young students and struggling writers learning basic writing/transcription skills such as handwriting and spelling have difficulty attending to both the lower and higher order writing processes simultaneously (Graham & Harris, 2009; Olinghouse 2007; Olinghouse & Santangelo, 2010). The necessity to focus on these lower level skills detracts from a student's ability to write fluently, develop more complex ideation in their writing, and evaluate their progress towards accomplishing the goal of the writing task. When working memory is focused on transcription skills, it cannot be used to perform executive functions such as goal setting, planning, reviewing, revising, self-monitoring and self-regulating (Berninger & Winn, 2006). Switching back and forth between thinking about mechanical issues and writing processes can result in students forgetting their ideas or failing to connect their ideas (Graham & Harris, 2009).

Despite the fundamental importance of writing, research and reports on this subject indicate many students in the United States continue to struggle with writing skills. As discussed earlier, the NAEP writing scores have remained basically flat or fallen between 2002 and 2011, with 33% or less writing at or above a proficient skill level for their grade level. These results are alarming given the importance of written communication throughout life. Additional research is needed on writing development, knowledge, and processes, along with studies to improve understanding of both student and teacher behaviors and characteristics, impacting writing achievement.

Teachers

Teachers play a key role in the academic success of students. While the No Child

Left Behind Act of 2001 (NCLB) includes a requirement that all students have “highly qualified” teachers, the law does not specify what constitutes a “highly qualified” teacher or how this standard is to be achieved. In 2004, The Teaching Commission issued a report, “Teaching at Risk: A Call to Action”, in which they declared teachers are key to America’s future. Given this attention to the role of teachers and their impact on student achievement, it is imperative we continue to conduct research to add to our understanding of teachers: their abilities, characteristics, development, malleability, motivation, and self-efficacy beliefs. Many questions remain regarding professional development for teachers (both before and after they enter the classroom), what knowledge is needed for teachers to be “highly qualified” and effective, and which factors/characteristics influence a teacher’s effectiveness and ability to positively impact student achievement (Ball & Forzani, 2009; Darling-Hammond, 2000).

Teachers’ writing practices. Despite the importance of writing and the development of the National Writing Project (NWP) to aid in the professional development of writing teachers, many teachers today are not well prepared to teach writing. In a survey conducted by Gilbert and Graham (2010), the majority of teachers reported they received inadequate pre- and inservice instruction on effective instructional practices in writing. A number of research studies have been conducted to examine the classroom writing practices of teachers and establish recommendations for effective instructional practices in writing (see Graham & Harris, 2009; Graham et al., 2012a; Graham et al., 2012b). While there is some variability among teacher responses, these studies indicated primary teachers devote approximately 1 hour a day to writing and writing instruction, which aligns with current recommendations. Findings also indicated

the majority of teachers made multiple adaptations for struggling writers and engaged in instruction incorporating both process writing and skill instruction. Research indicates that integrating strategy instruction into a process approach to instruction in writing has resulted in positive effects for struggling writers and students with learning disabilities. However, there is ongoing concern regarding skill instruction in terms of the amount of time spent, the type of skill instruction used, and the manner in which it is conducted. Research findings indicate a mixed bag of good intentions and misunderstandings over which practices will lead to improved student outcomes.

Teacher knowledge. Research in reading indicates teacher knowledge and instructional skill prevents and ameliorates reading failure (Moats, 2009). Based on her research, Moats made three conclusions regarding the research of teachers' subject matter and pedagogical knowledge. First, it is often underdeveloped and cannot be acquired solely through teaching and being literate. Additional practice is needed beyond what is typically provided in pre-service courses. Second, teachers' language knowledge can be measured but may not align with their philosophical beliefs or their self-evaluations. Third, the correspondence between what a teacher knows, their classroom practices, and student outcomes has been tenuous. While Moats (2009) reviewed studies looking at the reading knowledge rather than writing knowledge of teachers, it is worth considering as an indicator of teacher writing knowledge research that needs to be done to explore the impact on student writing achievement.

Efficacy. Researchers have identified a number of positive student outcomes as well as teacher characteristics and outcomes related to higher teaching efficacy scores. Compared to students of teachers with a lower sense of teacher efficacy, students of

teachers with a higher sense of teacher efficacy have increased achievement, higher self-efficacy, positive attitudes toward school, greater interest in school, more motivation, and a greater likelihood to perceive that what they are learning is important (Henson, 2002; Tschannen-Moran et al., 1998). Teachers with higher teacher efficacy scores are more likely to provide higher quality instruction, experiment with instructional ideas, and use more effective classroom management strategies (Bruce, 2008; Graham et al., 2001; Tschannen-Moran et al., 1998). In addition, they are more likely to: stay in the teaching field, experience less stress, have positive attitudes towards teaching, implement challenging strategies to achieve their goals with their students, have better organizational skills, meet the needs of struggling students, and be less critical of students' mistakes (Bruce, 2008; Graham et al., 2001; Tschannen-Moran et al., 1998). These teachers are also willing to work longer with struggling students and less likely to refer students for special education services (Graham et al., 2001; Poddell & Soodak, 1993; Soodak & Podell, 1996).

While researchers have identified many positive relationships between higher levels of teacher efficacy and desirable teacher behaviors and student achievement, many questions remain. To gain a deeper understanding of this complex construct researchers need to explore new ways to obtain a reliable and valid measurement of teacher efficacy, determine whether the measure should be general or content and/or context specific, identify the appropriate factor structure, and define the meaning of the factors. If teacher efficacy is malleable, due to factors such as professional development and experiences, we need to ascertain the factors that affect teacher efficacy in order to enhance pre-service and inservice teacher training. Gaining a deeper understanding of the differences

between teachers with high and low teacher efficacy and their behavior is an important initial step in improving teacher quality and positively impacting student outcomes.

Teachers as writers? Proponents of the writing process movement have suggested that teachers who actively engaged in the writing process both in and out of the classroom are valuable for students (Hayes & Flower, 1986; NWP, 2010; Pella, 2011). This concept has sparked an academic and professional debate concerning the importance of writing teachers serving as an example of a writer for their students (Cremin & Baker, 2010). Self-efficacy theory supports the assertion that teachers engaged in writing are a valuable component of improving student writing outcomes. Self-efficacy, a construct developed by Albert Bandura and discussed in detail below, is the belief that one has the ability to successfully accomplish a desired outcome, and can apply to any aspect of life, including writing.

Engaging in the writing process may increase the teacher's efficacy for both writing and teaching writing as well as the students' self-efficacy for writing. As teachers write, they develop a sense of self-efficacy concerning their ability to write and develop the linguistic and discourse knowledge needed to accomplish the writing goals and the writing process. These mastery experiences with writing allow teachers to provide vicarious experiences for students by sharing their writing interests and experiences, including their successes and challenges (Bandura, 2001). By sharing both successes and struggles with students, teachers serve as a model and help students learn how to work through their struggles to accomplish a writing task. Another benefit is increased student perception of the teacher as a trusted, knowledgeable, and credible source of feedback. If a student feels the teacher understands and has experience with writing, the teacher may

be in a better position to serve as a source of verbal persuasion, increasing the student's self-efficacy in writing.

Social Cognitive Theory and Self-Efficacy

Bandura developed the construct of self-efficacy, a key component of social cognitive theory, in the 1970's. Bandura sought to develop a more comprehensive theory of human development to explain how people develop competencies, attitudes, values, and behavioral characteristics, as well as how they motivate and regulate themselves (Bandura 2004, 2006a). Bandura embraced a transactional view, theorizing that individuals actively influence their life circumstances by self-regulating their behavior rather than solely being reactive participants controlled by biological and environmental factors (Bandura 2004, 2006b, Pajares 2003). He further postulated that these factors (individual, biological, and environmental) are linked and influence one another.

Personal or self-efficacy, a key resource in personal development and change, is a crucial element in Bandura's social cognitive theory (1977, 2004, 2006a, 2006b). To succeed in a world full of challenges and hazards, individuals acting as agents of personal change must continually evaluate and make good decisions regarding their goals, thoughts, capabilities, and potential outcomes in order to regulate their behavior accordingly (Bandura, 2001, 2006b). Individuals who believe they can accomplish their goals are more likely to succeed because they set challenging goals, try harder, persist through set backs, and develop coping mechanisms to manage emotional states (Bruce, 2008). Personal change and development are rooted in an individual's belief that his/her actions will create change (Bandura, 2006b). Without this belief, there is little motivation to persevere to realize the goal. Self-aware individuals are able to reflect on their personal

efficacy, the meaning of their pursuits, and the soundness of thoughts and actions in order to make corrective adjustments along the way (Bandura, 2006b).

Sources of self-efficacy. According to Bandura (1986), self-efficacy is constructed primarily from four sources of information: enactive mastery experiences (actively performing tasks), vicarious experiences (modeling), verbal or social persuasion (feedback from others), and physiological and affective states (mental and physical wellness). While individuals' beliefs about their ability to accomplish a task are primarily informed by the four sources identified by Bandura, the formation of their perceptions is dependent upon the information attended to and used as indicators of their capability (Buehl, 2003). Information from the four sources that construct self-efficacy will be weighted differently based on previous experiences and the task to be accomplished. Additionally, the information an individual draws on to inform her/his beliefs and decisions will vary from one situation to the next (Buehl, 2003).

Teaching efficacy. Barfield and Burlingame defined efficacy as a personality trait enabling an individual to deal with the world effectively (1974; as cited in Woolfolk & Hoy, 1990). While Barfield and Burlingame introduced the concept of teacher efficacy in their 1974 study, the construct of teacher efficacy did not garner much attention. In the late 1970's, The RAND Corporation added two items to their already extensive questionnaire asking teachers about their beliefs in their ability to affect student performance and obtained powerful results (Graham et al., 2001; Tschannen-Moran et al., 1998). The questions asked by the RAND group looked at the extent to which teachers believed they had the capacity to impact student performance or learning; whether they could "get through" and motivate students to learn or their efforts were irrelevant because

student performance and motivation were a result of home environments.

Ashton and Webb (1982), believing that teachers' sense of efficacy is a multi-dimensional construct, conducted a case study to develop a conceptual framework to examine the multifaceted relationship between teacher efficacy and student achievement. Using Bandura's agentic multi-directional perspective, Ashton and Webb (1982) expanded our conceptual understanding of teaching efficacy as a type of self-efficacy, looking at two separate constructs interacting with each other. The first construct, outcome expectancy, relates to the individual's beliefs that a set of actions will result in an expected and desirable outcome. The second, efficacy expectations, is the belief of the individual that he/she is capable of organizing and executing the behaviors required to obtain the desired outcome. Thus, an individual must hold two simultaneous beliefs: that an anticipated outcome can be achieved, and that she/he is capable of making it happen.

Despite increased interest and the importance of the construct of teacher efficacy, it remains largely unexplained (Tschannen-Moran et al., 1998). Factors influencing this may be the use of inconsistent definitions, debate about the nature of the construct (is it a trait that can be measured or is it context specific?), and divergent views on how to measure and validate a construct based on feelings and beliefs (Henson, 2002; Tschannen-Moran et al., 1998). While research groups define teacher efficacy differently, they have begun to converge around the same idea: teacher efficacy is a teacher's beliefs about her/his abilities to affect student performance regardless of external circumstances.

Importance of teaching efficacy. Since the initial research studies conducted by the RAND group, which indicated teacher efficacy strongly predicted both variations in reading achievement among minority students and the continued implementation of

research project protocol after the study ended, additional studies have shown a variety of positive effects of high levels of teacher efficacy (Tschannen-Moran et al., 1998). Studies have shown that students of teachers with higher teaching efficacy outperform their peers. In a study conducted by Ashton and Webb in 1986 (as cited in Tschannen-Moran et al., 1998), teacher efficacy accounted for 46% of the variability in the language scores. Moore and Esselman (1992) found that second and fifth grade students who had teachers with an advanced sense of teacher efficacy outperformed their peers in math on the Iowa Test of Basic Skills. Ross and Gray (2006a) found teacher efficacy to be a mediator when examining the effect of school leadership on student achievement. The effects of school leadership were indirect; students' achievement was impacted through the positive impact on teacher commitment to organizational values and the collective capacity of teachers. Improving teachers' sense of efficacy had a positive impact on student achievement.

A number of positive teacher characteristics have been associated with higher levels of teacher efficacy. Teachers with high expectations regarding their ability to influence student learning are more willing to experiment with instructional ideas and more likely to implement challenging strategies to achieve their goals with their students (Bruce, 2008). Teachers with higher efficacy use more effective classroom management strategies, encourage student autonomy, meet the needs of struggling students, and are able to positively influence students' perceptions of their abilities (Bruce, 2008). While researchers have identified positive relationships between higher levels of teacher efficacy, desirable teacher behaviors, and student achievement, many questions remain. Whether the measure should be general or content and/or context specific, the appropriate factor structure, the meaning of the factors, what variables impact teacher efficacy, how

to obtain a reliable and valid measurement of teacher efficacy, and whether teacher efficacy is a trait or a variable, are questions that still need to be addressed.

Is teacher efficacy malleable? If teacher efficacy is a trait that is developed and becomes stable over time as specific tasks are completed (Henson, 2002), research on teacher efficacy needs to focus on pre-service and early career teachers to learn how to develop and foster high teacher efficacy. If teacher efficacy is a variable that can be manipulated and changed, researchers can look at teachers across their careers to determine which factors lead to significant, meaningful, positive changes in efficacy. The view of teacher efficacy as a variable state is more congruent with Bandura's work on self-efficacy and has gained the attention of some researchers (Ross, 1992). While teachers' perceptions of what they can do may begin to stabilize over time, there is evidence from studies that teacher efficacy varies over time as new sources of information were incorporated (Bandura, 1986; Ross, 1992, 1994).

Cantrell and Hughes (2008) conducted research examining the impact of teacher efficacy on educational change and determined teacher efficacy is essential to enact educational change. Their findings indicated higher teacher efficacy was related to teachers' willingness to implement new curriculum, learn new teaching techniques, and adopt new educational policies (Cantrell & Hughes, 2008). Guskey (1988) found teacher efficacy, teaching affect, and teaching self-concept were significantly related to teachers' attitudes towards implementation, perception of difficulty of use, belief of congruence with current curriculum, and their impression of the importance of the recommended practices learned in staff development.

Factors. One of the many questions to be answered by future research is the

number and nature of factors contributing to teacher efficacy. Historically, teacher efficacy has been considered as two factors, general teaching efficacy and personal teaching efficacy. These factors, first measured in the RAND studies have been identified as separate factors in numerous studies (Gibson and Dembo, 1984; Graham et al., 2001; Guskey, 1986; Tschannen-Moran et al., 1998). Despite this historical view, research groups have explored the possibility of other factor structures and interpretations of the meaning of the factors. Guskey and Passaro (1994) tested their hypothesis that teacher efficacy scales should be interpreted according to teachers' expectations concerning outcomes and efficacy. Their findings indicated the distinction might be teachers' perceived level of control over the situation, whether it is external or internal. Other research groups have tested hypotheses that teacher efficacy addresses more than two factors (Browsers & Tomic, 2003) or can be collapsed into a single factor (Deemer & Minke, 1999).

General teaching efficacy. The idea encapsulated by general teaching efficacy (GTE) pertains to the relationship between teaching and learning and is a judgment of teachers' abilities as a collective group. The questions which address this construct on the Teacher Efficacy Scale (TES; Gibson and Dembo, 1984) ask individual teachers to compare the capabilities of teachers on average to overcome external influences in the life of students in order to optimally impact learning. The questions were based on the original question presented by the RAND studies: "When it comes right down to it, a teacher can't do much because most of a student's motivation and performance depends on his or her home environment." Teachers who score high on this construct believe teachers are able to influence student outcomes, while teachers with low scores feel that

external influences, such as the home environment prevent teachers from producing significant changes in student outcomes. One criticism of the questions regarding this factor of teacher efficacy is the negative wording (Coladarci & Fink, 1995; Guskey & Passaro, 1994). Most are worded in a “teachers can’t” connotation and are primarily focused on the external environment.

Personal teaching efficacy. Personal teaching efficacy (PTE) looks at a teacher’s beliefs about his/her personal responsibility and ability to impact the learning and behavior of students. While Gibson and Dembo based their questions to measure PTE on the original RAND item, “If I really try hard, I can get through to even the most difficult or unmotivated students,” one major difference in how their questions are worded stands out. While the RAND item addressed students as a collective, most of the questions on the TES used the wording ‘a student’ or ‘one of my students.’ This subtle difference has not appeared to confound the measurement of this factor. Additionally, while the questions pertaining to GTE are typically worded using a “teachers can’t” connotation, PTE is generally worded using “I can” statements. It has been hypothesized that the original teacher efficacy scales may not be valid measures since the scales may be confounded by the negative vs. positive wording and/or the use of teacher vs. I as a referent (Coladarci & Fink, 1995; Guskey & Passaro, 1994).

Teacher writing efficacy. Content specific efficacy, such as teacher writing efficacy, looks at a teacher’s perceived ability to teach students in a specific content area. In 2001, Graham and colleagues conducted a study to examine teacher efficacy in writing to ascertain if a scale could be developed to measure teachers’ perceptions of their ability to teach writing and examine teacher characteristics which may be predictive of teacher

efficacy scores for teaching writing.

Graham and colleagues (2001) conducted separate analyses for general and personal teaching efficacy. Teacher writing orientation was the only factor that improved the fit of the model for both general and personal teaching efficacy when entered into the first or last position of the regression model. The variability explained by this factor was 30% and 22% respectively. An interesting finding was that different factors of the Writing Orientation Scale (discussed below; Graham, Harris, MacArthur, & Fink, 2000) made unique and significant contributions; Natural Learning loaded on PTE and Writing Correct loaded on GTE. Graham and colleagues (2001) then evaluated the impact of teacher writing efficacy on classroom writing practices. While teachers with high PTE allotted more time for writing and taught writing processes and grammar and usage skills more often, the only statistically significant difference in classroom writing practices of teachers with high GTE scores was time spent writing.

Measurement. Following the powerful results found in the RAND studies, researchers sought to develop measurement scales that would capture teacher efficacy. In the early 1980's, two types of scales were developed; one followed Rotter's conceptual strand of locus of control theory and the other used Bandura's social cognitive learning theory. Two scales were built on the locus of control theory: Teacher Locus of Control (TLC) by Rose and Medway (1981) and Responsibility for Student Achievement (RSA) by Guskey (1981). Three scales were developed based on Bandura's work: the Webb Efficacy Scale, the Ashton Vignettes by Ashton, Webb, and Dooda (1982), and the Teacher Efficacy Scale (TES) by Gibson and Dembo (1984). Two additional scales were developed based on research results collected from studies using the TES: the Teacher

Sense of Efficacy (Tschannen-Moran & Woolfolk-Hoy, 2001) and Teacher Efficacy for Writing Scales (Graham et al., 2001). For the purpose of this paper, only the scales used in the study are discussed below.

Teacher Efficacy Scale. Influenced by the work of Bandura, Gibson and Dembo (1984) developed a new 30-item questionnaire, the Teacher Efficacy Scale. Their questionnaire was developed to validate the construct of teacher efficacy and distinguish it from other attributes of effective teachers. Classroom observations were also conducted to determine if there was a difference in how high and low efficacy teachers spent their time, the type of feedback or reinforcement they provided, and their persistence in a failure situation. Results corroborated previous research findings that teacher efficacy is a multidimensional factor conforming to Bandura's conceptualization of self-efficacy. They also found teacher efficacy could be discerned from other effective teacher practices and data from different approaches to measuring teacher efficacy converged around this construct. Data analysis revealed differences between high and low efficacy teachers, with high efficacy teachers exhibiting behaviors most closely associated with higher student achievement such as having a strong academic focus, spending less time on non-academic tasks, engaging students in small-group instruction, and providing useful feedback to students. During analysis, Gibson and Dembo discovered that only 16 of the 30 items on the Teacher Efficacy Scale load uniquely on one factor or the other (Gibson & Dembo, 1984). Finding similar results, several researchers have developed and used a shortened version of the Gibson and Dembo Teacher Efficacy Scale (Graham et al., 2001; Riggs & Enoch, 1990; Tschanne-Moran et al., 1998; Tschannen-Moran & Hoy, 2001). This seminal work in the area of teacher efficacy has led the way for similar

studies and the development of additional scales to acquire a deeper understanding of teacher efficacy and its potential impact on teachers and students.

Teacher Sense of Efficacy Scale. The Teacher Sense of Efficacy Scale by Tschannen-Moran and Woolfolk-Hoy (2001) was developed, refined, and tested for validity, reliability, and number of factors. Using Bandura's conceptualization of self-efficacy and sources of efficacy, 52 questions were developed to address three aspects of teaching tasks teachers must navigate on a daily basis: student engagement, classroom management, and instructional practices. The scale was developed and tested through a series of three studies. Across these studies, both pre-service and in-service teachers were asked to complete the scale to test if the scale was reliable and valid across both groups of teachers and if there was a difference in the factor structure for the two groups. Analysis across the three studies resulted in two forms of the scale, a long form that contains 24 items, and a short form consisting of 12 items. Tschannen-Moran and Woolfolk-Hoy also determined that the factor structure was divergent across the groups of teachers with a single factor for pre-service teachers and a three-factor model emerging for in-service teachers.

Teaching Efficacy Scale for Writing. Graham and colleagues (2001) developed the Teaching Efficacy Scale for Writing to measure teacher efficacy for teaching writing. To maximize the development of this new instrument, Graham and colleagues utilized the 16 questions that loaded independently on the Teaching Efficacy Scale (TES; Gibson & Dembo, 1984), which they reworded to be relevant to teaching writing at the elementary school level. Analysis of the data confirmed two factors, which was consistent with previous research on Teacher Efficacy. However, this scale while

reworded for writing may be confounded like the original TES by the use of different referents and negative wording.

Writing Orientation Scale. Teachers' Writing Orientation Scale, developed by Graham and colleagues (2000), is a 13-item questionnaire that measures three factors: Correct Writing, Explicit Instruction, and Natural Learning. Correct writing refers to the teacher's perception of the role of correctness in teaching writing. A teacher with a strong orientation towards correct writing places a higher value on correct grammar usage, correct spelling, and generating students who can produce good compositions in one draft. Explicit instruction refers to a teacher's tendency to provide explicit explanations and demonstrations and to have students practice repeatedly in order to adequately learn how to form letters, spell, and develop skills needed for writing. Natural learning refers to the view that the role of the teacher is less formal. In reference to writing, it is expected that students will learn the conventions of writing and grammar through practice and opportunities to respond to the writing of others. Teachers oriented towards natural learning tend to use more small groups and address specific needs of students as they surface rather than having a typical lesson on a grammar.

The Present Study

As noted earlier, the purpose of this study was to deepen the field's understanding of Teacher Efficacy (TE) by looking at previously unexplored teacher characteristics that may impact teacher efficacy or distinguish between teachers with high and low efficacy in the area of writing. Despite our knowledge concerning the value of high quality teachers in the academic success of students and the potential impact of teacher efficacy, many questions remain unanswered. As the literature review indicates,

there is need to determine if and/or how teacher preparation influences teachers' sense of efficacy and classroom practices and whether or not teacher efficacy is content and/or context specific. This research was guided by seven research questions.

Question one. Do elementary school teachers in grades 3 and 4 feel prepared to teach writing and what kinds of preparation for teaching writing are they receiving? While previous studies have asked teachers about their preparation in writing and teachers have indicated their coursework was not adequate preparation for teaching writing (Cutler & Graham, 2008; Gilbert & Graham, 2010; Kiuahara, Graham, & Hawken, 2009), these studies did not look at how well prepared teachers felt in other subject areas, the amount of preparation they have received, or the types of preparation they have pursued. In addition, teachers were asked how well prepared they feel to teach the common core writing genres: informative, narrative, and persuasive. With the new Common Core Standards being implemented in schools across the nation, it is important to learn whether or not our teachers feel prepared to teach the type of writing being required of students. It was hypothesized that teachers will not feel well prepared to teach writing. It was also expected that the majority of teachers will have received little to no instruction in teaching writing prior to entering the classroom and that teachers who have received additional training would have received training in utilizing a writer's workshop or writing process approach.

Question two. Do teachers in grades 3 and 4 engage in writing outside of school for purposes other than teaching and what are their attitudes towards writing? Teachers have not previously been asked about whether or not they engage in writing outside of school. However, given the complex and reciprocal nature of self-efficacy and its

development, it seems reasonable to expect that teacher efficacy for writing would be influenced by teachers' engagement in the writing process. It was hypothesized that the majority of teachers will report that they do not engage in writing activities outside of school for purposes other than teaching. In addition, it was expected that the majority of teachers would report neutral to slightly unfavorable attitudes towards writing.

Question three. What is the relation between teacher efficacy and teacher writing efficacy? While researches have asked teachers about their efficacy for teaching (Cantrell & Hughes, 2008; Guskey, 2002; Henson, 2002; Ross 1994; Smylie, 1990; Tschannen-Moran et al., 1998) or their efficacy for teaching writing (Gilbert & Graham 2010, Graham et al., 2000; 2001), the idea of differential efficacy dependent upon the content area has not been explored. It was hypothesized that teacher efficacy and teacher writing efficacy will be only be slightly correlated, indicating that the constructs are related but unique. Aligning with Bandura's social cognitive theory where efficacy is seen as context specific.

Question four. How do grade 3 and 4 teachers' beliefs about their writing affect teacher writing efficacy? While the interaction between teacher efficacy and student efficacy has been demonstrated through research, the interaction of teachers' sense of self-efficacy for writing and for teaching writing is missing in the literature. Teachers were asked about both their efficacy for writing and efficacy for teaching writing. It was hypothesized that teachers' beliefs about their ability to write will be related to their perception of their ability to teach writing. In addition, it was expected that teachers who have a higher efficacy for their own ability to write will have a stronger efficacy score representing their belief concerning their ability to teach writing. While this question has

not been asked previously, it is reasonable to believe that confidence in one's ability to write would translate into confidence in ability to teach others how to write.

Question five. Do teachers' preparation in writing, teachers' attitudes towards writing, and their beliefs about their ability to write make a unique and significant contribution to predicting teachers' teacher writing efficacy? Previous studies (e.g. Cutler & Graham 2008; Gilbert & Graham 2010; Kiuahara et al., 2009) have examined teachers' preparation and teachers' reported classroom practices, but teachers' attitudes towards writing, their beliefs about their ability to write and the impact of these variable on a teachers efficacy for teaching writing have not been explored in previous research. It was hypothesized that teachers' preparation for teaching writing, their attitudes towards writing and their beliefs concerning their ability to write would make a unique and significant contribution to predicting teachers' teacher writing efficacy, both independently and collectively.

Question six. Do teachers' preparation in writing instruction, orientation towards writing instruction, attitudes towards writing, teacher writing efficacy, and their beliefs about their writing make a unique and significant contribution to predicting teachers' reported use of evidence-based practices? While there has been research on teachers' reported use of classroom practices, research in classroom writing practices has yet to address is how teachers' preparation and perceived ability to teach writing impacts the instructional decisions teachers make. It was hypothesized, based on previous research concerning teachers' use of evidence-based practices (e.g. Cutler & Graham 2008; Gilbert & Graham 2010; Kiuahara et al., 2009), that teachers' preparation, orientation towards writing instruction, attitude towards writing, teacher writing efficacy, and beliefs

about their writing ability would make a unique and significant contribution to predicting teachers' reported use of evidence-based practices, both independently and collectively.

Question seven. How do teachers' attitudes towards writing, preparation for teaching writing, teacher efficacy, teachers' reported use of classroom practices, time spent teaching writing, time students spend writing, writing orientation, and liking to teach writing influence and predict teacher writing efficacy? The complex nature of efficacy complicates the development of a reliable and valid measure that captures all of the nuances and characteristics of teachers and their beliefs about their abilities to teach (Tschannen-Moran et al., 1998). Bandura asserted that efficacy could fluctuate from one situation to the next depending on the task and the perceived effort and risk. Research has also shown showing within-teacher variation is related to individual classes (Tschannen-Moran et al., 1998). Based on these theoretical assertions, it was hypothesized that teachers' attitudes towards writing, preparation for teaching writing, and liking to teach writing would result in a higher level of efficacy for teaching writing.

METHODS

In this section, the methods of the present study are presented. First, the participants and methods for locating and contacting participants are described. Then, the survey instrument and the measures in the survey are defined. Finally, the procedures used to pilot the survey, handle the administration of the survey and data, invite participants, and deliver the survey to participants are explained.

Participants

Participants were selected utilizing a random sampling procedure, stratified by grade level; to identify 1,000 third- and fourth-grade teachers in public elementary schools in the United States were identified. Names and contact information for potential participants were obtained from Market Data Retrieval (MDR), a database containing 362,144 third- and fourth-grade teachers in 65,439 elementary schools across the country. At each grade level, 500 teachers were randomly sampled from the MDR database (no other variables, such as geographic region, were used as part of the sampling procedure).

A sample size of 1,000 teachers was determined to be more than adequate for a population of 362,144 third- and fourth-grade teachers based on the conditions and guiding principles set forth by Dillman and colleagues (2009). The sample size was determined by selecting (a) a $\pm 5\%$ sampling error for the most restrictive questions (ones that requires a yes/no response), (b) a statistical confidence level set at 95%, and (c) a return rate of 30%. In addition to the parameters developed by Dillman and colleagues (2009) to determine the appropriate sample size, DeVellis' (2012) suggestions for determining sample size when developing a scale were also considered. The selected

sample size of 1000 third- and fourth-grade teachers met the recommendations from both a scale development perspective and the Tailored Design Method.

Prior to sending out the survey invitation, both school and district websites were checked to verify that teachers were still employed as third and fourth grade teachers and obtain their e-mail addresses. Teacher e-mail addresses were then entered into REDCap. The initial survey invitation was sent to 1,000 teachers, 500 at each grade level. Despite verifying e-mail addresses prior to sending out the invitation, three e-mails were returned as undeliverable. These teachers were not replaced due to the timing of the study and the larger than needed sample size, resulting in a final sample size of 997.

Survey Instrument

Teachers were asked to complete a questionnaire (see Appendix A) that provided information about themselves and the composition of their classrooms, as well as their efficacy for teaching, efficacy for teaching writing, preparation for teaching writing, classroom writing practices, and their attitudes about and perceptions of writing and teaching writing. Prior to developing the questionnaire for the present study, previous studies utilizing questionnaires were examined for total length to determine an acceptable length for the present questionnaire. Particular attention was given to the studies conducted by Graham and his colleagues, since the content covered was relevant to the present study (writing, efficacy for teaching writing, and use of evidenced-base classroom practices) and they experienced good response rates. The questionnaire in this study is somewhat shorter than the reviewed national surveys.

Section one: Teacher and student information. Teachers were asked to provide descriptive information on their gender, ethnicity, educational level, certification, grade

level, and number of years spent teaching. This section also asked teachers to report class size and students characteristics such as ethnicity, writing ability, special education services, and socioeconomic status (as determined by free and reduced lunch).

Section two: Teacher preparation. Questions asked teachers about their preparation for teaching writing both in and after college and how well prepared they feel to teach based on their pre-service preparation and inservice professional development. Participants were asked questions concerning the number of courses they took that focused partially on, or were devoted to, writing instruction; the type of inservice professional development they had received in writing; their perception of how well they are prepared to teach each of the five core subjects; and their assessment of the adequacy of their preparation. Additionally, teachers indicated if they had received professional development in a specific mode of writing instruction, including the National Writing Project, Writer's Workshop, Writing Strategies Instruction, and 6+1 Writing Traits.

Section three: Teacher Efficacy. Comprised of the short form of the Teacher Sense of Efficacy Scale (TSES: Tschannen-Moran & Hoy, 2001). This scale asks teachers to respond to 12 items using a 9-point Likert-type scale with anchors at 1 (*nothing/not at all*), 3 (*very little*), 5 (*some influence*), 7 (*quite a bit*), and 9 (*a great deal*). This efficacy scale asked teachers to report how capable they perceive themselves to be in regards to using instructional strategies, managing the classroom, and engaging students. This scale was selected based on the literature concerning teacher efficacy measurement issues and findings. Findings indicate this scale is conceptually sound (α 's are .81 to .86) and strongly correlates with the original RAND items ($r = .18$ and $.53$, $p < .01$) as well as Gibson and Dembo's TES instrument (PTE: $r = .64$, $p < .01$; GTE $r = .16$,

$p < .01$; Tschannen-Moran & Hoy, 2001). Additionally, this measure is a reasonable length and addresses a wider range of teaching tasks (Fives & Buehl, 2010, Tschannen-Moran & Hoy, 2001). Two changes were made to this scale to improve the flow and readability of the scale. First, question three and seven were switched and second, the stem on question nine was reworded to say *How much* instead of *To what extent*.

Section four: Teachers orientation towards writing instruction. Teachers were asked about their beliefs regarding how students should be taught writing and what they view as the most important aspects of teaching writing, using the 13- item Writing Orientation Scale (WOS; Graham et al., 2000). The Writing Orientation Scale consists of three factors, correct writing ($\alpha = .70$), explicit instruction ($\alpha = .64$), and natural learning ($\alpha = .60$) with generally low correlations ranging from .01 to .24 (Graham et al., 2001). With the exception of changing the word *copy* to *emulate* in the first question, no changes were made to this scale.

Section five: Classroom practices. These questions asked teachers about how often they engage students in common core genre writing activities, the types of techniques they use in teaching writing, and how much time their students spend engaged in writing activities on a weekly and monthly basis.

Section six: Teacher efficacy for writing. Graham and colleagues (2001) developed a scale to assess teachers' efficacy for teaching writing, the Teacher Efficacy Scale for Writing (TES-W). This scale originally contained 16 items based on the research findings on the Teacher Efficacy Scale developed by Gibson and Dembo (1984). This scale was validated by Graham and colleagues (2001, 2003) and consistent with previous research two factors were identified personal teaching efficacy ($\alpha = .84$) and

general teaching efficacy ($\alpha = .69$) which were slightly correlated ($r = .20$). The scale was reduced to 9 items by Gilbert in Graham (2010) based on research findings that indicated the validity of the general teaching efficacy scale was questionable and data may be confounded by multiple referents and negative wording. For the purpose of this study, the 9 item scale was used with the addition of one general teaching efficacy question which asked teachers to indicate the degree to which they agree with the statement *I am an effective writing teacher* using the same 6-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. An additional question was added to this scale to assess teachers' attitude towards teaching writing. Teachers were asked to use the same scale to respond to the following statement: *I like to teach writing*.

Section seven: Teacher attitudes towards writing. Teachers were asked to rate the degree to which they agree, ranging from *strongly disagree* to *strongly agree*, with a set of 6 statements related to their attitudes towards writing and their ability to write.

Procedures

Pilot. An informal field test was conducted with two teachers and two colleagues, to determine the amount of time required to complete the survey. Respondents were asked not to focus on evaluating the survey, but rather to take it and time how long it took them to complete the instrument. The four respondents reported completion times ranging from 15 to 25 minutes. Prior to sending out the survey, a formal field test was conducted. The purpose of the field test was to determine (a) if the questions and answer selections are clear and appropriate, (b) the amount of time it will take participants to complete the survey, (c) if any questions need to be added or eliminated, and (d) to ascertain which of two potential participation incentives (an mp3 credit from amazon or being entered into a

drawing for one of 10 amazon gift cards in the amount of 20 dollars) would be more motivating. Four third- and fourth grade teachers were asked to pilot the survey and answer questions about their experience with the survey instrument. Their feedback was used to determine needed changes in wording to clarify instructions and choices.

Analysis of their responses resulted in minimal changes in wording or answer choices for five questions and the decision to use a drawing for an amazon gift card as the incentive.

Administration. The survey instrument was administered online utilizing REDCap, a secure web-based application for building and managing online surveys and databases. By utilizing REDCap, participants were able to access the survey at their convenience and enter their answers directly into the database, reducing data entry error and eliminating the need to conduct data entry reliability checks. In addition, REDCap provided methods for contacting participants, scheduling follow-up contact, and tracking participant responses without sacrificing anonymity of participants. Additionally, using REDCap eliminated the need to file and store data in a physical location. Data is stored securely online, helping to insure security and privacy for participants.

Invitation. In accordance with the tailored design method (Dillman et al., 2009), the survey link included a personalized e-mail sent to participants describing the purpose of the survey (see Appendix B). While mailed surveys typically send out a postcard as a thank you and reminder one –week later and a follow-up letter with a second copy of the survey included approximately two –weeks after the initial mailing, online survey follow-ups can be done more quickly. Dillman and colleagues (2009) looked at return rates of a survey administered via mail and online to examine response rate patterns. They found that responses come in more quickly from web based surveys.

Delivery. While optimal timing sequences have not been established for surveys delivered online, they provide some insight regarding the time of day the e-mail is received and how quickly follow-up e-mails should be sent. Based on these recommendations, the initial e-mail (See Appendix B) for the survey was sent on a Wednesday at 7:00 a.m. central standard time (CST). A follow-up e-mail was sent one and two weeks later on a Thursday at 7:00 a.m. central standard time (CST; See Appendix C), and again at four weeks on a Thursday (See Appendix D). A final e-mail was sent out six weeks after the initial request (See Appendix E). E-mails were intentionally sent on Wednesday and Thursday at 7:00 a.m. central standard time (CST) for two reasons. First, Monday's and Friday's tend to be the most common days for schools to be out for a holiday or have scheduled field trips, sending e-mails on Wednesday and Thursday was selected in anticipation that there was an improved chance of reaching teachers on a day they were at school. Second, sending the e-mail at 7:00 a.m. central standard time (CST) was chosen to help insure the e-mail would arrive in teachers inbox early in the day to increase the likelihood that teachers could respond to the survey before school, during lunch, or during their planning time.

As teachers completed the survey, their name was removed from the participant list within the REDCap database. This served two purposes. First, once teachers' names were dropped from the participant list there was no direct means for identifying who completed the study. This helped to ensure anonymity of the teachers' responses, as there was no link between teachers e-mail addresses and their responses. Second, this provided a means to ensure that follow-up e-mails only went to the teachers' who had not yet responded to the questionnaire. Furthermore, teachers who were not interested in

participating had the option to opt out of the study and all future e-mail. Directions for opting out of the study were provided each time the survey was sent by e-mail. Teachers who chose to opt out (n= 10) were immediately removed from the participant list within the REDCap database.

RESULTS

Information on the participating teachers and their students is presented first. Responders and nonresponders were compared on eight variables: grade, district size, metro status, per pupil expenditure, number of students, number of classes, and the ethnic background of the student population. Following this is a discussion of the procedures used to deal with missing data resulting from incomplete survey responses. Next, teachers' preparedness to teach reading, math, science, social studies, and writing based on college education courses and post college training are discussed. Finally, the analyses used to answer each of the research questions are presented and discussed.

Participating Teachers and Their Students

Of the 997 teachers identified, 15.74 % (N=157) agreed to participate in the study. While this response rate was lower than expected, it was higher than the estimated return rate of 3% to 5% indicated by the MDR tip sheet (MDR Tips, 2013). The low response rate and its significance are discussed in the limitations section. Differences between responders and nonresponders in terms of grade taught, district size, metro status of school (i.e. urban, rural, suburban, or town), per pupil expenditure, number of students enrolled, number of classes in the school, and the ethnic background of the student population were analyzed (see Table 1). There were no statistically significant differences, providing evidence that the responders were representative of the sample as a whole, all p 's > .33, with the exception of metro status $\chi^2(4, N=997) = 9.16, p = .06$ and percentage of black students $F(1, 976) = .31, p = .11$. In addition the standard error of measurement was plus or minus .06. The geographical region of responding teachers was also examined to be sure no area was under or overrepresented. Analyses indicated no

difference between teachers' geographical region (Northeast = 18.4%, Midwest = 23.3%, South = 39.3%, and West = 19 %) compared to the distribution of the population based on the 2010 United States census data (17.9%, 21.7%, 37.1%, and 23.3% respectively).

TABLE 1
CHARACTERISTICS OF RESPONDERS AND NONRESPONDERS

Variable	Value	F	df	<i>p</i>
Grade	.57	-	1	.45
District size	5.72	-	5	.33
Metro status	9.16	-	4	.06
Per pupil expenditure	1.29	-	2	.53
School enrollment	-	.17	1, 995	.68
Number of classes	-	.66	1, 890	.42
Students on lunch program	-	.02	1, 995	.88
Ethnicity of students				
Asian	-	.36	1, 973	.55
Black	-	2.60	1, 976	.11
Hispanic	-	.25	1, 975	.62
White	-	.31	1, 976	.58
Other	-	.19	1, 976	.66

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

The majority of the teachers held advanced degrees, were certified in elementary education, and taught in Title 1 schools (see Table 2). Teachers reported having an average of 22.57 students, 43.32% of whom were minorities, 40.21% of whom received free and reduced lunch, and 13.52% of whom were receiving special education services. Teachers indicated an average of 16.49% above average writers, 35.75 average writers, and 46.93% below average writers. As a group, teachers taught for an average of 15.45 years and slightly agreed that they liked teaching writing ($M = 4.37$, $SD = 1.46$).

Although the survey participants were presented the questions sequentially on-line, some participants missed questions, resulting in missing data for some variables. Of the 157 teachers who responded to the survey, only 115 of them (11.53% of the original 997) completed the entire survey. The 42 partially completed surveys resulted in 129

missing items (1%). The missing data was examined and determined to be missing in an arbitrary pattern. To avoid losing the participants for some analyses due to attrition through listwise deletion, values for their missing data scores were imputed using the *mi impute chained (ologit)* procedure in STATA/SE 11. Missing data for some variables, such as ethnicity of free and reduced lunch, were not imputed. This resulted in a sample size that ranged from 115 to 157 for some analyses.

TABLE 2
TEACHER CHARACTERISTICS

	N	%		N	%
Education			Grade		
Bachelors	30	19	Third	74	47
Bachelors Plus	28	17	Fourth	69	44
Masters	47	30	Both	14	9
Masters Plus	52	33	Gender		
Doctorate	1	1	Female	146	94
Certification			Male	10	6
PK-K	22	14	Ethnicity		
K-12	15	10	Asian	2	1
Elementary	131	83	Black	10	7
Intermediate	14	9	Hispanic	10	7
Secondary	5	3	White	129	84
Special Education	10	6	Other	3	2
Teach in a Title 1 School	85	54	Teach Writing	154	98

Data Imputation

The *mi impute chained (ologit)* function employed a sequence of univariate imputation methods with fully conditional specification of prediction equations, which accommodates arbitrary missing-value patterns (StataCorp, 2009). The *ologit* option was specified because it uses an ordered logistic regression designed specifically to handle ordinal variables. The survey data imputed were considered to be on ordinal scales because the distance between options on the scale may not be equal. For example, the distance from *Moderately Agree* to *Strongly Agree* may not be the same as the distance from *Agree Slightly* to *Moderately Agree*.

Twenty-one imputations were created for each missing data point. Imputations created with *mi impute chained (ologit)* are meant to be used in conjunction with Stata's *mi estimate* function, which adjusts the coefficients and standard errors of the estimated models for the variability between imputation. However, a single data point was more desirable for estimating the statistics used in the analysis of this survey data. To obtain a single data point for the analyses, the mode of the twenty-one imputations was substituted for the missing values of each of the missing cases.

Convergence of the imputation model could not be achieved for all of the missing variables simultaneously using all available data from the survey. Therefore, missing data points were estimated separately for each section of the survey (e.g., self-efficacy sections, statement agreement sections, activity frequency sections). Data for specific variables were imputed using information from other variables within the same section and related sections, in addition to three variables that were used as constants across all imputations: a) teachers' *level of experience*, b) *grade level*, and c) *indicated level for overall teaching preparedness*. For example, data missing on questions related to *Self-Efficacy* for teaching specific writing tasks were imputed from other self-efficacy variables and the three constant variables. Similarly, missing data for opinion variables about *Activities that Constitutes Good Writing Instruction*, were imputed from other variables indicating opinions about writing instruction, as well as the three constants. Data for variables like ethnicity or free and reduced lunch status were not imputed.

The *mi impute chained (ologit)* runs running multiple independent chains based on Markov chain Monte Carlo (MCMC) methods. While the MCMC method assumes multivariate normality, the inferences made based on multiple imputations using MCMC

are robust if the amounts of missing data are not large (Yuan, 1990). In this case, the amount of missing data imputed ranged from .08% to 4.3% of the data for any single variable, and totaled less than 0.4% of the overall data.

Question One: Preparation to Teach

As a group, teachers reported feeling under prepared to teach writing based on their college preparation, with three out of every four teachers reporting they received minimal to no preparation in teaching writing in their college education courses. While one teacher reported taking no education courses, 33% reported taking one course with some writing instruction content, 35% took two or more courses containing some writing instruction content, 9% took a course on writing instruction, 8% took two or more courses on writing instruction, and 20% taught writing as part of their field experience. Based on their college courses, 76% of teachers reported feeling that they were unprepared or minimally prepared to teach writing (see Table 3).

A statistical comparison using one-way ANOVA with repeated measures was used to test within-teacher variance of preparedness based on content area. The critical alpha value was set using Bonferroni correction ($\alpha = .05/4 = .0125$). Teachers' reports of their level of preparedness for teaching based on their college course work indicate that there is statistically significant within-teacher variation for the level of preparedness to teach writing compared to Reading, Math, Science, and Social Studies (all p 's $<.001$; see Table 4).

TABLE 3
HOW PREPARED DO TEACHERS FEEL TO TEACH BASED ON COLLEGE COURSEWORK

Subject	Unprepared		Minimally Prepared		Adequately Prepared		Extensively Prepared		M	SD
	N	%	N	%	N	%	N	%		
Reading	3	2	45	33	74	52	20	14	1.78	.71
Math	2	1	29	20	82	58	29	20	1.97	.68
Science	6	4	59	42	66	47	11	8	1.58	.70
Social Studies	9	6	64	45	62	44	7	5	1.47	.69
Writing	21	15	86	61	30	21	5	4	1.13	.70
Informative Writing	28	20	90	63	19	13	5	4	1.01	.69
Narrative Writing	25	18	85	60	28	20	4	3	1.08	.70
Persuasive Writing	33	23	84	59	21	15	4	3	.97	.70
All Writing									1.05	.65

Note. All Writing is the average of all four writing questions

TABLE 4
WITHIN-TEACHERS COMPARISON OF PREPAREDNESS BASED ON COLLEGE COURSEWORK

Subject	F	df	<i>p</i>	ES
Reading	142.88	1, 141	.000***	1.07
Math	206.71	1,141	.000***	1.38
Science	68.00	1,141	.000***	.78
Social Studies	47.12	1,141	.000***	.63

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

Teachers were also asked about the preparation they received outside of college. They were asked about formal preparation provided through the school or district and informal opportunities pursued independently. In addition, teachers were asked about types of training on writing instruction they have participated in. The most common form of formal training teachers reported participating in was receiving assistance from other teachers (see Table 5). Informal training in writing instruction was reported with greater frequency. Teachers reported high rates of reading about writing instruction (87%) and

collaborating with teachers (88%; see Table 5). Responses to the types of additional training teachers received in writing instruction revealed 72% were trained in a process approach method, 72% were trained in writing strategies instruction, 54% were trained in 6+1 trait writing, and 12% received training through the National Writing Project.

TABLE 5
FREQUENCY OF FORMAL AND INFORMAL PREPARATION IN WRITING OUTSIDE OF COLLEGE

Experience	N	%
Assistance From Teachers	76	54
Coaching	39	28
1-3 Hours Inservice	19	13
4-8 Hours Inservice	33	23
9-16 Hours Inservice	36	25
17 or More Hours Inservice	40	28
Attend Conferences	68	48
Reading about Writing Instruction	123	87
On-line Assistance	58	41
Collaborate with Teachers	125	88
Other	12	9

When teachers were asked how well prepared they felt to teach writing based on all of their preparation to date, teachers felt more positive than they were in terms of their college preparation, with 78% reported feeling that they felt adequately or extensively prepared (see Table 6). A second one-way ANOVA with repeated measures was conducted to examine the within-teacher variation in preparedness based on content area. The critical alpha value was set using Bonferroni correction ($\alpha = .05/4 = .0125$). Teachers' reports of their level of preparedness for teaching based on all of their preparation to date indicate that there was statistically significant within-teacher variation for the level of preparedness to teach writing compared to Reading, Math, and Science (see Table 7). Within-teacher variation in preparedness between Writing and Social Studies was not statistically significant once the critical alpha value was adjusted based on the Bonferroni correction.

TABLE 6
HOW PREPARED DO TEACHERS FEEL TO TEACH READING, MATH, SCIENCE, SOCIAL STUDIES, AND WRITING BASED ON ALL PREPARATION TO DATE

Subject	Unprepared		Minimally Prepared		Adequately Prepared		Extensively Prepared		M	SD
	N	%	N	%	N	%	N	%		
Reading	0	0	5	4	65	46	71	50	3.47	.57
Math	0	0	4	3	64	45	73	52	3.49	.56
Science	1	1	15	11	91	65	34	24	3.12	.60
Social Studies	1	1	19	14	87	62	34	24	3.09	.63
Writing	1	1	30	21	70	50	40	28	3.06	.72
Informative Writing	1	1	40	28	69	49	31	22	2.92	.73
Narrative Writing	0	0	29	21	76	54	36	26	3.05	.68
Persuasive Writing	2	1	49	35	65	46	25	18	2.80	.74
All Writing									2.96	.65

Note. All Writing is the average of all four writing questions

TABLE 7
WITHIN-TEACHERS COMPARISON OF PREPAREDNESS FOR READING, MATH, SCIENCE, AND SOCIAL STUDIES COMPARED TO WRITING BASED ON ALL PREPARATION TO DATE

Subject	F	df	<i>p</i>	ES
Reading	69.11	1,140	.000***	.83
Math	75.62	1,140	.000***	.87
Science	6.82	1,140	.01*	.26
Social Studies	4.58	1,140	.03	.20

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

In order to test the within-teacher variation for how well teachers feel prepared to teach writing based on the type of preparation (college coursework, formal, or informal) they've participated in, a one-way ANOVA with repeated measures was conducted. The critical alpha was set using Bonferroni correction ($\alpha = .05/3 = .017$). Statistically significant within-teacher variation was found when college coursework was compared to formal inservice $F(1,141) = 79.63, p = .000$ and when college coursework was compared to informal training teachers pursued on their own $F(1, 141) = 84.60, p = .000$. Within-

teacher variation was not statistically significant for formal inservice compared to training teachers pursued on their own $F(1,141) = .21, p = .65$.

Question Two: Attitudes Towards Writing and Teaching Writing

As a group, teachers reported having slightly to moderately positive attitudes towards writing and teaching writing (see Table 8). On average, teachers agreed slightly with the statements *I frequently write outside of school for purposes other than teaching* ($M = 3.86, SD = 1.58$), *I write for relaxation, entertainment, or pleasure* ($M = 3.74, SD = 1.56$), *I enjoy writing* ($M = 4.45, SD = 1.31$), and *I like to teach writing* ($M = 4.37, SD = 1.46$). Teachers moderately agreed with the statements *I am a good writer* ($M = 4.90, SD = .93$), *enjoy learning about becoming a better writer* ($M = 4.58, SD = 1.25$), and *I use writing as a tool for learning* ($M = 4.94, SD = .93$).

Teacher writing orientation. An exploratory factor analysis was used to analyze the underlying factor structure of teachers' writing orientation to determine the number of constructs represented by the thirteen items on the WOS (see Table 9). An unconstrained principal factor analysis was run. Examination of the scree plot indicated a three-factor solution. The three factors accounted for 51% of the total test variance. Their respective eigenvalues were 3.16, 2.29, and 1.18. A forced three-factor solution with an oblique rotation, which allows the factors to correlate, was used. While item six loaded on two factors, it was not eliminated because it fit conceptually. The first factor labeled correct consisted four items ($\alpha = .70$), the second factor labeled explicit consisted five items ($\alpha = .61$), and the third factor labeled natural consisted four items ($\alpha = .68$). These results are similar to results found by Graham and colleagues (2002). Once the factor structure was determined, a Pearson's r correlation was used to test the relationship between the factors

(see Table 10). Correct teaching was statistically and significantly correlated with natural and explicit teaching, but the shared variance (5%) was small.

TABLE 8
FREQUENCIES, MEANS AND STANDARD DEVIATIONS FOR TEACHERS' ATTITUDES TOWARDS WRITING AND TEACHING WRITING

Items	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree	M	SD
I like to teach writing	7	8	13	25	33	29	4.36	1.46
I am a good writer	1	2	3	24	56	29	4.90	0.93
I write for relaxation, entertainment, or pleasure	14	14	17	28	27	15	3.74	1.56
I enjoy writing	4	7	12	29	36	27	4.45	1.31
I enjoy learning about becoming a better writer	1	8	12	29	32	33	4.58	1.25
I use writing as a tool for learning	0	2	5	26	47	35	4.94	0.93
I frequently write outside of school for purposes other than teaching	11	15	19	25	24	21	3.86	1.58

TABLE 9
ITEMS, FACTOR LOADINGS, MEANS AND STANDARD DEVIATIONS FOR WRITING ORIENTATION SCALE

Items	Writing Orientation Constructs			M	SD
	Correct	Explicit	Natural		
A good way to begin writing instruction is to have children emulate good models for each type of writing	.17	-.44	.14	5.00	1.14
Before children begin a writing task, teachers should remind them to use correct spelling	.75	-.02	-.14	3.04	1.51
Teachers should aim at producing writers who can write good compositions in one draft	.79	.07	.30	2.13	1.25
Being able to label words according to grammatical function (e.g., nouns, verbs) is useful in proficient writing	.53	-.16	-.22	3.71	1.41
Before they begin a writing task, children who speak a nonstandard dialect of English should be reminded to use correct English	.66	-.30	-.16	2.56	1.32
It is important for children to study words in order to learn their spelling	.36	-.39	-.27	3.87	1.39
Formal instruction in writing is necessary to insure the adequate development of all skills used in writing	.30	-.52	.10	5.05	.96
Children need to practice writing letters to learn how to form them correctly	.10	-.73	-.11	5.08	1.01
It is important to teach children strategies for planning and revising	-.30	-.81	.01	5.62	.68
Instead of regular grammar lessons, it is best to teach grammar when specific need for it emerges in a child's writing	.00	.08	.80	3.50	1.59
With practice in writing and responding to written messages, children will gradually learn the conventions of adult writing	-.03	-.08	.68	4.08	1.30
Students need to meet frequently in small groups to react and critique each other's writing	-.21	-.38	.50	4.59	1.03
The act of composing is more important than the written work children produce	.05	.02	.71	3.84	1.25

TABLE 10
CORRELATION FOR CORRECT, EXPLICIT, AND NATURAL WRITING ORIENTATIONS

Component	Correct	Explicit	Natural
Correct	1.00	-.23*	-.22*
Explicit		1.00	-.08
Natural			1.00

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

Teacher’s reported classroom practices. While a majority of teachers reported providing individual students with praise or positive reinforcement for some act of writing (n=67, 56.78%) at least several times a week or more often, fewer than half of the teachers reported using other evidence-based practices asked about with this degree of regularity (see Table 11). A majority of teachers reported teaching basic writing skills and planning strategies, providing students with written feedback, establishing specific goal or guidelines for students to follow in their writing, and having students engage in pre-writing activities at least weekly or more often. The majority of teachers reported that they have students write using word processing, write a narrative, write to inform, and write to persuade at least monthly or more.

In addition to the frequencies, means, and standard deviations, an exploratory factor analysis of teachers’ reported use of classroom practices was conducted. First, an unconstrained factor analysis with 18 of the original 21 items was run. Items about using writing to assess learning in other content areas, using writing as a way to improve learning in other content areas, and having students write about what they have read were excluded because theoretically they were not about teaching writing. Examination of a scree plot indicated a two-factor solution best fit the data. The two factors accounted for 47.7% of the total test variance. Their respective eigenvalues were 7.32 and 1.75. A forced two-factor solution with an

oblique rotation, which allows the factors to correlate, was used. Each of the 18 items were found to load on one of the two factors at .40 or higher. The first factor, labeled teaching writing, consisted of 14 items ($\alpha = .90$) and the second factor, labeled writing, consisted of 4 items ($\alpha = .80$).

Teachers reported teaching writing for about 1 ¼ hours per week ($M = 75.63$, $SD = 59.25$), and estimated that their students spent approximately 2 hours per week writing in the classroom ($M = 126.16$, $SD = 97.56$) and 32 min per week writing at home ($M = 32.03$, $SD = 30.90$). The most common response to the question, “*In an average month how many times do you give students writing assignments where they are expected to write more than a single paragraph?*” was 4 ($M = 5.50$, $SD = 5.7$). These results mirror those found by Gilbert and Graham in a survey of fourth thru sixth grade teachers (2010).

Table 11 Continued

TABLE 11

FACTOR LOADINGS, MEANS, STANDARD DEVIATIONS AND PERCENTAGES OF REPORTED USE OF SPECIFIC WRITING ACTIVITIES

Item	Constructs		Reported Use of Specific Activities								M	SD
	Teaching Writing	Writing	Never	Several Times/ Year	Monthly	Several Times/ Month	Weekly	Several Times/ Week	Daily	Several Times/ Day		
Provide individual students with praise or positive reinforcement for some aspect of writing	.54	.21	0	0	0	14	20	30	25	12	6.01	1.22
Teach students strategies for planning	.60	.09	0	3	4	22	19	28	22	2	5.36	1.37
Teach basic writing skills	.40	.37	2	6	4	13	25	25	21	3	5.31	1.56
Provide written feedback on students' papers	.48	-.12	0	1	9	20	29	22	17	3	5.24	1.31
Establish specific goals or guidelines for what students are to include in their written assignments	.68	.06	0	3	11	21	31	20	11	3	5.02	1.35
Teach students strategies to self-regulate the writing process	.75	-.05	3	6	13	22	20	24	12	0	4.70	1.56

Table 11 Continued

Item	Constructs		Reported Use of Specific Activities								M	SD
	Teaching Writing	Writing	Never	Several Times/ Year	Monthly	Several Times/ Month	Weekly	Several Times/ Week	Daily	Several Times/ Day		
Have students study and then imitate models of good writing	.68	-.10	3	12	15	18	26	16	10	1	4.45	1.61
Use classroom writing assessment data as a guide for shaping writing instruction in your classroom	.72	-.08	7	12	17	15	24	15	8	3	4.27	1.77
Teach students strategies for revising or editing their writing	.74	-.13	1	5	13	23	23	28	7	1	4.76	1.39
Teach students strategies for writing paragraphs	.74	.06	1	4	13	26	24	25	8	0	4.73	1.33
Teach students how different genres are structured and formed	.55	-.20	1	13	15	26	21	16	8	0	4.31	1.49
Have students complete a pre-writing activity	.56	-.15	1	3	7	25	32	26	6	1	4.91	1.21
Have students establish goals for their writing	.68	-.15	11	11	13	18	25	15	6	1	4.08	1.76

Table 11 Continued

Item	Constructs		Reported Use of Specific Activities								M	SD
	Teaching Writing	Writing	Never	Several Times/ Year	Monthly	Several Times/ Month	Weekly	Several Times/ Week	Daily	Several Times/ Day		
Have students work together to plan, draft, revise, and edit a paper	.52	-.23	4	9	16	25	20	19	5	2	4.32	1.58
Have students assess their own writing performance	.61	-.24	4	19	9	25	23	14	5	1	4.12	1.62
Have students write using word processing	.13	-.58	13	20	16	21	14	11	6	0	3.60	1.75
Have students write a narrative	.20	-.71	1	22	20	23	23	8	3	0	3.81	1.41
Have students write to inform	.16	-.79	2	24	21	25	16	11	2	0	3.70	1.41
Have students write to persuade	.30	-.74	5	34	24	20	13	4	1	0	3.17	1.32

Question Three: Teacher Efficacy and Teacher Writing Efficacy

To test the relationship between teacher efficacy and teacher writing efficacy and determine if they are separate and distinct constructs, a factor analysis of was conducted to determine if the teacher efficacy, teacher writing efficacy, and teacher attitudes scales were separable and reliable. First, an unconstrained factor analysis was conducted with the original twelve teacher efficacy items, ten teacher writing efficacy items, and six teachers' attitude towards writing items. Examination of the scree plot indicated a three- or four-factor solution best fit the data. The three factors accounted for 53.7% of total test variance. A forced three-factor solution was selected based on the eigenvalues dropping off following the third component and a three-factor solution was theoretically expected. Their respective eigenvalues were 8.66, 3.58, and 2.78. In the forced three-factor solution with oblique rotation, which allows the factors to correlate, one item from the teacher efficacy scale (item 5) did not load above .40 and one item from the teacher writing efficacy scale (item 9) loaded above .40 on two factors. As a result, these two items were eliminated and the forced three-factor solution was re-estimated (see Table 12). The first factor, labeled attitude, consisted of 6 items ($\alpha = .87$), the second factor, labeled efficacy, consisted of 11 items ($\alpha = .89$), and the third factor, labeled writing efficacy, consisted of 9 items ($\alpha = .89$).

The relationships of teacher efficacy and teacher writing efficacy and their relationship to teachers' attitude towards writing were examined (see Table 13). The Pearson's r correlation between teacher efficacy and teacher writing efficacy relationship was statistically significant ($r = .44$, $n = 116$, $p < .001$) and the shared variance was 19%. Overall, there was a small to moderate positive correlation between teacher efficacy and

teacher writing efficacy. It is reasonable that teacher efficacy and teacher writing efficacy would be somewhat correlated and share variance indicating a relationship between the variables since both factors pertain to teachers' beliefs about their ability to manage, motivate, and teach students. Correlations between teachers' attitudes towards writing and teacher writing efficacy and between teacher efficacy and teacher writing efficacy were statistically significant, but the shared variance (8%) between the factors was small.

TABLE 12
 FACTOR LOADINGS FOR EXPLORATORY FACTOR ANALYSIS WITH OBLIQUE 3 FACTOR SOLUTION
 ANALYSIS OF TEACHER SENSE OF EFFICACY, TEACHER WRITING EFFICACY, AND TEACHER
 ATTITUDES TOWARDS WRITING SCALES

Items	Motivation Constructs			M	SD
	Attitude	Efficacy	Writing Efficacy		
I am a good writer	.75	.11	.04	4.90	0.93
I write for relaxation, entertainment, or pleasure	.94	-.08	-.19	3.74	1.56
I enjoy writing	.87	-.09	.07	4.45	1.31
I enjoy learning about becoming a better writer	.65	.06	.21	4.58	1.25
I use writing as a tool for learning	.60	.21	.19	4.94	0.93
I frequently write outside of school for purposes other than teaching	.82	.09	-.09	3.86	1.58
How much can you do to control disruptive behavior in the classroom	-.09	.73	.10	7.76	1.32
How much can you do to motivate students who show low interest in school work	.002	.61	.14	6.96	1.44
How much can you do to get students to believe they can do well in school work	.07	.62	.27	7.59	1.31
How much can you do to help your students value learning	.20	.50	.30	7.30	1.43
How much can you do to get children to follow classroom rules	.04	.79	-.18	7.81	1.09
How much can you do to calm a student who is disruptive or noisy	.01	.81	-.16	7.51	1.30

Table 12 Continued

Items	Motivation Constructs			M	SD
	Attitude	Efficacy	Writing Efficacy		
How well can you establish a classroom management system with each group of students	.03	.82	-.17	7.94	1.15
How much can you use a variety of assessment strategies	.01	.56	.18	7.67	1.20
To what extent can you provide an alternative explanation or example when students are confused	-.02	.42	.20	7.87	1.06
How much can you assist families in helping children do well in school	-.10	.49	.16	6.58	1.50
How well can you implement alternative strategies in your classroom	.10	.72	.03	7.36	1.24
I am an effective writing teacher	-.01	.23	.60	4.35	1.17
When Students' writing performance improves, it is usually because I found better ways of teaching that student	.10	.03	.66	4.47	1.00
If a student did not remember what I taught in a previous writing lesson, I would know how to increase his/her retention in the next lesson	.20	.12	.63	4.36	0.90
If a student masters a new writing concept quickly, this is because I knew the necessary steps in teaching this concept	.18	-.01	.75	4.01	0.97
If I try really hard, I can help students with the most difficult writing problems	-.03	-.05	.72	4.25	1.22
When a student does better than usual in writing, it is because I exerted a little extra effort	-.02	-.25	.76	3.66	1.09
When a student is having difficulty with a writing assignment, I would have no trouble adjusting it to his/her level	.01	.08	.72	4.68	1.17
If one of my students could not do a writing assignment, I would be able to accurately assess whether the assignment was the correct level of difficulty	-.07	.25	.60	4.60	1.03
When students' writing performance improves, it is because I found more effective teaching approaches	-.05	-.03	.88	4.41	0.94

TABLE 13
 CORRELATION OF TEACHER EFFICACY, TEACHER WRITING EFFICACY, AND TEACHER ATTITUDE TOWARDS WRITING

Component	Attitude	Teacher Efficacy	Teacher Writing Efficacy
Attitude	1.00	.14	.25*
Teacher Efficacy		1.00	.32***
Teacher Writing Efficacy			1.00

Note. Attitude was the teachers' attitude toward writing.

- < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

Questions Four and Five: Predicting Teacher Writing Efficacy

A Pearson's r correlation was used to test the relationship between teachers' attitudes towards writing and teachers' attitudes towards teaching writing. The relationship was statistically significant ($r = .35$, $n = 115$, $p < .001$), but the shared variance (12%) was small. Overall, there was a small positive correlation between teachers' attitudes towards writing and teachers' attitudes towards teaching writing.

A linear regression analysis was conducted in order to determine if teachers' attitudes towards writing and teachers' attitudes towards teaching writing accounted for a statistically significant amount of variance in teacher writing efficacy (see Table 14). When all variables were entered into the regression formula, 38% of the variance in teacher writing efficacy was accounted for. Each factor was entered in the first position (first step of the regression analyses) and last position (last step of the regression analyses). In the first position, both teachers' attitudes towards writing and teachers' attitudes towards teaching writing accounted for a statistically significant amount of variance in teacher writing efficacy, but only teachers' attitude toward teaching writing (*I like to teach writing*) made a unique and statistically significant contribution to predicting teacher writing efficacy.

TABLE 14
DO TEACHERS ATTITUDES TOWARDS WRITING AND WRITING INSTRUCTION PREDICT WRITING EFFICACY

Constructs	Initial Entry of Construct				Construct Entered in Last Position		
	df	Simple R	F	<i>p</i>	R Squared Increment	F Change	<i>p</i>
Attitude	1,113	.31	11.5	.001**	.01	1.76	.19
Like	1,113	.62	70.83	.000***	.30	55.50	.000***

Note. Attitude was the teachers' attitude toward writing; Like was the teachers' attitude toward teaching writing. Overall percent of variance in Writing Efficacy accounted for by the predictors was 38%.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

The relationships between teachers' preparation for teaching writing, attitudes towards writing, attitudes towards teaching writing (*I lie to teach writing*), and teacher writing efficacy were tested (see Table 15). While the correlations between some factors were statistically significant, only the shared variance between preparation and attitude towards teaching and between attitude towards teaching and teacher writing efficacy were moderate (28% and 38% respectively).

TABLE 15
CORRELATION OF PREPARATION, TEACHER ATTITUDES, LIKE TO TEACH WRITING, AND TEACHER WRITING EFFICACY

	Like to Teach Writing	Preparation	Teacher Writing Efficacy
Attitudes	.35***	.15	.31***
Like to Teach Writing	1.00	.53***	.62***
Preparation		1.00	.42***

Note. Attitude was the teachers' attitude toward writing; Like was the teachers' attitude toward teaching writing; Preparation (to teach writing) was the average score for college preparation, formal preparation, and informal preparation.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

A linear regression analysis was conducted in order to determine if teachers' attitudes towards writing, teachers' attitudes towards teaching writing, and teachers preparation for teaching writing accounted for a statistically significant amount of variance in teacher writing efficacy (see Table 16). When all variables were entered into

the regression formula, 39% of the variance in teacher writing efficacy was accounted for. Each factor was entered in the first position (first step of the regression analyses) and last position (last step of the regression analyses). In the first position, all three variables accounted for a statistically significant amount of variance in teacher writing efficacy, but only teachers' attitude toward teaching writing (*I like to teach writing*) made a unique and statistically significant contribution to predicting teacher writing efficacy.

TABLE 16
DO TEACHER PREPARATION, ATTITUDES, AND LIKING TO TEACH WRITING PREDICT WRITING EFFICACY

Constructs	Initial Entry of Construct			Construct Entered in Last Position		
	Simple R	F <i>df</i> (1, 113)	<i>p</i>	R Squared Increment	F Change	<i>p</i>
Preparation	.42	23.45	.000***	.01	2.04	.16
Attitudes	.31	11.85	.001**	.01	1.96	.16
Like	.62	70.83	.000***	.17	32.02	.000***

Note. Preparation (to teach writing) was the average score for college, formal, and informal preparation; Attitude was the teachers' attitude toward writing; Like was the teachers' attitude toward teaching writing. Overall percent of variance in Writing Efficacy accounted for by the predictors was 39%.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

Question Six: Predicting Classroom Practices

The relationships between teachers' attitudes towards writing, attitudes towards teaching writing (*I like to teach writing*), orientation towards teaching writing, preparation for teaching writing, and writing efficacy were tested (see Table 17). While the correlations between some factors were statistically significant, only the shared variance between preparation and attitude towards teaching writing and between attitude towards teaching writing and teacher writing efficacy were moderate (28% and 38% respectively).

TABLE 17
CORRELATION BETWEEN PREDICTORS OF CLASSROOM WRITING PRACTICES

Construct	Attitude	Like	Orientation			Preparation	TWE
			Correct	Explicit	Natural		
Attitude	1.00	.35***	.09	.08	.19*	.15	.31***
Like		1.00	.05	.21*	.09	.53***	.62***
Orientation							
Correct			1.00	.41***	-.27**	-.001	.14
Explicit				1.00	.07	.15	.24**
Natural					1.00	-.04	.14
Preparation						1.00	.42***
TWE							1.00

Note. Attitude was the teachers' attitude toward writing; Like was the teachers' attitude toward teaching writing; Preparation (to teach writing) was the average score for college, formal, and informal preparation; TWE was Teacher Writing Efficacy.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

A linear regression analysis was conducted in order to determine if teachers' preparation to teach writing, orientation towards teaching writing, attitudes towards writing, attitudes towards teaching writing, and writing efficacy accounted for a statistically significant amount of variance in teachers' reported use of classroom practices for teaching writing (see Table 18). When all variables were entered into the regression formula, 29% of the variance in teacher writing efficacy was accounted for. Each of these factors was entered in the first position (first step of the regression analyses) and last position (last step of the regression analyses). In the first position, all five variables accounted for a statistically significant amount of variance in teachers' reported use of classroom practices for teaching writing, but only teachers' orientation for teaching writing and teacher writing efficacy made unique and statistically significant contributions to predicting teachers' reported use of classroom practices for teaching writing.

TABLE 18
PREDICTING EVIDENCE-BASED PRACTICES TEACHING WRITING

Constructs	Initial Entry of Construct				Construct Entered in Last Position		
	df	Simple R	F	<i>p</i>	R Squared Increment	F Change	<i>p</i>
Preparation	1, 113	.19	4.40	.04*	.001	.17	.68
Orientation	3, 111	.40	6.92	.000***	.07	3.62	.02*
Attitude	1, 113	.32	12.46	.001**	.01	1.39	.17
Like	1, 113	.42	23.52	.000***	.02	2.95	.08
Writing Efficacy	1, 113	.47	31.59	.000***	.04	5.99	.02*

Note. Preparation (to teach writing) was the average score for college preparation, formal preparation, and informal preparation; Orientation included three variables: correct, explicit, and natural teaching; Attitude was the teachers' attitude toward writing; Like was the teachers' attitude toward teaching writing. Overall percent of variance in Evidence Based Teaching Practices accounted for by the predictors was 29%.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

A linear regression analysis was conducted in order to determine if teachers' preparation to teach writing, orientation towards teaching writing, attitudes towards writing, attitudes towards teaching writing, and writing efficacy accounted for a statistically significant amount of variance in teachers' reported use of classroom writing practices (the types of practices teachers use to engage their students in writing in their classrooms: see Table 19). When all variables were entered into the regression formula, 12% of the variance in teacher writing efficacy was accounted for. Each of these factors was entered in the first position (first step of the regression analyses) and last position (last step of the regression analyses). In the first position, all five variables accounted for a statistically significant amount of variance in teachers' reported use of classroom practices for teaching writing, but none of them made unique contributions to predicting teachers' reported use of classroom practices for teaching writing.

TABLE 19
PREDICTING EVIDENCE-BASED WRITING PRACTICES

Constructs	Initial Entry of Construct				Construct Entered in Last Position		
	df	Simple R	F	<i>p</i>	R Squared Increment	F Change	<i>p</i>
Preparation	1, 113	.24	7.18	.008**	.02	2.82	.10
Orientation	3, 111	.23	2.07	.11	.05	2.18	.10
Attitude	1, 113	.26	8.16	.005**	.02	3.03	.08
Like	1, 113	.25	7.25	.008**	.001	.19	.67
Writing Efficacy	1, 113	.26	7.83	.006**	.01	.67	.41

Note. Preparation (to teach writing) was the average score for college preparation, formal preparation, and informal preparation; Orientation included three variables: correct, explicit, and natural teaching; Attitude was the teachers' attitude toward writing; Like was the teachers' attitude toward teaching writing. Overall percent of variance in Evidence-Based Writing Practices accounted for by the predictors was 12%.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

A linear regression analysis was conducted in order to determine if teachers' preparation to teach writing, orientation towards teaching writing, attitudes towards writing, attitudes towards teaching writing, and writing efficacy accounted for a statistically significant amount of variance in the amount of time teachers' reported spending on teaching writing (see Table 20). When all variables were entered into the regression formula, 11% of the variance in teacher writing efficacy was accounted for. Each of these factors was entered in the first position (first step of the regression analyses) and last position (last step of the regression analyses). In the first position, preparation for teaching writing and teachers attitude towards teaching writing accounted for a statistically significant amount of variance in the amount of time teachers reported spending on teaching writing, but only teachers' preparation for teaching writing made unique and statistically significant contributions to predicting the amount of time teachers reported spending on teaching writing.

TABLE 20
PREDICTING TIME REPORTED TEACHING WRITING

Constructs	Initial Entry of Construct				Construct Entered in Last Position		
	df	Simple R	F	<i>p</i>	R Squared Increment	F Change	<i>p</i>
Preparation	1, 112	.38	19.22	.000***	.07	9.42	.003**
Orientation	3, 110	.13	.58	.63	.01	.26	.86
Attitude	1, 112	.04	.14	.71	.002	.32	.57
Like	1, 112	.29	10.43	.002**	.02	1.97	.16
Writing Efficacy	1, 112	.16	2.99	.09	.01	.76	.38

Note. Preparation (to teach writing) was the average score for college preparation, formal preparation, and informal preparation; Orientation included three variables: correct, explicit, and natural teaching; Attitude was the teachers' attitude toward writing; Like was the teachers' attitude toward teaching writing. Overall percent of variance in Time Reported Teaching Writing accounted for by the predictors was 11%.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

A linear regression analysis was conducted in order to determine if teachers' preparation to teach writing, orientation towards teaching writing, attitudes towards writing, attitudes towards teaching writing, and writing efficacy accounted for a statistically significant amount of variance in the amount of time teachers' reported that students wrote at school and at home (see Table 21). When all variables were entered into the regression formula, 13% of the variance in teacher writing efficacy was accounted for. Each of these factors was entered in the first position (first step of the regression analyses) and last position (last step of the regression analyses). In the first position, Preparation for teaching writing and teachers' attitude towards teaching writing accounted for a statistically significant amount of variance in the amount of time teachers' reported that students wrote at school and at home. Only teachers' preparation for teaching writing made unique and statistically significant contributions to predicting the amount of time teachers' reported that students wrote at school and at home.

TABLE 21
PREDICTING TIME REPORTED WRITING AT SCHOOL AND HOME

Constructs	Initial Entry of Construct				Construct Entered in Last Position		
	df	Simple R	F	<i>p</i>	R Squared Increment	F Change	<i>p</i>
Preparation	1, 112	.35	15.92	.000***	.03	4.47	.04*
Orientation	3, 110	.12	.57	.63	.02	.70	.55
Attitude	1, 112	.05	.32	.57	.004	.47	.49
Like	1, 112	.36	16.81	.000***	.05	5.84	.02*
Writing Efficacy	1, 112	.20	4.60	.03*	.001	.13	.72

Note. Preparation (to teach writing) was the average score for college preparation, formal preparation, and informal preparation; Orientation included three variables: correct, explicit, and natural teaching; Attitude was the teachers' attitude toward writing; Like was the teachers' attitude toward teaching writing. Overall percent of variance in Time Reported Writing at School and Home accounted for by the predictors was 13%.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

Question Seven: Differences in Teacher Writing Efficacy

In order to examine if teachers' attitudes towards writing, attitudes towards teaching writing, classroom practices, preparation for teaching writing, teacher efficacy, and orientation towards writing instruction varied based on their teacher writing efficacy, two groups of teachers were formed. Teachers whose scores fell in the bottom quartile ($n = 35$, $M = 3.89$) were assigned to the low-efficacy group and those whose scores were in the upper quartile ($n = 29$, $M = 5.00$) were assigned to the high-efficacy group. A multivariate analysis of variance (MANOVA) was used to confirm that the low and high groups were different and revealed a statistically significant effect for teacher writing efficacy, Wilks' $\lambda = .303$, $F(11,52) = 10.87$, $p < .001$, $\eta^2 = .70$. Statistically significant differences between the low- and high teacher writing efficacy group were found for each predictor variable with the exception of the reported amount of time spent teaching writing and having a natural orientation towards teaching writing (see Table 22).

TABLE 22
BETWEEN TEACHER EFFECTS PREDICTING LOW- AND HIGH TEACHER WRITING EFFICACY

Variable Group	F	p	M (SD)		95% CI				ES
					LB		UB		
					Low	High	Low	High	
Attitude	20.82	.000***	3.98 (.91)	4.98 (.82)	3.69	4.66	4.28	5.31	1.00
EBP Teach Writing	40.65	.000***	4.02 (.78)	5.22 (.72)	3.77	4.94	4.28	5.50	1.25
EBP Writing	6.91	.01*	3.19 (1.10)	3.92 (1.11)	2.82	3.51	3.57	4.33	.63
Like	36.90	.000***	3.43 (1.38)	5.38 (1.15)	3.00	4.91	3.86	5.85	1.22
Preparation	22.00	.000***	2.65 (.48)	3.34 (.70)	2.45	3.13	2.85	3.56	1.02
Teacher Efficacy	29.88	.000***	6.89 (.88)	7.98 (.69)	6.62	7.68	7.16	8.27	1.14
Time Teaching	1.73	.19	65.14 (54.99)	84.88 (64.95)	44.97	62.72	85.31	107.04	.33
Time Writing Orientation	5.21	.03*	123.63 (74.60)	182.41 (128.55)	88.98	144.35	158.28	220.48	.56
Correct	4.84	.03*	2.66 (.89)	3.16 (.92)	2.35	2.82	2.96	3.49	.54
Explicit	11.17	.001**	4.67 (.67)	5.19 (.55)	4.46	4.96	4.88	5.42	.78
Natural	1.90	.17	3.82 (.74)	4.10 (.85)	3.56	3.80	4.09	4.39	.34

Note. CI = confidence interval; LB = lower bound; UB = upper bound. Attitude was the teachers' attitude toward writing; EBP Teach Writing was Evidence-Based Teaching Practices; EBP was Evidence-Based Writing Practices; Like was the teachers' attitude toward teaching writing; Preparation (to teach writing) was the average score for college, formal, and informal preparation; Time Teaching was teachers' reported time spent teaching writing weekly; Time Writing was the reported weekly time students spend writing at school and home; Orientation included three variables: correct, explicit, and natural teaching.

* < .05, two-tailed. ** < .01, two-tailed. *** < .001, two-tailed.

DISCUSSION

The present study examined teacher characteristics that may impact teacher efficacy or distinguish between teachers with high and low efficacy in the area of writing. Teacher efficacy impacts and reliably predicts both student outcomes and teacher behavior (Graham et al., 2001; Smylie, 1990; Tschannen-Moran et al., 1998). Because teachers play a key role in the academic success of students and teacher variables account for more variance in student achievement than other factors (Heck, 2009; Nye, Konstantopoulos, & Hedges, 2004) it is imperative that we develop an understanding of the factors that impact teachers' efficacy in order to develop better models for preparation and intervention. Preparation for teaching the writing genres required by the new Common Core Standards was explored as well. Because these new writing standards are being implemented across the United States, we need to know if our teachers are prepared to teach the required writing genres.

Question One: Preparation to Teach Writing

The importance of teachers in the achievement of students and the importance of their preparation to teach are not new issues. The Teaching Commission (2004) recognized this when they declared that teachers are the key to America's educational future and the National Writing Commission (2003) raised concerns that only a few states required courses in writing for certification, resulting in teachers typically receiving little preparation on how to teach writing. While a national survey of primary grade teachers by Cutler and Graham (2008) indicated 28% of teachers rated their college preparation as poor or inadequate, others have reported bleaker findings. In a national survey, 71 % of

high school teachers reported that they received minimal to no preparation in teaching writing during their college program and 48% indicated that their in-service preparation was also inadequate (Kiuahara et al., (2009). Gilbert and Graham (2010) reported 65% of grade 4-6 elementary teachers described their preparation for teaching writing in college as minimal to no preparation. When teachers considered their personal efforts and other training experiences, 80% reported they felt their preparation for teaching writing was adequate to extensive.

In the present study, 76% of third and fourth grade teachers reported feeling minimally to unprepared to teach writing based on their coursework in college. They also indicated feeling unprepared or minimally prepared to teach informative (83%), narrative (78%), and persuasive (82%) genres of writing required by the Common Core Standards. They reported feeling significantly less prepared to teach writing including all three of the genres required by Common Core, compared to reading (35%), math (21%), science (46%), and social studies (51%). Fortunately, they reported more positive feelings about their preparation to teach writing and each writing genre when they considered their post college preparation, both formal (e.g. inservice) and informal (e.g. collaborating with fellow teachers). While more teachers reported feeling adequately to extensively prepared to teach writing, informative, narrative, and persuasive (78%, 71%, 79%, and 64% respectively) their feelings of preparedness for teaching writing were still significantly lower when compared to teaching reading (96%), math (97%), and science (89%).

The findings of this study, like others (Cutler & Graham, 2008; Gilbert & Graham, 2010; Kiuahara et al., 2009) demonstrate that teacher education programs must evaluate and improve the ways in which they are preparing certification candidates,

particularly in writing. Additionally, while post college experiences significantly improved teachers' perceptions of their preparedness for teaching writing and the three genres required by Common Core, a sizable minority still felt minimally prepared to teach writing (22%), and the genres informative, narrative, and persuasive (29%, 21%, and 36% respectively), indicating there is still a need for concern and continued research into more effective teacher development.

Question Two: Attitudes Towards Writing and Teaching Writing

As a group, teachers in the present study reported having moderately positive attitudes towards writing, their ability to write, and teaching writing. They strongly to moderately disagree with the statement about engaging in writing for purposes other than teaching, indicating they do not engage in writing on their own for purposes other than schoolwork. On average, teachers reported moderately to strongly agreeing with statements aligned with an orientation towards explicit teaching practices and slightly agreeing to moderately disagreeing with statements that aligned with a model of teaching that focuses on correctness. In addition, as a group teachers slightly agreed with statements that align with a natural learning approach to teaching with the exception of, *students need to meet frequently in small groups to react and critique each other's writing*, which on average teachers reported strongly agreeing with. Graham and colleagues (2002) saw similar patterns in teacher responses and orientations towards writing.

The findings in the present study concerning teachers' classroom practices closely mirror those found by Gilbert and Graham (2010). On average, teachers reported that students received 15 minutes of instruction in writing daily and write an average of 30

minutes a day, of which approximately 24 minutes are in class. As was found in the Gilbert and Graham (2010) study, most teachers reported having students write assignments consisting of multiple paragraphs at least four times per month and 89% of the teachers reported using the evidence-based practices a minimum of several times a year. The practices teachers reported as using the most frequently were: *providing individual students with praise for an aspect of writing, teaching students strategies for planning, teaching basic writing skills, providing written feedback on students writing, and establishing specific goals or guidelines for students to use in their writing.*

As a group, teachers reported that the Common Core writing genre they assigned most frequently was narrative, with 34% of teachers reporting that they assign narrative at least weekly or more. Informative writing was reportedly assigned weekly or more often by 29% of the teachers and writing to persuade was reportedly assigned weekly or more often by 18% of the teachers. Given the focus of the Common Core Standards for writing on these three writing genres teachers will need to engage students in these types of writing activities on a more regular basis. Gilbert and Graham (2010) made similar recommendations, stating that teachers may argue that these types of assignments are too difficult, particularly for struggling learners, but there is considerable evidence that students as young as second grade can learn to write these types of text (Harris et al., 2012, Lane et al., 2011; Little et al., 2010).

Question Three: Teacher Efficacy and Teacher Writing Efficacy

As predicted, teachers' efficacy for their general teaching abilities, ability to teach writing, and attitudes towards teaching writing were correlated but only shared a small (8%) amount of variance. These three constructs are indeed separate constructs. This

finding is consistent with the reciprocal agentic perspective of efficacy espoused by Bandura's Social Cognitive Theory. It has been theorized that efficacy is best understood as multidirectional and derived from interrelated sources of information which are constantly being evaluated and re-evaluated to form an individual's degree of efficacy for the task at hand (Bandura, 2001; Buehl, 2003; Henson, 2002). Finding that these constructs are statistically significantly related, share a small degree of variance, and load as completely separable constructs provides preliminary evidence that teacher efficacy is content and context specific and should be explored as interrelated independent variables which impact teacher behaviors and student outcomes. Additional research needs to be done to replicate and test these results.

Questions Four and Five: Predicting Teacher Writing Efficacy

The relationships between teachers' preparation to teach writing and their attitudes towards writing and teaching writing were all statistically significant. The shared variance between these variables was small to negligible for all but two relationships. The shared variance between teachers' attitudes toward teaching writing and both preparation for teaching writing and teacher writing efficacy were moderate (28% and 38%, respectively). In the model which looked only at the predictive ability of teachers' attitudes towards writing and teaching writing, both factors accounted for a statistically significant amount of the variance in teacher writing efficacy, but only teachers' attitudes toward teaching writing made a unique contribution in predicting teacher writing efficacy. These results held true in the second model, in which teachers' preparation to teach writing was added; only teachers' attitude towards teaching writing made both significant and unique contributions in predicting teacher writing efficacy.

This may indicate changing teachers' attitudes towards teaching and the content area they are teaching could result in meaningful changes in teachers' efficacy for both teaching and teaching in specific content areas such as writing. This idea needs to be further explored and tested, but is worth investigating given the impact teacher efficacy has on teacher behaviors and student outcomes. One way to investigate the malleability of teachers' attitudes towards writing and teaching writing, as well as their teacher writing efficacy is to evaluate these constructs during an intervention in writing which includes professional development in writing. By studying if and/or how these constructs change over time with the introduction of professional development and an evidence-based writing intervention the field could begin developing a working theory of how to improve teacher efficacy which results in improved student outcomes.

Question Six: Predicting Classroom Practices

In testing the relations between teachers' attitudes toward writing and teaching writing, orientation towards writing instruction, preparation for teaching writing, and teacher writing efficacy some interesting findings emerged. Teacher writing efficacy was statistically and significantly related to each variable except correct and natural teaching orientations. Correct writing refers to the teacher's perception of the role of correctness in teaching writing. A teacher with a strong orientation towards correct writing places a higher value on correct grammar usage, correct spelling, and generating students who can produce good compositions in one draft. Natural learning refers to the view that the role of the teacher is less formal. In reference to writing, it is expected that students will learn the conventions of writing and grammar through practice and opportunities to respond to the writing of others. It was not surprising that correct and natural orientations towards

teaching would not be significantly related to teacher writing efficacy. Teachers with a bent towards both correct instruction and natural learning would naturally place more of the onus for learning on students. Therefore, it seems reasonable that being oriented towards correct writing or natural learning would not impact teachers' writing efficacy.

While correct writing was not associated with teachers' attitudes towards writing or teaching writing, natural orientation towards writing instruction was statistically and significantly related to teachers' attitudes towards writing. Results also indicated that teachers' orientation towards explicit teaching was statistically and significantly related to their attitude towards teaching writing, as was teachers' preparation for teaching writing. These results are not surprising; it is reasonable that teachers with more preparation might have an increased opinion of teaching writing and the importance of teaching writing.

Examination of the predictive properties of the variables revealed that teachers' orientation towards writing instruction and their attitude towards teaching writing were the only variables that made significant and unique contributions in predicting teachers' use of evidence-based classroom practices to teaching writing. Only one variable, teachers' orientation towards writing instruction, was not statistically significant in the first position of the regression analysis to predict teachers' use of evidenced-based classroom writing practices. However, none of the variables made a unique contribution towards predicting teachers' use of evidenced-based classroom writing practices. Two variables, teachers' preparation for and attitude towards teaching writing, accounted for statistically significant amounts of variance in the amount of time teachers reported spending on writing instruction and students spent writing in school and at home.

Teachers' preparation for teaching writing made significant and unique contributions in predicting both the amount of time students spent writing and teachers spent providing instruction in writing, but teachers' attitude towards teaching writing only made a significant and unique contribution in predicting the amount of time teachers reported that students spent writing. Perhaps teachers with a more positive attitude towards writing also feel writing is more important comparatively and therefore set aside more time for students to write. The idea of the value teachers place on writing instruction and having students spend time writing should be explored. Future studies should ask teachers their opinions about the importance of different aspects of the writing process and time students spend practicing different aspects of the writing process. These opinions could then be tested against their classroom practices and the amount of time they spend teaching and allot for students to practice each aspect of the writing process.

Question Seven: Differences in Teacher Writing Efficacy

An evaluation of the differences between teachers with a low or high sense of efficacy for teaching writing revealed a number of differences. As predicted, teachers with a higher sense of teacher writing efficacy reported higher rates of preparation for teaching writing and more positive attitudes towards writing and teaching writing. In addition, teachers with a higher sense of teacher writing efficacy reported having a higher sense of general teaching efficacy and reported more frequent use evidence-based classroom practices for teaching writing and engaging students in writing, including the amount of time students spend writing. Teachers with a higher sense of teacher writing efficacy also agreed more strongly with statements associated with having an orientation towards explicit and correct writing instruction. Teachers with a high sense of efficacy

did not report spending different amounts of time teaching writing or a different perspective on natural learning approaches compared to teachers with a lower sense of teacher writing efficacy. It is not surprising that teachers with a high or low sense of efficacy for teaching writing did not report different perspectives on natural learning. Natural learning did not statistically or significantly contribute to the prediction of teacher writing efficacy, which seems theoretically sound given that natural learning is fundamentally based on the idea that students learn to write on their own through participation in writing activities and observing the writing of others rather than the knowledge, effort, and methods of instruction used by the teacher. The fact that teachers with a higher sense of teacher writing efficacy spend similar amounts of time teaching writing compared to teachers with a lower sense of teacher writing efficacy is also not surprising. There may be couple of explanations for this: (a) highly efficacious teachers are more confident in their abilities to teach and do not feel they need much time devoted to instructing students in writing, or (b) teachers lack control over the limited amount of time they may use for writing instruction and are required to use the majority of their literacy block for reading. Future research should look at these possibilities to determine if and how teachers decide to divide their time between different content areas.

Limitations and Future Research

First, it is important to remember that this study was based on the responses of 157 teachers (16% of the teachers who were sent the survey). As a result, some caution must be exercised when interpreting and generalizing the findings from this investigation. Although there were no statistically significant differences between responders and nonresponders in terms of the eight different factors, it was possible that those who

completed the survey differed from those who did not in other ways. While a larger sample would have been preferred, the smaller than expected sample of 157 teachers had only a minimal impact on sampling error. This increased sampling error from the desired plus or minus 5% to 5.7% for the most common type of response (a six-point Likert scales for teachers' attitudes towards writing and teaching writing, orientation to writing instruction, and writing efficacy). Two possible factors could have contributed to this low response rate. First, the survey was administered in the spring, a very busy time of year for schools and teachers. It is possible that the survey was received by teachers close to the time their school participates in spring break and statewide testing, reducing their time availability for completing a survey. Second, this survey was administered online, which could have been easier for teachers to forget to complete the survey because they did not have papers in front of them to fill out. Future research should look at the time of year the survey is administered and the method of delivery.

Second, this study was based on two assumptions. First, teachers were aware of the elements of their teaching and were able to relate their teaching to the questions about how they taught. Second, teachers remembered all of the teacher preparation they participated in both in their college coursework and their post college experiences, whether received thru formal channels or pursued on their own. Findings concerning teachers' classroom practices need to be replicated as well as supplemented by research in which practices are observed. Findings concerning teachers' experiences with preparation for teaching writing also need to be replicated with the opportunity to follow up with teachers concerning their experiences.

Third, it must be acknowledged that teachers' survey responses may have been influenced by their susceptibility to respond in socially desirable ways (e.g., to falsely indicate that they were teaching in a certain manner or enjoy teaching writing because indicating otherwise would reflect poorly on them or their teaching). While this did not appear to be the case, as many of the evidence-based practices were reportedly used infrequently and as a group teachers' reported slightly agreeing with the statement "*I like to teach writing*", this possibility cannot be ruled out. Additional research that applies observational techniques to study teachers' classroom writing practices would help address this potential confound.

Finally, some potential relationships were not explored in this study, but may be of interest in future studies. Student characteristics were not entered as potential predictors for teacher efficacy or classroom practices. It is possible that the number and types of students teachers are working with impact their' efficacy and classroom writing practices. Relationships between teachers' engagement with writing for purposes other than school work should also be explored further. Further investigation into the impact of teachers' beliefs about their ability to write on their engagement in writing, classroom writing practices, and writing efficacy could also be informative in the development of teacher preparation and professional development programs.

Conclusions

Results of this study replicated previous findings concerning the preparation of teachers in the area of teaching writing. This study expands our understanding by looking at the comparative differences in how well prepared teachers feel for teaching writing compared to other content areas, and looks specifically at the genres required by

Common Core. As in previous studies, teachers do not feel prepared to teach writing based on their teacher education coursework. While their post college training significantly improves their perception of their preparedness to teach writing, a large number of teachers (22%) still report feeling only minimally prepared.

Improved teacher training for both preservice and in-service teachers is a continued need. It is imperative that the field looks at how teachers feel about their preparation across the content areas to address areas of weakness. The results of this survey demonstrate that teachers do not feel well prepared to teach after college, particularly in writing. In addition, teachers reported that they did not feel prepared to teach the writing genres which are focused on in the new common core standards. While teachers felt better prepared as a result of post-college professional development, a large percentage of teachers still did not feel well prepared to address the new common core standards in writing. Research examining how teachers are prepared in college needs to be conducted to develop methods of preparation that improve teachers' feelings of confidence and level of preparedness to teach. Research also needs to be conducted in professional development to examine the differences between training models and determine which methods result in changes in teachers' perceptions of their abilities and level of preparedness for teaching.

Results pertaining to teachers writing instruction replicated the findings of Gilbert and Graham (2010) and increased our understanding of the factors which influence teachers' classroom writing practices. Teachers reported moderately positive attitudes towards both writing and teaching writing, and as a group moderately agreed with the statement *I am a good writer*. Teachers' attitudes towards writing made significant and

unique contributions in predicting the classroom practices teachers used to teach writing and the amount of time students spent writing, while preparation for teaching writing made unique and significant contributions to predicting the amount of time teachers provided writing instruction and the amount of time students spent writing. Teachers' orientations towards writing instruction also made significant and unique contributions in predicting teachers' use of classroom practices, but none of the variables tested contributed significantly to our ability to predict teachers' practices in engaging students in writing. Additional research is needed in this area to help us understand what influences the ways in which teachers engage students in the writing process and the types of writing teachers assign to students.

One of the most important findings of this study, which furthers our understanding of teacher efficacy and teacher writing efficacy, is the separable nature of these constructs. The principal factor analyses indicate that these constructs are indeed separable constructs, providing preliminary evidence that these constructs are independent of each other and that measurement of efficacy should be content and context specific as suggested by Bandura's social cognitive theory. Furthermore, results indicated that teachers' beliefs in their own ability to write were related but separable constructs from teacher efficacy and teacher writing efficacy. This is important in developing a deeper understanding of efficacy and how this multidirectional construct impacts teachers' behavior and student outcomes. It is important to note that the only variable which significantly and uniquely contributed to the ability to predict teacher writing efficacy, was teachers' attitudes towards teaching writing. This finding needs to be further studied in future research to see if the findings are replicated and identify

factors that impact teachers' attitudes towards teaching writing which may influence teachers' efficacy for teaching and teaching writing and ultimately impact student outcomes in writing.

Significant differences were found between teachers with low- and high- efficacy for teaching writing. This is important given the impact of teacher efficacy in predicting positive teacher behaviors and student outcomes. Understanding and analyzing the differences between teachers with low- and high- efficacy for teaching writing could lead to improved preparation for teachers for teaching writing through both teacher certification programs and professional development.

In summary, additional research into how teacher preparation programs and professional development can improve teacher efficacy should be investigated. This study, which replicated a number of previous findings and expands our understanding of various variables impacting teachers' sense of efficacy and classroom practices, should be replicated to determine the validity of the new findings. Additional research in this area is also needed to test which factors contribute to teachers' attitudes towards writing and teaching writing and how they impact student outcomes. Future studies should also considering including observational measures and measure variables over time to determine if and/or how training and intervention result in change.

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APPENDIX A

A National Survey of Teachers' Preparation and Practices in Teaching Writing of Teachers in Grades 3 and 4

Thank you for your participation in this study. Your opinions are greatly appreciated. Please remember there are no right or wrong answers. We are interested in your opinion and your answers are completely anonymous.

Please answer the following questions about you and your students.

- Your highest level of education
- Bachelor's
 Bachelor's plus
 Master's
 Master's plus
 Doctorate
- Certifications held? (please check all that apply)
- PreK-K or PreK-3 PK-12
 K-6, 1-8, or 1-6 4-8, 6-9, or 7-8
 6-12 or 10-12 General Education
 Special Education
- Grade(s) you currently teach?
- 3rd grade
 4th grade
 Both
 Other
- Your gender
- Female
 Male
- Your ethnicity
- Asian
 Black
 Hispanic
 White
 Other
- How many years have you taught (including this year)? _____
- How many students are in your classroom? _____
- Do you teach writing?
- Yes
 No
- Is your school a Title 1 school?
- Yes
 No
 I don't know

Approximately what percentage of your students are:

- Asian? _____
- Black? _____
- Hispanic? _____
- White? _____
- Other Ethnicity? _____
- Receiving special education services? _____
- Receiving a free or reduced lunch? _____

Please answer the following questions about your preparation for teaching writing.

How much preparation in teaching writing did you receive in college?

- Not applicable, I took no teacher education courses
- None
- Minimal
- Adequate
- Extensive

In College, which of the following describe your preparation to teach writing? (check all that apply)

- 1 course which included some content on writing instruction
- 2 or more courses which included some content on writing instruction
- 1 course on writing instruction
- 2 or more courses on writing instruction
- taught writing as part of my field experiences

Based on your COLLEGE COURSEWORK completed before you began teaching, rate how well you were prepared to teach:

	Unprepared	Minimally prepared	Adequately prepared	Extensively prepared
Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informative writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrative writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persuasive writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much preparation in teaching writing have you received outside of college (e.g., assistance from another teacher, in-service preparation, and so forth)?

- None
- Minimal
- Adequate
- Extensive

What types of preparation in writing have you received outside of college? (Please check all that apply)

- Assistance from 1 or more teachers
- Coaching
- no coaching
- no in-service
- 1-3 hours of in-service
- 4-8 hours of in-service
- 9-16 hours of in-service
- 17 or more hours of in-service

How much preparation have you undertaken on your own to learn how to teach writing?

- None
- Minimal
- Adequate
- Extensive

What types of preparation in writing have you pursued? (Please check all that apply)

- Conference session
- Reading about effective writing instruction
- Online assistance
- Collaborating with a teacher
- Other
-

Please Specify: _____

Based on ALL OF YOUR PREPARATION to date, rate how well prepared you are to teach:

	Unprepared	Minimally prepared	Adequately prepared	Extensively prepared
Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informative writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrative writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Persuasive writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Math	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Science	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you received training in the following approaches to teaching writing?

	Yes	No
Whole Language/Writer's Workshop/Process Approach	<input type="checkbox"/>	<input type="checkbox"/>
Writing Strategies Instruction	<input type="checkbox"/>	<input type="checkbox"/>
6 + 1 Trait Writing	<input type="checkbox"/>	<input type="checkbox"/>
The National Writing Project	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>

Please Specify: _____

Approximately what percentage of your students are:

above average writers (writes 1 grade or more above current grade placement)? _____

below average writers (writes 1 grade or more below current grade placement)? _____

average writers (writes at grade level)? _____

For the following questions, please indicate your opinion about how much you can do:

	Nothing/ Not at all		Very Little		Some Influence		Quite a bit		A Great Deal
How much can you do to control disruptive behavior in the classroom?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much can you do to motivate students who show low interest in schoolwork?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much can you do to get students to believe they can do well in schoolwork?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much can you do to help your students value learning?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To what extent can you craft good questions for your students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much can you do to get children to follow classroom rules?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much can you do to calm a student who is disruptive or noisy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How well can you establish a classroom management system with each group of students?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much can you use a variety of assessment strategies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To what extent can you provide an alternative explanation or example when students are confused?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How much can you assist families in helping their children do well in school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How well can you implement alternative strategies in your classroom?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate the degree to which you agree or disagree with each statement below.

	Strongly Disagree	Moderately Disagree	Disagree Slightly	Agree Slightly	Moderately Agree	Strongly Agree
A good way to begin writing instruction is to have children emulate good models for each type of writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Before children begin a writing task, teachers should remind them to use correct spelling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teachers should aim at producing writers who can write good compositions in one draft.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to label words according to grammatical function (e.g., nouns, verbs) is useful in proficient writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Before they begin a writing task, children who speak a nonstandard dialect of English should be reminded to use correct English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important for children to study words in order to learn their spelling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Formal instruction in writing is necessary to insure the adequate development of all the skills used in writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Children need to practice writing letters to learn how to form them correctly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is important to teach children strategies for planning and revising.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Instead of regular grammar lessons, it is best to teach grammar when a specific need for it emerges in a child's writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
With practice in writing and responding to written messages, children will gradually learn the conventions of adult writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students need to meet frequently in small groups to react and critique each other's writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The act of composing is more important than the written work children produce.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How often do you:

	Never	Several Times a Year	Monthly	Several Times a Month	Weekly	Several Times a Week	Daily	Several Times a Day
teach students strategies for planning (with the goal of students using strategies independently)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students complete a pre-writing activity (e.g., read about the topic or complete a graphic organizer) before starting a writing assignment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
teach students strategies for writing paragraphs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
teach students strategies for revising or editing their writing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
teach students strategies to self-regulate the writing process?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
teach students how different genres are structured and formed (i.e. narrative, expository, or persuasive)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students study and then imitate models of good writing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
teach basic writing skills (handwriting, spelling, keyboarding, grammar, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students work together (collaborate) to plan, draft, revise and edit a paper?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
establish specific goals or guidelines for what students are to include in their written assignments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students establish goals for their writing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
use classroom writing assessment data as a guide for shaping writing instruction in your classroom?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
use writing to assess student learning of information of material from other topics?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students assess their own writing performance (e.g., with rubrics, checklists, or other assessments)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
provide written feedback on students' papers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
provide individual students with praise or positive reinforcement for some aspect of writing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students use writing as a tool for helping them learn content information in your class?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

have students to write using word processing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students write to persuade	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students write to inform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
have students write a narrative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ask students to write about what they have read?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

During an average week, how many minutes do:

your students spend writing in class? (This does not include instruction. It does include time spent, planning, drafting, revising, or editing text.) _____

you think students spend outside of class (home, study halls, etc.) completing writing assignments that you assigned? _____

you spend teaching writing (This only includes time where you directly teach writing skills, processes, or knowledge)? _____

During an average month:

how many times do you give students writing assignments where they are expected to write more than a single paragraph? _____

Please indicate the degree to which you agree or disagree with each statement below.

	Strongly Disagree	Moderately Disagree	Disagree Slightly	Agree Slightly	Moderately Agree	Strongly Agree
I am an effective writing teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When students' writing performance improves, it is usually because I found better ways of teaching that student.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If a student did not remember what I taught in a previous writing lesson, I would know how to increase his/her retention in the next lesson.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If a student masters a new writing concept quickly, this is because I knew the necessary steps in teaching this concept.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I try really hard, I can help students with the most difficult writing problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When a student does better than usual in writing, it is because I exerted a little extra effort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

When a student is having difficulty with a writing assignment, I would have no trouble adjusting it to his/her level.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If one of my students could not do a writing assignment, I would be able to accurately assess whether the assignment was the correct level of difficulty.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If a student becomes disruptive and noisy during writing time, I feel assured that I know some techniques to redirect him/her quickly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When students' writing performance improves, it is usually because I found more effective teaching approaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to teach writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please rate the degree to which you agree or disagree with each statement below

	Strongly Disagree	Moderately Disagree	Disagree Slightly	Agree Slightly	Moderately Agree	Strongly Agree
I am a good writer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I write for relaxation, entertainment, or pleasure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy learning about becoming a better writer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use writing as a tool for learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I frequently write outside of school for purposes other than teaching.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX B

A National Survey of Grade 3 and 4 Teachers' Preparation and Practices in Teaching Writing

Mary Brindle, Vanderbilt University
(817) 913-3205; E-mail: mary.e.story@vanderbilt.edu

Dear Colleague,

Writing is a demanding and complex task, which serves as an invaluable tool for skilled writers. Currently, there are a number of new demands being placed on teachers and students. The purpose of this survey is to determine how well teachers feel prepared to teach writing with all of the new demands in writing, and how teachers in grades 3 and 4 teach writing to their students. **I would like to ask you to complete the questionnaire, by clicking the enclosed survey link. Please complete the questionnaire in the next two weeks if possible.** There are no right or wrong answers to the questions. The results of this study will help identify ways we can work together to improve student-writing outcomes. Your feedback and opinions are important, and your time and effort are greatly appreciated. You should be able to complete the questionnaire in approximately 20 minutes. As a token of my appreciation and thank you for making time in your schedule, you will have the opportunity to enter your e-mail for a chance to win, 1 of 10, \$20 gift cards for Amazon.com.

Sincerely,

Mary Brindle, M.Ed.
Vanderbilt University

Your participation in this survey is entirely voluntary, and you may stop the survey at any time and for any reason. If you would There is no penalty or loss of benefit to which you are entitled if you decide not to participate or stop the survey. There are no costs to you or any other party.

Please note that neither your name nor your school's name will be used in any reports or presentations. All information collected in this study is completely confidential and anonymous. The survey link provided in this e-mail is unique and is used to remove your e-mail address from the list once you have completed the survey. Once the survey is completed, there is no way to identify who completed the survey. Your responses may be shared with Vanderbilt or the government, such as the Vanderbilt University Institutional Review Board, Federal Government Office for Human Research Protections. Vanderbilt may give your data without identifiers for

other research projects. There are no plans to pay you for the use or transfer of this de-identified information.

There are no foreseeable risks for participating in this research. There are no benefits to you as a participant other than to further knowledge about teachers' preparation for teaching writing and their knowledge, attitudes, and beliefs about writing instruction in the third and fourth grades.

This research is being conducted by Mary Brindle, Peabody School of Education, at Vanderbilt University. If you have any questions or to report a research-related problem you can contact Ms. Brindle at (817) 913-3205, or her faculty advisor Dr. Laurie Cutting at (615) 875-1054. You may also contact the Institutional Review Board at Vanderbilt University at (615) 322-2918 if you have questions or comments regarding your rights as a participant in the research.

Vanderbilt University has waived the signature requirement on this consent form. By completing the survey, you are agreeing to participate in the study. However, you can withdraw your consent to participate at any time by contacting Mary Brindle at (817) 913-3205; mary.e.story@vanderbilt.edu; or Mary Brindle, Vanderbilt University, Box 228 Peabody College, Nashville, TN 37023.

APPENDIX C

A National Survey of Grade 3 and 4 Teachers' Preparation and Practices in Teaching Writing

Mary Brindle, Vanderbilt University
(817) 913-3205; E-mail: mary.e.story@vanderbilt.edu

Dear Colleague,

We recently sent you an e-mail asking you to participate in a survey examining how well teachers feel prepared to teach writing, and how teachers in grades 3 and 4 teach writing to their students. Your responses to this survey are important and will help us understand the needs of teachers. We would like to encourage you to share your opinions by clicking on the survey link provided below. You should be able to complete the questionnaire in approximately 15-20 minutes. As a token of my appreciation and thank you for making time in your schedule, your e-mail address will be entered in a drawing; 60 teachers will win a \$20 Amazon.com gift card (winners will be notified in April).

Sincerely,

Mary Brindle, M.Ed.
Vanderbilt University

All information collected in this study is completely confidential and anonymous. Once the survey is completed, this survey system submits your response without your email address or any identifying information. Neither your name nor your school's name will be used in any reports or presentations. Your participation in this survey is entirely voluntary, and you may stop completing the survey at any time and for any reason. If you do not wish to receive any future e-mails about this survey, you may contact Ms. Brindle at mary.e.story@Vanderbilt.Edu to have your e-mail address removed from future mailings. There are minimal risks associated with participating in this research, as the email addresses of those who do and do not respond will be filed separately from the responses submitted. There are no benefits to you as a participant other than to further knowledge about teachers' preparation and beliefs about teaching writing. Your responses may be anonymously shared with Vanderbilt or the government, such as the Vanderbilt University Institutional Review Board or the Federal Government Office for Human Research Protections. Vanderbilt may allow access to this data without identifiers for other research projects. There is no remuneration for the use or transfer of this de-identified information.

This research is being conducted by Mary Brindle, Peabody School of Education, at Vanderbilt University. If you have any questions, want to or to report a research-related problem you can contact Ms. Brindle at (817) 913-3205, or her faculty advisor Dr. Laurie

Cutting at (615) 875-1054. You may also contact the Institutional Review Board at Vanderbilt University at (615) 322-2918 if you have questions or comments regarding your rights as a participant in the research. Vanderbilt University has waived the signature requirement on this consent form. By completing the survey, you are agreeing to participate in the study.

APPENDIX D

A National Survey of Grade 3 and 4 Teachers' Preparation and Practices in Teaching Writing

Mary Brindle, Vanderbilt University
(817) 913-3205; E-mail: mary.e.story@vanderbilt.edu

Dear Colleague,

We do not yet have enough responses to our survey on teaching writing to analyze the information– HELP! We are dedicated to helping improve professional development and writing instruction across the country, an area that has received far less attention than it needs. We know how busy you are and how valuable your time is. We are hoping that you can take just a few minutes to respond to our survey regarding preparation to teach writing, and how teachers in grades 3 and 4 currently teach writing. ***We must close this survey soon, and we would really appreciate your help. Please complete this survey by clicking on the survey link below (at the end of this e-mail).***

I still have nearly 60 Amazon gift cards to give away to respondents, each for \$20.00. Recipients are chosen randomly and their survey response is not identifiable in any way.

Sincerely,

Mary Brindle, M.Ed.
Vanderbilt University

All information collected in this study is completely confidential and anonymous. Once the survey is completed, this survey system submits your response without your email address or any identifying information. Neither your name nor your school's name will be used in any reports or presentations. Your participation in this survey is entirely voluntary, and you may stop completing the survey at any time and for any reason. If you do not wish to receive any future e-mails about this survey, you may contact Ms. Brindle at mary.e.story@Vanderbilt.Edu to have your e-mail address removed from future mailings. There are minimal risks associated with participating in this research, as the email addresses of those who do and do not respond will be filed separately from the responses submitted. There are no benefits to you as a participant other than to further knowledge about teachers' preparation and beliefs about teaching writing. Your responses may be anonymously shared with Vanderbilt or the government, such as the Vanderbilt University Institutional Review Board or the Federal Government Office for Human Research Protections. Vanderbilt may allow access to this data without identifiers

for other research projects. There is no remuneration for the use or transfer of this de-identified information.

This research is being conducted by Mary Brindle, Peabody School of Education, at Vanderbilt University. If you have any questions, want to or to report a research-related problem you can contact Ms. Brindle at (817) 913-3205, or her faculty advisor Dr. Laurie Cutting at (615) 875-1054. You may also contact the Institutional Review Board at Vanderbilt University at (615) 322-2918 if you have questions or comments regarding your rights as a participant in the research. Vanderbilt University has waived the signature requirement on this consent form. By completing the survey, you are agreeing to participate in the study.

APPENDIX E

A National Survey of Grade 3 and 4 Teachers' Preparation and Practices in Teaching Writing

*Mary Brindle, Vanderbilt University
(817) 913-3205; E-mail: mary.e.story@vanderbilt.edu*

Dear Colleague,

Last call – we must close this survey in 9 days. Please help us out, we do not yet have enough responses to our survey on teaching writing to analyze the information. We are dedicated to helping improve professional development and writing instruction across the country, an area that has received far less attention than it needs. We are hoping that you can take just a few minutes to respond to our survey regarding preparation to teach writing, and how teachers in grades 3 and 4 currently teach writing. ***We must close this survey soon, and we would really appreciate your help. Please complete this survey by clicking on the survey link below (at the end of this e-mail).***

I still have nearly 60 Amazon gift cards to give away to respondents, each for \$20.00. Recipients are chosen randomly and their survey response is not identifiable in any way.

Sincerely,

Mary Brindle, M.Ed.
Vanderbilt University

All information collected in this study is completely confidential and anonymous. Once the survey is completed, this survey system submits your response without your email address or any identifying information. Neither your name nor your school's name will be used in any reports or presentations. Your participation in this survey is entirely voluntary, and you may stop completing the survey at any time and for any reason. If you do not wish to receive any future e-mails about this survey, you may contact Ms. Brindle at mary.e.story@Vanderbilt.Edu to have your e-mail address removed from future mailings. There are minimal risks associated with participating in this research, as the email addresses of those who do and do not respond will be filed separately from the responses submitted. There are no benefits to you as a participant other than to further knowledge about teachers' preparation and beliefs about teaching writing. Your responses may be anonymously shared with Vanderbilt or the government, such as the Vanderbilt University Institutional Review Board or the Federal Government Office for Human Research Protections. Vanderbilt may allow access to this data without identifiers

for other research projects. There is no remuneration for the use or transfer of this de-identified information.

This research is being conducted by Mary Brindle, Peabody School of Education, at Vanderbilt University. If you have any questions, want to or to report a research-related problem you can contact Ms. Brindle at (817) 913-3205, or her faculty advisor Dr. Laurie Cutting at (615) 875-1054. You may also contact the Institutional Review Board at Vanderbilt University at (615) 322-2918 if you have questions or comments regarding your rights as a participant in the research. Vanderbilt University has waived the signature requirement on this consent form. By completing the survey, you are agreeing to participate in the study.