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Teacher Use and Perceptions of Writing Practices in West Virginia: Policy and Leadership Implications

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TEACHER USE AND PERCEPTIONS OF WRITING PRACTICES IN WEST VIRGINIA: POLICY AND LEADERSHIP IMPLICATIONS

A dissertation submitted to
the Graduate College of
Marshall University
In partial fulfillment of
the requirements for the degree of
Doctor of Education
in
Leadership Studies
by
Margaret Luma
Approved by
Dr. Ron Childress, Committee Chairperson
Dr. Bobbi Nicholson
Dr. Linda Palenchar

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APPROVAL OF DISSERTATION

We, the faculty supervising the work of **Margaret Luma**, affirm that the dissertation, **Teacher use and Perceptions of Writing Practices in West Virginia: Policy and Leadership Implications** meets the high academic standards for original scholarship and creative work established by the EdD Program in **Leadership Studies** and the College of Education and Professional Development. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.

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Dedication

This research is dedicated to my family. To my parents, who encouraged and supported my education from kindergarten through the post-graduate level. I would not be where I am today without the sacrifices you made to get me here. To my children, who I hope will recognize the power of education and appreciate the magnitude of hard work. And finally, to my husband, the one who urged me to move forward and prioritized all the things at home that I neglected throughout my research. Christopher Luma, you have allowed me to pursue and accomplish my dreams, and for that I will never be able to truly thank you enough.

Table of Contents

List of Tables

Abstract

National standardized test scores indicate West Virginia students perform below the national average in writing achievement, yet little research has been conducted to investigate how writing is being taught. Gaining understanding of the instructional strategies West Virginia teachers use to teach writing may provide insight for educational leaders about how to better support and prepare teachers for the complex task of teaching writing. Identifying challenges and barriers to implementing evidence-based practices may provide areas of focus for school and policy improvements as they relate to writing expectations. This study investigated the practices and perceptions of fourth-grade teachers in West Virginia using a three-part researcher-developed survey. The survey, emailed to all fourth-grade teachers (N= 1,302) in Fall 2021, was composed of demographic questions, questions asking teachers to report frequency of use and perception of effectiveness for 20 evidence-based writing strategies, and a qualitative item asking about the challenges and barriers to implementing the strategies. Results indicated West Virginia fourth-grade teachers provide positive reinforcement as a strategy for writing instruction most frequently and explicitly teach typing least frequently. Overall, statistically significant differences were not found among the demographic variables (class size and years of teaching experience). Responses to the open-ended item indicated fourth-grade teachers face many challenges in delivering evidence-based writing instruction. Teachers reported student abilities and the lack of prior knowledge as the most common barriers to implementing evidence-based writing strategies. The combination of quantitative and qualitative data from this study can guide local educational leaders in better supporting teachers and mitigating barriers teachers face when delivering writing instruction.

Chapter One: Introduction

In 2003, the National Commission on Writing named writing "the neglected 'R'" in U.S. schools. By neglecting writing instruction, the education system is doing a great disservice to students who will eventually be entering a workforce that continues to increase demands for written communication. Students who do not ultimately learn to write well in school are at a great disadvantage because weaker writers are less likely to use writing to extend their learning, more likely to see their grades suffer, less likely to attend college and complete a college degree, and more likely to face challenges in attaining successful employment and career promotions (National Commission on Writing, 2003, 2004). A study of recent high school graduates, college instructors, and employers found that written communication is one of the top 10 competencies employers seek for an effective 21st-century workforce, yet employers estimate 38% of high school graduates are inadequately prepared for the quality of writing that is expected and college instructors estimate that 50% of high school graduates are not prepared for the demands of college-level writing demands (Peter D. Hart Research Associates, Inc., 2005).

The neglect, however, is not due to a lack of evidence that certain approaches to writing instruction help students achieve significant gains in writing proficiency (Harris et al., 2006; Graham, Kiuhara, et al., 2015; Santangelo & Olinghouse, 2009). Even with a growing body of research that defines evidence-based practices for improving writing instruction, the National Center for Education Statistics (2012) reported there had been minimal improvement across the nation in writing, with just one-quarter of American students writing at a skill level considered proficient or above.

By the fourth grade, two out of every three children in the United States do not write well enough to meet classroom demands (U.S. Department of Education, 2003). In 2011, the

National Assessment of Educational Progress (NAEP) sampled eighth- and twelfth-grade student performance on the writing portion of the standardized assessment. The writing assessment results revealed that 24% of the eighth- and twelfth-grade students performed at the proficient level nationally. This low proficiency is alarming because post-secondary graduates with low writing competence are at a disadvantage entering the workforce. A 2004 survey of major American corporations made clear there is a demand for good writing and clear communication when hiring new employees and considering promotions (National Commission on Writing, 2004).

The shortage of current national fourth-grade student performance data on writing is especially alarming. The most recent fourth-grade writing scores reported on The Nation's Report Card through the National Assessment of Educational Progress are from 2002 (U.S. Department of Education, 2003). Fourth graders are assessed in mathematics and reading every other year via NAEP, while writing, along with other content areas, is administered less frequently. Teachers may interpret the infrequency with which students are assessed in writing on a national scale as a statement suggesting writing is less important than the subjects more regularly assessed.

Students attending West Virginia schools have been performing below the national average on writing achievement for many years. In 2002, the average scale score for fourth graders in West Virginia was 147, which was lower than the national average scale score of 153 (U.S. Department of Education, 2003). In 2007, the most recent year eighth-grade students were assessed in writing, the average scale score for eighth graders in West Virginia was 146, compared to the national average scale score of 154. Furthermore, the average scale score for

eighth-grade students in West Virginia was not significantly different from the average scores in 2002 (144) or 1998 (144) (U.S. Department of Education, 2003, 2008).

In West Virginia, students are assessed in writing every year beginning in third through eighth grade using the West Virginia General Summative Assessment (WVGSA) (West Virginia Department of Education, 2020b). WVGSA scores are reported to the public, however, they are conveyed in only two reporting categories: mathematics and English language arts (ELA). Although writing is one of the components used to measure overall ELA performance, it is not obviously reported as a standalone reporting category. In an era of high-stakes accountability, it is likely that writing instruction is neglected behind mathematics and reading instruction in classrooms due to the fact that it is not a publicized reporting category. Consequently, teachers may be more likely to focus instruction on mathematics and reading because these subjects have more publicly recognized statistics.

Becoming an effective writer is a developmental and complex process that takes considerable time and practice (International Reading Association, 2012). The focus on fourth grade in this study is relevant because students must begin receiving effective writing instruction at a young age before they advance to middle and high school when writing becomes more widely and routinely expected across content areas. The National Commission on Writing (2003) reported most elementary school students spend three hours or less per week on writing assignments. Graham et al. (2003) found similar results when they surveyed a random sample of primary grade teachers throughout the United States. Teachers reported their primary grade students spend slightly more than 35 minutes writing each day (Graham et al., 2003). The amount of instructional time dedicated to writing reported by elementary school teachers across the nation is significantly less than what the U.S. Department of Education recommends: a

minimum of one hour per day devoted to writing beginning as early as first grade (Graham, Bollinger, et al., 2012).

Limited research exists regarding writing instruction as implemented by elementary classroom teachers (Finlayson & McCrudden, 2020). Without sufficient data about what writing instruction looks like in schools, it is difficult to clearly determine what steps should be taken to improve writing performance. Understanding teacher-implemented writing instruction in elementary school settings is critical to supporting teachers when implementing evidence-based practices (Gilbert & Graham, 2010; Graham et al., 2003).

Understanding teacher perceptions about teaching writing and the barriers that may be prohibiting teachers from delivering effective writing instruction is a precondition to providing better support to teachers in their quest to prepare college- and career-ready individuals. Students attending West Virginia schools have historically scored below the national average on writing achievement and statistically significant improvements in writing achievement have not been made over the past two decades. Research needs to be conducted in West Virginia to determine how teachers deliver writing instruction to plan for relevant policies, administrative guidelines, professional development, and other supports needed to improve student performance.

Problem Statement

Students who do not write well struggle academically, have less than expected college attendance rates, and in adulthood, will be more likely to be considered less qualified for employment and promotion (National Commission on Writing, 2004). Available data indicate West Virginia's students perform below the national average in writing achievement. Addressing this deficiency requires initiating effective writing instruction in the early grades. Effectively teaching the writing process requires substantial teacher training, time, and commitment.

Teachers focus their efforts on ELA and mathematics instruction because of the emphasis on high-stakes summative testing, and they lack adequate preservice and in-service training in writing. Moreover, there has been no systematic assessment of how writing is taught in West Virginia's elementary schools. Given this context, this study aims to establish an initial database describing writing instruction in West Virginia's fourth-grade classrooms.

Research Questions

1. What instructional strategies are fourth-grade teachers in West Virginia using to teach writing?

2. What are the differences based on selected demographic/attribute variables, if any, in the instructional strategies used by fourth-grade teachers in teaching writing?

3. What instructional strategies do fourth-grade teachers perceive to be effective in teaching writing?

4. What are the differences based on selected demographic/attribute variables, if any, in fourth-grade teacher perceptions about the effectiveness of selected instructional strategies for teaching writing?

5. What do fourth-grade teachers perceive to be the major challenges/barriers to effectively teaching writing?

Operational Definitions

Instructional strategy use refers to how often the teacher reports teaching the strategy. The level of use is reported, using a five-point Likert scale, for each instructional strategy in section B of the researcher-developed *Implementation and Effectiveness of Instructional Strategies for Teaching Writing* survey (Appendix D).

Instructional strategy effectiveness refers to the extent to which the teacher believes the strategy improves student writing proficiency. The rate of effectiveness is reported, using a five-point Likert scale, for each of the instructional strategies named in section B of the researcher-developed *Implementation and Effectiveness of Instructional Strategies for Teaching Writing* survey (Appendix D).

Teaching experience refers to the self-reported number of years the respondent has taught in K-12 education. This variable was measured by item 2, Part A, on the researcher-developed *Implementation and Effectiveness of Instructional Strategies for Teaching Writing* survey (Appendix D). The respondents selected the best fit within the categories of less than one year, one year to less than five years, five years to less than 10 years, 10 years to less than 15 years, 15 years to less than 20 years, or 20 years or more.

Class size refers to the self-reported number of students on the teacher's fourth-grade roster in Fall 2021. This variable was measured by item 3, Part A, on the researcher-developed *Implementation and Effectiveness of Instructional Strategies for Teaching Writing* survey (Appendix D). The respondents selected the best fit within the categories of less than ten students, 10 students to less than 20 students, 20 students to less than 30 students, 30 students to less than 40 students, or 40 or more students.

Challenges/barriers refer to the self-reported response to an open-ended question in part C of the researcher-developed *Implementation and Effectiveness of Instructional Strategies for Teaching Writing* survey (Appendix D), describing the obstacles that stand in the way of providing writing instruction to students.

Delimitations

This study was limited to surveying fourth-grade teachers in West Virginia public schools. Fourth-grade specialists in subjects such as physical education, music, art, or mathematics were not included in the study population. Additionally, the list of instructional strategies was limited to those from the meta-analysis of writing instruction for students in elementary grades conducted by Graham, Kiuhara, et al. (2012), an analysis of the West Virginia College- and Career-Readiness Standards (2020), and an analysis of the relevant literature since the publication of the Graham, Kiuhara, et al. study in 2012.

Significance of the Study for Leadership Policy and Practice

The study explored ways in which educators in West Virginia teach writing to fourth-grade public school students. Findings about strategies being used and which strategies teachers believe to be effective will benefit teachers, administrators, professional development personnel, and other educational leaders by providing information that could lead to amendments in policy or professional development.

The results of the study have significant implications for education policy and leadership. If student writing performance in West Virginia is to improve, writing instruction must become a statewide priority. The primary purpose of this study is to identify teachers' experiences with delivering writing instruction. Policymakers can use the information reported by teachers to place an emphasis on implementing strategies that could facilitate improved student writing. The data may also interest state policymakers as they create requirements for instructional minutes, teacher preparation, and evaluation.

Teachers reported what challenges hinder their ability to deliver writing instruction effectively. Therefore, district leaders (e.g., superintendents and curriculum directors) may find

the data very useful when planning professional development for teachers and adopting English language arts instructional resources to include writing supplements. District leaders could use the available evidence to inform their decision-making. The study findings will also provide evidence of what resources teachers need to effectively teach writing.

Writing is a highly demanding and complex process requiring strong instructional support (Harris & Graham, 1996). The study explored the ways in which educators in West Virginia teach writing to fourth-grade public school students. Teaching the writing process takes a considerable amount of teacher time and commitment, and instructional strategies must be carefully selected given all the other content-area demands. Teachers must feel supported in selecting strategies that are the best use of their already thinly stretched time, especially because many teachers report feeling they had not received adequate preservice or in-service preparation in teaching writing (Harris, 2012). School leaders can help guide this work by understanding the barriers that impede successful writing implementation. Additionally, educational leaders providing professional learning opportunities should be not only aware of teacher concerns but also be familiar with what strategies teachers are using effectively to best encourage them.

Educational leaders, however, cannot support what they have not seen. There has been little research on elementary writing practices on a national scale and even less at the state level. The National Commission on Writing was founded in 2002 in an effort to focus national attention on the teaching and learning of writing. The commission, aided by an advisory panel of academic experts on writing, was composed of teachers, superintendents, and college and university presidents and chancellors with the responsibility to review research and provide policy guidance about the teaching of writing. In its report, the commission strongly urged teachers to increase children's time learning and practicing writing in all subjects and grade

levels. Without first knowing how much time and attention is dedicated to writing in West Virginia classrooms, it would be irresponsible to support teachers with the commission's findings alone. Leaders must first understand what is being done in classrooms to remedy the problem. This study features the writing practices of a sample of teachers in West Virginia, and the survey results can be used to echo the recommendations found in the literature.

Over the past decade, the number of West Virginia high school graduates who attended college decreased significantly from nearly 60% to only 52% (West Virginia Higher Education Policy Commission, 2020). Although there are several likely factors contributing to this decline in college attendance, it is hard to argue that public education should be doing as much as possible to ensure students have equitable learning opportunities in every curricular area to achieve desired postsecondary outcomes.

Chapter Two: Literature Review

Sources for this study offer insight into why it is necessary to bring attention to effective writing instruction in the classroom, provide evidence of successful instructional strategies for young writers, and illuminate the limited research on leadership in elementary writing instruction. Teachers of the fourth grade in West Virginia were surveyed about the instructional strategies they use and perceive to be effective. Options for the questionnaire were drawn from existing research that identifies evidence-based practices for writing (Graham, Bollinger, et al., 2012; Graham, Kiuhara, et al., 2012; Graham & Perin, 2007; Troia, 2014). The collection of literature reviewed suggests that the topic of writing instruction has been of interest to researchers and should continue to be studied in the United States.

Theoretical Frameworks for Writing

Like many trends in education, trends in approaches to writing instruction have competed in the eyes of educators and researchers regarding what is most appropriate to promote successful student writers. The two most common approaches to teaching writing can be summarized by having either a product focus or a process focus. However, the two theoretical frameworks, product and process, have been found to complement each other when elements of each of the frameworks are combined (Cutler & Graham, 2008; Graham, Bollinger, et al., 2012; Graham, Kiuhara, et al., 2012; Graham & Perin, 2007; Harris & Graham; 1996).

Advocates for the process approach for writing focus more on the steps involved in creating a piece and the iterative process of planning, drafting, and reflecting. It can be difficult to clearly define strategies that are considered to belong to the process approach for writing because "process" is a term that includes a wide range of practices (Hyland, 2003). Graham and Perin (2007) explained that process writing must involve the following elements: extended

opportunities for writing; writing for authentic audiences and purposes; emphasis on the cyclical nature of writing, including planning, translating, and revising; student ownership of written compositions; interactions around writing between peers as well as teacher and students; a supportive writing environment; and students' self-reflection and evaluation of their writing and the writing process. The writer needs to be able to draw on general principles of cognition and composing to express ideas as an active processor of information (Hyland, 2003). Educators who claim only to teach writing through a strict process approach might avoid direct instruction in grammar and syntax in an effort to facilitate individual cognition.

Currently, most teachers report using a process approach to teaching writing combined with some skills instruction (e.g., sentence construction) (Graham, 2019). However, there is much variability in the way teachers deliver this type of instruction. For example, Troia et al. (2011) studied the practices of six writing teachers in an urban elementary school who received intensive professional development in a writing workshop model that was reflective of the process approach to writing instruction (Calkins, 1986; Graves, 1994). The researchers used semi-structured interviews and classroom observations to collect qualitative data and three rating scales (theoretical orientations, teaching efficacy, and instructional practices) administered at the beginning and end of the school year. The participants taught the writing workshop model for 45 minutes per day, at least four days per week and as a group were observed using 70-89% of the 27 essential elements of writer's workshop that they learned during their immersion in high-quality professional development (e.g., extended writing time, teacher modeling and feedback, and guiding routines). The teachers held a "polytheoretic orientation toward writing instruction, positively endorsing both explicit instruction, and, to a lesser extent, incidental teaching methods, while devaluing the importance of correctness in students' writing" (Troia et al., 2011,

p.177). Although all six teachers held this balanced view of writing instruction regardless of their teaching experience, there was high variability in the way they delivered instruction within the workshop model. The teachers differed in the extent to which they explicitly taught the vocabulary associated with writing instruction, how they delivered feedback (punitive vs. positive or corrective) and how much they capitalized on self- or peer-management (e.g. goal setting, progress monitoring, self-evaluation). The results of this study suggest a singular view of writing instruction (one primarily defined by processes and the writing workshop model), even with immersion in high-quality professional development and support in that model, is unlikely. Teachers are more likely to combine elements of different theoretical orientations based on their beliefs, experience, and student characteristics (Troia et al., 2011).

A similar study conducted by McCarthey and Ro (2011) used observations and semi-structured interviews to determine the approaches to writing instruction of 29 third- and fourth-grade teachers from Illinois, Utah, Vermont, and West Virginia. The analyses supported what previous research suggested to be true: some teachers predominately used a process approach, some used a skills approach, but most used a "genre" approach more reflective of a hybrid approach where explicit instruction is delivered in the form of graphic organizers and focuses on the elements of the specific genre. Seven of the 29 teachers studied for this research were from West Virginia. Six of the seven West Virginia teachers demonstrated primarily using the genre approach where they explicitly taught narrative, expository, and descriptive genres with models and skills instruction. One West Virginia teacher primarily taught using a product approach and neglected teaching strategies relative to the process approach or writer's workshop (McCarthey & Ro, 2011).

Faigley (1986) presented three theories that underpin the process writing framework: the expressivist view, the cognitive view, and the social view. According to Faigley, expressivists value creative freedom and originality. Those who follow the cognitive view for writing emphasize the writer's ability to analyze their writing and the writing process. Those who view writing instruction from within the social view theory believe writing results from the learner's social situation. Followers of the social view focus on the audience to whom the student is writing.

Teachers who use the product approach to teach writing focus on formal accuracy and correctness at the sentence and paragraph levels. Nunan (2015) explains, "in a product-oriented classroom, learners spend much of their time studying and then imitating model texts provided by the teacher or the textbook." The theoretical foundation for the product approach to writing instruction is behaviorism; behaviorism assumes the learner is a passive participant in the learning process (Faigley, 1986). Product approaches to writing instruction depend on mentor texts that students can mimic. The product approach provides students with a controlled practice of features, including vocabulary, grammar, syntax, and other devices specific to a particular "product" or model of writing. Product-based approaches see writing primarily concerned with knowledge about language structure and develop writers using imitation techniques (Badger & White, 2000).

National studies of writing instruction have led to recommendations that bridge elements of both product and process frameworks. The authors of the What Works Clearinghouse Practice Guide published by the U.S. Department of Education and Institute of Education Sciences established four recommendations for elementary teachers of writing based on evidence from existing quality research. The practice guide recommends that teachers (1) provide daily time for

students to write, (2) teach students to use the writing process for a variety of purposes, (2a) teach students the writing process; (2b) teach students to write for a variety of purposes; (3) teach students to become fluent with handwriting, spelling, sentence construction, typing, and word processing; and (4) create an engaged community of writers (Graham, Bollinger, et al., 2012).

Hayes (2012) created a model of the writing process in adults that encompasses both product- and process-oriented approaches in its comprehensive three-tiered design. The control level includes factors such as motivation, goal setting, and writing schemas that direct the writing activity. The process level consists of the internal writing processes that the author must do (e.g., revise and edit), as well as the environmental factors that influence the writer (e.g., audience, task materials, transcribing technology). This model reflects much of the research related to writing instruction (Cutler & Graham, 2008; Graham, Bollinger, et al., 2012; Graham, Kiuhara, et al., 2012; Graham & Perin, 2007; Harris & Graham; 1996).

In 2000, the Hong Kong Education Bureau began to introduce significant writing curriculum reforms which required teachers to transform their instruction from the traditional product-based approach to a more process-based approach to student writing (Tse, S. & Hui, S. 2015). Prior to the curriculum reform mandated by the Education Bureau, writing lessons were "heavily influenced by traditional notions, and the practice of having students imitate classical texts was widespread in the hope that, eventually, the students would be able to produce texts with similar features on their own" (Tse, S. & Hui, S., 2015, p. 1017). Students had few opportunities to engage in authentic writing and were expected to write independently for the sole audience of the teacher. The new curriculum encouraged student-teacher and student-peer interactions during the writing process and required writing for a variety of purposes and audiences. Once the reform was put in place, researchers measured students' writing

performance and found a significant statistical difference in overall writing performance of the

students before (*m* = 9.00, *SD* = 1.68) and after (*m* = 13.50, *SD* = 2.33) the curriculum reform.

A central tenant of all the recommendations is that students learn by doing; students need

daily opportunities to practice writing skills that are explicitly taught and modeled and ample

time to think carefully and reflect on what to say and how to say it (Graham, Bollinger, et al.,

2012). Because writing is a complex task and puts multiple simultaneous demands on the writer,

teachers should help students to master the foundational skills of good writing (e.g., spelling,

sentence construction, etc.) so that students are able to reduce the cognitive load these

foundational skills require and be able to devote attention to the purpose, audience, and overall

composition of effective communication. Therefore, neglecting one theoretical framework over

another would be doing the student writer a disservice if the ultimate goal is to clearly and

effectively communicate across a variety of settings.

Some theorists identify writing as a socialized activity that involves multiple participants,

including students and teachers (Faigley, 1986; Graham, 2018). The writer(s)-within-community

(WWC) model created by Steve Graham defines a writing community as "a group of people who

share a basic set of goals and assumptions and use writing to achieve their purposes" (Graham,

2018, p. 259 This model is based on four tenants: (1) writing is simultaneously shaped by the

community in which it takes place and the cognitive capabilities and resources of community

members who create it; (2) writing is simultaneously shaped by the capacity of the writing

community and the capacities possessed by members of the community; (3) writing is

simultaneously shaped by variability within a writing community and individual differences in

the cognitive capabilities and resources of community members; and (4) writing development is

simultaneously shaped by participation in writing communities and individual changes in the

capabilities of community members, which interact with biological, neurological, physical, and environmental factors. According to the WWC model, the teacher's knowledge, preparedness, and beliefs about teaching writing and the capabilities of their students could predict how frequently teachers used various approaches to teaching writing (Graham, 2018).

Because writing is one of the most difficult skills English as a foreign language (EFL) students must master, many researchers are interested in studying how teaching writing through either the product or process approach can affect students learning to write in the English language (Sumarno, 2015). For example, Ghufron (2016) conducted experimental research involving two classes of 38 English as a Foreign Language students in Indonesia. This study aimed to examine the product approach's effectiveness compared to the process-genre approach to teaching writing. In this study, the process-genre approach is considered a hybrid approach, which includes knowledge of language, context, and purpose (genre), as well as skills in expressing ideas (process).

Students in the experimental class were taught using the process-genre approach, and students in the control class were taught using the product approach. After treatment, all students were administered a writing assessment. The data indicated that students who were taught using the process-genre approach had a mean score higher than that of the students who were taught using the product approach. Thus, the process-genre approach proved to be more effective in teaching students at this school to write than the product approach.

Mehr (2017) also studied the impact of product and process approaches on EFL students. This study was conducted in Iran and included 60 learners divided into one control group and two experimental groups. The control group received no treatment and the experimental groups received either product or process approach treatments. The researcher used a pre- and post-test

design to measure writing accuracy, fluency, and discourse markers across groups. A second set of pre- and post-tests were administered to measure participant attitudes toward writing.

The researcher found no statistically significant differences among groups' pre-test writing scores nor pre-test attitudes. However, results of ANOVA analysis of post-test scores revealed there were statistically significant differences observed in the post-test scores across all measures. Results of ANOVA analysis of participant attitude toward writing revealed there was also statistically significant differences in writers' attitudes across the three groups. The results indicated that the group that received the process-approach treatment outperformed the other groups in measures of accuracy, fluency, and discourse markers. The group that received the process-approach treatment also recorded more positive attitude toward writing skills.

Jouzdani et al. (2017) conducted a similar study to the Mehr (2017) research on the impact of product and process approaches on EFL students. Jouzdani et al. also studied Iranian EFL students with a quasi-experimental design. Their study compared the performance of the two experimental groups (process and product) after the differentiated interventions. The difference in this study was that the researchers implemented a "retrospective think-aloud" procedure where the participants shared their opinion on the type of writing instruction they received. Results indicated that although both interventions had positive results, the scores of the post-tests were significantly higher for participants who received process-approach interventions.

Kadmiry (2021) conducted a quasi-experimental study to observe the effects of process-approach and product-approach instruction for English as a foreign language (EFL) students in Morocco. Participants were divided into two groups: group A received product-approach instruction and group B received process-approach instruction. Both groups took an argumentative writing pre-test prior to the treatment. After three months of two hours per week

of either product-oriented (group A) or process-oriented (group B) instruction, the students took an argumentative writing post-test. The analysis of the data revealed that group B participants showed significant improvement in their argumentative pieces compared to group A participants. Additionally, the mean scores of group B final products were significantly higher than group A in general. The results were similar to previous research conducted with EFL students (Ghufran, 2016; Jouzdani et al., 2017; Mehr, 2017).

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Effective Instructional Strategies

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Effective writing skills are crucial for students to become successful communicators inside and outside of the classroom. Writing is a critical tool for students to convey thoughts and opinions, analyze and synthesize information, and describe details and events. Students are expected to write for varied purposes and audiences and the literature related to student writing performance points to many different types of instructional techniques to do the critically important work of improving student achievement in writing.

Graham, Kiuhara, et al. (2012) completed a comprehensive meta-analysis of experimental and quasi-experimental writing studies conducted with elementary-aged students. The researchers reviewed 424 documents and were able to find 115 studies that met inclusion and exclusion criteria. Studies considered had to be experimental or quasi-experimental and had to have taken place in elementary schools. The researchers were able to determine instructional practices that improve the quality of elementary students' writing using effect sizes. All of the studies that were coded for strategy instruction produced a positive effect and yielded a statistically significant average weighted effect size (ES) of 1.02. Other treatments that proved to be effective included self-regulation (ES = .50), teaching structure of text (ES =.59), teaching how to use visual images (ES =.70), transcription skills (ES =.55), involving students in

prewriting activities (ES =.54), peer collaboration (ES =.89), goal setting (ES =.76), word processing (ES =.30), increasing amount of time students write (ES =.30), assessment (ES =.42) and comprehensive writing programs (ES =.42). The only treatment that had a negative effect was teaching grammar (ES = -.41); one half of the effects of teaching grammar were negative, resulting in the negative average effect size (Graham, Kiuhara, et al., 2012).

Cutler and Graham (2008) surveyed a random sample of 178 primary grade teachers from across the United States about their instructional practices in writing. Using a questionnaire, the teachers reported using most of the instructional practices that the researchers listed. The responses became more varied when responding to the amount of time spent teaching writing. The researchers created seven recommendations for primary grade writing instruction based on the survey results: (a) increase amount of time students spend writing; (b) increase time spent writing expository text; (c) provide better balance between time spent writing, learning writing strategies, and teaching writing skills; (d) place more emphasis on fostering students' motivation for writing; (e) develop stronger connections for writing between home and school; (f) make computers a more integral part of the writing program; and (g) improve professional development for writing instruction in teacher education programs. This study is important because it examined the teaching of writing across the nation instead of focusing on a single school, district, or state.

Brindle et al. (2016) administered a national survey to a random sample of teachers in third and fourth grades to investigate their use of evidence-based writing practices, their efficacy to teach writing, their orientations to teach writing, their attitudes about teaching writing, and their attitudes about their own writing. To measure use of the 19 evidence-based practices, participants were asked to respond to an eight-point scale ranging from *never* to *several times*

per day. Responses from 157 teachers indicated teachers used a variety of evidence-based practices, but used them infrequently. The most common evidence-based writing practices teachers reported using were providing students with positive reinforcement ($m = 6.01$) and teaching strategies for planning ($m = 5.36$). However, teachers reported only spending 15 minutes per day teaching writing.

Sources that surveyed teachers on smaller scales also point to effective instructional strategies. Korth et al. (2017) used a case study design to qualitatively research instructional experiences of five primary grade teachers in Utah. The researchers were able to provide an in-depth analysis of the experiences of these teachers and to provide a deeper understanding of early writing instruction. Through semi-structured interviews, the researchers were able to discern common teaching practices and obstacles to writing instruction to include time, student abilities, and teacher abilities. This study built on the findings of a larger study conducted in Utah that surveyed 112 teachers of kindergarten through sixth grade that found teachers valued aspects of writing more than they reported using those same aspects (Simmerman et al., 2012). Billen (2010) observed and interviewed 177 elementary teachers to determine the instructional practices being used in eight suburban and rural districts in Utah. Elements of process and product instruction were observed, but in isolation. On average, teachers spent 21.3 minutes per day using process-oriented strategies, and 53.9 minutes on product-oriented strategies including spelling and handwriting (Billen, 2010). Although the findings of the study are not meant to be generalizable, it is worthwhile to be aware of current existing practices and barriers to writing instruction in different populations.

Self-regulated strategy development (SRSD) is one instructional model that has been applied to many studies of student writing performance, particularly with struggling student

writers and students with disabilities. The Institute of Education Sciences What Works

Clearinghouse defined SRSD as "an intervention designed to improve students' academic skills

through a six-step process that teaches students specific academic strategies and self-regulation

skills[...] The intervention begins with teacher direction and ends with students independently

applying the strategy, such as planning and organizing ideas before writing an essay" (U.S.

Department of Education, 2017, p. 1). Specifically, the six steps that compose SRSD include

providing background knowledge, discussing the strategy, modeling the strategy, helping the

student memorize the strategy, supporting the strategy, and then releasing the student to

independently practice the strategy (Harris et al., 2008; U.S. Department of Education, 2017).

SRSD was initially created in 1982 to meet the needs of students with learning difficulties,

including their challenges with the writing process and their attitudes about writing (Harris et al.,

2008).

  According to Troia and Graham (2003), struggling writers experience problems with

writing in part due to difficulties with executing and regulating the processes underlying

proficient composing. Planning and revising can be particularly challenging elements of the

writing process for students who experience difficulty learning to write. Compared with the work

of their more accomplished peers, texts written by struggling writers are shorter, incomplete,

poorly organized, and weaker in overall quality (Troia & Graham, 2003). These vulnerable

learners benefit from strategy instruction to manage skills related to self-regulation and elements

of the writing process.

  Lienemann et al., (2006) studied six second grade students at-risk for writing difficulties

to determine if SRSD instruction would result in improvements in the quality of story writing

and reading comprehension. Prior to the intervention, each student wrote three or more stories

which served as baseline data. Students were instructed individually until each child was able to independently write a story using five of the seven criteria taught in the intervention. After the intervention, all students demonstrated significant improvements to story quality. Quality scores for story writing increased by 113% to 277% based on number of story elements, number of words, and quality ratings using a seven-point holistic scale. Four of the six students showed improvements on a reading task as well. This study demonstrated that explicitly teaching struggling writers strategies for planning and writing narrative texts (e.g. using mnemonic devices to remember process for planning and drafting) while fostering self-regulation (e.g. using self-talk for motivation) had a strong impact on writing narratives for these students, and moderate impact on reading comprehension. The results of this study are reflective of others relative to writing performance (Lienemann & Reid, 2008; Troia & Graham, 2003).

Lienemann and Reid (2008) studied the effects of self-regulated strategy instruction with four students diagnosed with attention deficit hyperactivity disorder (ADHD). The four students involved in the study were identified as having difficulties writing opinion pieces. The students were given memory aids (i.e. mnemonics and graphic organizers) to remember to use planning strategies to select a topic, organize their notes, and write a plan that included a topic sentence, details, and a conclusion. Using a pre-test, intervention, maintenance, and post-test model, the researchers scored each independent writing sample for number of words and overall quality. The post-tests indicated an average increase of 440% for number of words and an overall increase in quality. It was determined that after the intervention, all students wrote longer, higher quality essays (Lienemann & Reid, 2008). These findings support what previous research also found; strategy instruction using the SRSD model significantly improves writing achievement of students with ADHD (Harris et al., 2006; Lienemann et al., 2006; Reid & Lienemann, 2006). It is

also reflective of a meta-analysis conducted by Sanders et al. (2019) that found SRSD used as a reading comprehension intervention is effective for students with disabilities.

Writing instruction may receive less attention in elementary schools because there is a strong emphasis on accountability for mathematics and reading. However, there is evidence that increasing the amount of instruction and the amount of time students spend writing has positive effects on achievement in other subjects (Graham & Hebert, 2011; Graham & Perin, 2007). Graham and Hebert (2011) conducted a meta-analysis on the impact of writing and writing instruction on reading. Ninety-five studies met inclusion criteria and were coded to answer three questions: (1) does writing about material read enhance students' comprehension of text? (2) does writing skills instruction strengthen students' reading skills? (3) does increasing how much students write improve how well they read? The researchers found that writing about material read enhances reading comprehension and the effect was statistically significant (ES = .50). Additionally, all studies relative to question 2 produced a positive effect size. The strategies that had the most significant effect on reading included process writing, text structure, and paragraph/sentence construction. Finally, the researchers found that increasing writing improves reading comprehension as all nine studies relative to question 3 produced positive effect sizes. It is clear why the National Commission on Writing (2003) recommended "that state and local education agencies work with writing specialists to develop strategies for increasing the amount of time students spend writing" (National Commission on Writing, 2003, p.31). By doing so not only increases writing proficiency, but also increases proficiency in other content areas (Graham & Hebert, 2011).

Class Size and Instruction

The ideal class size for US public schools is a century-long debate (Chingos, 2012; Glass & Smith, 1979). Although class size has been frequently studied as a trait relative to student performance in general, little attention has been directed at studying class size in relationship to writing instruction. The following studies describe what is known about reducing class size relative to general student achievement.

Reduced class size can potentially affect a teacher's instructional decisions and the individualization students receive. Teachers support smaller classes (Chingos, 2012), and most people would agree that it makes sense that smaller class sizes would result in individualized instruction and therefore more opportunities for improved learning. However, research related to class size conducted over the past three decades has produced mixed results (Chingos & Whitehurst, 2011; Funkhouser, 2009; Hoxby, 2000; Zahorik, 1999). One of the most influential studies of class size reduction is the Student Teacher Achievement Ratio (STAR), which was conducted in Tennessee beginning in 1985. In this study, students in kindergarten through third grade were randomly assigned to small classes (13 to 17 students), regular size classes (22 to 25 students), or regular size with a teacher's aide. Results from this initial study indicated that small class sizes (13-17 students) significantly increased student achievement scores compared to regular size classes and regular size classes with a teacher's aide. The gains made in kindergarten for the students in small classes were maintained through third grade and were greatest for students in the inner-city. Further longitudinal investigation into Tennessee's class-size experiment tracked the same students from fourth through seventh grade as they returned to normal size classes. The results of this secondary study showed that students who attended small classes for three or more years were less frequently retained, had higher graduation rates, and

continued to outscore peers from larger classes. These results were particularly true for students from low-income areas (Education Commission of the States, 2005; Finn et al., 2005). Later, Krueger and Whitmore (2001) continued to track the progress of the STAR participants to measure the long-term impact of class size reduction on college-entrance exam data. The researchers found that students assigned to a small class were more likely to take the ACT or SAT exam than those assigned to a regular class. Forty-seven percent of students assigned to the small class in elementary school later took either the ACT or SAT, whereas 40% of those assigned to a regular class took one of the exams prior to college. Scores on the exams were also compared. However, the researchers found insignificant differences between small- and regular-size class students in the average scores among those who took one of the exams (Krueger & Whitmore, 2001).

Small classes and the type of individualization used were also topics of study in the Student Achievement Guarantee in Education (SAGE) program initiated in 1996 in 80 Wisconsin public schools (Dokumaci et al., 2015). The program provided resources for schools that enrolled children from poor families in reduced class sizes; the classrooms were reduced to a 15:1 student-teacher ratio in kindergarten through third grade. Analyses of SAGE achievement test results suggested that, overall, first grade achievement gains were significantly higher for SAGE students than for comparison school students. SAGE students appeared to retain this advantage in second and third grades (Dokumaci et al., 2015; Zahorik, 1999).

California was another state that committed to classroom size reduction as part of the state's elementary school reform. Legislators devoted nearly $800 million toward classroom size reduction at the K-3 level during the 1996-1997 school year (Funkhouser, 2009). California schools were required to implement classroom size reduction in first and second grades before

either kindergarten or third grade. An investigation into the effects of this legislation compared second grade outcomes for school entry cohorts that were enrolled in a school with classroom size reduction in kindergarten with those that did not. Results indicated a very small effect of classroom size reduction on student achievement in reading and math, and no effect in language and spelling. Although classroom size had a small positive effect on test scores, researchers pointed out that the largest sources of variation in scores were from student demographic and economic characteristics. The second largest effect was from teacher characteristics and quality. Class size had very small effect relative to the other variables contributing to student achievement (Funkhouser, 2009). Jepsen and Rivkin (2009) pointed out that the increase in the share of teachers in order to meet the needs of smaller student to teacher ratio weakened the benefits of smaller classes because the newly hired teachers often lacked experience or full certification. This was especially the case in schools with high shares of minority students or students from low socioeconomic backgrounds.

However, Hoxby's (2000) investigation of elementary class size variation in Connecticut found no evidence of class size effects on student achievement. Hoxby studied the natural variation in class size due to random variation in births and parental choice in school and district catchment areas. The author claimed this method had an advantage over experimental studies (e.g. STAR and SAGE) because the participants in the natural variation study were not aware of being evaluated, and therefore lacked the pressure to perform brought on by evaluations and incentives.

Using the same natural variation methods Hoxby (2000) used in Connecticut, Cho et al. (2012) investigated how class size affected test scores of grades 3 and 5 students in Minnesota. The researchers found evidence that reducing class size increased test scores in reading and

mathematics, but the effects were very small in magnitude. Results suggested that a decrease of 10 students would increase test scores by only .04-.05 standard deviations of the distribution of test scores (Cho et al., 2012).

Analysis of the research on class size and achievement in elementary schools is inconclusive. Although some research suggests significant positive outcomes for students who were placed in reduced class sizes early in their educational career (e.g., Education Commission of the States, 2005; Finn et al., 2005; Zahorik, 1999), other investigations point out class size has insignificant effects on student achievement relative to other factors such as teacher quality and student demographics (Cho et al., 2012; Hoxby, 2000; Jepsen & Ripken, 2009)

Years of Experience and Writing Instruction

In the United States, observers tend to agree that teaching is a complex process that is improved with years of experience (Ladd & Sorenson, 2017). In fact, the U.S. public school system uses years of experience in the classroom as one of the primary factors influencing salary and promotion decisions (Winters, 2011). However, there are differences in opinions when it comes to how much years of experience influences teacher effectiveness.

Podolsky et al. (2019) conducted a meta-analysis to review the effect of teaching experience on student outcomes in U.S. public schools. Of the 30 studies analyzed, 28 found that teaching experience is positively and significantly associated with teacher effectiveness. Although first-year teachers, on average, are less effective than those with more experience, numerous studies confirmed that teachers make the steepest gains in effectiveness during their first few years in the classroom. It is common to believe that increased effectiveness comes with years of experience and on the job training. However, studies indicate the relationship between

total years of experience and teacher effectiveness as measured by student achievement is not straightforward (Podolsky et al. 2019).

There are conflicting opinions about whether teachers will improve after their first three years of teaching experience (Croninger et al., 2007; Papay & Kraft, 2015; Rice, 2013). Croninger et al. (2007) analyzed the relationship between elementary school teacher qualifications, including years of experience, and first-grade achievement in reading and mathematics. The variables related to years of experience for this study included three groups of teachers: beginning teachers with zero through two years of experience teaching first grade, more experienced teachers with two through five years of experience teaching first grade, and veteran teachers with more than five years of experience teaching first grade. Findings indicated students taught by beginning teachers (zero to two years) had lower levels of reading gains than students taught by teachers with more experience (more than two years). However, students taught by veteran teachers with more than five years of experience had no advantage over students taught by teachers with more than two but less than five years of experience.

Although the "performance plateau" is widely accepted to be true, Papay and Kraft (2015) used 10 years of data from a large urban U.S. school district to investigate how teachers' contributions to student standardized test scores changed as they gained experience. They found evidence that teachers continue to improve their ability to raise student test scores well beyond the initial few years of teaching. The findings suggest that 35% of a teacher's improvement occurs after the tenth year in their career. Papay and Kraft measured "within-teacher returns to experience," that is, they compared 10-year veteran teachers to themselves as novices 10 years earlier and found that teachers improved throughout their careers.

Rockoff (2004) analyzed a set of panel data on student test scores and teacher assignments in two New Jersey school districts to estimate how accurately teachers affect student achievement. One of the variables measured relative to teacher effectiveness was years of teaching experience. In order to measure how teaching experience affected student achievement, the author analyzed variation in student test scores across years for individual teachers. Results indicated teaching experience is positively correlated with reading test scores. The author suggested 10 years of teaching experience was expected to raise vocabulary scores by .15 standard deviations and reading comprehension scores by .18 standard deviations. In contrast, student mathematics performance did not increase with years of teaching experience.

Jepsen and Rivkin (2009) found that students in classrooms with inexperienced teachers suffered academically as much as they benefited from being in a smaller class. Therefore, the potential benefits of reducing class size can be outweighed by detrimental factors such as an inexperienced teacher, and these nuances should be carefully considered before making policy revisions.

Professional Development

It is not enough to study the instructional practices that work for students. In order for more teachers to begin using the practices that are deemed effective, researchers must also consider the professional development teachers receive related to writing instruction, and how teachers respond to such training. Staff development is both a crucial element in school reform and a catalyst for change in building a school culture that supports a high level of adult and student learning (Daniels et al., 2001). Darling-Hammond and Bransford (2005) suggest it is necessary for teachers to be competent in subject-specific disciplines because quality instruction is predictive of student achievement. There is evidence specific to writing outcomes that teachers

trained in writing instruction provided students with significantly more opportunities for writing, and students with trained teachers performed better than students of non-trained teachers (Pritchard & Honeycutt, 2006).

Teacher preparedness to teach writing is a widespread concern. Responses from random samples of teachers of grades 3 and above indicate that they have had little preparation to teach writing. Survey data with teachers of elementary and secondary students show that 28% of primary grade teachers and 71% of high school teachers reported their teacher education coursework did not adequately prepare them to teach writing (Gilbert & Graham, 2010; Brindle et al., 2016). Results from the Brindle et al. (2016) study found third and fourth grade teachers rate their preparation to teach writing lower than their preparation to teach any other major subject. Three out of four teachers who were surveyed indicated they received no to minimal preparation to teach writing in college (Brindle et al., 2016). Harward et al. (2014) interviewed teachers ($N = 14$) considered to be "high implementers" and "low implementers" of writing instruction to find differences in factors that contributed to the frequency in which they implemented writing instruction. Two of the main distinctions between high and low implementers were university teacher preparation and professional development. High implementers reported having strong university teacher preparation ($n = 7$) and positive professional development opportunities ($n = 6$). Low implementers reported having weak university teacher preparation ($n = 4$) and resented mandated professional development ($n = 4$) (Harward et al., 2014). Therefore, it is imperative that teachers feel supported with pre-service and in-service trainings and support to effectively teach writing to students.

Practice-based professional development (PBPD) is congruent with adult learning theories and provides teachers with a supportive community of colleagues to engage in the

practice of new skills and knowledge. Focused on both content and pedagogy, PBPD has six critical characteristics: (a) collective participation of teachers within the same school with similar needs; (b) basing professional development around the characteristics, strengths, and needs of the students in these teachers' current classrooms; (c) attention to content knowledge needs of teachers, including pedagogical content knowledge; (d) opportunities for active learning and practice of the new methods being learned, including opportunities to see examples of these methods being used and to analyze the work; (e) use of materials and other artifacts during professional development that are identical to those to be used in the classroom, and (f) feedback on performance while learning, and before using these methods in the classroom, so that understandings and skills critical in implementation are developed (McKeown et al., 2019).

Darling-Hammond et al. (2017) examined previous research on professional learning that has proven effective in changing teachers' practices and improving student outcomes to identify successful professional development models. The authors reviewed 35 studies that featured an experimental or comparison group design or analyzed student outcomes with statistical controls for context variables. Based on the analysis, the authors developed a list of widely shared features of effective professional development. These common features include active learning, collaboration, content focuses, feedback and reflection, modeling, coaching/expert support, and sustained duration. This type of ongoing high-quality professional development is key to supporting teachers in implementing evidence-based writing practices to achieve replicable results.

Meta-analyses of writing intervention research specifically indicated that strategies instruction has had the strongest impact on writing performance among school-age students of any intervention researched (Graham & Perin, 2007; Graham et al., 2012). Of the strategies

instruction studied, the self-regulated strategy development (SRSD) model (Harris & Graham, 1996) has had the strongest impact of any strategies instruction approach in writing. PBPD has been effective in implementations of SRSD for a variety of genres (Festas et al., 2015; Graham, Kiuhara, et al., 2012; McKeown et al., 2019).

Harris et al. (2012) conducted a randomized control study to examine the effects of SRSD and how practice-based professional development about that strategy affected student performance. The elements of the practice-based professional development included development of knowledge about SRSD and modeling of lessons by the facilitators over the course of a two-day training. Following the end of the second day, teachers received ongoing observation and support from the research team once out of every three lessons. The teachers were able to follow the SRSD model with integrity after the two-day training, and all teachers believed SRSD instruction made an important difference in their students' writing. Practice-based professional development allowed the teachers to learn from the experts for two full days with active modeling and practice during the training, immediately implement what they learned during the training, and receive observational feedback on their delivery for a maximum of eight visits from the research team. All teachers involved reported positive outcomes from this model of professional learning (Harris et al., 2012).

Studies clearly show that practice-based professional development is effective when paired with training on evidence-based practices (Graham, 2005; McKeown et al., 2019). For example, Festes et al. (2015) found that Portuguese teachers had a positive impact on writing outcomes for their students after participating in 14 hours of PBPD that included modeling and practicing of the evidence-based practices within SRSD. After the PBPD, teachers had the opportunity to have continued support with researchers to address questions related to the

strategies on a weekly basis. The post-test results reflected that the students of the teachers who received the intervention produced writing samples that were more organized and clearer. Despite evidence that PBPD is effective, there is still indication that this type of intentional training is not pervasive. The New Teacher Project, a national nonprofit founded by teachers, found that despite a significant financial investment in teacher development, most teachers do not appear to improve substantially from year to year overall (The New Teacher Project, 2015).

Leadership and Writing

Professional development has the potential to encourage teachers to use evidence-based practices and to improve writing performance if it is done correctly. In order to do so, it has become increasingly important to invite principals to the table to join the conversation regarding writing instruction. It is up to the leadership of a school or district to set expectations for the type of effective professional development that can make change. Furthermore, to be an effective instructional leader, one must be knowledgeable and supportive of instructionally sound methods (McGhee & Lew, 2007). Although it may seem beneficial that an effective leader would demonstrate high content knowledge in writing, there has not been much research on how principals work to improve writing instruction. In today's world of high-stakes accountability around reading and mathematics, it is not unlikely that a principal would make writing goals secondary to the more frequently assessed content areas.

Because writing is an essential foundational skill for all students, it is important that elementary principals become knowledgeable about effective writing instruction to ensure that teachers in their buildings feel supported in providing that instruction. Olsen (2010) sought to understand how elementary principals use their content knowledge to implement a writing reform. Three principals were interviewed for a cross case study to explore how principals use

knowledge about writing, instruction, professional development, and leadership in their administrative practice. The interviews included the principal reviewing a sample of student writing; the principal was asked to determine the strengths and weaknesses of the writing, suggest how they would work with the student to improve the writing, and how to work with the teacher to improve the student's writing. These questions were used to determine the principals' relative knowledge of writing and writing instruction. Later, the principals were evaluated for level of leadership content knowledge in three domains: knowledge of professional development, knowledge of instruction, and knowledge of writing. The principal with the lowest leadership content knowledge incorrectly assessed student writing and had limited suggestions for student or teacher to improve. The principals with higher leadership content knowledge were able to speak accurately to the writing samples and were able to provide detailed recommendations for the students and the teachers (Olsen, 2010).

Traga Philippakos (2021) examined the perspectives of seven assistant principals and 14 principals on a model of professional development in writing. The goal of this qualitative study was to examine principals' views of a professional development series specific to genre-based strategy instruction (GBSI) and to identify recommendations for other leaders based on the components the participants found to be essential. The GBSI professional development required teachers to participate in workshops, watch the researcher model lessons in their classrooms, film themselves teaching the lesson, and receive feedback about the delivery of their lesson (Traga Philippakos, 2020). Primary (K-2), intermediate (3-5), middle school, and high school principals participated in the follow-up research. Principals participated in structured interviews at the end of the year to share the components of the professional development that they found most useful in supporting teachers' instruction; their experiences and challenges with implementation;

inhibiting factors for effective implementation and what they needed as principals for such implementation; and advice they would offer to other leaders based on their experiences.

The principals and assistants were positive overall about the structure of the professional development for the teachers. They identified the videos of instruction, the researcher modeling, and the feedback through coaching as the most effective aspects. The researchers compiled all of the advice participants would give to other principals interested in this model of professional development and summarized their responses in 14 recommendations. Recommendations for principals included: be active participants in the training; read the materials ahead of time and ensure the teachers have time and support to read them; work to develop trust with staff to make feedback reciprocal between teacher and principal; visit classrooms and make time to debrief to identify goals for teachers and the building; use data for accountability; structure professional learning communities and devote time for writing; develop a culture of shared responsibility and learning; and devote time and work with the district and the writing coach (Traga Philippakos, 2021). The process of including principals in the same training as the teachers and in the review after the completion of the training was valuable because it required principals to be reflective and communicative with teachers about what was learned throughout the year long process.

McGhee and Lew (2007) concluded that principals who have strong knowledge of and belief in effective writing practices behave in ways that help teachers to do their best work. Principals high in knowledge of writing instruction and high in belief that effective writing practices are important to improving student performance were also rated highly by teachers. The results came from surveying 169 teachers using the Principal's Support for Writing Instrument (PSWI). Teachers answered questions on the PSWI about their principal such as whether their principal had been trained in writing as a process, had ever participated in a major writing

project, how much attention the principal gave to typical elements of principal leadership such as scheduling and resource allocation, as well as elements of effective writing and literacy instruction. The results of the survey responses indicated that principals who present themselves as learners who seek solutions and foster a community of learners have potential to successfully improve professional initiatives.

Although it is difficult to generalize how principals influence the teaching of writing when so little is known about the topic, it is fair to assume that the greater the background knowledge a principal has in writing, the greater effect the principal may have on the teaching and learning of writing. The role of a principal is that of an instructional leader; principals are in a position to moderate initiatives related to writing instruction, intervention, and evaluation if they are knowledgeable about the content. Principals can support writing initiatives when they have an accurate picture of reality related both to needs of teachers and to existing resources available to support teachers (Moore Effs, 2018).

Chapter Three: Research Methods

Research Design

A descriptive research design was used to investigate the current practices of fourth grade writing teachers. A cross-sectional survey design was chosen in order to be able to survey a large sample of teachers across the state and to gather data on this particular group's opinions at one point in time (Fink, 2003). This study collected a combination of qualitative and quantitative data using a three-part researcher-developed instrument.

Population/Sample

The target population for the study was English Language Arts (ELA) teachers in West Virginia's fourth grade classrooms in Fall 2021 ($N = 1302$). Fourth and eighth grade are the two grade levels assessed through the National Assessment of Educational Progress. Fourth grade was selected for this study because current research on writing indicates that in the typical elementary classroom, only a half hour per day is set aside for direct writing instruction, while writing tasks are more frequently assigned in secondary classrooms (Ya et al., 2013).

Instrument Development

A three-part, researcher-developed survey *Implementation and Effectiveness of Instructional Strategies for Teaching Writing* (Appendix D) was created to collect data about use and levels of perceived effectiveness of evidence-based writing practices. The survey included a combination of quantitative and qualitative items.

The first section of the survey asked teachers to provide demographic and personal information. This included information about class size and number of years of teaching experience. The instrument included two initial screening questions that asked if the participant taught fourth grade and if the participant taught writing. A no response to either of these

questions directed the respondent to the end of the survey. These questions excluded teachers who taught grade levels other than fourth grade who may have received the survey in error, as well as teachers who only taught subjects such as physical education and likely do not plan for writing instruction.

The second section of the survey was intended to examine what evidence-based practices (Graham & Hebert 2011; Graham, Kiuhara, et al., 2012; Rogers and Graham, 2008) were being used and to what extent they were being used by West Virginia teachers. Participants were presented with evidence-based practices based on an analysis of the literature review and the West Virginia College- and Career-Readiness Standards for English Language Arts (West Virginia Department of Education, 2020a). Participants were asked to respond to the list of 20 practices in this section in terms of current classroom use and effectiveness in improving student writing proficiency. Options in Column A (use) were based on a five-point Likert-type scale with one indicating seldom, three indicating sometimes and five indicating regularly. Options in Column B (effectiveness) were also based on a five-point Likert-type scale with one indicating ineffective, three indicating somewhat effective and five indicating effective. The final section of the survey was a single item requesting teachers to indicate what they perceived to be the barriers to implementing evidence-based practices more frequently.

The survey instrument was pilot tested with three classroom teachers who were generally representative of the study population. The teachers were asked to work through the instrument and provide feedback on the content and process of completing the survey. All three educators completed the pilot survey and confirmed they were able to understand the content and directions provided. The educators agreed the items listed were consistent with the West Virginia College- and Career-Readiness Standards (West Virginia Department of Education, 2020a). No revisions

were made in the pilot instrument based on the pilot testing. Cronbach's Alpha was used to assess instrument reliability.

Data Collection

The West Virginia Department of Education data management and directory system was used to identify all fourth-grade public school teachers in the state of West Virginia. Email addresses were obtained using the West Virginia Education Information System (WVEIS). The researcher completed a data sharing agreement with the West Virginia Department of Education's Data Management Office to have access to directory information that included teacher emails (Appendix B). A common email (Appendix C) was sent to the fourth-grade teachers explaining that participation was completely voluntary and anonymous. The body of the email included information such as potential risks and significance of the study. A link within the email directed the participants to an online survey that could be completed in one sitting and returned digitally to the researcher immediately upon submission. The Qualtrics survey system was used to administer the survey.

Data Analysis

Mean scores and standard deviations were calculated for research questions one and three. A one-sample t-test was applied to determine if there were significant differences in the obtained means and the mean score from a normal distribution. Findings for research questions two and four were analyzed using an Analysis of Variance (ANOVA) to determine if there were significant differences in each practice based on years of experience and class size.

Research question five was analyzed qualitatively using emergent theme analysis. Participant responses were coded using key words and phrases. The coded data were then

organized into themes. Once the data had been coded and organized, the researcher was able to synthesize the findings and draw inferences from the emergent themes (McMillan, 2016).

Limitations

Results were based on teacher-reported data to measure use and effectiveness of instructional strategies. Data were collected through the administration of self-reported questionnaires; therefore, there is a possibility of response or survey bias. Survey respondents may have interpreted the individual survey items differently. Finally, the low completion rate limits generalization of results to a larger population.

Chapter Four: Findings

Chapter 4 provides a description of the data collection process, respondent characteristics, and findings derived from analysis of survey results. Major findings are organized by research question. Ancillary findings follow and include an examination of instructional strategy use and effectiveness by type (i.e. product-oriented or process-oriented) and a section about instrument reliability. The final section provides a chapter summary.

Data Collection

All West Virginia fourth-grade public school teachers' email addresses were obtained from the West Virginia Department of Education's Office of Data Management. The list consisted of 1302 email addresses, 1,180 of which were deliverable. The survey *Implementation and Effectiveness of Instructional Strategies for Teaching Writing* (Appendix D) was sent to all 1,180 emails on October 26, 2021. The link to the survey instrument was emailed to non–respondents from the original list six times. The final email reminder was sent on December 16, 2021, and the survey was closed on January 4, 2022.

One hundred and ninety-four participants began the survey. Fifteen of the 194 respondents confirmed they did not teach fourth grade, immediately excluding them from the study population. One hundred and sixty-three respondents confirmed they teach writing to fourth grade students. Of these 163, 122 participants completed more than 50 percent of the survey and were considered for analysis. The 122 completed submissions provided the sample for the study. These data are provided in Table 1.

Respondent Characteristics

Of the 122 respondents who met inclusion criteria, 12 (9.8%) had less than one year of teaching experience and 22 (18%) respondents had between one and five years of teaching

experience. Thirty–four (27.8%) respondents reported five years or less experience and 24 (19.7%) had between six and 10 years of teaching experience. Twenty (16.4%) respondents had between 11 and 15 years of teaching experience, 16 (13.1%) had between 16 and 20 years of teaching experience, and 28 (23%) had 21 or more years of teaching experience. Years of teaching experience were consolidated into five groups for purposes of analysis: five years or less, six to 10 years, 11 to 15 years, 16 to 20 years, and 21 years or more.

Respondents also reported the number of students in their classes at the time of the survey. Eight (6.6%) respondents reported a class size of less than 10, 56 (45.9%) reported a class size of between 10 and 20 students, and 49 (40.2%) had a class size of between 21 and 30 students. Nine (7.4%) respondents had 31 or more students. For purposes of analysis, only responses from class sizes of between 10 and 20 or between 21 and 30 were used. These data are presented in Table 1.

Table 1

Respondent Attributes

Attribute		Total Responses (*n* = 194)		Met Inclusion Criteria (*n* = 163)		Useable Responses (*n* = 122)	
		n	*%*	*n*	*%*	*n*	*%*
Teach 4th Grade	Yes	178	92.2	163	100	122	100
	No	15	7.8	–	–	–	–
Teach Writing	Yes	163	92.1	163	100	122	100
	No	14	7.9	–	–	–	–
Years Experience	< 1	15	9.3	15	9.3	12	9.8
	1–5	32	19.9	32	19.9	22	18
	6–10	30	18.6	30	18.6	24	19.7
	11–15	31	19.3	31	19.3	20	16.4
	16–20	21	13.0	21	13.0	16	13.1
	> 21	32	19.9	32	19.9	28	23.0
Class Size	< 10	14	8.7	14	8.7	8	6.6
	10–20	74	46.0	74	46.0	56	45.9
	21–30	60	37.3	60	37.3	49	40.2
	31–40	6	3.7	6	3.7	4	3.3
	> 41	7	4.3	7	4.3	5	4.1

Major Findings

This section contains an analysis of the survey results collected from 122 participant responses. This section addresses the five research questions presented in Chapter 1.

Instructional Writing Strategies Used by Fourth Grade Teachers

Teachers were provided a list of 20 instructional strategies and were asked to indicate the frequency with which they used each strategy. Frequencies and percentages of responses are presented in Table 2.

The percentage of respondents responding with a four or five in terms of strategy use ranged from a low of 19.7% for strategy 16 (explicitly teach typing) to a high of 84.5% for strategy five (provide positive reinforcement). For purposes of analysis, responses were grouped into four categories based on the sum of item responses four and five: Group 1 (70% or greater), Group 2 (60%–69%), Group 3 (50%–59.9%), and Group 4 (less than 50%).

Group 1 (70% or higher) responses included provide positive reinforcement, provide clear and specific goals, teach sentence construction, teach strategies for planning, teach attributes of specific writing types, and explicitly teach spelling. Group 2 (60%–69%) responses included have students write informative texts; teach strategies to self–regulate; teach strategies for editing; teach strategies for revising; have students collaborate to plan, draft, revise and edit; and have students use technology to produce and publish writing.

Group 3 (50.0%–59.9%) responses included study and imitate models; make student writing visible; have students write opinion pieces; and have students assess their own writing. Group 4 (less than 50%) responses included have students write narratives; explicitly teach handwriting; have students write at least 30 minutes per day; and explicitly teach typing. Frequencies and percentage responses by item are provided in Table 2.

A one-way chi-square was applied to compare the observed N and the expected N for each cell. The observed Ns were statistically significantly different from the expected Ns at $p <$ .05 for 18 of the 20 strategies. Two strategies (strategy 4: writing at least 30 minutes per day; and strategy 15: explicitly teaching handwriting) did not reflect statistically significant differences between the observed and expected N for each cell.

Table 2

Teacher Use of Strategies: Frequencies and Percentages

Strategy	Seldom		2		Sometimes		4		Regularly	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
1. Write opinion pieces	4	3.3	6	4.9	47	38.5	36	29.5	29	23.8
2. Write informative texts	5	4.1	5	4.1	34	27.9	34	27.9	44	36.1
3. Write narratives	11	9.0	12	9.8	39	32.0	35	28.7	25	20.5
4. Write at least 30 minutes per day	18	14.9	24	19.8	30	24.8	17	14.0	32	26.4
5. Provide positive reinforcement	0	0.0	2	1.6	17	13.9	38	31.1	65	53.3
6. Teach strategies to self–regulate	3	2.5	9	7.4	31	25.6	34	28.1	44	36.4
7. Students assess their own writing	7	5.8	16	13.2	36	29.8	31	25.6	31	25.6
8. Provide clear and specific goals	1	.8	1	.8	19	15.7	39	32.2	61	50.4
9. Teach strategies for planning	0	0.0	2	1.7	22	18.3	40	33.3	56	46.7
10. Teach strategies for editing	0	0.0	7	5.8	32	26.7	44	36.7	37	30.8
11. Teach strategies for revising	3	2.5	8	6.7	33	27.5	41	34.2	35	29.2
12. Collaborate to plan, draft, revise, edit	8	6.6	12	9.9	28	23.1	39	32.2	34	28.1
13. Use tech. to produce and publish	3	2.5	12	9.9	32	26.4	38	31.4	36	29.8
14. Make student writing visible	4	3.3	21	17.4	24	19.8	30	24.8	42	34.7
15. Explicitly teach handwriting	21	17.2	25	20.5	26	21.3	21	17.2	29	23.8
16. Explicitly teach typing	34	27.9	36	29.5	28	23.0	11	9.0	13	10.7
17. Explicitly teach spelling	3	2.5	11	9.1	15	12.4	27	22.3	65	53.7
18. Teach sentence construction	2	1.6	4	3.3	17	13.9	34	27.9	65	53.3
19. Teach attributes of specific types	1	0.8	5	4.1	21	17.2	48	39.3	47	38.5
20. Study and imitate models	4	3.3	15	12.3	30	24.6	29	23.8	44	36.1

N = 122

Means ranged from a high of 4.36 for strategy 5 (provide positive reinforcement) to a low of 2.45 for strategy 16 (explicitly teach typing). For purpose of analysis, mean scores were categorized into five groups: Group 1 included mean scores higher than 4.00, Group 2 included mean scores between 3.70 and 4.00, Group 3 included mean scores between 3.51 and 3.70, Group 4 included mean scores between 3.10 and 3.5, and Group 5 included mean scores less than 3.10.

Group 1 ($m \geq 4.0$) strategies included provide positive reinforcement, provide clear and specific goals, teach sentence construction, teach strategies for planning, explicitly teach spelling, and teach attributes of specific types. Group 2 ($m = 3.70 - 4.00$) strategies included teach strategies for editing, teach strategies to self–regulate, have students write informative texts, teach strategies for revising, have students study and imitate models, and use technology to produce and publish writing.

Group 3 ($m = 3.51 - 3.70$) strategies included make student writing visible; have students write opinion pieces; have students collaborate to plan, draft, revise and edit; and have students assess their own writing. Strategies in Group 4 ($m = 3.1 - 3.5$) included have students write narratives, have students write at least 30 minutes per day, and explicitly teach handwriting. Group 5 ($m \leq 3.1$) included one strategy: explicitly teach typing.

A one–sample t–test was applied to analyze teacher use of instructional strategies. The observed mean scores were compared to the mean score of a hypothetically normal distribution for this data set. The comparison mean (CM) was three. Eighteen of the 20 strategies had mean scores that were statistically different from the hypothetical mean. The two strategies that did not produce significantly different mean scores (write at least 30 minutes per day, $p = .177$;

explicitly teach handwriting, $p = .446$) were from Group 4 ($m = 3.1 - 3.5$). These data are presented in Table 3.

Table 3

One–Sample T–test Results for Teacher Use of Writing Strategies

Strategy	M	SD	MDif	t	p
1. Write opinion pieces	3.66	1.00	.66	7.23	.000
2. Write informative texts	3.88	1.08	.88	8.97	.000
3. Write narratives	3.42	1.18	.42	3.90	.000
4. Write at least 30 minutes per day	3.17	1.41	.17	1.36	.177
5. Provide positive reinforcement	4.36	.78	1.36	19.20	.000
6. Teach strategies to self–regulate	3.88	1.07	.88	9.12	.000
7. Students assess their own writing	3.52	1.18	.52	4.87	.000
8. Provide clear and specific goals	4.31	.83	1.31	14.41	.000
9. Teach strategies for planning	4.25	.81	1.25	16.86	.000
10. Teach strategies for editing	3.93	.90	.93	11.26	.000
11. Teach strategies for revising	3.81	1.02	.81	8.72	.000
12. Collaborate to plan, draft, revise, edit	3.65	1.18	.65	6.08	.000
13. Use tech. to produce and publish	3.76	1.07	.76	7.86	.000
14. Make student writing visible	3.70	1.21	.70	6.39	.000
15. Explicitly teach handwriting	3.10	1.42	.10	.76	.446
16. Explicitly teach typing	2.45	1.28	−.55	−4.74	.000
17. Explicitly teach spelling	4.16	1.11	1.16	11.46	.000
18. Teach sentence construction	4.28	.94	1.28	15.05	.000
19. Teach attributes of specific types	4.11	.89	1.11	13.75	.000
20. Study and imitate models	3.77	1.16	.77	7.32	.000

$N = 122$ Scale: 1= Seldom; 3 = Sometimes; 5 = Regularly $CM = 3.0$

Differences in Use of Instructional Strategies Based on Demographic Variables

An independent samples t-test was conducted to determine differences in the frequency of teacher use for each of the 20 strategies based on class size. Two groups were compared: Group 1($n = 56$) included classes with 10–20 students and Group 2 ($n = 49$) included classes with 21–30 students. Class sizes of < 10, 31-40, and > 41 were not included in the analysis.

Group 1 (10–20 students) reported higher mean scores than Group 2 (21–30 students) for five of the strategies. The five strategies with higher means in Group 1 (10–20 students) included strategy 1, strategy 2, strategy 4, strategy 16, and strategy 17. The means of the remaining 14 strategies were higher in classes with 21–30 students. These strategies included strategy 3, strategies 5–8, strategies 10–15, and strategies 18–20. The mean ($m = 4.24$) for strategy 9 (teach strategies for planning) was the same for both groups.

Independent samples t-test results indicated five strategies had mean differences that were statistically different at $p = .05$ or less. These five strategies included strategy 3, strategy 7, strategy 10, strategy 11, and strategy 12. The mean scores for these five strategies were higher for Group 2 (21-30 students) teachers than those in Group 1 (10-20 students). These data are presented in Table 4.

Table 4

Independent Samples T–test of Teacher Use of Strategies by Class Size

Strategy	10–20 (*n* = 56)		21–30 (*n*= 49)		MDif	p
	M	SD	M	SD		
1. Write opinion pieces	3.66	.940	3.59	1.08	.069	.727
2. Write informative texts	4.00	1.01	3.71	1.08	.286	.164
3. Write narratives	3.25	1.35	3.73	.953	−.485	.035*
4. Write at least 30 minutes per day	3.23	1.49	3.12	1.33	.110	.693
5. Provide positive reinforcement	4.32	.834	4.43	.736	−.107	.489
6. Teach strategies to self–regulate	3.71	1.15	4.08	.997	−.373	.082
7. Students assess their own writing	3.16	1.32	3.94	.944	−.775	.001*
8. Provide clear and specific goals	4.25	.844	4.41	.734	−.154	.327
9. Teach strategies for planning	4.27	.757	4.27	.818	.002	.990
10. Teach strategies for editing	3.76	.889	4.16	.825	−.404	.019*
11. Teach strategies for revising	3.58	1.01	4.12	.949	−.541	.006*
12. Collaborate to plan, draft, revise, edit	3.36	1.22	3.98	1.05	−.616	.007*
13. Use tech. to produce and publish	3.73	1.01	3.86	.979	−.130	.508
14. Make student writing visible	3.64	1.31	3.84	1.09	−.200	.401
15. Explicitly teach handwriting	2.91	1.46	3.18	1.30	−.273	.316
16. Explicitly teach typing	2.48	1.38	2.39	1.24	.094	.714
17. Explicitly teach spelling	4.20	1.14	4.13	1.06	.071	.743
18. Teach sentence construction	4.11	.985	4.45	.867	−.342	.064
19. Teach attributes of specific types	4.04	.873	4.18	.928	−.148	.402
20. Study and imitate models	3.75	1.10	3.86	1.12	−.107	.622

N=105   Scale: 1 = Seldom; 3 = Sometimes; 5 = Regularly   **p ≤ .05*

A one–way ANOVA was completed to determine whether there were any statistically significant differences between level of use means based on years of teaching experience. Five groups were compared: Group 1 included teachers with five years or less of experience; Group 2 included teachers with six–10 years of experience; Group 3 included teachers with 11–15 years of experience; Group 4 included teachers with 16–20 years of experience; and Group 5 included teachers with more than 20 years of experience. The one-way ANOVA revealed a statistically significant difference in mean usage between groups for one strategy: strategy 2 (have students write informative texts; *p=.019)*. These data are presented in Table 5.

The strategy with the highest mean score (*m* = 4.44) in Group 1 (five years or less of experience) was strategy 5 (provide positive reinforcement). The strategy with the lowest mean score (*m* = 2.85) in Group 1 was strategy 16 (explicitly teach typing). The mean scores of Group 2 (six–10 years of experience) ranged from a high of 4.33 for strategy 18 (teach sentence construction) to a low of 2.24 for strategy 15 (explicitly teach handwriting).

Group 3 (11–15 years of experience) included mean scores that ranged from a high of 4.75 for strategy 5 (provide positive reinforcement), to a low of 2.40 for strategy 16 (explicitly teach typing). The strategy with the highest mean score (*m* = 4.69) in Group 4 (16–20 years of teaching experience) was strategy 18 (teach sentence construction). The strategy with the lowest mean score (*m* = 2.31) in Group 4 was strategy 16 (explicitly teach typing). Group 5 (more than 20 years of experience) included mean scores that ranged from a high of 4.50 for strategy 17 (explicitly teach spelling), and a low of 2.21 for strategy 16 (explicitly teach typing).

Although only one of the strategies resulted in statistically significant differences based on years of experience, a comparison of rank ordered means indicated a trend. Teachers with 11-15 years of experience recorded the most frequent use of 15 of the strategies: strategies 1-8;

strategies 10-15; and strategy 19. Teachers with more than 20 years of experience recorded the

most frequent use of three strategies: strategy 9 (teach strategies for planning); strategy 17

(explicitly teach spelling); and strategy 20 (study and imitate models).

Table 5

ANOVA Results for Teacher Use by Years of Teaching Experience

Strategy	≤ 5		6–10		11–15		16–20		≥ 21		*F*	*P*
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
1. Write opinion pieces	3.38	1.13	3.88	.797	4.00	1.17	3.75	1.07	3.50	.745	1.76	.142
2. Write informative texts	3.53	1.13	4.25	.847	4.35	.813	3.88	1.15	3.64	1.16	3.08	.019*
3. Write narratives	3.35	1.32	3.25	1.07	3.95	1.15	3.31	.793	3.32	1.29	1.24	.296
4. Write at least 30 minutes per day	3.06	1.41	3.17	1.37	3.40	1.64	2.93	1.39	3.29	1.33	.333	.855
5. Provide positive reinforcement	4.44	.786	4.13	.850	4.75	.444	4.13	.885	4.32	.772	2.35	.058
6. Teach strategies to self–regulate	3.76	1.08	3.88	.900	4.11	1.05	3.69	1.25	4.00	1.12	.522	.720
7. Students assess their own writing	3.47	1.08	3.21	1.10	4.00	1.37	3.44	1.21	3.57	1.17	1.27	.286
8. Provide clear and specific goals	4.12	.808	4.17	1.007	4.58	.607	4.44	.814	4.39	.786	1.33	.264
9. Teach strategies for planning	4.15	.744	4.21	.884	4.28	.895	4.25	.856	4.39	.786	.366	.832
10. Teach strategies for editing	3.76	.923	3.83	.816	4.17	.924	3.75	.931	4.14	.891	1.23	.303
11. Teach strategies for revising	3.68	1.01	3.70	.974	4.05	1.08	3.75	.931	3.93	1.09	.593	.669
12. Collaborate to plan, draft, revise, edit	3.62	1.16	3.58	1.25	4.11	1.24	3.31	1.35	3.64	.989	1.06	.380

Table 5

ANOVA Results for Teacher Use by Years of Teaching Experience

Strategy	≤ 5		6–10		11–15		16–20		≥ 21		F	P
	M	SD	M	SD	M	SD	M	SD	M	SD		
13. Use tech. to produce and publish	3.38	1.28	3.88	.947	4.21	.918	3.75	1.00	3.82	.905	2.09	.087
14. Make student writing visible	3.88	1.25	3.38	1.21	4.00	1.29	3.69	1.25	3.57	1.07	1.00	.411
15. Explicitly teach handwriting	3.15	1.12	2.24	1.44	3.45	1.43	3.31	1.49	3.25	1.27	1.92	.112
16. Explicitly teach typing	2.85	1.37	2.29	1.04	2.40	1.35	2.31	1.45	2.21	1.17	1.24	.300
17. Explicitly teach spelling	4.21	1.14	4.13	1.12	3.95	1.10	3.75	1.29	4.50	.923	1.42	.230
18. Teach sentence construction	4.09	.965	4.33	.917	4.00	1.21	4.69	.602	4.43	.790	1.80	.134
19. Teach attributes of specific types	3.85	1.02	4.13	.741	4.40	.821	4.38	.719	4.04	.922	1.69	.158
20. Study and imitate models	3.38	1.16	3.79	1.02	4.05	1.40	3.69	1.30	4.07	.940	1.77	.139

N = 122   Scale: 1= Seldom; 2 = Sometimes; 3 = Regularly   *p = ≤ .05

Instructional Strategies Fourth Grade Teachers Perceive to be Effective

Teachers were asked to indicate their perceived level of effectiveness for each of the 20 strategies on the survey. Answers were based on a five–point scale ranging from *ineffective* (1), *somewhat effective* (3), to *effective* (5). The percentage of respondents indicating a four or five in terms of strategy effectiveness ranged from a low of 30.5% for strategy 16 (explicitly teach typing) to a high of 76.2% for strategy 5 (provide positive reinforcement). For purposes of analysis, responses were grouped into four categories based on the sum of item responses four and five: Group 1 (60% or greater), Group 2 (50%–59%), Group 3 (40%–49%), and Group 4 (less than 39%).

Group 1 (60% or greater) responses included provide positive reinforcement, teach sentence construction, provide clear and specific goals, and teach strategies for planning. Group 2 (50%–59%) responses included explicitly teach spelling, have students write informative texts, teach attributes of specific types of writing, teach strategies to self–regulate, use technology to produce and publish writing, and make student writing visible.

Group 3 (40%–49%) responses included have students study and imitate models; have students write opinion pieces; teach strategies for revising; have students collaborate to plan, draft, revise, and edit; teach strategies for editing; have students write narratives; and explicitly teach handwriting. Group 4 (less than 39%) responses included having students assess their own writing, have students write at least 30 minutes per day, and explicitly teach typing. Frequencies and percentage responses by item are provided in Table 6.

A chi-square analysis was applied to compare the observed N and expected N for each cell in the distribution. The observed Ns were statistically significantly different from the expected Ns at $p < .05$ for all 20 of the instructional strategies.

Table 6

Teacher Perception of Strategy Effectiveness: Frequencies and Percentages

Strategy	Ineffective		2		Somewhat		4		Effective	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
1. Write opinion pieces	4	3.3	9	7.4	51	41.8	40	32.8	18	14.8
2. Write informative texts	2	1.6	11	9.0	38	31.1	47	38.5	24	19.7
3. Write narratives	7	5.8	18	15.0	45	37.5	31	25.8	19	15.8
4. Write at least 30 minutes	10	8.3	18	15.0	31	25.8	34	28.3	27	22.5
5. Provide positive reinforcement	0	0.0	9	7.4	20	16.4	37	30.3	56	45.9
6. Teach strategies to self–regulate	3	2.5	18	15.0	31	25.8	29	24.2	39	32.5
7. Students assess own writing	9	7.4	26	21.5	39	32.2	26	21.5	21	17.4
8. Provide clear and specific goals	1	0.8	9	7.4	32	26.4	37	30.6	42	34.7
9. Teach strategies for planning	1	0.8	10	8.3	33	27.5	43	35.8	33	27.5
10. Teach strategies for editing	5	4.2	14	11.7	48	40.0	33	27.5	20	16.7
11. Teach strategies for revising	5	4.1	17	14.0	45	37.2	31	25.6	23	19.0
12. Collaborate to plan, draft, revise, edit	5	4.1	16	13.2	46	38.0	28	23.1	26	21.5
13. Use tech. to produce and publish	2	1.7	13	10.8	40	33.3	37	30.8	28	23.3
14. Make student writing visible	3	2.5	18	14.9	35	28.9	28	23.1	37	30.6
15. Explicitly teach handwriting	12	10.1	22	18.5	36	30.3	18	15.1	31	26.1
16. Explicitly teach typing	19	16.1	27	22.9	36	30.5	27	22.9	9	7.6
17. Explicitly teach spelling	4	3.4	12	10.1	33	27.7	35	29.4	35	29.4
18. Teach sentence construction	1	0.8	8	6.7	29	24.2	42	35.0	40	33.3
19. Teach attributes of specific types	3	2.5	12	10.1	35	29.4	37	31.1	32	26.9
20. Study and imitate models	3	2.5	19	15.8	40	33.3	27	22.5	31	25.8

N = 122

Means ranged from a high of 4.15 for strategy 5 (provide positive reinforcement) to a low of 2.83 for strategy 16 (explicitly teach typing). For purpose of analysis, mean scores were categorized into five groups: Group 1 included mean scores that were 3.70 or greater, Group 2 included mean scores between 3.52 and 3.69, Group 3 included mean scores between 3.40 and 3.50, Group 4 included mean scores between 3.00 and 3.39, and Group 5 included mean scores less than 3.00.

Group 1($m > 3.70$) strategies included provide positive reinforcement, teach sentence construction, provide clear and specific goals, teach strategies for planning, explicitly teach spelling, and teach attributes of specific types of writing. Group 2 ($m = 3.52$–3.69) strategies included teach strategies to self–regulate, have students write informative texts, make student writing visible, use technology to produce and publish writing and have students study and imitate models.

Group 3 ($m = 3.30$–3.50) strategies included have students write opinion pieces; have students collaborate to plan, draft, revise and edit; have students assess their own writing; have students write for at least 30 minutes per day; teach strategies for editing; teach strategies for revising; and have students write narratives. Strategies in Group 4 ($m = 3.00$–3.29) included explicitly teach handwriting, and have students assess their own writing. Group 5 ($m < 3.00$) included one strategy: explicitly teach typing. These data are presented in Table 7.

A one–sample t–test was applied to analyze teacher perceptions of effectiveness of the 20 instructional strategies. The observed mean scores were compared to the mean score of a hypothetically normal distribution for this data set. The comparison mean (*CM*) was three. Strategies in Group 1, Group 2, Group 3, and one strategy (explicitly teach handwriting) in Group 4 had mean scores that were significantly different from the hypothetical mean.

Table 7

One–Sample T–test Results for Effectiveness of Writing Strategies

Strategy	M	SD	MDif	t	p
1. Write opinion pieces	3.48	.947	.48	5.64	.000
2. Write informative texts	3.66	.95	.66	7.61	.000
3. Write narratives	3.31	1.09	.31	3.10	.002
4. Write at least 30 minutes per day	3.42	1.23	.42	3.72	.000
5. Provide positive reinforcement	4.15	.95	1.15	13.33	.000
6. Teach strategies to self–regulate	3.69	1.15	.69	6.58	.000
7. Students assess their own writing	3.20	1.18	.20	1.85	.067
8. Provide clear and specific goals	3.91	.99	.91	10.08	.000
9. Teach strategies for planning	3.81	.96	.81	9.19	.000
10. Teach strategies for editing	3.41	1.03	.41	4.33	.000
11. Teach strategies for revising	3.41	1.08	.41	4.22	.000
12. Collaborate to plan, draft, revise, edit	3.45	1.10	.45	4.48	.000
13. Use tech. to produce and publish	3.63	1.01	.63	6.86	.000
14. Make student writing visible	3.64	1.14	.65	6.23	.000
15. Explicitly teach handwriting	3.29	1.91	.29	2.38	.019
16. Explicitly teach typing	2.83	1.18	–.17	–1.56	.121
17. Explicitly teach spelling	3.71	1.10	.71	7.10	.000
18. Teach sentence construction	3.93	.96	.93	10.66	.000
19. Teach attributes of specific types	3.70	1.05	.70	7.22	.000
20. Study and imitate models	3.53	1.12	.53	5.24	.000

N=122   Scale: 1 = Ineffective; 3 = Somewhat Effective; 5 = Effective   *CM* = 3.0

Differences in Teacher Perceptions of Effectiveness Based on Demographic Variables

An independent samples *t*–test was conducted to determine how class size affected teacher perceptions of effectiveness of each of the 20 strategies. Two groups were compared: Group 1 (*n* = 56) included classes with 10–20 students and Group 2 (*n* = 49) included classes with 21–30 students.

Group 1 (10–20 students) had higher mean scores regarding perception of effectiveness than Group 2 (21–30 students) for six of the 20 strategies. The six strategies with higher means in Group 1 included strategy 4, strategy 9, strategy 13, strategy 16, strategy 17, and strategy 20. The means for the remaining 14 strategies were higher in classes with 21–30 students. These included strategies 1–3; strategies 5–9; strategy 14, strategy 15, strategy 18, and strategy 19. There was a statistically significant difference in means between the two groups for one strategy: strategy 4 (have students write narratives). These data are presented in Table 8.

A one–way ANOVA was completed to determine statistically significant differences between the means of teacher groups' perceptions of effectiveness of the strategies based on years of teaching experience. Five groups were compared: Group 1 included teachers with five years or less of experience; Group 2 included teachers with six–10 years of experience; Group 3 included teachers with 11–15 years of experience; Group 4 included teachers with 16–20 years of experience; and Group 5 included teachers with more than 20 years of experience.

The means (*m* = 4.09) for strategy 5 (provide positive reinforcement) and strategy 17 (explicitly teach spelling) were the highest scores for Group 1 (5 years or less of experience). The strategy with the lowest mean score (*m* = 2.88) in Group 1 was strategy 7 (have students assess their own writing). The mean scores of Group 2 (six–10 years of experience) ranged from

a high of 4.08 for strategy 18 (teach sentence construction) and a low of 2.63 for strategy 16 (explicitly teach typing).

Group 3 (11–15 years of experience) included mean scores that ranged from a high of 4.50 for strategy 5 (provide positive reinforcement) to a low of 2.95 for strategy 16 (explicitly teach typing). The highest mean score ($m = 4.19$) in Group 4 (16–20 years of teaching experience) was strategy 8 (provide clear and specific goals). The lowest mean score ($m = 2.67$) in this group was strategy 16 (explicitly teach typing). Group 5 (more than 20 years of experience) included mean scores that ranged from a high of 4.36 for strategy 5 (provide positive reinforcement), and a low of 2.63 for strategy 16 (explicitly teach typing).

There were statistically significant differences in means between groups for two strategies: strategy 1 (have students write opinion pieces; $p = .024$) and strategy 2 (have students write informative texts; $p = .019$). The highest mean scores for both strategies were for the 11-15 and 16-20 years of experience groups. The lowest mean scores for both strategies were for the five years or less years of experience group. These data are presented in Table 9.

Table 8

Independent Samples T–test for Strategy Effectiveness by Class Size

Strategy	10–20 (*n* = 56)		21–30 (*n* = 49)		*MDif*	*p*
	M	*SD*	*M*	*SD*		
1. Write opinion pieces	3.43	.759	3.49	1.14	−.061	.750
2. Write informative texts	3.59	.848	3.73	1.02	−.145	.426
3. Write narratives	3.04	1.06	3.65	1.05	−.616	.004*
4. Write at least 30 minutes per day	3.41	1.23	3.33	1.23	.077	.750
5. Provide positive reinforcement	4.13	.956	4.20	.979	−.079	.676
6. Teach strategies to self–regulate	3.53	1.20	3.83	1.14	−.306	.189
7. Students assess their own writing	3.02	1.23	3.37	1.15	−.349	.138
8. Provide clear and specific goals	3.85	.989	3.94	.988	−.084	.665
9. Teach strategies for planning	3.89	.936	3.69	.926	.203	.272
10. Teach strategies for editing	3.35	.955	3.53	1.04	−.179	.366
11. Teach strategies for revising	3.33	1.00	3.53	1.17	−.203	.343
12. Collaborate to plan, draft, revise, edit	3.27	1.08	3.61	1.10	−.340	.115
13. Use tech. to produce and publish	3.67	.952	3.59	1.12	.075	.714
14. Make student writing visible	3.55	1.15	3.84	1.12	−.291	.196
15. Explicitly teach handwriting	3.26	1.31	3.29	1.20	−.032	.897
16. Explicitly teach typing	2.85	1.20	2.74	1.17	.107	.652
17. Explicitly teach spelling	3.76	1.08	3.65	1.08	.113	.598
18. Teach sentence construction	3.78	.861	3.98	1.01	−.202	.277
19. Teach attributes of specific types	3.67	1.06	3.78	1.07	−.109	.606
20. Study and imitate models	3.65	1.07	3.47	1.10	.179	.405

N = 105   Scale: 1 = Ineffective; 2 = Somewhat Effective; 3 = Effective   **p* < .05

Table 9

ANOVA Results for Strategy Effectiveness by Teaching Experience

Strategy	≤5		6–10		11–15		16–20		≥21		*F*	*p*
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
1. Write opinion pieces	3.18	1.03	3.33	.917	3.95	.887	3.81	.834	3.46	.838	2.92	.024*
2. Write informative texts	3.26	1.08	3.67	.702	4.10	.788	3.94	.772	3.64	1.03	3.08	.019*
3. Write narratives	3.15	1.15	3.04	1.16	3.65	1.14	3.13	1.03	3.59	.888	1.62	.173
4. Write at least 30 minutes per day	3.24	1.23	3.42	1.14	3.75	1.25	3.29	1.33	3.46	1.26	.597	.666
5. Provide positive reinforcement	4.09	.933	3.79	.977	4.50	.761	4.00	1.03	4.36	.951	2.07	.089
6. Teach strategies to self–regulate	3.56	1.24	3.71	1.08	4.00	1.05	3.67	1.23	3.64	1.16	.461	.764
7. Students assess their own writing	2.88	1.12	3.17	1.09	3.63	1.38	3.19	1.38	3.32	1.02	1.35	.258
8. Provide clear and specific goals	3.65	.950	3.83	1.09	4.21	.918	4.19	1.047	3.93	.940	1.40	.237
9. Teach strategies for planning	3.67	.924	3.88	1.08	3.84	1.12	3.94	1.06	3.82	.772	.279	.891
10. Teach strategies for editing	3.12	.977	3.38	1.06	4.00	1.09	3.31	1.01	3.46	.962	2.31	.062
11. Teach strategies for revising	3.18	.999	3.46	1.02	3.95	1.18	3.38	1.09	3.32	1.09	1.68	.159
12. Collaborate to plan, draft, revise, edit	3.24	.987	3.46	1.18	3.84	1.07	3.25	1.39	3.54	.962	1.12	.352

Table 9

ANOVA Results for Strategy Effectiveness by Teaching Experience

Strategy	≤5		6–10		11–15		16–20		≥21		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
13. Use tech. to produce and publish	3.39	1.14	3.71	.999	3.95	.970	3.63	.957	3.64	.911	.951	.437
14. Make student writing visible	3.62	1.18	3.33	.963	4.11	1.24	3.69	1.35	3.61	.994	1.25	.292
15. Explicitly teach handwriting	3.30	1.36	2.88	1.36	3.50	1.32	3.53	1.51	3.33	1.07	.865	.487
16. Explicitly teach typing	3.15	1.09	2.63	1.10	2.95	1.39	2.67	1.29	2.63	1.12	1.11	.354
17. Explicitly teach spelling	4.09	1.06	3.67	1.09	3.40	1.19	3.50	1.16	3.67	1.00	1.57	.187
18. Teach sentence construction	3.82	.950	4.08	.881	3.95	1.19	4.13	1.03	3.81	.834	.521	.720
19. Teach attributes of specific types	3.55	1.15	3.61	1.03	4.05	.945	3.81	1.05	3.63	1.04	.843	.501
20. Study and imitate models	3.12	1.14	3.63	1.01	3.90	1.12	3.56	1.26	3.67	1.00	1.86	.122

N = 122   Scale: 1 = Ineffective; 3 = Somewhat Effective; 5 = Effective   *$p \leq .05$

Major Barriers to Effectively Teaching Writing

The final item on the survey asked participants to identify major challenges or barriers to implementing evidence–based writing practices. All constructed responses (173 total responses from 131 participants) were accepted for analysis. Four major themes developed from the analysis of the qualitative data: student abilities and prior knowledge, time, student attitudes and motivation toward writing, and lack of teacher support and training.

Student Abilities and Prior Knowledge

The most frequent challenges reported were related to varying student abilities and lack of student prior knowledge. For the purposes of analysis, the overall theme of student abilities and prior knowledge was divided into eight subcategories: syntax, sentence structure, and grammar; revising and editing; varying levels of proficiency and ability; stamina; spelling; prior knowledge and vocabulary; the effects of school closures and virtual learning due to COVID-19; and handwriting.

Syntax, Sentence Structure, and Grammar. Thirteen responses identified syntax, sentence structure, or grammar as the biggest barrier to implementing evidence–based writing instruction. One participant explained, "My students are lacking basic writing structure that they should have learned in previous grades, which makes independent writing difficult for these students."

Participants indicated their students do not write in complete sentences. For example, one participant said, "Students are so used to short texting terminology that it is difficult for them to write clear, complete sentences." Another participant echoed the fact writing in full sentences or full words is a challenge: "My kids like to write in 'text lingo.'" Another participant said,

"Students do not understand the syntax of a sentence and cannot correctly translate their thoughts/ideas into coherent sentences." Another participant elaborated:

> Students lack the ability to put together a sentence, even when taught that each sentence needs a subject and a predicate. They write as they talk with run-on sentences and barely any punctuation. This is taught over and over, but students in fourth grade struggle with it.

Revising and Editing. Other reported barriers related to student abilities were the skills of revising and editing. One participant said, "Students still lack basic knowledge of good sentence structure and edit/revising skills even with instruction." Another participant explained, "Students do not take in the corrections that need to be made when writing. They are so used to texting and having auto correct." Another teacher reported, "Despite teaching, practicing, and modeling grammar, spelling and writing, students do not seem to apply it to their own writing."

Varying Levels of Proficiency and Ability. Eleven responses identified varying levels of proficiency and ability as the biggest challenge to implementing evidence-based writing practices. The teachers reported when students are at various levels of learning, it is "hard to accommodate everyone." One participant explained:

> I have so many students who are at different levels. I have about 5-6 students who can't even write one sentence. I have about 5 more that can write very simple sentences. Then I have about 10 on a fourth-grade writing level. It's hard to scaffold for all. My writing block is separate from the reading block, so those students receive pull out reading services but not pull-out writing services.

Participants felt the "differing levels of students" made teaching writing "overwhelming." The "individualism" it takes to teach writing is "often hard to manage." Another participant

explained the situation as, "Basically teaching one–on–one is what has to be done through the writing process."

Stamina. Lack of student stamina when it comes to writing was another common barrier reported by respondents. One participant explained students need stamina to "maintain the effort and thought focus necessary" for writing. Another participant indicated writing "takes double the time it should" because "students don't stay focused and on task." Another participant said students are not "willing to slow down and write their papers."

Two respondents indicated the COVID-19 shut down exasperated stamina issues. "This year, more than ever, it has also been challenging to build stamina." Another participant explained the effect of the pandemic in the following manner:

I have really noticed that students lack stamina with their writing. I feel that the pandemic and virtual school last year caused students to miss out on activities that would have been in the classroom writing. They seem exhausted when writing a multi–paragraph response.

Spelling. Another major barrier to writing instruction is students' spelling abilities. One participant said, "Most of my students do not want to write due to the fact that they have problems in the area of spelling." Another participant explained "teaching children that need special education services to write is nearly impossible when they struggle with spelling." Spelling also becomes a barrier because "students are too focused on spelling things correctly and not the structure of the sentences."

Prior Knowledge and Vocabulary. Teachers reported lack of prior knowledge and vocabulary are also major barriers to writing. One participant explained students "lack experiences and vocabulary to elaborate while writing." Another said, "Our students have very

weak oral language. They lack the language to write about topics. A lot of time needs to be spent developing the background, so they have something to write about." Another participant explained the articles that students are asked to respond to pose a challenge because students have a "deficiency in their vocabulary skills/knowledge." One teacher explained how having lack of background knowledge can be unfair to students:

> Students typically enjoy writing. Sometimes it is [the] topic that is not fair to them. For example, I had students write three things they liked best about Halloween. One student refused. After talking with him, I found out that for two years he hasn't been trick–or–treating and was upset about it. He wrote about a different topic.

COVID-19. West Virginia schools closed their doors in March of 2020 due to the rapid spread of COVID-19 in the United States. At this time, students were sent home without instruction unless schools were able to provide virtual learning options. For most students, the return to school the next school year included a blend of in–person and virtual learning.

Twelve responses identified COVID-19 as a barrier to writing instruction because of the learning loss that occurred when schools shut down or moved to a virtual setting during the 2020–2021 and the 2021–2022 school years. One participant observed, "Students are currently coming to fourth grade lacking in many basic foundational skills needed for writing. This is due in part to the interruption of their education during the COVID pandemic." Another participant indicated: "Covid made it more difficult. Students not being in the classroom prevented effective teaching in writing. The students I have this year came to me not knowing how to write a good paragraph much less an essay."

Teachers explained there is less time to teach writing since the COVID-19 pandemic because of the need to focus on other skills. One respondent said, "With the 2 year going on 3,

students are too far behind with reading, grammar, math skills to focus a lot of class time on writing." One teacher explained:

The greatest barriers and challenges with implementing evidence–based writing practices is the gap in students' education. With the covid pandemic, students missed out on so much, so we are playing catch up as well as learning on a 4th grade level. Some students really struggle with it. Their base writing skills just aren't there, we are starting from the ground up which has advantages and disadvantages.

Handwriting. Participants indicated handwriting was an issue for fourth grade students. One respondent noted, "Some students can't read their own handwriting in fourth grade. Therefore, it is extremely hard for the teacher and the student to complete the editing process." The one–word response of "handwriting" came up twice in the survey.

Time

Fifty responses included a mention of time. Many participants responded with just one word: "time." Other respondents provided more detail describing how time constraints within their schedule presented barriers to their instruction. One participant explained, "The greatest barriers tend to be having enough time for my students with writing. I want to provide a solid model lesson for my students, but once that is over there is not a large amount of time for independent writing and then sharing." Another participant indicated, "Time is a huge set back. I wish I had time daily, but I don't so I settle for weekly writing blocks." One respondent said, "I feel like I am rushed. Thirty minutes is just not enough time."

Some participants indicated time was an issue because they would like to have more opportunities to provide feedback and conference individually with students. One participant said, "It is difficult to conference with students individually in the time allotted during our writing block." Similarly, another participant explained their biggest challenge was "meeting

with each individual student to help monitor and guide the writing process as an individual."
Another respondent said, "Time to read and give the necessary feedback is the largest
challenge."

Many respondents indicated feeling "rushed" because of the other demands put on them
as a teacher. For example, "not having enough time in the school day to teach writing and
reading effectively." Another participant said the biggest challenge was "having enough time to
teach writing, spelling, and grammar." Another respondent indicated, "With the requirements put
on teachers, it's difficult to devote enough time to writing instruction." One participant felt the
tasks they were expected to assign to students were too time consuming:

> The greatest challenges for effectively implementing writing practices are the lengths of
> articles and the amount of time allotted for students to complete an essay during state
> testing. Students seem overwhelmed by the articles before they even start to write what
> the prompt asks. Furthermore, students are expected to complete the assignment in one
> setting. Most people take breaks before 'revisiting' what they have written. (Fresh eyes) It
> is simply draining and discouraging to expect any person to write an essay in the same
> day.

Student Attitudes and Motivation Toward Writing

Ten responses identified barriers related to student attitudes and student motivation.
Participants indicated that students were not motivated to write because they were not interested
in the topics. One respondent said, "It is hard to find activities and topics that will keep the
children motivated to write and put in effort. A lot of times, they just write something quickly to
get finished." Another potential reason for poor attitudes toward writing was "the lack of interest

in reading the articles provided." One participant said, "I think the greatest barrier to effective implementation of effective writing practices is students' lack of caring."

Two responses directly pointed to student disinterest in writing. One participant said, "Many students detest writing and make very little effort during writing time." Another said, "Students hate writing. No matter what subject or topic you are writing about, they hate it. The only part they like is typing."

"Very limited writing confidence" was another barrier recorded by respondents. One participant said, "Students struggle with confidence and being able to pull from their own thoughts and experiences when writing." Another teacher indicated, "Students' self-doubt in their writing skills cause challenges as it prevents them from wanting to even attempt to research or write." Finally, one participant said, "Writing is hard. It is hard for the kids to do, they have to have a good command of spelling and grammar. It takes a long time and students often do not want to read back over what they have written."

Lack of Teacher Support and Training

Twenty–four responses included lack of teacher support and training as significant barriers to implementing evidence–based writing practices in the fourth–grade classroom. Some participants indicated feeling unsupported because they did not have additional help from other educators in their classroom. One participant said, "Many teachers feel intimidated by teaching writing […] It is challenging in upper grades to help 20 or more students without the support and help of another teacher such as an interventionist." Another participant said there was a "need for more than one teacher to help students."

Participants also indicated feelings of being unsupported due to inadequate curriculum or resources. One participant said there is "little guidance or resources provided." Similarly, another

participant explained that the "quality of resources available to use to help strategically teach the strategies" was the biggest barrier to providing evidence-based writing instruction. Another participant explained:

> The county changes writing programs constantly. We try to teach one method and by the time the students get used to it, we change it again. We rely on programs to teach rather than teachers. There is also insufficient and ineffective training for the teachers on writing programs we are expected to implement.

> Others echoed how constantly changing the writing programs teachers are expected to use becomes a barrier: "This all leaves one confused and really just aggravated about teaching acronyms and tricks to stimulate growth. Bandwagons of information create burn out."

> A lack of a school-wide or grade-wide programs was also a barrier for participants. One participant said, "I think a barrier to implementing evidence-based writing practices is that there is no set curriculum, and grading writing is difficult." Another participant noted, "With not having a set curriculum for each grade for writing, we have found many students are at many different levels." One teacher explained in detail how their program poses a challenge to delivering instruction:

> Due to the adoption of various textbooks, I find the most challenging part of teaching writing is the required use of programs. For example, the current ELA program that our district is using has three different differentiated spelling lists (1 week, 25 words). They are not that much different in the list of words. This program introduces and reviews 2–3 grammar skills weekly. Unfortunately, I think with the quick hit of specific skills is affecting mastery. The program also has reading and writing components. The writing component has an online writing notebook. It's a great idea, but not user friendly. There

are tabs for the writing process, but it does not allow movement between the stages. Students can see the graphic organizer throughout writing the draft, but the movement from revising, editing, and publishing is frequently causing loss of text. Our county also uses MiWrite. Our school has a monthly Guided Writing week where we have specialists that come into our classroom to assist individual and/or small groups of students. Our specialists include the Title 1 teacher and the reading interventionist. This has proven to be very effective during the revising and editing phases. MiWrite provides the motivation for students to make corrections, but with a computer scoring program there are errors that teachers can intervene.

One participant said their colleagues "do not feel that they have the training or curriculum to adequately teach writing." Therefore, "writing is the first to go from their day when they run out of instructional time." Another participant said the most significant barrier to implementing evidence-based writing instruction was not having the "time and resources for myself to learn the strategies." One participant explained:

I believe the greatest challenge is the lack of professional development with the writing process and how to teach writing to students. I know how to write, but I do not know how to teach the process of writing, motivate students to write, and critique/grade student writing. This has been my one weakness in my 34 years of teaching. I did not have training in my college training and the few professional development opportunities have been lackluster. Over the COVID shutdown I found the SRSD writing model from Arizona State (?) and went through that training on my own. It is helping some, but I need follow–up sessions.

One teacher said not having time to read research was a barrier. Another said they do not have enough knowledge to teach evidence-based writing practices. Another participant explained "preparedness of both the student and the teacher" were challenges. This participant also said, "Teachers are stretched so thin with increasing demands on our time that keeping up with the latest evidence-based writing practices is not able to be prioritized. More time is needed for professional development and planning."

Ancillary Findings

The 20 instructional strategies were categorized as product- or process-oriented approaches to teaching writing. Strategies that emphasized controlled practice of features specific to a particular "product" or model of writing were categorized as a product approach. Strategies that emphasized the steps involved in creating a piece and the iterative process of planning, drafting, and reflecting were classified as a process approach. The distinctions were based on a review of the literature and the definitions above.

A small group of West Virginia educators, including the researcher, a current fourth-grade classroom teacher, and a Coordinator who is the main point of contact for the English Language Arts Standards at the West Virginia Department of Education individually identified each of the strategies as either product- or process-oriented. The individuals had the opportunity to write comments clarifying their decision. Using common definitions as a foundation, the reviewers initially agreed on the categorizations for all but three of the strategies. Strategy 7 (have students assess their own writing), strategy 8 (provide clear and specific goals), and strategy 13 (use technology to produce and publish) required the group to have further discussion. Ultimately, the group agreed on a classification for all 20 strategies.

Teacher Use of Product and Process Strategies

A one-sample *t*-test was applied to analyze teacher use of the 12 product-oriented strategies. The observed mean scores were compared to the mean score of a hypothetically normal distribution for this data set. All but one of the product strategies (explicitly teach typing; *m* = 2.83) produced a statistically significant mean. These data are presented in Table 10.

A one-sample *t*-test was also applied to analyze teacher use of the eight process-approach strategies. All but one process-oriented strategy (have students write at least 30 minutes per day; *m* = 3.17) produced a statistically significant mean score. These data are presented in Table 11.

Table 10

One–Sample T–test Results for Teacher Use of Product Approach Strategies

Strategy	*M*	*SD*	*MDif*	*t*	*p*
1. Write opinion pieces	3.66	1.00	.67	7.23	.000
2. Write informative texts	3.88	1.08	.88	8.97	.000
3. Write narratives	3.42	1.18	.42	3.90	.000
4. Provide clear and specific goals	4.31	.83	1.31	17.41	.000
5. Use tech. to produce and publish	3.76	1.07	.76	7.86	.000
6. Make student writing visible	3.70	1.21	.70	6.39	.000
7. Explicitly teach handwriting	3.10	1.42	.10	.76	.446
8. Explicitly teach typing	2.45	1.28	-.53	-4.72	.000
9. Explicitly teach spelling	4.16	1.11	1.16	11.46	.000
10. Teach sentence construction	4.28	.94	1.28	15.05	.000
11. Teach attributes of specific types	4.11	.89	1.11	13.75	.000
12. Study and imitate models	3.77	1.16	.77	7.32	.000

N=122   Scale: 1 = Seldom; 3 = Sometimes; 5 = Regularly   *CM* = 3.0

Table 11

One–Sample T–test Results for Teacher Use of Process Approach Strategies

Strategy	M	SD	MDif	t	p
1. Write at least 30 minutes per day	3.17	1.41	.17	1.36	.177
2. Provide positive reinforcement	4.36	4.36	1.36	19.20	.000
3. Teach strategies to self–regulate	3.88	3.88	.88	9.12	.000
4. Students assess their own writing	3.52	3.52	.52	4.87	.000
5. Teach strategies for planning	4.25	4.25	1.25	16.86	.000
6. Teach strategies for editing	3.93	3.93	.93	11.26	.000
7. Teach strategies for revising	3.81	3.81	.81	8.72	.000
8. Collaborate to plan, draft, revise, edit	3.65	3.65	.65	6.08	.000

N=122   Scale: 1 = Seldom; 3 = Sometimes; 5 = Regularly   *CM* = 3.0

An independent samples *t*-test was conducted to determine any differences in frequency of teacher use based on class size for each of the 12 product-oriented strategies. Two groups were compared: group 1 (n = 56) included classes with 10-20 students and group 2 (n = 49) included classes with 21-30 students.

Group 1 (10-20 students) had higher means than Group 2 (21-30) for four of the product strategies. The four strategies with higher means in Group 1 (10–20 students) included strategy 1 (have students write opinion pieces), strategy 2 (have students write informative texts), strategy 16 (explicitly teach typing), and strategy 17 (explicitly teach spelling). The means of the remaining eight product strategies were higher in classes with 21-30 students. Independent samples *t*-test results indicated one product-oriented strategy (have students write narratives) had mean differences that were statistically different at *p* = .05 or less. These data are presented in Table 12.

A one-way ANOVA was completed to determine whether there were any statistically significant differences between the means of teacher groups' use of product strategies based on years of teaching experiences. The one-way ANOVA revealed there was a statistically significant difference in mean usage between groups for strategy 2 (have students write informative texts; $p = .019$). Group 1 reported a mean score of 3.53, Group 2 reported a mean score of 4.25, Group 3 reported a mean score of 4.35, Group 4 reported a mean score of 3.88, and Group 5 reported a mean score of 3.64. Although only one of the strategies resulted in statistically significant differences based on years of experience, a comparison of rank ordered means indicated a trend. Teachers with 11-15 years of experience recorded the most frequent use of eight of the 12 product strategies. These data are presented in Table 13.

An independent samples t-test was used to determine if there were differences in frequency of teacher use for each of the eight process strategies based on class size. Group 1 (classes with 10-20 students) had a higher mean ($m = 3.23$) than Group 2 (classes with 21-30 students; $m = 3.12$) for one process strategy: have students write for at least 30 minutes per day. One process strategy (teach strategies for planning; $m = 4.27$) produced the same mean score in both groups. Teachers of classes with 21-30 students reported using the remaining six strategies with higher frequency than teachers in Group 1. Statistically significant differences in mean scores of use were found for four strategies: have students assess their own writing ($p = .001$), teach strategies for editing ($p = .019$), teach strategies for revising ($p = .006$) and have students collaborate to plan, draft, revise and edit ($p = .007$). These data are presented in Table 14.

A one-way ANOVA was completed to determine whether there were any statistically significant differences in use of process strategies based on years of teaching experiences. There were no statistically significant differences between groups for any of the eight process

strategies. Although not statistically significant, a trend did appear when comparing rank ordered

means. Teachers in Group 3 (11-15 years of experience) reported using seven of the eight

process-oriented strategies with more frequency than any other group of teachers. Group 5 (more

than 20 years of experience) reported using the remaining strategy (teach strategies for planning)

more frequently than Group 3 (11-15 years of experience). These data are presented in Table 15.

Table 12

Teacher Use of Product Strategies by Class Size

Strategy	10-20 (*n* = 56)		21-30 (*n* = 49)		*MDif*	*p*
	M	SD	M	SD		
1. Write opinion pieces	3.66	.940	3.59	1.08	.069	.727
2. Write informative texts	4.00	1.01	3.71	1.08	.286	.164
3. Write narratives	3.25	1.35	3.73	.953	-.485	.035
4. Provide clear and specific goals	4.25	.844	4.41	.734	-.154	.327
5. Use tech. to produce and publish	3.73	1.01	3.86	.979	-.130	.508
6. Make student writing visible	3.64	1.31	3.84	1.09	-.200	.401
7. Explicitly teach handwriting	2.91	1.46	3.18	1.30	-.273	.316
8. Explicitly teach typing	2.48	1.38	2.39	1.24	.094	.714
9. Explicitly teach spelling	4.20	1.14	4.13	1.06	.071	.743
10. Teach sentence construction	4.11	.985	4.45	.867	-.342	.064
11. Teach attributes of specific types	4.04	.873	4.18	.928	-.148	.402
12. Study and imitate models	3.75	1.10	3.86	1.12	-.107	.622

N = 105   Scale: 1 = Seldom; 3 = Sometimes; 5 = Regularly   *p* ≤ .05

Table 13

ANOVA Results for Use of Product Strategies by Teaching Experience

Strategy	≤5		6-10		11-15		16-20		≥21		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
1. Write opinion pieces	3.38	1.13	3.88	.797	4.00	1.17	3.75	1.07	3.50	.745	1.76	.142
2. Write informative texts	3.53	1.13	4.25	.847	4.35	.813	3.88	1.15	3.64	1.16	3.08	.019*
3. Write narratives	3.35	1.32	3.25	1.07	3.95	1.15	3.31	.793	3.32	1.29	1.24	.296
4. Provide clear and specific goals	4.12	.808	4.17	1.007	4.58	.607	4.44	.814	4.39	.786	1.33	.264
5. Use tech. to produce/ publish	3.38	1.28	3.88	.947	4.21	.918	3.75	1.00	3.82	.905	2.09	.087
6. Make student writing visible	3.88	1.25	3.38	1.21	4.00	1.29	3.69	1.25	3.57	1.07	1.00	.411
7. Explicitly teach handwriting	3.15	1.12	2.24	1.44	3.45	1.43	3.31	1.49	3.25	1.27	1.92	.112
8. Explicitly teach typing	2.85	1.37	2.29	1.04	2.4	1.35	2.31	1.45	2.21	1.17	1.24	.300
9. Explicitly teach spelling	4.21	1.14	4.13	1.12	3.95	1.10	3.75	1.29	4.50	.923	1.42	.230
10. Teach sentence construction	4.09	.965	4.33	.917	4.00	1.21	4.69	.602	4.43	.790	1.80	.134
11. Teach attributes of specific types	3.85	1.02	4.13	.741	4.40	.821	4.38	.719	4.04	.922	1.69	.158
12. Study and imitate models	3.38	1.16	3.79	1.02	4.05	1.40	3.69	1.30	4.07	.940	1.77	.139

N = 122   Scale: 1 = Seldom; 3 = Sometimes; 5 = Regularly   *p = ≤ .05

78

Table 14

Teacher Use of Process Strategies by Class Size

Strategy	10–20 (*n*= 56)		21–30 (*n* = 49)		*MDif*	*p*
	M	SD	M	SD		
1. Write at least 30 minutes per day	3.23	1.49	3.12	1.33	.110	.693
2. Provide positive reinforcement	4.32	.834	4.43	.736	−.107	.489
3. Teach strategies to self–regulate	3.71	1.15	4.08	.997	−.373	.082
4. Students assess their own writing	3.16	1.32	3.94	.944	−.775	.001*
5. Teach strategies for planning	4.27	.757	4.27	.818	.002	.990
6. Teach strategies for editing	3.76	.889	4.16	.825	−.404	.019*
7. Teach strategies for revising	3.58	1.01	4.12	.949	−.541	.006*
8. Collaborate to plan, draft, revise, edit	3.36	1.22	3.98	1.05	−.616	.007*

N = 105   Scale: 1 = Seldom; 3 = Sometimes; 5 = Regularly   **p ≤ .05*

Table 15

ANOVA Results for Use of Process Strategies by Teaching Experience

Strategy	≤5		6-10		11-15		16-20		≥21		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
1. Write at least 30 minutes per day	3.06	1.41	3.17	1.37	3.40	1.64	2.93	1.39	3.29	1.33	.333	.855
2. Provide positive reinforcement	4.44	.786	4.13	.850	4.75	.444	4.13	.885	4.32	.772	2.35	.058
3. Teach strategies to self-regulate	3.76	1.08	3.88	.900	4.11	1.05	3.69	1.25	4.00	1.12	.522	.720
4. Students assess their own writing	3.47	1.08	3.21	1.10	4.00	1.37	3.44	1.21	3.57	1.17	1.27	.286
5. Teach strategies for planning	4.15	.744	4.21	.884	4.28	.895	4.25	.856	4.39	.786	.366	.832
6. Teach strategies for editing	3.76	.923	3.83	.816	4.17	.924	3.75	.931	4.14	.891	1.23	.303
7. Teach strategies for revising	3.68	1.01	3.70	.974	4.05	1.08	3.75	.931	3.93	1.09	.593	.669
8. Collaborate to plan, draft, revise, edit	3.62	1.16	3.58	1.25	4.11	1.24	3.31	1.35	3.64	.989	1.06	.380

$N = 122$ Scale: 1 = Seldom; 3 = Sometimes; 5 = Regularly $p = \leq .05$

Teacher Effectiveness of Product and Process Strategies

Twelve strategies were identified as product oriented, and eight strategies were identified as process oriented. For both groups, a one-sample t-test was used to compare the observed mean scores to the mean score of a hypothetically normal distribution for these data sets. The comparison mean (*CM)* was three.

Eleven of the product-oriented strategies had mean scores that were significantly different from the hypothetical mean. Explicitly teach typing ($m = 2.83$) was not statistically different from the hypothetical mean. These data are presented in Table 16.

Similarly, seven of the eight process-oriented strategies had a mean score that was statistically significantly different from the hypothetical mean. Having students write for at least 30 minutes per day ($m = 3.42$) was the only process strategy not statistically different from the hypothetical mean. These data can be found in Table 17.

Table 16

One–Sample T–test Results for Effectiveness of Product Strategies

Strategy	M	SD	MDif	t	p
1. Write opinion pieces	3.48	.95	.484	5.64	.000
2. Write informative texts	3.66	.95	.656	7.61	.000
3. Write narratives	3.31	1.09	.308	3.10	.002
4. Provide clear and specific goals	3.91	.99	.909	10.08	.000
5. Use tech. to produce and publish	3.63	1.01	.633	6.86	.000
6. Make student writing visible	3.64	1.14	.65	6.23	.000
7. Explicitly teach handwriting	3.29	1.31	.29	2.38	.019
8. Explicitly teach typing	2.83	1.18	-.15	-1.56	.121
9. Explicitly teach spelling	3.71	1.10	.71	7.10	.000
10. Teach sentence construction	3.93	.96	.93	10.66	.000
11. Teach attributes of specific types	3.70	1.05	.70	7.22	.000
12. Study and imitate models	3.53	1.12	.53	5.24	.000

N = 122   Scale: 1 = Ineffective, 3 = Somewhat Effective, 5 = Effective   *CM* = 3.0

Table 17

One–Sample T–test Results for Effectiveness of Process Strategies

Strategy	M	SD	MDif	t	p
1. Write at least 30 minutes per day	3.42	1.23	.42	3.72	.177
2. Provide positive reinforcement	4.15	.95	1.15	13.33	.000
3. Teach strategies to self–regulate	3.69	1.15	.69	6.58	.000
4. Students assess their own writing	3.20	1.18	.20	1.85	.000
5. Teach strategies for planning	3.81	.96	.81	9.19	.000
6. Teach strategies for editing	3.41	1.03	.41	4.33	.000
7. Teach strategies for revising	3.41	1.08	.41	4.22	.000
8. Collaborate to plan, draft, revise, edit	3.45	1.10	.45	4.48	.000

N = 122   Scale: 1 = Ineffective, 3 = Somewhat Effective, 5 = Effective   *CM* = 3.0

An independent samples *t*-test was conducted to determine how class size affected teacher perceptions of effectiveness of each of the twelve product-oriented strategies. Two groups were compared: Group 1 (*n* = 56*)* included classes with 10-20 students and Group 2 (*n* = 49) included classes with 21-30 students. There were statistically significant differences for one of the twelve product-oriented strategies (write narratives; *p* = .004). Group 2 (classes with 21-30 students) produced higher mean scores for nine of the 12 strategies. The three strategies that were reported more effective by Group 1 included: using technology to produce and publish writing (*m* = 3.67), explicitly teach typing (*m* =2.85), and explicitly teach spelling (*m* = 3.76). These data are presented in Table 18.

A one-way ANOVA was used to determine if there were any statistically significant differences between the means of teacher groups' perceptions of effectiveness of the twelve product-oriented strategies based on years of teaching experience. There were statistically significant differences for two product strategies: write opinion pieces (*p* = .024) and write informative texts (*p* = .019). These data are presented in Table 19.

An independent samples *t*-test was conducted to determine how class size affected teacher perceptions of effectiveness of each of the eight process-oriented strategies. There were no statistically significant differences for any of the eight process-oriented strategies. However, a trend emerged when looking at the mean scores for each process-oriented strategy. Group 2 (classes with 21-30 students) had higher mean scores for six of the eight strategies. Two strategies were reported as more effective by the smaller class size teachers: write opinion pieces (*m* = 3.44) and teach strategies for planning (*m* = 3.89). These data are presented in Table 20.

A one-way ANOVA was used to analyze statistically significant differences in teacher perceptions of effectiveness of the eight process-oriented strategies based on years of experience.

Results indicated no statistically significant differences between the means of teacher groups'

perceptions of the effectiveness for process strategies. These data can be found in Table 21.

Table 18

Teacher Perceptions of Product Strategy Effectiveness by Class Size

Strategy	10–20 (*n* = 56)		21–30 (*n* = 49)		*MDif*	*p*
	M	*SD*	*M*	*SD*		
1. Write opinion pieces	3.43	.759	3.49	1.14	−.061	.750
2. Write informative texts	3.59	.848	3.73	1.02	−.145	.426
3. Write narratives	3.04	1.06	3.65	1.05	−.616	.004*
4. Provide clear and specific goals	3.85	.989	3.94	.988	−.084	.665
5. Use tech. to produce and publish	3.67	.952	3.59	1.12	.075	.714
6. Make student writing visible	3.55	1.15	3.84	1.12	−.291	.196
7. Explicitly teach handwriting	3.26	1.31	3.29	1.20	−.032	.897
8. Explicitly teach typing	2.85	1.20	2.74	1.17	.107	.652
9. Explicitly teach spelling	3.76	1.08	3.65	1.08	.113	.598
10. Teach sentence construction	3.78	.861	3.98	1.01	−.202	.277
11. Teach attributes of specific types	3.67	1.06	3.78	1.07	−.109	.606
12. Study and imitate models	3.65	1.07	3.47	1.10	.179	.405

N = 105   Scale: 1 = Ineffective; 3 = Somewhat Effective; 5 = Effective   *p** = ≤ .05

Table 19

ANOVA Results for Product Strategy Effectiveness by Teaching Experience

Strategy	≤5		6–10		11–15		16–20		≥21		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
1. Write opinion pieces	3.18	1.03	3.33	.917	3.95	.887	3.81	.834	3.46	.838	2.92	.024*
2. Write informative texts	3.26	1.08	3.67	.702	4.10	.788	3.94	.772	3.64	1.03	3.08	.019*
3. Write narratives	3.15	1.15	3.04	1.16	3.65	1.14	3.13	1.03	3.59	.888	1.62	.173
4. Provide clear and specific goals	3.65	.950	3.83	1.09	4.21	.918	4.19	1.047	3.93	.940	1.40	.237
5. Use tech. to produce and publish	3.39	1.14	3.71	.999	3.95	.970	3.63	.957	3.64	.911	.951	.437
6. Make student writing visible	3.62	1.18	3.33	.963	4.11	1.24	3.69	1.35	3.61	.994	1.25	.292
7. Explicitly teach handwriting	3.30	1.36	2.88	1.36	3.50	1.32	3.53	1.51	3.33	1.07	.865	.487
8. Explicitly teach typing	3.15	1.09	2.63	1.10	2.95	1.39	2.67	1.29	2.63	1.12	1.11	.354
9. Explicitly teach spelling	4.09	1.06	3.67	1.09	3.40	1.19	3.50	1.16	3.67	1.00	1.57	.187
10. Teach sentence construction	3.82	.950	4.08	.881	3.95	1.19	4.13	1.03	3.81	.834	.521	.720
11. Teach attributes of specific types	3.55	1.15	3.61	1.03	4.05	.945	3.81	1.05	3.63	1.04	.843	.501
12. Study and imitate models	3.12	1.14	3.63	1.01	3.90	1.12	3.56	1.26	3.67	1.00	1.86	.122

N = 122   Scale: 1 = Ineffective; 3 = Somewhat Effective; 5 = Effective   *p** ≤ .05

Table 20

Teacher Perceptions of Process Strategy Effectiveness by Class Size

Strategy	10–20 (*n* = 56)		21–30 (*n* = 49)		*MDif*	*p*
	M	*SD*	*M*	*SD*		
1. Write at least 30 minutes per day	3.41	1.23	3.33	1.23	.077	.750
2. Provide positive reinforcement	4.13	.956	4.20	.979	−.079	.676
3. Teach strategies to self–regulate	3.53	1.20	3.83	1.14	−.306	.189
4. Students assess their own writing	3.02	1.23	3.37	1.15	−.349	.138
5. Teach strategies for planning	3.85	.989	3.94	.988	−.084	.665
6. Teach strategies for editing	3.89	.936	3.69	.926	.203	.272
7. Teach strategies for revising	3.35	.955	3.53	1.04	−.179	.366
8. Collaborate to plan, draft, revise, edit	3.27	1.08	3.61	1.10	−.340	.115

N = 105   Scale: 1 = Ineffective; 3 = Somewhat Effective; 5 = Effective   *p* = ≤ .05

Table 21

ANOVA Results for Process Strategy Effectiveness by Teaching Experience

Strategy	≤5		6–10		11–15		16–20		≥21		F	p
	M	SD	M	SD	M	SD	M	SD	M	SD		
21. Write at least 30 minutes per day	3.24	1.23	3.42	1.14	3.75	1.25	3.29	1.33	3.46	1.26	.597	.666
22. Provide positive reinforcement	4.09	.933	3.79	.977	4.50	.761	4.00	1.03	4.36	.951	2.07	.089
23. Teach strategies to self–regulate	3.56	1.24	3.71	1.08	4.00	1.05	3.67	1.23	3.64	1.16	.461	.764
24. Students assess their own writing	2.88	1.12	3.17	1.09	3.63	1.38	3.19	1.38	3.32	1.02	1.35	.258
25. Teach strategies for planning	3.67	.924	3.88	1.08	3.84	1.12	3.94	1.06	3.82	.772	.279	.891
26. Teach strategies for editing	3.12	.977	3.38	1.06	4.00	1.09	3.31	1.01	3.46	.962	2.31	.062
27. Teach strategies for revising	3.18	.999	3.46	1.02	3.95	1.18	3.38	1.09	3.32	1.09	1.68	.159
28. Collaborate to plan, draft, revise, edit	3.24	.987	3.46	1.18	3.84	1.07	3.25	1.39	3.54	.962	1.12	.352

N = 122   Scale: 1 = Ineffective; 3 = Somewhat Effective; 5 = Effective   *p* ≤ .05

Instrument Reliability

Instrument reliability was measured using Cronbach's alpha and inter-item correlation for the scale items. The scale measured frequency of teacher use and teacher perception of effectiveness for each of the twenty instructional strategies. The strategies included on the scale were also categorized as either a process- or product-oriented strategy to teaching writing. There were eight strategies on the scale that were identified as a process-oriented strategy and twelve that were identified as a product-oriented strategy.

According to DeVellis (2003), the Cronbach alpha coefficient of a scale should be above .7 to be considered reliable. Briggs and Cheek (1986) recommend an optimal range for the inter-item correlation of .2 to .4. The instrument used in this study had good internal consistency with Cronbach alpha coefficients falling within these guidelines.

The Cronbach alpha coefficient for the total scale related to teacher use was .865. The mean inter-item correlation for the use section of the scale was .260. The items measuring teacher use for the process strategies had a Cronbach alpha coefficient of .840 and a mean inter-item correlation of .418. The items measuring teacher frequency of use of product-oriented strategies had a Cronbach alpha coefficient of .742 and a mean inter-item correlation of .205

The effectiveness section of the scale had a Cronbach alpha coefficient of .933 and a mean inter-item correlation of .420. The items measuring teacher perception of effectiveness for the process strategies had a Cronbach alpha of .900 and a mean inter-item correlation of .539. The items measuring teacher perception of effectiveness for the product strategies had a Cronbach Alpha of .863 and a mean inter-item correlation of .355. These data are presented in Table 22.

Table 22

Instrument Reliability

Scale	N Items	M Inter-Item r	Scale M	SD	Cronbach Alpha
Total Scale – Use	20	.260	75.14	11.6	.865
Total Scale – Effectiveness	20	.420	71.22	14.3	.933
Process Scale – Use	8	.418	30.65	5.8	.840
Process Scale – Effectiveness	8	.539	28.59	6.7	.900
Product Scale – Use	12	.205	44.53	6.8	.742
Product Scale – Effectiveness	12	.355	42.66	8.1	.863

N = 122

Summary

When examining how fourth grade teachers in West Virginia deliver writing instruction, it becomes apparent that providing positive reinforcement (m = 4.36) was the most frequently used strategy in fourth-grade writing instruction. Overall, differences in class size and years of teaching experience do not significantly influence the use of instructional strategies. In terms of class size, five strategies proved to have mean scores that were statistically significantly different between groups: write narratives (p = .035), students assess their own writing (p = .001), teach strategies for editing (p =.019), teach strategies for revising (p = .006), and collaborate to plan, draft, revise and edit (p = .007). Teachers with classes of 21-30 students reported using the strategies with statistically significant differences more frequently. The strategy that proved to have a statistically significant difference in reported use by years of teaching experience was to have students write informative texts (p = .019). Teachers with 11-15 years of experience reported using this strategy most frequently. Although not statistically significantly different, teachers with 11-15 years of experience reported the most frequent use of 15 of the 20 strategies.

When examining how fourth grade teachers in West Virginia report effectiveness of the 20 instructional practices, it becomes clear that teachers were frequently using the strategy they perceived to be most effective (provide positive reinforcement; $m = 4.15$) and are infrequently using the strategy they perceive to be least effective (explicitly teach typing; $m = 2.83$). However, there were few statistically significant differences in teacher perception of effectiveness based on demographic variables. There was a statistically significant difference in means between the two groups based on class size for one strategy: have students write narrative pieces ($p = .004$). Teachers with larger class sizes (21-30 students) reported having students write narratives more than teachers with fewer students in their class. There were statistically significant differences in means between the five groups based on years of experience for two strategies: have students write opinion pieces ($p = .024$) and have students write informative texts ($p = .019$).

Four general themes emerged as barriers to teaching evidence-based writing practices when the 173 responses from 131 participants were analyzed. The most frequently reported challenges were related to student ability and skill. COVID-19 was a recurring sub-theme that participants attributed to the low student abilities they observed. The amount of time available to teach writing was another challenge frequently reported.

When comparing how teachers use product-oriented and process-oriented writing strategies, it is evident that fourth grade teachers in West Virginia are using both approaches. Teachers of classes with 21-30 students had higher use means for eight of the 12 product strategies compared to teachers of classes with 11-20 students. Teachers with 11-15 years of experience recorded the most frequent use of eight of the 12 product strategies.

Teachers of classes with 21-30 students had higher use means for six of the eight process-oriented strategies. One strategy (teach strategies for planning; $m = 4.27$) produced the same mean score in both groups. Although there were no statistically significant differences between groups for any of the eight process strategies, it became clear upon comparing rank ordered means that teachers with 11-15 years of experience reported using seven of the eight process-oriented strategies with more frequency than any other group of teachers.

Teachers of classes with 21-30 produced higher mean scores of effectiveness for nine of the 12 product strategies. Two of the product strategies produced statistically significant differences: have students write opinion pieces and have students write informative texts. Although ANOVA results indicated no statistically significant differences in mean scores of effectiveness by years of teaching experience, teachers with 11-15 years of experience produced higher mean scores of effectiveness for seven of the eight process strategies.

Chapter Five: Conclusions, Discussion, and Recommendations

This chapter contains conclusions and recommendations based on the study findings. Sections in this chapter include the statement of the problem, research questions, data collection methods, a summary of the findings, conclusions, discussion and implications, policy and leadership implications, and recommendations for future research.

Problem Statement

Students who do not write well struggle academically, have less than expected college attendance rates, and in adulthood, will be more likely to be considered less qualified for employment and promotion (National Commission on Writing, 2004). Available data indicate West Virginia's students perform below the national average in writing achievement. Addressing this deficiency requires initiating effective writing instruction in the early grades. Effectively teaching the writing process requires substantial teacher training, time, and commitment. Teachers are pressured to focus their efforts on ELA and mathematics instruction because of the emphasis on high-stakes summative testing and they lack adequate preservice and in-service training in writing. Moreover, there has been no systematic assessment of how writing is taught in West Virginia's elementary schools. Therefore, the purpose of this study was to establish an initial database describing writing instruction in West Virginia's fourth grade classrooms. After analyzing teacher reported usage and perceived effectiveness of twenty instructional strategies, and the barriers that stand in the way of using the strategies, recommendations will be made to encourage the use of effective writing strategies in fourth grade classrooms in West Virginia.

Research Questions

The following questions guided this study:

1. What instructional strategies are fourth grade teachers in West Virginia using to teach writing?

2. What are the differences based on selected demographic/attribute variables, if any, in the instructional strategies used by fourth grade teachers in teaching writing?

3. What instructional strategies do fourth grade teachers perceive to be effective in teaching writing?

4. What are the differences based on selected demographic/attribute variables, if any, in fourth grade teacher perceptions about the effectiveness of selected instructional strategies for teaching writing?

5. What do fourth grade teachers perceive to be the major challenges/barriers to effectively teaching writing?

Data Collection

The population for the study was fourth grade teachers in West Virginia. Using a database provided by the West Virginia Department of Education's Office of Data Management, a survey was sent to all deliverable email addresses assigned to teachers of the fourth grade across the state. The survey titled *Implementation and Effectiveness of Instructional Strategies for Teaching Writing* (Appendix D) was delivered to 1,180 emails on October 26, 2021. The survey window remained open until January 4, 2022.

The survey included a combination of multiple choice and constructed response items. One-hundred twenty-two participants completed more than 50% of the survey and were considered for analysis. The 122 completed submissions provided the sample for the study.

Although 122 responses qualified for quantitative analysis of the multiple-choice responses, an additional nine participants answered the constructed response item, providing

responses from 131 participants for analysis. Many participants included multiple responses within the constructed response item. A total of 173 responses between 131 respondents were recorded and analyzed.

Summary of Findings

Fourth grade teachers reported using some strategies more than others. Teachers reported providing positive reinforcement most frequently ($m = 4.36$). Other highly used strategies included providing clear and specific goals ($m = 4.31$), teach sentence construction ($m = 4.28$), teach strategies for planning ($m = 4.25$) and explicitly teaching spelling ($m = 4.16$). The two strategies reported least frequently were explicitly teaching typing ($m = 2.45$) and explicitly teaching handwriting ($m = 3.10$).

Survey results indicated differences based on demographic variables (class size and years of experience) in the instructional strategies used by fourth grade teachers. Teachers with larger class sizes (21-30 students) had higher mean scores than those with smaller class sizes (10-20 students) for five of the 20 instructional strategies: have students write narrative texts ($p = .035$), have students assess their own writing ($p = .001$), teach strategies for editing ($p = .019$), teach strategies for revising ($p = .006$), and have students collaborate to plan, draft, revise and edit ($p = .007$). Comparing teacher use of the strategies by years of experience (five or less, six-10, 11-15, 16-20 and more than 20) did not produce many statistically significant differences. Only one strategy, have students write informative texts, was statistically significantly different ($p = .019$). The mean scores for this strategy were largest for teachers with 11-15 years of experience ($m = 4.35$).

Teachers were also asked to indicate their perceived level of effectiveness for each of the strategies. The strategy that was ranked highest in terms of effectiveness was provide positive

reinforcement ($m = 4.15$). Ninety-three (76.2%) respondents rated this strategy as more than somewhat effective. Other strategies commonly reported as effective included: teach sentence construction ($m = 3.93$), provide clear and specific goals ($m = 3.91$), teach strategies for planning ($m = 3.81$), explicitly teach spelling ($m = 3.71$), and teach attributes of specific types of writing ($m = 3.70$). The strategies West Virginia teachers deem to be effective are reflected in the meta-analyses of writing instruction for students in the elementary grades (Graham et al., 2012).

Survey results indicated few differences based on demographic variables in teacher perceptions about the effectiveness of the strategies. One strategy (have students write narratives; $p = .004$) produced a statistically significant difference in means between groups based on class size. The mean scores for this strategy were highest for group 2 (21-30 students; $m = 3.49$). Two strategies (have students write opinion pieces; $p = .024$; and have students write informative texts; ($p = .019$) produced statistically significant differences in means between groups based on years of experience. Teachers with 11-15 years of experience had higher mean scores for level of effectiveness than the other four groups for these two strategies. Overall, the demographic attributes selected for analysis of this survey did not make a significant difference when considering what strategies teacher perceive to be effective.

Four major themes emerged from the analysis of the survey responses. The most frequent challenges reported were related to varying student abilities and lack of student knowledge. Eighty-nine responses mentioned student abilities and prior knowledge as major barriers to teaching evidence-based writing in the fourth grade. Responses that included syntax, sentence structure, grammar, revising, editing, varying levels of proficiency and ability, stamina, spelling, prior knowledge, vocabulary, COVID-19 learning loss, and handwriting were included in this category.

Nine of the 12 (75.0%) product-oriented strategies had level of use mean scores above 3.50. Four of these nine highly used product-approach strategies (provide clear and specific goals, teach sentence construction, explicitly teach spelling, and teach attributes of specific writing types) had level of use mean scores above 4.00. Seven of the eight (87.5%) process-oriented strategies had level of use mean scores above 3.50. Two of these highly used process-oriented strategies (provide positive reinforcement and teach strategies for planning) had level of use mean scores above 4.0.

An analysis of the average mean scores for each strategy group determined that fourth-grade teachers reported using process-oriented strategies (average $m = 3.82$) more than product-oriented strategies (average $m = 3.72$). Teachers with 11-15 years of experience recorded the most frequent use of eight of the 12 product strategies and teachers with class sizes of 21-30 students also reported higher use means for eight of the 12 product-oriented strategies. Overall, demographic variables do not appear to be a factor in differentiating use of evidence-based writing strategies by process or product approach.

Eight of the 12 (66.7%) product-oriented strategies had level of effectiveness mean scores above 3.5, but none of these strategies were rated above 4.00 for effectiveness. Three of the eight (37.5%) process-oriented strategies had level of effectiveness mean scores above 3.50. One strategy in this group, provide positive reinforcement, had a mean score above 4.00 for effectiveness. An analysis of the average mean scores for each strategy group determined that fourth-grade teachers reported process-oriented strategies (average $m = 3.57$) to be substantially equivalent in effectiveness to product-oriented strategies (average $m = 3.55$). Teachers of classes with 21-30 produced higher mean scores of effectiveness for nine of the 12 product strategies. Two of the product strategies produced statistically significant differences: have students write

opinion pieces and have students write informative texts. Although ANOVA results indicated no statistically significant differences in mean scores of effectiveness by years of teaching experience, teachers with 11-15 years of experience produced higher mean scores of effectiveness for seven of the eight process strategies.

Conclusions

The data collected through this study are sufficient to support the following conclusions:

What instructional strategies are fourth-grade teachers in West Virginia using to teach writing?

Teachers reported using positive reinforcement most frequently when teaching writing. The five additional strategies with the highest use ratings included providing clear and specific goals, teaching sentence construction, teaching strategies for planning, teaching attributes of specific writing types, and explicitly teaching spelling. Seventy percent or more of teachers reported using these six strategies sometimes to regularly.

What are the differences based on selected demographic/attribute variables, if any, in the instructional strategies used by fourth-grade teachers in teaching writing?

Statistically significant differences based on class size in teacher use of evidence-based strategies were found for five of the 20 strategies. Teachers with class sizes between 21-30 students reported having students write narratives, having students assess their own writing, teaching strategies for editing, teaching strategies for revising, and having students collaborate to plan, draft, revise and edit statistically significantly more frequently than teachers with class sizes between 10-20. Overall, however, class size does not appear to be a factor in the use of evidence-based strategies to teach writing in the fourth grade.

Statistically significant differences based on years of experience in teacher use of evidence-based strategies were found for one of the 20 strategies. Teachers with 11-15 years of experience reported having students write informative texts statistically significantly more than other groups of teachers. Overall, however, years of experience does not appear to be a factor in the use of evidence-based strategies to teach writing in the fourth grade.

What instructional strategies do fourth-grade teachers perceive to be effective in teaching writing?

Teachers reported providing positive reinforcement to be the most effective strategy when teaching writing. Additional strategies teachers perceived to be effective included teaching sentence construction, providing clear and specific goals, and teaching strategies for planning. Sixty percent or more of teachers reported these three strategies to be somewhat effective to effective.

What are the differences based on selected demographic/attribute variables, if any, in fourth-grade teacher perceptions about the effectiveness of selected instructional strategies for teaching writing?

Statistically significant differences based on class size in teacher perceptions about the effectiveness of evidence-based strategies were found for one of the 20 strategies. Teachers with class sizes of 21-30 students reported having students write narrative pieces to be effective more so than teachers with class sizes of 10-20 students. Overall, however, class size does not appear to be a factor in perceptions about the effectiveness of evidence-based writing in the fourth grade.

Statistically significant differences based on years of experience in teacher perceptions about the effectiveness of evidence-based strategies were found for two of the 20 strategies: have

students write opinion pieces and have students write informative texts. Teachers with 11-15 years of experience reported higher mean scores for these strategies significantly more than teachers in other groups. Overall, however, years of experience does not appear to be a factor in perceptions about the effectiveness of evidence-based writing in the fourth grade.

What do fourth grade teachers perceive to be the major challenges/barriers to effectively teaching writing?

Teachers reported many challenges in delivering effective writing instruction. The most frequent challenges reported include varying student abilities and lack of student knowledge, insufficient time, student attitudes and motivation toward writing, and lack of teacher support and training.

Conclusions from Ancillary Findings

Teachers reported using process-oriented strategies more frequently than product-oriented strategies. Mean scores of teacher perceptions of the effectiveness of evidence-based strategies were slightly higher for process-oriented than product-oriented strategies. Class size and years of teaching experience do not appear to be a factor in the use or perceptions of the effectiveness of product-oriented and process-oriented writing strategies in fourth grade.

<div align="center">

Discussion and Implications

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Limited research on writing instruction and the writing practices implemented by West Virginia educators prompted this study. A primary purpose for asking teachers to record the frequency of use and perceived effectiveness of a variety of strategies was to establish a database to guide future research, professional development, and preparation programs for teachers. After careful analysis of the survey responses, it is apparent that West Virginia fourth-grade teachers find positive reinforcement to be an effective strategy and use it frequently. Similarly, Graham,

Kiuhara et al. (2012) found adult feedback (effect size = .80) to have a statistically significant average weighted effect size. Other strategies West Virginia teachers used regularly (*m* > 4.0) and perceived to be effective (more than 58% of participants indicated a four or five on the effectiveness scale) included providing clear and specific goals, teaching sentence construction, teaching strategies for planning, explicitly teaching spelling, and teaching attributes of specific types of writing. All but one of these strategies can be found within the 11 elements of effective adolescent writing instruction recommended in the *Writing Next* report published by the Alliance for Excellent Education (Graham & Perin, 2007). According to the report, teaching strategies for planning has a reported effect size of .82; teaching sentence construction has an effect size of .50; and studying models of specific types of writing has an effect size of .25. Spelling, while not a recommendation in the *Writing Next* report for adolescent writers, was considered to have strong effects (ES = .55) on student writing in grades 1-3 in the meta-analysis conducted by Graham, McKeown et al. (2012).

Results of the survey indicated that West Virginia fourth-grade teachers find explicitly teaching typing to be ineffective and seldom use it. The perceptions of participants of this research are not reflective of the literature; transcription skills (including spelling and handwriting) were found to have a statistically significant, but moderate, effect size (ES = .55). in the Graham, Kiuhara, et al. meta-analysis (2012).

The study also examined the differences in use of the instructional strategies based on class size and years of teaching experience. With only five of the strategies in which the recorded means are larger in class sizes between 21-30 being statistically significant, overall, class size does not appear to make a difference. Although only five were statistically significantly different, it is important to note that the 21-30 group reported higher mean scores for 14 of the 20

strategies. This trend was unexpected as it is common for teachers to advocate for smaller class sizes in order to be able to accomplish more instruction (Addonizio & Phelps, 2010). Although "class size" did not emerge as a common barrier to teaching writing for this population, there were several responses that suggested class size might be a factor in how evidence-based writing instruction is delivered. For example, participants indicated time was an issue because they would like to have more opportunities to meet with each individual student to help monitor and guide the writing process.

It is possible that the five strategies with statistically significant differences are beneficial to managing larger group sizes. For example, teaching students to edit their own work may free up time for the teacher with a larger class size in the long run by putting ownership on the student and taking responsibility away from the teacher. Future research with larger samples would be valuable to test this theory.

The difference in strategy use based on years of experience was also investigated. Although only one strategy was statistically significant, a trend did appear that suggested teachers with 11-15 years of experience used most of the strategies more frequently than teachers in other groups. Because of the complex nature of writing, it is possible that it takes significant time for teachers to refine their practices and develop a collection of instructional strategies that work for them and their students. The instructional support required to teach writing standards and to instruct students to become proficient writers may not come naturally to inexperienced teachers early in their career.

A common theme that developed as a barrier to implementing evidence-based writing strategies was lack of teacher preparation. Teacher preparedness is a widespread concern (Gilbert & Graham, 2010; Brindle et al., 2016). Gilbert and Graham (2010) found two-thirds of the U.S.

teachers in grades 4-6 surveyed reported they received minimal to no preparation to teach writing from the education courses they took during college. Brindle et al. (2016) found three out of every four U.S. teachers in grades 3-4 surveyed reported their preparation to teach writing lower than their preparation to teach any other content area. Based on these national surveys, it is likely that West Virginia teachers are under-prepared to teach writing as they enter their career, and because they feel inadequately supported with curricula and professional development, it could take at least a decade for them to find a writing routine that works for them. Classroom observations and interviews with teachers would be insightful to learn more about why this group of teachers seem to use most strategies more than other groups.

The most common challenge or barrier teachers reported was student abilities and knowledge. Teachers reported students lacking skills related to syntax, sentence structure, grammar, revising, editing, stamina, spelling, prior knowledge, vocabulary, and handwriting. Previous research pointed to varying abilities of children within classes was considered a hindrance for both high implementers and low implementers of writing instruction (Harward et al., 2014). Furthermore, beliefs about teaching writing and the capabilities of their students could predict how frequently teachers used various approaches to teaching writing (Graham, 2018). It is possible that teacher's beliefs about their student's capabilities influence what strategies they use. Because the instructional strategies included in the survey are all connected to the West Virginia College- and Career-Readiness Standards, teachers should be expected to use them with enough frequency that the student achieves mastery of the standard (West Virginia Department of Education, 2020a). However, it is possible that the widespread belief that students are entering the fourth grade under prepared for the demands of fourth grade writing is prohibiting teachers

from implementing certain strategies. Further research as well as professional development about holding high expectations for students would be valuable.

Close examination of the differences in responses to survey items identified as either process- or product-oriented indicate that West Virginia fourth grade teachers are using approaches that are both process- and product-focused. Cutler and Graham (2008) found similar results when surveying a random sample of primary grade teachers in the United States: 72% of teachers surveyed indicated that they used a process approach combined with traditional skills instruction.

This is reassuring because the two theoretical frameworks have been found to complement each other when elements of each of the frameworks are combined. In the What Works Clearinghouse Practice Guide published by the U.S. Department of Education and Institute of Education Sciences, Graham, Bollinger, et al. (2012) established recommendations that combined process and product strategies (i.e., teach the writing process and teach students to become fluent with traditional skills such as spelling, sentence construction, and transcription). Graham and Sandmel (2011) conducted a meta-analysis to examine if process writing instruction improved quality of student's writing and motivation to write. Although they found process writing instruction to be statistically significant for students in general education, the authors recommended integrating other effective writing practices such as explicit handwriting, sentence combining, and spelling instruction into the process approach to enhance the instruction.

Both approaches were analyzed for differences based on class size and years of teaching experience. Teachers with class sizes of 21-30 students reported higher use means for eight of the 12 product-oriented strategies. Although an independent samples t-test indicated only one strategy (have students write narratives; $p = .035$) with a mean score that was statistically

significantly different from the group with smaller class sizes, the trend suggests teachers of larger classes might be more likely to use product-oriented strategies than teachers of smaller classes. In a product-oriented classroom, learners spend much of their time studying and mimicking model texts with a primary goal of using accurate vocabulary, grammar, syntax, and other devices specific to a particular product or model of writing (Badger & White, 2000; Nunan, 2015). In classes with more students, it is reasonable to use a mentor text for the entire group and expect students to have similar goals. Because the product approach assumes the learner to be passive in the learning process, it makes sense that teachers with a large number of students would gravitate toward this approach (Faigley, 1986).

Teachers with classes of 21-30 students reported higher frequency of use for six of the eight process strategies. This may seem contradictory to the finding that teachers in this group also used most product-oriented strategies more frequently. However, when considering that statistically significant differences in mean scores of use were found for four strategies, it seems possible to investigate why those particular strategies were significantly different. The four strategies that provided statistically significant differences included have students assess their own writing, teach strategies for editing, teach strategies for revising, and have students collaborate to plan, draft, revise and edit. All four of these strategies are emphasized in the process approach to teaching writing, which stresses students' ownership of their writing, self-reflection, self-evaluation, and peer collaboration (Graham & Sandmel, 2011). One can assume a teacher with a large class roster would be motivated to teach students these four process-oriented strategies because they require the student to master tasks that would otherwise require teacher intervention.

Statistically significant differences were found when comparing means of levels of perceived effectiveness about product strategies by years of teaching experience (have students write opinion pieces and have students write informative texts). Teachers with 11-15 years of experience reported higher mean levels of effectiveness for these two strategies compared to the other groups of teachers. No statistically significant differences were found when comparing groups of teachers by years of experience and process strategies. However, the highest mean scores for all eight of the process strategies were reported by teachers with 11-15 years of experience.

Policy and Leadership Implications

Three major recommendations were extrapolated from the analysis of the 122 responses to the items about strategy use and effectiveness as well as the 173 responses identifying challenges and barriers to delivering evidence-based writing instruction. First, districts and schools should provide teachers with relevant professional learning that encourages the use of evidence-based writing practices early in teachers' careers. Studies have indicated that teachers make the most significant growth in the first three years of their careers (Podolsky, 2019). Because teachers feel under prepared to teach writing upon completion of their college preparation program (Brindle et al., 2016; Gilbert & Graham, 2010) and teacher efficacy has been shown to be a predictor of student achievement, it is critical to provide effective practice-based professional development in writing so that teachers feel confident and comfortable teaching writing earlier in their careers (Brindle et al., 2016; Troia et al., 2011).

Professional learning should be a priority for leaders at every level of the public education system. The data collected may be of interest to state leaders, policy makers, and leaders of institutions of higher education as they consider revisions to teacher preparation

programs for both pre- and in-service educators. Specific to writing outcomes, there is evidence that students with trained writing teachers perform better than students of non-trained teachers (Pritchard & Honeycutt, 2006). Therefore, state leaders and county- or school-level administrators should arrange practice-based professional learning sessions about evidence-based writing practices targeted to teachers in the first ten years of their career, if not within the first three years. However, the professional learning should not end after one session; teachers should feel supported early and often to continue to improve throughout their career. Teachers will devote more attention to writing if they feel confident and knowledgeable about how to teach it (Brindle et al., 2016).

With that being said, leaders should be careful not to overwhelm teachers with new curriculum and the newest trends every year. Leaders should invest in teacher knowledge about writing practices instead of new curricula, technology, or software licenses that can become outdated. Teachers reported feeling overwhelmed with curriculum/strategy fatigue when leadership changed expectations from year to year. Instead, leaders should share research with teachers about what writing strategies work best and provide opportunities to share common expectations (Darling-Hammond et al., 2017; Graham, 2019; Graham & Perin, 2007).

Second, districts should adopt a systems approach to professional learning where principals and teachers across grade levels within schools establish lines of communication so that knowledge, critical feedback, and possible solutions to improving student writing can be shared beyond the classroom walls (Traga Philippakos, 2021). Writing instruction is more likely to be effective when standards, curriculum, assessments, and instructional methods are aligned, so the same should be done between schools and district- or state-level administrators (Darling-Hammond & Bransford, 2005; Graham, 2019). Because West Virginia teachers reported that

student prior abilities and knowledge hindered writing instruction, it would be beneficial to create professional learning communities where educators can devote time to analyze standards and relative student data (Darling-Hammond, 2017). In professional learning communities that span grade levels and staff roles, participants could complete vertical standards progressions to identify what students should have mastered in previous grade levels and where they should be prior to entering the next grade. This collaboration would ensure teachers and principals have a shared understanding of grade level expectations, develop a common understanding of what instructional strategies may or may not be working, and help to close potential learning gaps and accelerate instruction to meet current standards (Darling-Hammond, 2017, Traga Philippakos, 2021).

Principals should be active participants in discussions about writing curricula and student data. Student abilities and knowledge was the most common barrier reported by teachers in this survey. Principals should be members of the data team that analyzes student performance and identifies areas of weakness. When principals have a clear picture of reality related to both the needs of the teachers and the students, they will be better available to support writing initiatives (Moore Effs, 2018). Additionally, principals should schedule time for professional learning communities and encourage teachers to discuss strategies and solutions together (Darling-Hammond et al., 2017). Principals could encourage teachers in their buildings to conduct vertical alignments with their writing standards to better understand what is expected of students in the previous grades, and to plan for addressing gaps in mastery to accelerate student performance with proficiency. In order to ensure students receive strong writing instruction, teachers must feel confident in delivering instruction that meets their needs. In their professional learning communities, teachers and principals could ensure the identification of common vision and goals

for writing instruction and student performance and what instructional practices will be applied to meet those goals (Bransford et al., 2005)

Teachers indicated lack of teacher support and training as significant barriers to implementing evidence-based writing practices in the fourth-grade classroom. Teachers reported feeling unsupported due to inadequate training, curriculum, and/or resources. This common theme alone is enough to suggest school, district, and state leadership need to take action to mitigate barriers for teachers. Additionally, there were more responses to the constructed response item on the survey than complete responses to the multiple-choice items suggesting teachers felt strongly about having their voices heard regarding the challenges and barriers they face.

Third, more time should be dedicated to the writing curriculum. Time was the second most common barrier that emerged from the survey. Many teachers admitted their schedule presented barriers to their instruction, and only 40% of respondents reported having students write for at least 30 minutes per day. Leaders should be aware that teachers report feeling like writing standards are overshadowed by reading and mathematics standards and that effective writing instruction depends on sufficient time (National Commission on Writing, 2003). Education leaders have the power to revise daily schedules to allow for more time for writing instruction. An even simpler solution might be to guide teachers in conducting a crosswalk of their standards to see how writing standards complement other content areas. For example, invite teachers to have students write outside of the time secured for writing instruction by encouraging writing to topics already planned to be presented in reading, science, or social studies periods. There is evidence that increasing writing in the content areas improves writing skills and

comprehension in the other content areas, therefore, increasing time for writing only adds overall value (Graham & Hebert, 2011; Graham & Perin, 2007).

Recommendations for Future Research

To better understand the writing practices of West Virginia educators, further research should be conducted in the following areas:

1. Current research is limited to fourth grade public school teachers. Future research should be expanded to include other grade levels. Because student abilities emerged as the biggest challenge to teaching writing, it would be beneficial to understand how teachers of earlier grades teach writing and what challenges they face.

2. The current study was limited to studying only two demographic variables: class size and years of experience. Teacher preparation programs could also be a variable. A future study could ask teachers to describe their teacher preparation program and how it addressed writing instruction.

3. The data used in this study were collected through a survey disseminated directly to teachers via email. In the future, the survey could be sent to principals to disseminate to their teachers. It is possible that teachers would be more likely to open and complete a survey provided to them by someone familiar.

4. The nature of the survey research was limiting in that it did not allow teachers to elaborate on their experiences. Future research should include classroom observations and individual interviews to gather more complete data.

5. Because the survey was mailed during a time that COVID-19 was still present and a contributing factor to the way teachers interacted with students, additional research

should be conducted to measure differences in the way teachers report using strategies

post-pandemic.

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Appendix A: IRB Approval

MARSHALL UNIVERSITY®
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Office of Research Integrity   FWA 00002704
Institutional Review Board
One John Marshall Drive   IRB1 #00002205
Huntington, WV 25755   IRB2 #00003206

September 10, 2021

Ronald Childress
Leadership Studies, COEPD

RE: IRBNet ID# 1795588-1
At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Childress:

Protocol Title:	[1795588-1] Implementation and Effectiveness of Instructional Strategies for Teaching Writing

Site Location:	MU	
Submission Type:	New Project	APPROVED
Review Type:	Exempt Review	

In accordance with 45CFR46.104(d)(2), the above study was granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Designee. No further submission (or closure) is required for an Exempt study **unless** there is an amendment to the study. All amendments must be submitted and approved by the IRB Chair/Designee.

This study is for student Margaret Luma.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Anna Robinson at (304) 696-2477 or robinsonn1@marshall.edu. Please include your study title and reference number in all correspondence with this office.

Sincerely,

Bruce F. Day, ThD, CIP
Director, Office of Research Integrity

Appendix B: Data Sharing Agreement

West Virginia Department of Education
Education Data Request Form

WVDE makes information available to the public through a dashboard reporting site called ZoomWV. Please visit http://zoomwv.k12.wv.us to review publicly available information through dashboards and supplemental reports. To request education information not currently available through public reports, please complete this form, providing as much information as possible to assist WVDE staff in determining the best way to respond. Completed forms should be emailed to zoomwv@help.k12.wv.us.

Name (First and Last):	Date:
Maggie Luma	June 2, 2021
Email:	**Phone #:**
myelencsi@k12.wv.us	304-558-9994

Role or Affiliation:

☐ Parent ☐ Policymaker
☐ Business/Community ☒ Researcher
☐ Journalist/Media ☐ Other:

What type of data are you requesting? (Select all that apply.)	What level of data are you requesting? (Select all that apply.)
☐ Student-related Data ☒ Teacher/Administrator/Staff Data ☐ Financial (or Related) Data ☐ Other (please describe briefly):	☐ State Level ☐ District Level (Please specify which districts) ☐ School Level (Please specify which schools) ☐ Individual Level (Student or Staff Member) *

What data are you requesting? (Please be as specific as possible, using variable or field names, if known).

email addresses of fourth grade teachers

For what school years?

2021-2022

For what purpose are you requesting the information?
(Please describe your reasons for requesting this information and how you intend to use the information.)

    I am requesting this to conduct research toward my dissertation for Marshall University This study will focus on how fourth grade teachers in West Virginia report delivering writing instruction. Data about what instructional strategies teachers deem as effective, how much time they dedicate to writing instruction, and what, if any, barriers exist to implementing instruction will be collected using surveys. The data collected will be used to inform educational leaders at the elementary level in order to better support teachers in this area of education. Because writing proficiency is connected to student success in and out of educational settings, there is cause for school leaders to address writing instruction as early as elementary school.

Intended Use for Reporting/Publication (Please select any that apply)

☐ This is an informal information request; the information will not result in a report or be shared with the public.
☒ I will generate an academic or research report or presentation based on these data.
☐ I will generate a new item or media report or presentation based on these data.
☐ I will publish or share these data with the public.

Special Considerations or Notes Regarding this Request
This item can be used to help WVDE better understand time-sensitivity, larger contextual issues or concerns, and so on.

I am in the process of writing the survey instrument but need preliminary permission from WVDE saying I will have access to the k12 email addresses. The survey likely will not be sent until Fall 2021 or Winter 2022.

* Student data are available only in aggregate and/or de-identified formats. Pursuant to FERPA and WVBE Policy 4350, WVDE will not release student-level data or other personally identifiable information to external parties except when subject to formal research or data access/disclosure agreements legally binding all parties to specific terms and requirements.

Note: For student data, the minimum reportable group/cell size is 10 ($n = 10$). All cells with fewer than 10 students will be suppressed to protect student privacy. Complementary suppression may be applied as needed to prevent calculation of suppressed small group counts.

If there are costs involved in the fulfillment of your request, WVDE will provide you with a time/cost estimate prior to moving forward with fulfillment. If you are planning to use the requested data for a research project, WVDE may ask you to complete a Research Proposal Application. WVDE staff will follow up with you as needed for additional information or clarification.

West Virginia DEPARTMENT OF
EDUCATION

Last Revision 06/27/2017

Anonymous Survey Consent
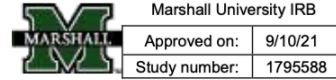
You are invited to participate in a research project entitled "Teacher Perceptions of Writing Instruction in West Virginia" designed to analyze what instructional strategies fourth grade teachers deem as effective, how much time they dedicate to writing instruction, and what, if any, barriers exist to implementing instruction. The study is being conducted by Dr. Ron Childress and Maggie Luma from Marshal University and has been approved by the Marshall University Institutional Review Board (IRB). This research is being conducted as part of the dissertation requirements for Maggie Luma.

This survey is comprised of six total items and should take no longer than five minutes to complete). Your replies will be anonymous, so do not type your name anywhere on the form. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate you can leave the survey site. You may choose to not answer any question by simply leaving it blank. Once you complete the survey you can delete your browsing history for added security. Completing the on-line survey indicates your consent for use of the answers you supply. If you have any questions about the study you may contact Dr. Ron Childress at 304-746-1904, or Maggie Luma at 304-696-2945 or yelencsics@marshall.edu.

If you have any questions concerning your rights as a research participant you may contact the Marshall University Office of Research Integrity at (304) 696-4303.

By completing this survey you are also confirming that you are **18** years of age or older.

Please print this page for your records.

If you choose to participate in the study you will find the survey at www.xxxxxxx.com

Appendix D: Implementation and Effectiveness of Instructional Strategies for Teaching

Writing

Q1 Do you teach fourth grade?
- o Yes
- o No

Q2. Do you teach writing to fourth grade students?
- o Yes
- o No

Q3. How many years have you been teaching?
- o Less than one year
- o One year to five years
- o Six years to 10 years
- o 11 years to 15 years
- o 16 years to 20 years
- o 21 years or more

Q4. How many students are currently on your fourth grade roster?
- o Less than 10 students
- o 10 to 20 students
- o 21 to 30 students
- o 31 to 40 students
- o 41 students or more

Q5. Following is a list of selected practices for teaching writing. Using the scale provided in column A, please rate each strategy in terms of your current level of classroom use. Using the scale provided in column B, please rate each strategy in terms of its effectiveness in improving student writing proficiency.

	Use			Effectiveness		
	Seldom	Sometimes	Regularly	Ineffective	Somewhat Effective	Effective
Have students write opinion pieces on topics or texts	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Have students write informative or explanatory texts to examine a topic and to clearly convey ideas and information	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Have students write narratives to develop real or imagined experiences or events	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Have students spend at least 30 minutes per day writing	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Provide individual students with positive reinforcement for writing	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Teach students strategies to self-regulate the writing process	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Have students assess their own writing performance	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Provide students with clear and specific goals	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Teach strategies for planning	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Teach strategies for editing	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Teach strategies for revising	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Have students collaborate to plan, draft, revise and edit a paper	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Teach students to use technology to produce and publish writing	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Make student writing visible by having them share it with others, displaying it on the walls, or publishing in classroom collections	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Explicitly teach handwriting	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Explicitly teach typing	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Explicitly teach spelling	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Teach sentence construction skills	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Teach students the attributes of specific types of writing	○ ○ ○ ○ ○			○ ○ ○ ○ ○		
Have students study and imitate models of good writing	○ ○ ○ ○ ○			○ ○ ○ ○ ○		

Q6. What do you perceive to be the greatest barriers/challenges to effectively implementing evidence-based writing practices?

MARGARET LUMA

1214 Charleston Avenue, Huntington WV 25701 | 732.261.3397 | maggie.luma@marshall.edu

EDUCATION

Marshall University, Huntington, WV
Doctorate in Education, In Process   **August 2017-Present**
Leadership Studies

Marshall University, Huntington, WV   **2015**
Master of Arts
Literacy Education

University of Maryland, College Park, MD
Bachelor of Science   **2012**
Major: Elementary Education
Minors: English, Human Development

CERTIFICATION

Professional Teaching Certificate

- Elementary Education K – 6
- Reading Specialist PK-Adult
- English Language Arts 5-9
- Mentally Impaired Mild-Moderate K-6; Mentally Impaired Mild-Moderate 5-Adult

PROFESSIONAL EXPERIENCE

Chief of Staff, Marshall University's June Harless Center for Rural Educational Research and Development   **2021-Present**
Serves as chief financial officer for the Executive Director, and manages the collective operating budget of over $3,000,000 and the individual budgets of state, federal, and private grants.

Coordinator of Literacy Support   **2018- 2021**
State Lead, WV Campaign for Grade-Level Reading
Leads 55 counties in development of action plans to address closing the reading achievement gap by 3rd grade.

Early Literacy Specialist   **2015-2018**
Worked with educators, families, and community partners to help transform schools and communities into highly engaging literacy learning environments through the WV Campaign for Grade-Level Reading.

Studio Educator   **2013-2015**
Taught in a Reggio-inspired pre-kindergarten classroom at the Marshall University Early Education STEM Center in Huntington, WV. Assisted in planning and coordinating of professional development for teachers and administrators PK-5.

Lead Teacher   **2012-2013**
Taught pre-kindergarten at Trinity Episcopal Day School in Cranford, New Jersey.

SELECTED PROFESSIONAL PRESENTATIONS

The list below is a sampling of presentations that highlight the work of each year.

- 2022 – Worth the Investment: Writing Practices that Work
  West Virginia University College of Education and Human Services Statewide Speaker Series, Morgantown, WV

- 2021 – West Virginia Board of Education Policy 2512 & 2510: Resources Available for Non-Public Schools
  West Virginia Nonpublic School Coalition, Charleston, WV

- 2021 – Sparking Early Literacy: What's Working in West Virginia?
  West Virginia Public Education Collaborative and the Benedum Foundation, Virtual

- 2020 – Evidence Based Writing Instruction
  West Virginia Department of Education Summer Professional Learning Forum, Virutal

- 2019 – Raise Student Achievement via Student-Led Discussions, Close Reading and Writing
  Learning Forward Annual National Conference

- 2018 – Support for College- and Career Readiness Standards: ELA
  Council of Administrators of Special Education

- 2018 – Raising Literacy Achievement with Evidence Based Strategies
  West Virginia Reading Association

- 2017 – College- and Career-Readiness Standards for English Language Arts
  West Virginia Higher Education Policy Commission

- 2016 – Familu Engagement
  21st Century Community Learning Centers Regional Conference, Chattanooga, TN

- 2015 – Leveraging Your Zip Code: Partnerships for Success
  West Virginia State Reading Conference