Spring 2017

# A Review of LEAD PD Writing in the Content Areas: Measures of Teacher Self-Efficacy and Student Performance

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# A REVIEW OF *LEAD PD WRITING IN THE CONTENT AREAS:* MEASURES OF TEACHER SELF-EFFICACY AND STUDENT PERFORMANCE

A Specialist Project
Presented to
The Faculty of the Department of Psychology
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Specialist in Education

By
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May 2017

A REVIEW OF *LEAD PD WRITING IN THE CONTENT AREAS:* MEASURES OF TEACHER SELF-EFFICACY AND STUDENT PERFORMANCE

Date Recommended 3-24-2017

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ACKNOWLEDGEMENTS

It is hard to believe that my career as a graduate student is coming to a close. It seems as though I just began, unaware of the challenges and relationships graduate school would bring. These last three years would have been extremely difficult without the support and encouragement of my cohort who were part of this journey with me. I will cherish our years together and know that lifelong friendships were a result of this journey. To my parents, I thank you for teaching me to never settle for good when you can achieve great. Thank you for instilling the values of hard work, responsibility and determination in me. To my friends and family, thank you for listening to all of my ridiculous stories of graduate school and supporting me in all the stressful moments. I hope you one day understand what a School Psychologist actually does.

To my committee, thank you to Dr. Pam Petty for all of your support, confidence and guidance throughout this process. As your graduate assistant, I never knew what opportunities would result from such a relationship. I appreciate all that you have done for me the last three years, professionally and personally. Thank you to Dr. Daniel Super for your patience with me through this process as I asked you questions constantly. I don't know what I would have done without your knowledge of statistics and methodology. Finally, to Dr. Carl Myers, thank you for training your students to be professional and competent school psychologists. Thank you for being a listening ear to the woes of graduate school and for providing guidance and advice through this project.

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Data from recent college and career readiness measures indicate an alarming number of students are beginning college courses unequipped with the necessary writing skills to meet the demands of these courses. This, in addition to the Common Core State Standards, leave many teachers feeling underprepared to effectively teach writing. The current study sought to evaluate the effectiveness of LEAD PD: *Writing in the Content Areas*, a writing professional development initiative for teachers grounded in the writing standards and best practices of writing instruction. In partnership with a university of higher education, teachers from a local middle school were trained to *Learn* new information, *Embed* it into their instruction, *Assess* the effectiveness of instruction, and *Disseminate* their findings. The LEAD PD model was evaluated through ratings of teacher self-efficacy related to writing using the Teacher Personal Efficacy Survey and the Teacher Professional Efficacy Survey. Student writing performance was measured through the use of the Kentucky Online Testing (KYOTE) Writing Assessment Rubric. Results of this study indicated that teacher attitudes towards personal writing abilities did not change as a result of the LEAD PD training. However, increases in overall feelings of self-efficacy towards professional writing instruction were observed. Additionally, increases and/or changes were not always observed in teacher actions such as frequency of student engagement in writing tasks and effective feedback. Finally, significant increases were noted from pre/post scores on student writing samples.

# CHAPTER I: INTRODUCTION

In today's society, multiple methods of communication are accessible at the push of a button. Technology has transformed communication into a daily task that can be performed with ease and without much thought or preparation. Through these advances, the writing process has become less formal as forms of writing are used for simple daily tasks. In addition to daily communication and everyday tasks, writing aptitude ultimately impacts students' success in school. However, many students fail to notice the importance of writing beyond schooling. Many careers, especially those in business and government, use writing to produce documents in order to provide communications to inform and persuade (Graham & Harris, 2014). Students who do not form a solid knowledge of writing in the early years of education are more likely to experience great difficulty in higher education and careers with challenging writing demands.

Unfortunately, research has indicated that although writing skills are necessary for success, many students are still performing below proficiency on standardized testing related to their grade levels (Zumbrunn & Krause, 2012). This deficiency in students' writing performance presents an overarching problem: public schools may not be teaching writing well. Specifically, data from college and career readiness measures administered to college freshman indicate low readiness for the writing demands of college courses. Only one third of high school students complete their schooling as proficient writers and only 50% of students are prepared for the writing demands of college courses (Graham & Harris, 2014). The lack of college readiness costs businesses, higher education institutions, taxpayers, and students significant amounts of money to remediate reading and writing skills (Graham, 2008). Ultimately one main goal in

today's education system is to increase literacy levels both nationally and globally. This can be accomplished through improving writing instruction and increasing the amount of writing occurring in all schools and across content areas.

In order to best prepare students being educated in public schools for college, potential careers, and everyday life, the Common Core State Standards (CCSS) were established. Governors and school chiefs determined that "consistent, real-world learning goals" were necessary and should be readily available to all students (CCSS Initiative: Development Process, 2016, para.1). In Kentucky, the Common Core State Standards were adopted under the approved Senate Bill 1 (2009) and then renamed the Kentucky Academic Standards (KAS) (Kentucky Department of Education, 2009). The goals of the KAS focus on increasing student proficiency across writing, reading, and math by setting benchmarks at a higher level. In addition, the KAS state that students must be writing in all disciplines, as teachers are to ensure that their students are engaged and taking part in as many writing experiences as possible.

However, increasing the amount of writing across content areas may raise challenges with teachers, as many either may not feel equipped to teach writing effectively in their content area or may be unaware of the current best practices in writing (Graham, Capizzi, Harris, Hebert, & Morphy, 2013). Teachers also raise concerns that effective writing instruction is difficult to implement and they do not have enough time to spend on teaching it (Zumbrunn & Krause, 2012). This unpreparedness to teach writing can lower self-efficacy among teachers. Many studies suggest that student performance is impacted by teacher efficacy in implementation of effective writing instruction (Bandura, 1997; Hoy & Davis, 2006; Takahashi, 2010). Additionally, student success

greatly depends on the effectiveness of the teachers' instruction as well as confidence in their own writing (Takahashi, 2010). As teachers gain confidence in their own writing and abilities, there is a greater likelihood of positive student performance as well as perseverance from both teachers and students.

The evidence supporting a lack of college and career readiness among students as well as a lack of teacher preparedness in writing instruction, indicates a need for professional development in the area of writing (Bandura, 1997; Hoy & Davis, 2006; Takahashi, 2010; Zumbrunn & Krause, 2012; Graham et al., 2013). Specifically, teacher professional development is needed for writing instruction across all content areas. However, the research on professional development in high quality writing instruction is minimal. Among the expanse of teaching strategies and evidence based practices, very few have been used in research studies for writing intervention (Graham & Harris, 2014). To contribute to the literature on writing intervention, a professional development initiative involving specific teaching strategies for teachers across all content areas was created. Additionally, the results of this study will examine teacher's ability to Learn, Embed, Assess, and Disseminate professional development (LEAD PD) practices in order to continually improve their instruction.

Within the review of the literature, the history of writing instruction will be examined. This literature provides a foundation for where writing and writing instruction began and what it has evolved into today. To fully comprehend the demands placed on teachers to align their curriculums to the Common Core State Standards, the development of the CCSS (KAS in Kentucky) will also be examined. Additionally, literature on best practices in writing instruction is necessary in order to provide effective evidence-based

strategies to teachers when implementing professional development. Literature involving best practices in professional development, specifically writing interventions, is also necessary to provide evidence-based practices for developing and implementing effective interventions. Finally, literature regarding teacher self-efficacy is necessary to understand its impact on effective writing instruction.

**Learn Embed Assess Disseminate (LEAD) Professional Development: Writing in the Content Areas**

In addition to adopting the KAS, Senate Bill 1 (2009) mandated higher education institutions to partner with K-12 schools in efforts to increase the proficiency of students on statewide mandated testing. These institutions of higher education seek to train teachers to adapt their current curricula into one that is more equipped to meet the recently established state standards. Senate Bill 1 (2009) also mandated teachers to equip high school graduates with the necessary skills to meet the writing demands of their upcoming college courses (Petty & Super, 2015).

The Center for Literacy at one university in Kentucky provides services to underprepared students in order to help them meet the literacy demands required of them in college courses. Additionally, through grant funding, the Center for Excellence in Teaching and Learning at the university is used as an outreach to provide initiatives to surrounding school districts in Kentucky. Some of these initiatives address the area of English/Language Arts (ELA) and are presented in a professional development model to teachers. These professional development programs also assist schools in adapting their curriculums in order to meet the goals established in the Kentucky Core Academic Standards.

The Center for Literacy was approached by a local middle school to request professional development to help improve the proficiency of their students' writing. This middle school is considered to be in a high needs district. The school serves a variety of ethnicities in its student population and many students received free or reduced lunch. Additionally, this school's writing scores for the 2013-2014 school year indicated that percentages of students scoring proficient/distinguished in writing on statewide standardized testing were lower than the state average (Kentucky Department of Education: School Report Card, 2017).

In an effort to align this professional development (PD) program with best practices, current research in the field was consulted. The program to be evaluated is a unique professional development program with a unique type of delivery. The middle school seeking professional development in writing partnered with a four-year university located in the same geographic region. The university used state granted funds to bring necessary resources to the professional development initiative. This funding provided the leaders access to more materials for their presentation of the program than most traditional PD programs.

Although many professional development programs are one-day trainings for teachers of a specific discipline, LEAD PD included teachers from all content areas and was conducted over an entire school semester. Within the LEAD PD model, teachers were trained to follow a four step process. First, teachers were to *Learn* new information regarding writing instruction from trained literacy professionals. The program material was aligned with the writing standards as established in the KAS. Second, teachers were trained to *Embed* the new learned material and strategies into their instructional practices.

Along with many possible variables, the teacher's ability and willingness to embed material into their practices may be directly impacted by their self-efficacy beliefs relating to teaching writing. Third, teachers were trained to *Assess* changes in student performance as a result of their new instructional practices. Changes in other variables, such as teacher self-efficacy, were also assessed. Finally, teachers were expected to *Disseminate* findings beyond the classroom by sharing these findings with other teachers, schools, and organizations.

Ultimately, the LEAD PD initiative seeks to train teachers to change their thinking and the way they approach their instruction. Once teachers are successfully able to use LEAD PD to guide their work, the goal is for them to follow a cycle of continual improvement. This improvement is informed by best practices in writing instruction, their own data collection, and findings from previous years of instruction. Although teachers may not fully understand the evaluation process to determine the effectiveness of their instruction, other staff members employed by the school district, such as school psychologists, are trained in these areas. School psychologists could be key members of the LEAD process in schools as they are aware of best practices within schools, make daily data based decisions, are trained in program evaluation, and have knowledge of statistical analyses. If school psychologists were also incorporated into the LEAD process, they could assist teachers and administration through the process of continual improvement.

**Purpose of the Study**

Through the additional collaboration with the Center for Literacy, the Center for Excellence in Teaching and Learning, and the middle school administrators, the current

needs of the school were established. This partnership, along with previous data analysis, determined that these needs included improvements in student test scores, higher achievement, and professional development for staff. Two overall goals for the school were established: to increase self-efficacy in writing instruction among teachers and to increase student academic achievement as measured by writing test scores. The goal of LEAD PD: Writing in the Content Areas is to create improvements school-wide by training middle school teachers across all content areas how to align their writing instruction with current best practices in order to ultimately increase self-efficacy and student performance.

Additionally, it was the goal of the professional development providers to establish a model of continual improvement at the school. The LEAD PD model encourages teachers to engage in persistent professional growth, to incorporate new practices in their pedagogy, to assess the impact of those changes, and to share their findings with colleagues. By beginning this process with writing professional development in the content areas, the professional development providers endeavored to plant the seeds of such continued growth. The following research questions were developed to assist in an investigation of the effectiveness of LEAD PD on teacher self-efficacy and student writing performance:

1. To what extent did teacher personal self-efficacy change after the LEAD PD intervention?
2. To what extent did teacher professional self-efficacy change after the LEAD PD intervention?

3. To what extent were student writing performance scores on the KYOTE Writing Assessment affected after the LEAD PD intervention?

**Organization of Study**

This paper will consist of five chapters. Chapter One provides an introduction to the study. Within this introduction, the study's statement of the problem, need for the study, overview of LEAD PD, purpose, and organization is provided. Chapter Two consists of a thorough review of the literature discussing past research conducted on the present topics. The literature topics covered are as follows: History of Writing Instruction, The Kentucky Academic Standards, Best Practices in Writing Instruction, Best Practices in Writing Instruction Professional Development, and Teacher Self-Efficacy. Chapter Three provides the research design and questions, methodologies used for collection of data, participant selection, variables, description of instruments used, procedures, and data analysis. Chapter Four discusses the results from the study's data analysis, and Chapter Five provides the conclusions, implications, and recommendations for future research.

# CHAPTER II: LITERATURE REVIEW

## History of Writing Instruction

The origins of European-American writing were first found in ancient Greece and Rome and then followed through the Middle Ages, the Renaissance, and into America. Most people do not believe writing to be an innate skill, but instead one that must be taught (Murphy, 2001). Therefore, it is important to discuss how writing has been taught across time as well as how it has transformed into a powerful tool used in all aspects of life and work. Over the years, writing began to transform into more than just a means of preserving speech. It was also recognized as a way to promote higher levels of thinking and a means of expressing oneself. Murphy stated that once writers began to take on this stance when producing writing, they began to realize that writing allowed for abstract thinking, creativity, self-reflection, and long term problem solving.

Writing papers for English courses was an established practice by the end of the eighteenth century and became a central focus in many colleges across America. Writing instruction of this time focused on broad and general topics. However, the nineteenth century and the romantic period brought a shift in education and society as a whole. Within this shift, three aspects of change occurred. The first aspect was a larger focus on "poetry, fiction, drama, and essay" (Murphy, 2001, p. 223). Writing topics of the late nineteenth century began to shift from broad and general to ones of personal experiences and emotions of the writer. Additionally, writing assignments with personal meaning to the author had now become the focal point of writing instruction.

Second, technological advances created a more convenient writing environment, and technology brought about many advantages for generating, storing, and sharing

written information (Murphy, 2001). Through the use of technology, the writing process in itself had become more diverse and flexible. Composing and revising pieces was now easier. Additionally, the development of technology allowed for a more structured approach to writing. Sentences, paragraphs, outline format and sentence diagramming became part of this structure.

Finally, as the middle class began to form in the nineteenth century, new professions emerged which changed the curriculum to one that placed more writing demands on students (Murphy, 2001). As professionalism grew, people became experts in composing texts. The writing process had become more familiar as authors began to compose writing pieces more frequently. Ultimately, the purpose of effective writing at this time was to aid those in the middle class in becoming leaders for their communities.

In the last four decades, researchers have examined what actions writers engage in as they write as well as how writing instruction is modeled in the classroom. In previous years, students were given a topic in which they were required to write a response ranging from a few sentences to a page with little instruction as to what was appropriate writing. In addition, minimal class time was given for writing instruction in English classes and writing assignments were not common in subjects such as science, social studies, and math (Applebee & Langer, 2011). However, within the last two decades, there has been a push for writers to learn the process of gathering and organizing their ideas, create writing that is then revised and edited, and eventually publish their finalized work (Strickland et al., 2001). Instead of only striving to produce an answer to a question, students are now taught to create work based on personal experiences, knowledge and the emotional connection they have with the text. This change in writing

curriculum has been prominent in the lower grades as students are to be given more time for writing composition. However, this change has not been a simple task, as a push for consistency among writing instruction curricula has taken years to establish and is yet to be perfected.

Strickland et al. (2001) discussed the beginning of a cohesive curriculum. In 1966, the Carnegie Corporation brought together educators from both American and British backgrounds at all levels of schooling in an attempt to create an inclusive and consistent English curriculum. The Dartmouth Seminar was thus created as a result of this collaboration. The Seminar suggested that in order for students to increase their knowledge of language, they must use language that evokes meaning to each writer individually. Reading, writing, speaking, and listening were all to be seen as an integrated concept. However, teachers were concerned as to when a student's knowledge would become clear and easily articulated. They also desired to know if a student could achieve mastery in writing if they continually engaged in active reading and writing. Finally, the Dartmouth Seminar recommended continuous teacher education and research on writing. However, educators still did not have a means for continuous education and research.

The National Writing Project (NWP) was created in the mid-1970s to provide teachers with education about writing. Teachers involved in the project were required to produce their own writing, reflect on the writing experience, and involve themselves in research involving the teaching of writing (Strickland et al., 2001). However, the NWP did not provide a consistent framework for teacher education on specific writing instruction. An inconsistency remained between how literacy, specifically reading and

writing, was taught. Education still lacked a consistent curriculum that established goals for each grade level.

Strickland et al. (2001) discussed the first evidence of the state's involvement into curriculum and instruction. This involvement began in the 1980s when *A Nation at Risk* was published by the National Commission on Excellence in Education. This publication's intentions were to spark a reform in education. However, in 1989, when this reform did not occur as planned, President George H. W. Bush and several governors decided there must be a greater push. Therefore, they created six educational goals that were to be met by the education system by 2000. These goals were to be met through the assistance of Congress' National Council on Education Standards and Testing (NCEST). Strickland et al. (2001) continued that goals were to be based on content and implemented and assessed at state and national levels. The Standards in the 1990s were thus created to help provide a consistent curriculum for language arts. These standards were to also bring a new approach to teaching by aligning curriculums to improve student learning. Finally, the standards were to help establish broad content standards and specific performance standards addressing what a student should know and be capable of performing proficiently in writing at each grade level.

As a result of the 2002 No Child Left Behind Act (NCLB), more school choice for students was provided, school funding had become more flexible, and teachers were held accountable through the use of training and state assessments (Pederson, 2007). A national study conducted by Pederson stated that after the passage of NCLB, there was an increase in the assessment of the subjects of writing and science. Pederson suggested that this increase in writing assessments occurred due to the writing portions that had become

part of standardized assessments such as the Scholastic Aptitude Test (SAT) (Pederson, 2007). It is evident that NCLB was a major stepping stone for the education system as it strove for consistency as well as increased teaching quality and student achievement. After NCLB, a set of standards for all grade levels in areas of reading, writing, speaking, listening, and language within a range of subjects were developed. These standards are better known today as The Common Core State Standards (Wolpert-Gawron, 2014). The Common Core State Standards continue to be implemented in our education system in states across the nation.

**The Kentucky Academic Standards**

As education reform occurred in the last several decades, the most recent development of The Common Core State Standards (CCSS) in 2008 resulted in various responses from educators and education systems. Some states have yet to adopt the CCSS into their curriculums. The state of Kentucky adopted the CCSS in 2010 and renamed it to the Kentucky Academic Standards (KAS) (Kentucky Department of Education, 2009). Therefore, when referencing the CCSS in KY, they will be referred to as the KAS for the remainder of this paper. Since 2010, schools in Kentucky have been required to implement the KAS into their curriculums across English/Language Arts (reading and writing), math, and science content areas.

Regardless of a teacher's stance on the KAS, the standards are a requirement for curriculums across English/Language Arts (ELA), mathematics, science, and technical subjects (Wolpert-Gawron, 2014). It is important to note that the KAS were developed for teachers to use as outcomes for their students. They are meant to be used as a guide for the types of skills and knowledge base students are to exhibit at each grade level

(Zemelman, Daniels, & Hyde, 2012). A primary goal of the KAS is to create consistency among all subjects by requiring teachers to align their instruction with the standards. This consistency in instruction across classrooms promotes transfer among classes, into higher education classes, and real life experiences in the world after schooling (Wolpert-Gawron, 2014). Additionally, as students' progress into middle and high school years, they no longer have one teacher for all subjects and are exposed to different instructional methods by each teacher (Graham, 2008). This further justifies the need for teachers in all content areas to align their curriculums.

There are two sections of the grades 6-12 Standards for writing, one section specifically for ELA and the other section for other disciplines. Although other disciplines are included in the writing standards, ELA teachers have their own section due to the unique and important role they play in developing the literacy skills of their students (Wolpert-Gawron, 2014). The writing standards focus on three different styles of writing: "argument, informative/explanatory texts, and narratives of real or imagined experiences" (Zemelman et al., 2012, p. 135). The characteristics and elements of each type of writing along with the skills necessary for student proficiency are listed within the standards. The complexity of the writing standards increases into the upper grades; however, there is frequent overlap. Additionally, the standards state that students are ultimately to become independent learners and the standards should be used as outcome goals of their performance. Teachers are encouraged to meet the reading and writing standards in their instruction by integrating the two types of standards (Culham, 2014). For example, when students are searching for the elements of writing within a text, they are also actively reading the text. When students compare and contrast two texts, they

are not only reading both texts, but also writing about how the passages are similar and different.

Wolpert-Gawron (2014) stated, unfortunately, teachers in subjects other than English/Language Arts still do not believe that they need to incorporate writing into their curriculum. This is not always an easy task for non-ELA teachers as many of them are not confident in their abilities to write independently or teach writing. However, Wolpert-Gawron continued that the CCSS are not something that teachers are expected to immediately understand and perform with proficiency. Adequate training in best practices of writing instruction through professional development and continued practice is necessary to assist teachers in appropriately aligning their instruction for students to achieve proficiency.

**Best Practices in Writing Instruction**

Before determining what best practice for writing instruction is, it is first important to examine what practices in writing instruction are already occurring in classrooms across the nation. Two national surveys of middle and high school teachers and their writing instruction practices were examined. Kiuhara, Graham, and Hawken (2009) surveyed 361 ELA, social studies, and science teachers on the topics on which their students wrote, how often they used evidenced-based practices in their teaching, adaptations used for those with weaker writing skills, how writing was assessed, their teacher preparation training, their beliefs about writing, and how capable they believed their students were in writing.

Based on teachers' survey responses, researchers found evidence of minimal writing instruction occurring in the upper grades (Kiuhara et al., 2009). Most teachers

reported that they do incorporate evidenced-based practices in their instruction and make adaptations for students with weaker writing skills. However, evidenced-based practices and adaptations were reported to be used in classrooms infrequently. Unfortunately, half of the 361 teachers reported that they did not require students to write monthly multi-paragraph assignments (e.g., five paragraph essay, research papers, and book reports) and most assignments required minimal analysis or the students' own interpretation of the information. Writing assignments consisted of the following: responses to reading, fill in the blank/short answer worksheets, summary paragraphs, journal entries, and lists. Additionally, many of the teachers did not feel as though their teacher preparation programs were effective in preparing them to teach writing to their students. Seventy-one percent of the teachers surveyed reported that they were not prepared for teaching writing from their college courses, while almost one half of all teachers reported that they still did not feel prepared to teach writing in their subject area after receiving in-service training.

Similarly, Applebee and Langer (2011) conducted a National Study of Writing Instruction across ELA, science, social studies, and math middle and high school teachers that examined how exactly writing instruction has changed in the last 30 years. Similar results were found for the types of writing assignments high school students were required to compose: fill in the blank, copying from PowerPoint, worksheets, summaries, and writing based on the information or a formula the teacher is seeking. Due to the recent nature of this survey, teachers reported structuring their writing instruction to meet the demands of yearly high-stakes testing. Almost 86% percent of middle school teachers and 66% percent of high school teachers reported that high-stakes testing affected and shaped their writing instruction (Applebee & Langer, 2011). The

researchers also found that although students sometimes shared their writing with each other, much of their writing was still strictly shared only between the teacher and the student.

In response to the studies conducted by Kiuhara et al. (2009) and Applebee and Langer (2011), an additional survey was conducted by a group of researchers to determine the current writing practices of middle school language arts, social studies, and science teachers (Graham et al., 2013). A sample of 285 middle school teachers across all three content areas completed a survey regarding their students' writing practices. The most common writing assignments teachers across content areas required at least weekly were: short answer, note taking, completed worksheets, and writing responses to passages read. Similar to the previous studies, 48% of teachers reported minimal training to teach writing while 9% reported no training to teach writing. Graham et al. (2013) also found a significant difference between content areas for the use of evidence-based practices. Language arts teachers were more likely to use evidence-based practices such as: prewriting, setting goals, feedback for specific parts of writing, written feedback, and teaching basic writing skills and writing strategies. Although most teachers reported using evidence-based practices for their writing instruction, most practices were used infrequently. Additionally, high stakes testing impacted at least one half of teachers' writing instruction.

Ultimately, student writing has improved from 30 years ago; however, the quality of writing instruction and the amount of writing students are producing is poor. Unfortunately, quality writing is still not required in many English classes and required minimally in social studies, sciences, and math (Applebee & Langer, 2011). As

previously mentioned, this lack of writing instruction may largely be due to the lack of teacher preparation received by teachers. It is evident that many teachers are unaware of the necessity of writing in their classrooms and what quality writing instruction should be. Additionally, those teachers who were not required to incorporate writing into their instruction until recent years are most likely to lack the knowledge of best practice writing instruction. The main focus of instruction for these teachers remains sequential, and assignments such as the five-paragraph essay are used to teach the writing process or "formula." However, quality writing instruction has moved past strictly five-paragraph essays as the CCSS have been adopted by many states throughout the country. The writing process has shifted to one that involves much deeper level thinking and analyzing while using techniques such as: prewriting, drafting, feedback, revision, editing, and publishing (Culham, 2014). Although some quality writing instruction is occurring in classrooms today, many teachers continue to struggle to incorporate writing standards into their instruction.

Steve Graham, a professor at Vanderbilt University, has conducted extensive research in the areas of writing instruction and writing development. In his article discussing evidence-based practices in writing, Graham (2008) found that teachers who were better prepared in writing instruction were more likely to use evidence based strategies and adjust their instruction when it was clear their students needed additional instruction. He also found that teachers who required writing samples as part of their instruction are normally familiar with the elements of the writing process such as pre-writing, drafting, revising, and publishing. However, these teachers did not always ensure their students took part in all stages of the writing process. In order to understand

the relationship of writing across settings and rise to the increased demands in writing, teachers often need assistance with ensuring students receive quality writing instruction. This assistance is often provided through quality professional development programs designed to help teachers improve by training them in what is best practice writing instruction.

There is an extensive amount of information available regarding what specific techniques are considered best practice in writing instruction. For instance, Graham (2008) provides 27 evidence-based practices for writing instruction in one article alone. However, it is not feasible for teachers to incorporate every successful evidence-based technique into daily quality writing instruction. Additionally, it was not feasible for one study to incorporate all evidence-based practices into a professional development intervention. Previous literature indicated that teachers are more willing to make changes in their daily instruction when new strategies, presented through professional development, are not drastically different from existing strategies (Guskey, 1986). Guskey also stated that if changes are quite different from current instruction, it is recommended to implement them gradually and not as one comprehensive unit.

To determine the strategies of focus for this specialist project, a needs-based decision regarding specific instructional strategies was jointly decided upon by the university literacy specialists and intervention school administrators/curriculum staff. The following three best practice writing strategies were selected: authentic writing, writing in content area, and providing feedback. These strategies were high-utility practices that aligned with the KAS and the school's improvement plan for ELA. Additionally, these specific strategies have been demonstrated to impact student growth

(Zemelman et al., 2012). Therefore, the literature on these three specific strategies was examined.

**Authentic writing.** The first strategy of focus was to ensure that writing remains authentic. Many students may feel alienated from writing, but when teachers take advantage of each student's interests and experiences, student engagement increases (Zumbrunn & Krause, 2012). Instead of providing simplified texts with simple vocabulary and no requirement for abstract thinking, Zemelman et al. (2012) recommended teachers provide their students with texts rich and full of detail with complex vocabulary that challenges students. Regarding writing, teachers should allow students to research and write about topics which are meaningful to them and their experiences. Although some assignments require certain prompts, or specific topics to be incorporated into the curriculum, Zemelman et al. (2012) also recommended teachers build upon these requirements and provide students opportunities to choose what within the required topic they want to discuss in their writing. This creates further authenticity as students choose to write about what is interesting to them but within a controlled environment. Authenticity is also increased when teachers allow students to discuss and compare their writing with their peers. This requires them to provide evidence and reasoning for their writing while investing in their own ideas.

When students have the choice to write about a topic of importance to them, they will work to create writing pieces in an effort to communicate with others. It is then that students are writing with purpose as they discuss their interests, culture, personality, and experiences. Additionally, Zemelman et al. (2012) stated that when teachers are the only person a student is producing writing for, they do not receive a variety of responses from

their peers that in turn can greatly impact and build their skills. To further increase the authenticity of their writing, the authors recommend teachers encourage students to take ownership of their writing and make decisions about the quality of their own work. Once students have taken ownership of their writing, they become more focused on higher-level thinking.

To aid students in beginning their writing pieces, Zemelman et al. (2012) recommended charts or lists on the walls of the classroom. These sources are to help start students' thinking on writing topics. Group brainstorming and discussions not only assist in sparking ideas for writing, but also help students to understand their audience and how they want to communicate with them. Within class discussions, teachers can guide students to create questions pertaining to their interests, and then research information pertaining to these questions to generate higher-level thinking and purpose (Zemelman et al., 2012). If teachers can create real-world activities that connect students with their audience while helping them understand the purpose of writing, the authenticity of the writing is increased. The goal is for students to stay away from a mechanical or automatic approach to writing, and instead create pieces that are unique and meaningful to them.

**Writing across content areas.** The second strategy of focus was the importance of writing across the content areas. Zumbrunn and Krause (2012) interviewed seven experts in the field of writing and discussed their knowledge on best practices in writing instruction. The writing experts recommended writing across the curriculum as it increases the amount of writing students are doing and ultimately increases their knowledge of the content as well. Although some may view the idea of writing in every

class a tedious task, writing across content areas exposes students to different types and styles of writing, while providing them with different audiences and purposes.

Graham (2008) stated that students are more successful as writers when they are given frequent opportunities to practice writing techniques. He also recommended students should write for at least one hour a day. Because it is not feasible for students to practice writing for one hour in the same class every day, they should be given opportunities to write across content areas. This writing time should be spent in the stages of writing: planning or prewriting, editing, and publishing. Additionally, Graham and Perin (2007) found that middle and high school students should be producing writing for multiple teachers across different subjects in order to better retain information. Graham (2008) provided an example of evidenced-based implementation of writing instruction across content areas,

> "…an English teacher may have students use writing to entertain, respond to literature, demonstrate knowledge, and persuade. A social studies teacher may use writing to demonstrate knowledge, but address other purposes including self-reflection, learning, informing, and communicating, whereas a science teacher may focus mainly on using writing for learning, demonstrating knowledge, and persuading." (p. 3)

Additionally, to encourage writing across subjects, Graham recommended teachers in all subjects integrate or coordinate their writing instruction and activities across subjects.

Zemelman et al. (2012) stated that when teaching new material, writing is one of the best methods to help students learn. Learning new material through writing allows students to "activate prior knowledge, elicit questions, build comprehension, promote

discussion, and help students reflect on ideas covered" (p. 145). As students build these important learning skills, they also gain confidence and become more motivated. Additionally, Zemelman and colleagues stated that the writing occurring across content areas can be brief. Specific evidence-based methods teachers can use to integrate writing into their instruction are provided: First thoughts/quick writes, admit/exit slips, and Stop-N-Write. First thoughts or quick writes are discussed as free writing for a few minutes at the beginning of class or a new topic to determine what students already know about a topic. Admit slips are to summarize what was taught in the previous class or read the night before; while exit slips are to summarize what was learned in that class period and provide any questions students may have from the lesson. Finally, Stop-N-Writes should occur during instruction or readings for students to write questions, respond, or predict. The authors also added that ungraded writing tasks reduced the stress of writing tasks and allow teachers to gauge if students understand the concepts. It is important for teachers to understand that in order for students to be writing in each subject, they do not have to produce thorough research papers in every class. However, what writing assignments students do produce should be related to the content of the class and promote learning.

**Providing feedback.** The final strategy of focus was the importance of providing quality feedback to students. Through feedback, students learn to take ownership of their writing while thinking critically and making decisions as to what is important and what requires further editing. Additionally, feedback allows students to move through the writing process with their own pieces. As they move through the process, students are creating drafts and making frequent revisions (Zemelman et al., 2012). In his review of the research on writing instruction, Hillocks (1986) found that writers who receive

feedback constructively and positively are more likely to advance in their skills. This evaluation can be effective when teachers focus on one or two aspects of a student's writing at a time. By focusing on one or two errors at a time, students will begin to take ownership of their work and ultimately make changes within their entire piece (Zemelman et al., 2012). Additionally, brief one-on-one conferences with individual students allow for teacher feedback while helping students create their own goals for their writing. The authors indicated that these conferences may be supported with a portfolio for each student and system for documenting teacher feedback and goals. Finally, just as teachers strive to create authentic writing opportunities for their students by involving peers, peer-review of writing as a means of providing feedback is just as important. The authors reported that when students read and provide feedback on each other's writing, their motivation to revise and perfect their pieces greatly increased.

In summary, previous surveys indicated that most writing assignments of middle and high school students are information based and aid in comprehension of material (Kiuhara et al., 2009; Applebee & Langer, 2011). While improving content retention is important, these assignments did not evoke authentic writing. It is evident that more multi-paragraph assignments should be required across content areas. As previously stated, when writing assignments require a student to write authentically, the quality of writing should increase (Zemelman et al., 2012). Additionally, although each study examined reported writing occurring across each subject area, language arts teachers provided more opportunities to write and were more likely to teach writing. This does not support the best practice of quality writing instruction across content areas. In relation to feedback, although recommended evidence-based practices were often used,

methods were implemented inconsistently. For instance, Applebee and Langer (2011) found that although teachers sometimes allowed their students to share their writing with each other, most feedback was still between the teacher and the student. Graham et al. (2013) reported that written feedback was provided and focused on certain aspects of a student's writing. These best practice feedback strategies were used more often by language arts teachers; however, the strategies were used infrequently. Overall, when comparing previous writing instruction with current best practices, frequent and consistent use of evidence-based practices is necessary among classrooms.

**Best Practice in Writing Instruction Professional Development**

In order to create a quality professional development initiative, knowledge of best practice in both writing instruction and in providing training and support for teacher growth is necessary. Graham and Harris (2014) indicated that prior research on writing interventions is minimal and has been poorly executed. The authors stated that much of current writing instruction is based on "teaching lore" or strategies that they have found effective based on their own experiences and successes. Although collaboration among teachers is recommended, structuring instruction solely on teaching lore does not always mean that these practices are evidence-based. Teaching lore also lacks the evidence necessary to establish validity, reliability, and generalizability. Thus, structuring writing instruction with evidence-based practices is essential to increase quality.

Darling-Hammond and McLaughlin (2011) stated that teachers must be able to align their teaching to reach diverse groups of students. However, this does not occur from only training teachers in new teaching strategies. The authors stated that effective professional development must require teachers to reflect on their current instructional

practices while also incorporating new learned strategies. However, in order for professional development to be effective, teachers must be willing to be learners in addition to teachers. The authors stated that cooperation from teachers is key to creating a successful learning environment.

One successful writing teacher network, The National Writing Project (NWP), seeks to train teachers to improve their writing instruction, thus improving the learning of their students (Lieberman & Wood, 2002). The NWP also seeks to foster learning communities among teachers by focusing on social practices and networks. The authors stated that professional development initiatives, specifically the NWP, are created through school and universities of higher education partnerships. These partnerships provide the training to teachers while also teaching them to share their own knowledge and feedback with others. Additionally, partnership with universities of higher education is essential as it informs schools of current research while assisting in curriculum development and connecting theory into actual practice (Darling-Hammond & McLaughlin, 2011). Other partnerships may be between other teachers, schools, youth organizations, or community activities. Previous literature on professional development indicated effective professional development programs are maintained over time and held on-site (Kennedy & Shiel, 2010).

Lieberman and Wood (2002) recommended that professional development begin with teacher prior knowledge and build on the sharing and critiquing of each other. Additionally, professional development initiatives and strategies should be customized to teacher problems, concerns, and student need. Teacher training should take place in settings that encourage teachers to ask questions, raise concerns, and collaborate with

others (Darling-Hammond & McLaughlin, 2011). Lieberman and Wood (2002) found that when professional development was developed with the input of the teachers, engagement was likely to increase. Incorporating teacher problems and concerns within professional development objectives also aids with accountability as teachers now share responsibility for the assessment of their students' learning.

During initial implementation of professional development initiatives, experts in the field of writing (such as professionals/researchers from partnering universities) should first provide the training to teachers (Lieberman & Wood, 2002). Through instruction and classroom modeling from the experts, teachers should learn: effective teaching strategies, the process of developing a community of learners, and giving and receiving feedback from other teachers. Eventually, teachers should be able to take the feedback and learned strategies into their classrooms and embed them in their writing instruction. The authors recommended multiple opportunities for teachers to practice their skills as well as build relationships with one another. As teachers are trained in best practices and embed these practices into their instruction, changes in student performance may occur. Additionally, Darling-Hammond and McLaughlin (2011) recommended teachers receive opportunities to discuss changes in student performance and learn from each other while continuing to connect their knowledge with their classroom practices.

Because each teacher is at a different level of experience, multiple opportunities for engagement should also be provided to meet the needs of each teacher. Teachers in their first years of teaching should be provided opportunities to learn from experts and veteran teachers; while veteran teachers should be provided opportunities to learn from experts as well as reflect on their prior experiences and the experiences of others

(Darling-Hammond & McLaughlin, 2011). Lieberman and Wood (2002) reported that one main goal for any writing professional development initiative, should be to train teachers to create a learning community and a sense of belonging by asking questions and learning from each other.

Opportunities for learning and practice should not cease after professional development sessions are complete. Darling-Hammond and McLaughlin (2011) stated that teachers should also have multiple opportunities to practice new learned strategies and reflect on their instruction once they are back in their classrooms. Effective professional development programs should leave teachers with the confidence and experience to effectively implement strategies in their own classrooms. Wolpert-Gawron (2014) recommended each school create a "Common Core Professional Learning Community" (p. 158) or teacher cohorts to provide opportunities for teachers to discuss concerns and problem solve as a group to improve student learning. Within these groups, common language and rubrics may be developed to create consistency among curriculums in each subject area. Through the collaborative process with others during training, teachers should also be comfortable with continued assessment of their practices and collaboration outside of the professional development sessions. The goal is continued education as teachers continue to share ideas and provide feedback with one another as they did during training sessions. In his model describing teacher change, Guskey (1986) reminded researchers that change is a gradual process and teacher proficiency should not be expected immediately. Researchers should also build on successes as they occur, especially early on in professional development programs. This

can be done through the use of consistent feedback to teachers regarding student performance.

Darling-Hammond and McLaughlin (2011) suggested that teachers share the responsibility of assessment of their teaching practices. Although yearly standardized testing is an effective means of assessment, teachers should be frequently assessing the effectiveness of their instruction at the classroom level by examining their students' performance. Formative assessments such as: checklists, conferences, classroom observations and teacher feedback from supervisors are other effective means of assessment to assist in accountability and fidelity (Kennedy & Shiel, 2010). Guskey (1986) recommended professionals implementing professional development initiatives should provide teachers with continued supports and frequent follow up. In addition to this follow up, teachers can be trained in assessment procedures such as scoring with a rubric. Once they are trained to assess their own instruction, they should be capable of determining what practices have been effective in impacting student performance. As a result, a continual cycle of improvement occurs.

Research supporting these evidence-based practices for effective professional development was noted in a two-year longitudinal study (Kennedy, 2010). This study examined the effects of a literacy framework, implemented through teacher professional development, on middle school student motivation, achievement, self-regulation, and self-efficacy. For the sake of this literature review, only effects on student achievement were examined. To implement the professional development program, researchers worked with teachers to create a literacy intervention based on the needs of the students as measured by data, both formative and summative. Five phases of the intervention

occurred as achievable goals were met. The goal of the professional development program was to expand teachers' knowledge of current research while connecting theory with their instructional practices. Kennedy (2010) also sought to build upon teacher autonomy while guiding them to reference current research to support their instructional practices. Through these efforts, the goal was to develop a learning community within the school. Students spent 90 minutes reading and writing each day with multiple opportunities to practice developing reading and writing skills through differentiated instruction. Ultimately, significant increases in reading achievement were noted with a large effect size (Cohen's $d = 1.29$). Significant increases in writing and spelling achievement were also noted among students with large effect sizes. Kennedy (2010) reported that as children gained knowledge and skills as a result of the literacy framework, evidence of increased effort and openness to new challenges were observed. As students learned more, increased qualities of self-efficacy were also reported. It is this self-efficacy that is a crucial piece of the motivations and behaviors of students and teachers.

**Self-Efficacy**

Albert Bandura (1994), one of the most well-known researchers of the social learning theory, defined self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (p. 2). He continued that it is this perceived self-efficacy that can impact an individual's thoughts, behaviors, feelings, and motivation. When researching self-efficacy, Takahashi (2010) stated that the development of self-efficacy can be viewed through one of two theories: the social cognitive perspective or a sociocultural

perspective. Much of previous research on self-efficacy is viewed through the social cognitive theory. This theory centers on one's own cognition as the central component of feelings of self-efficacy. Social interactions remain separate from the individual and their cognitive beliefs. However, the sociocultural perspective suggests that the environment and the individual mutually impact each other and the development of self-efficacy.

Takahashi (2010) stated that recent studies are beginning to view self-efficacy through the sociocultural perspective due to significant evidence supporting the environmental impact on today's society. To further support the sociocultural perspective, the author discusses the importance of evidence-based decision making and the large push for these practices in today's education system. In schools across the country, teachers meet with other teachers to discuss student performance and their instruction while determining which strategies are and are not effective. As teachers discuss strategies they use in their classrooms, they can further impact the decision making of other teachers regarding the use of these strategies. This is an example of the individual and environment mutually impacting one another (Takahashi). Additionally, when multiple people/teachers have similar objectives and work together to reach these goals, they typically embrace a shared efficacy as a group (Bandura, 1997). This shared efficacy can ultimately impact the motivation and self-efficacy of the individual.

Within his research, Bandura (1997) found that a person's self-efficacy is impacted by analyzing information through four different sources. These sources are: past behavioral performances, vicarious experiences, verbal persuasions, and physiological states. Although all four sources may ultimately impact the self-efficacy of teachers towards their instruction, the sources of past behavioral performances and

vicarious experiences are likely the most influential. Stein and Wang (1988) found that if a teacher has observed someone similar to themselves experience success, they are more likely to exhibit higher self-esteem in regards to completing the same task. Also, if teachers have experienced past success in their classroom instruction methods, they are more likely to have elevated self-esteem in regards to those specific teaching methods that were successful.

Bandura (2006) suggested that when creating self-efficacy scales, researchers must ensure that items ask questions about what respondents are capable of doing instead of what they will do. Although self-efficacy is an accurate predictor of intentions, scale items should focus on what an individual believes they can achieve, rather than what they intend to do. Bandura continued to state that typical measures of self-efficacy involve individual's responses to questions. Each question involves "different levels of task demands and they rate the strength of their belief in their ability to execute the requisite activities" (p. 312). Standard self-efficacy scales incorporate Likert scale formats of 0 to 100 in increments of 10, or simpler formats of 0 to 10 with increments of 1. When research involves younger children, Bandura recommended that self-efficacy be measured through simpler measures, such as picture representations (e.g., circles increasing in size or smiley faces portraying sad, neutral, and happy). Practice items are also encouraged with younger children to ensure they understand the task.

In previous research, self-efficacy has been measured in a couple of ways. Many studies measured self-efficacy through self-report measures in the form of questionnaires or surveys similar to those suggested by Bandura (Caprara, Barbaranelli, Steca, & Malone, 2006; Lavelle, 2006; Lohman, 2006; Holzberger, D., Philipp, A. & Kunter, M.,

2013). These measures typically included Likert scale formatting and focused on specific constructs of self-efficacy. However, others have used qualitative scales to measure self-efficacy. For instance, Takahashi (2010) measured teacher self-efficacy through observation and teacher interviewing. Interview responses were coded and reported in similar groupings of responses. Observations served as a basis for which self-efficacy questions were constructed. These questions were based on concrete happenings within the classroom instead of hypothetical or abstract events with the hopes of receiving more accurate responses from teachers.

Bandura (1997) stated that as teachers experience success in their own teaching practices as well as through the teaching practices of others, a level of perceived self-efficacy is established. This level of self-efficacy can influence teacher confidence and effort in their teaching practices, openness to new experiences and types of instruction, as well as how likely they are to continue trying when faced with difficulty. If teachers perceive themselves as capable of achieving and effecting positive outcomes, they are more likely to put forth more effort to succeed in these outcomes. In relation to student performance, teachers with higher perceived efficacy believe their instruction will positively impact overall student performance. Previous research has found that teachers with higher perceived self-efficacy are also more likely to alter their instruction to meet the needs of their students (Ross, 1998; Takahashi, 2010), implement effective classroom management strategies (Woolfolk, Rosoff, & Hoy, 1990), set higher and achievable goals (Ross, 1998), persevere longer through difficulties (Takahashi, 2010), and increase student motivation (Ross, 1998). As a result, teachers with higher perceived self-efficacy

may contribute significantly to their students' academic achievement in comparison to teachers with lower perceived self-efficacy (Caprara et al., 2006; Takahashi, 2010).

Other research has suggested a reciprocal relationship between teacher self-efficacy and student performance (Bandura, 1997; Ross, 1998). Teacher perceived self-efficacy may influence their instructional decisions and methods in ways that impact student performance. Therefore, teachers with higher perceived self-efficacy are more likely to have students with higher academic achievement (Bandura, 1997). Reciprocally, student achievement can influence a teacher's perceived self-efficacy by requiring them to examine the effectiveness of their instructional methods. These findings further support the need to address the importance of teacher perceived self-efficacy and ultimately the impact it can have on instruction and overall student performance.

**Summary**

To create an effective writing professional development initiative for teachers, it is important to understand the evolution of the writing process from its earliest stages to today. A greater push for writing across the content areas is due to the implementation of the Common Core State Standards, or the Kentucky Academic Standards. Therefore, a knowledge of the development process and content of the Common Core State Standards is necessary. Further, when training teachers through effective professional development, best practices in writing instruction and teacher training must be examined. Due to the plethora of evidence-based strategies in writing instruction, a needs-based decision regarding specific instructional strategies that aligned with the KAS and the school's improvement plan in ELA was made. Once this decision was made among literacy

professionals and school administrators, the literature on three evidence-based strategies was examined. Finally, teacher self-efficacy plays a large role in the effectiveness of their instruction. It is important to understand the impact of self-efficacy on teacher motivation and instruction, which can ultimately impact student performance. The research design is discussed in the next section of this study. In addition to the previous literature review, Graham and Harris's (2014) 12 recommendations for conducting quality writing interventions were referenced throughout the creation and framework of this study. These recommendations will be discussed in the following methodology chapter.

# CHAPTER III: METHODOLOGY

A collaboration between a local middle school and a university of higher education established the current needs of the intervention school. The outcome of those collaborative meetings revealed that teachers in the participating middle school would benefit from targeted professional development in content-area writing. In order to meet these needs, two overall goals for the school were established: to increase self-efficacy in writing instruction among teachers and to increase student academic achievement as measured by writing test scores. Therefore, the purpose of this study, was to examine the effects of LEAD PD on teacher self-efficacy and student performance. LEAD PD was implemented with the intent of creating school-wide improvements in writing across all content areas by training teachers to align their curriculums with current best practices in writing instruction. By training teachers in the Learn Assess Embed Disseminate model, they should be capable to evaluate the effectiveness of their own instruction and continually make changes.

## Research Questions

The following research questions helped guide the research methods, procedures, and data analyses to determine the effect of LEAD PD on teacher self-efficacy and student performance:

1. To what extent did teacher personal self-efficacy change after the LEAD PD intervention?
2. To what extent did teacher professional self-efficacy change after the LEAD PD intervention?

3. To what extent were student writing performance scores on the KYOTE Writing Assessment affected after the LEAD PD intervention?

**Participants**

The participants of this study were some of those who would be considered relevant stakeholders in such a research study (Alkin, 2011). Stakeholders are defined as "those who in some way have a stake or an active interest in the program" (p. 41). Although there are many parties involved who have stake or an interest in the success of the LEAD PD initiative (i.e., principals, higher university literacy staff, school board) for the purposes of this research study, only the stakeholders that were also participants in the study will be discussed. Prior to beginning the LEAD PD initiative, approval to conduct the study was received from the Institutional Review Board (see Appendix A), and as such each participant voluntarily signed informed consent documents that detailed any possible risks involved (see Appendix B).

**Teachers.** All potential participants within were provided with an Informed Consent document discussing the purpose and procedures of LEAD PD as well as any discomforts/risks, benefits, confidentiality, and refusal/withdrawal information. These were distributed and collected before implementation of LEAD PD. To create further incentive for cooperation, teachers were provided with professional development credit and a grant funded stipend for each professional development training session they attended.

Informed consent documents were received from 31 middle school teachers at the beginning of the LEAD PD training. Data were collected from 29 teachers for the Teacher Personal Efficacy Survey. After collection of post survey data, attrition rates

were noted. Two teacher participants were removed from the data set due to lack of identifying information or incomplete data sets. This left 27 (five males, 22 females) teacher participants with pre and post data sets on the Teacher Personal Efficacy Survey. Data were collected from 29 teachers for the Teacher Professional Efficacy Survey. One teacher participant was removed from the study due to lack of post survey completion, thus leaving 28 (five males, 23 females) teacher participants with pre and post data sets on the Teacher Professional Efficacy Survey.

In order to comply with the Common Core State Standards, teachers of all disciplines are required to teach writing in their content area in order to help increase writing proficiency among students while improving college and career readiness (Wolpert-Gawron, 2014). Therefore, the entire population of teachers at the middle school was selected as the intervention group, making sampling from a larger population unnecessary. Additionally, teachers from all academic and nonacademic subjects were involved in the study per the request of the intervention middle school administration. Teacher groups were divided by the following disciplines: English Language Arts, Science/Mathematics, Social Studies, and Nonacademic Content. The ELA group consisted of six teachers; Science/Mathematics group consisted of 12 teachers; the Social Studies group had three teachers; and the Nonacademic Content consisted of eight teachers. Each group was paired with a literacy professor from the university.

**Student Writing Data.** Since data were collected from teachers in all content areas, data were also collected from all students at the participating middle school. This made sampling procedures from a larger population unnecessary. The students were involved in this research study as participants only because they were enrolled in the

courses instructed by the teacher participants. The researchers did not take any action to place students in these courses, but writing samples were collected from all student groups. The school produced student writing samples across all content areas for each grade.

Pre intervention writing samples were collected from 460 students at the onset of this study. After collection of post survey data, attrition rates were noted. Among the student participants, 80 students (25 sixth graders, 27 seventh graders, 28 eighth graders) were removed from the study due to lack of post writing samples or student identification numbers. The final student data set consisted of writing samples from 380 students (126 sixth graders, 127 seventh graders, 127 eighth graders) from the participating middle school, which is within a high needs district. At the onset of this study in 2015, the previous school year's (2013-2014) demographics were examined. Sixty percent of students receive free or reduced lunch; the average percentage of students in Kentucky to receive free or reduced lunch is 58.4%. The school also serves a variety of ethnicities in its student population. The percentage of the student population not classified as Caucasian is 24.1%. This school's writing scores for the 2013-2014 school year indicated less than half (31.8%) of students were actually scoring proficient/distinguished in writing on statewide standardized testing. The state average of proficient/distinguished writers from the 2013-2014 school year was 36.5% (Kentucky Department of Education: School Report Card, 2014).

**Instruments**

A group of university literacy faculty members collaborated to create the LEAD PD: Writing in the Content Areas initiative. This group consisted of six faculty members

with certified experience in elementary, secondary, and university literacy instruction, as well as expertise in designing and providing professional development. Two of the six professors assisted in the development and supervision of the LEAD PD initiative, while the remaining four each paired with a content group for the implementation of the intervention. The creation of the LEAD PD initiative referred to current research in best practices in writing instruction, professional development, and writing interventions to guide the content and materials within the initiative (Applebee & Langer, 2011; Culham, 2014; Graham & Harris, 2014; Zemelman et al., 2012; Zumbrunn & Krause, 2012). The goal of LEAD PD was to train teachers in strategies of best practices in writing instruction; how to embed these strategies into their instruction; how to assess the impact of their instruction and make changes; and to disseminate the results of these changes to those outside of their classroom (i.e., other teachers, administrators, schools, and organizations).

**Self-efficacy surveys.** A key component to effective implementation is teacher cooperation and motivation. The literature on self-efficacy states that those with higher self-efficacy typically experience higher levels of motivation and willingness to put forth more effort (Bandura, 1997). Additionally, self-efficacy includes how capable and comfortable individual's feel about their performance on a construct. Bandura stated that self-efficacy not only impacts how a person behaves, but also impacts their thoughts, expectations, goals, and commitment to goals. Measuring self-efficacy also provided information regarding how much teachers felt they knew about each writing construct. Investigators also sought to understand if teachers with reported changes in self-efficacy also exhibited changes within their instruction based on student performance. Self-

efficacy was measured across two surveys: The Teacher Personal Efficacy Survey and The Teacher Professional Efficacy Survey. These surveys were qualitative and quantitative in nature.

The Teacher Personal Efficacy Survey (see Appendix C) sought to measure teacher's personal efficacy in their own writing abilities. This survey consisted of 10 statements regarding the teacher's feelings about their own writing based on a 10 point Likert scale. A rating of one meant "none"; a rating of five to six meant "somewhat"; and a rating of ten meant "very". The Teacher Personal Efficacy Survey questions were created based on the study conducted by Lavelle (2006). This study used the Inventory of Processes in College Composition to determine the relationship between writing efficacy and writing performance in undergraduate students and returning teachers completing master's level courses. This Inventory assessed five different writing orientations. Reliability estimates for the five areas on the Inventory of Processes in College Composition ranged from 0.66-0.83 while content, concurrent and predictive validity were supported in the 1993 scale development (Lavelle & Zuercher, 2001).

The Teacher Professional Efficacy Survey (see Appendix D) sought to measure teachers' professional efficacy and how effectively they think they implement best practices of writing instruction in their classroom. It was created to ask questions specific to the KAS writing standards for middle school teachers. Due to the specific nature of each set of questions, the survey was created by the investigators. However, the studies conducted by McCarthey and Mkhize (2013) and Takahashi (2010) were referenced when creating the questions for The Teacher Professional Efficacy Survey. The Teacher Professional Efficacy Survey consisted of 40 questions divided into 10

sections regarding the teacher's current practices (i.e., writing prompts, types of writing assignments, and writing instruction). Each section consisted of four questions: two efficacy questions, one frequency question, and one open-ended question. Teachers were to report scores in relation to their efficacy or frequency based on a four-point scale. A score of one meant the rater experienced low efficacy or frequency, and a score of four meant the rater experienced high efficacy or frequency. The last question in each section was an open-ended question regarding what types of feedback the teachers provide to their students related to the topic in the previous set of questions.

**The Kentucky Online Testing (KYOTE) Writing Assessment Rubric.** To evaluate the effectiveness of LEAD PD, investigators needed to determine if the LEAD PD strategies generalized into teacher instruction. Teachers received intensive training specified to their content area and had access to a number of supplemental materials in addition to the training. Therefore, incorporating the strategies of LEAD PD into daily writing instruction was possible. The best method for evaluating teacher writing instruction was to examine student writing samples and analyze changes in performance. Middle school students do not typically spend all of their instructional time with one teacher. However, all teachers at the intervention school received the LEAD PD initiative, thus making it possible for all students to receive writing instruction from teachers trained with the strategies presented in LEAD PD.

The Kentucky Online Testing (KYOTE) is a publicly available instrument accepted by the state of Kentucky for use in the public schools regarding decisions about college entrance. It specifically measures college readiness in the areas of reading, writing, and math. Typically, the KYOTE is administered to high school students with

ACT scores that do not meet Kentucky college entrance standards (Kentucky Department of Education: KYOTE, 2017). Schools that implement the KYOTE are required to have trained personnel to score the exams. The investigators chose the KYOTE to measure student writing performance for several reasons. First, the KYOTE is a rubric that was developed at the Kentucky state level and is accepted by the state of Kentucky for assessing college readiness. Second, members of the university literacy staff were certified in scoring samples through the use of the KYOTE Writing Assessment Rubric. Third, the assessment tools are of no cost and publicly available. Therefore, teachers and students had access to KYOTE materials for test practice in the areas of math, reading, and specifically writing after LEAD PD was complete. Using the KYOTE rubric for teachers to score student writing also ensured consistency with the scoring training they received. Finally, although this study's population focused on middle school students, the KYOTE instrument is familiar and already implemented in many of the high schools in Kentucky thus creating consistency and familiarity for students and teachers in regards to how writing should be assessed to ensure preparedness for college courses.

For this study, students' writing samples were scored by a certified expert scorer of the KYOTE Writing Assessment Rubric (see Appendix E). The KYOTE Writing Assessment Rubric uses an eight-point scale to score student writing samples. Writing samples with a score of six or higher are considering "passing" (2016-2017 KYOTE Training-Writing Exam, PowerPoint). Within each level (one through eight), the rubric thoroughly defines how a writing sample of that level would be written. As part of the LEAD PD model, teachers were trained to score student writing samples using the KYOTE Writing Assessment Rubric.

A research study was previously conducted to determine inter-rater agreement between trained teacher scorers and expert scorers of the KYOTE (Petty, Super, Cartwright, & Logsdon, 2014). Inter-rater agreement between trained scorers (teachers trained statewide) and expert scorers for the KYOTE had a Cohen's Kappa of .390. However, the research questions for the study sought to determine inter-rater reliability between trained scorers and expert scorers as well as if there was a difference between expert and trained scorers contingent on the way the trained scorers had been trained (online or in person). Inter-rater agreement between expert scorers was not determined.

**Procedures**

A mixed-methods design was used to evaluate the impact of the LEAD PD program on teacher self-efficacy, instruction, and student performance. Both qualitative and quantitative data were collected to analyze teachers' development throughout the training initiative and to provide initial baseline scores for future comparisons of writing progress. Quantitative data were also collected through descriptive statistics as student writing scores were examined.

This study used the previously mentioned instruments to determine the effects of LEAD PD on teacher self-efficacy in relation to teaching writing and student performance in writing. When conducting educational research, interventions are most credible when they take place in actual educational settings (Graham & Harris, 2014). Writing interventions are typically for the school setting, and understanding if they are effective in schools is important. To keep the study within the real world context, all LEAD PD sessions occurred within the school. Additionally, in order to align with Graham and Harris' (2014) recommendation that writing intervention requirements

should not take substantial time away from instruction, LEAD PD was designed to train teachers during planning periods, after school, and on non-instructional days to ensure no class instruction time was lost.

Teachers and administrators met with university faculty as a whole group at the beginning and end of the fall 2015 semester. All teachers were required by their administration to participate in the professional development sessions. However, those willing to share data for the purposes of this study (91% of teachers) agreed to involvement by signing the informed consent document. Once informed consent was obtained by the researchers during the first whole group training, teachers were asked to complete the Teacher Personal Self-Efficacy Survey and the Teacher Professional Self-Efficacy Survey. Efficacy surveys were administered before receiving the professional development sessions to establish baseline data about each teacher's self-efficacy. These data also allowed the university faculty to build on the teachers' current strengths and address areas of weakness in their subsequent training sessions. The same surveys were administered to all teachers post intervention. This allowed for analyzing any changes in teacher self-efficacy and possible changes in writing instruction.

Near the end of the first whole group training, teachers were divided into content specific cohorts that were led by a university literacy faculty member with approximately four content group meetings throughout the semester. Graham and Harris (2014) recommended that when delivering new information to research participants, investigators use a scripted or problem-solving protocol. The LEAD PD intervention instilled a problem solving approach. Overall goals were established by each group and strategies for meeting these goals were created. Each content group focused on the same

three specific strategies discussed in the review of the literature: authentic writing, writing in content area, and providing feedback. Within these strategies, the following topics were discussed: Motivation and Writing, Reading and Writing of Expository Text, Strengthening and Building Writing Vocabularies, and The Writing Process. These topics were beneficial in successfully implementing the three evidence-based strategies. However, university literacy professors presented methods of incorporating these strategies into instruction using materials specific to each content group. Strategies were modeled by the university literacy professor during the training sessions and teachers were provided with additional resources (i.e., professional books related to content area, materials for increasing vocabulary, materials for student writing, materials for creating writing prompts, and materials for providing feedback) for reference outside of the meeting time. Each content group was instructed to practice their new learned instructional strategies and have students produce writing samples. Teachers were trained how to administer, score, and provide appropriate feedback to their students writing using the Kentucky Online Testing (KYOTE) Writing Assessment Rubric in their classrooms. They then practiced scoring student writing samples within their content groups. By training teachers to use the KYOTE Writing Assessment Rubric, the goal was to provide them with means of continued assessment after the professional development was complete.

For extra training and practice, nine online modules via the available Massive Open Online Course (MOOC) were made available to all teachers to be completed at their own pace throughout the semester. Additionally, ELA teachers were encouraged to support other content groups throughout this process, as writing instruction was most

familiar to these teachers. Similarly, all other content groups were told to turn to the ELA group for guidance if necessary. The non-academic content group was also encouraged to embrace the topics of their instruction that students find motivating. All content areas were provided resources and methods to assist in incorporating writing into a fun and informal practice that creates excitement, emotion, and purpose for students. Just as the teachers were presented technique information through methods that were feasible to their type of instruction, teachers were expected to differentiate their instruction in the same way to their students.

Graham and Harris (2014) also stated that those receiving the instruction should eventually be capable of performing the intervention activities in their instruction independently. It was the responsibility of the researchers to ensure participants have reached mastery of the necessary skills. After the sessions were completed with each content group through LEAD PD, follow-up contacts by each university literacy professor were made. Additionally, all teachers in the intervention groups were given access to all materials from LEAD PD. The goal of this access to materials was to allow university literacy professors to continue assisting teachers with implementing strategies as well as to ensure that they were capable of implementing these strategies independently. Finally, to assist teachers with the first step of the *Assess* process, student writing performance scores were measured. Through the collection and evaluation of these data, investigators provided teachers with the first step to the long-term process of continual growth.

Before the teacher participants at the intervention school took part in the professional development training, students produced writing samples in response to one

of three writing prompts from the KYOTE Writing Assessment. Each teacher was given detailed instructions regarding administration of the writing assessment. These same students produced writing samples after two and a half months of the LEAD PD training. Students were given three different writing prompts to choose from and teachers administered the assessment in the same manner as the pre intervention assessment.

**Data**

In order to assist in answering the current research questions, both independent and dependent variables were established. The independent variable for this study was the implementation of the LEAD PD intervention across content areas that were divided into four content groups. The first dependent variable measured was teacher self-efficacy from both a personal and professional standpoint. Quantitative data based on teacher ratings were collected from both surveys at pre and post intervention. In addition, qualitative data collected pre and post intervention from teacher ratings on both surveys were coded by answers within similar response ranges. Responses for pre and post qualitative questions related to feedback were classified into one of the following categories: written (organization, grammar, content, citations), verbal (individual conferencing or group), use of a rubric, modeling/providing examples, peer evaluation, other methods, or no response/no opportunity. Changes in personal and professional self-efficacy from pre to post intervention were analyzed.

The second dependent variable measured was changes in student writing scores using the KYOTE Writing Assessment Rubric. Student writing samples were collected at pre and post intervention. All student data were blinded with only student identification numbers provided. An expert scorer involved in the development and

teacher training of the KYOTE Writing Assessment Rubric scored the blinded student samples based on the eight-point scale rubric. According to the rubric, a paper with a score of "one" lacks understanding of the topic, has poor sentence structure and frequent proofreading errors. Conversely, a paper with a score of "eight" is one that includes many details, clear examples, strong sentence structure, logical thought processes, and minimal proofreading errors. Quantitative data were collected from both pre and post intervention writing samples and analyzed.

Sampling procedures from a larger population were not necessary for the intervention school teachers, as all teachers were required by their administration to participate in the LEAD PD training initiative. Therefore, the entire population of teachers received the intervention, but data were collected from the 91% of teachers who signed informed consent documents and their students. Student samples from were produced from students in $6^{th}$-$8^{th}$ grade.

**Statistical Analysis**

To determine the appropriate statistical analyses, the research questions were examined by the investigators. For this study, teacher participant survey responses were tested at two time points (pre and post intervention). Additionally, investigators sought to determine if significant differences were present between pre and post means of both surveys. Therefore, paired samples *t*-tests were selected to analyze the quantitative (efficacy and frequency) pre and post data from the Teacher Personal Self-Efficacy Survey and the Teacher Professional Self-Efficacy Survey. Qualitative data from The Teacher Professional Self-Efficacy Survey were coded by similarity of responses and percentages were reported. Changes in teacher self-efficacy after the intervention were

provided to the teachers to assist with goal setting. Additionally, teachers were trained to assess these changes in self-efficacy and make changes within their instruction.

Because student data were also tested at two different time points and mean differences were observed, a paired samples *t*-test was also used to analyze the quantitative pre and post data from the student writing sample scores based on the KYOTE Writing Assessment Rubric. Results of the *t*-test assisted in identifying any significant differences between pre and post writing samples. These changes in writing scores were also provided to teachers in order to determine if student growth was evident.

While the self-efficacy and student performance data from this study provided insight to teachers and researchers regarding this intervention, the real value lies in utilizing these data as comparison groups in subsequent semesters. As part of the LEAD PD model, teachers are expected to assess data and disseminate findings by sharing results with others. When analyzing data involving comparison groups, all aspects of comparison and intervention groups should be kept as similar as possible. Therefore, if current data from this study are used as a comparison group for the next year's data, all demographics and instructional quality should remain similar, thus eliminating many possible confounding variables among groups.

## CHAPTER IV: RESULTS AND DISCUSSION

As part of the purpose of this study, the investigators sought to measure changes in teacher self-efficacy in writing from both a personal and professional standpoint after receiving training in the LEAD PD. By training teachers in the Learn Assess Embed Disseminate model, the intent was to create school-wide improvements by instilling a model of continual assessment and changes in writing instruction. Data were collected from teachers at the participating middle school through two self-efficacy surveys, the Teacher Personal Efficacy Survey and the Teacher Professional Efficacy Survey. Twenty-seven teachers completed pre and post Teacher Personal Efficacy Surveys while 28 teachers completed pre and post Teacher Professional Efficacy Surveys. Unfortunately, some teachers did not provide answers to every question on both surveys. However, these teachers were not completely removed from the study due to separate statistical analyses by each type of quantitative question. Instead, the unanswered questions were removed from the data set, thus altering the sample size for several questions on each survey. Surveys were administered before and after the implementation of the LEAD PD initiative during the fall semester of 2015. Writing sample data were also collected from the students of the participating middle school before and after the implementation of the LEAD PD initiative. Writing samples were scored by an expert scorer using the Kentucky Online Testing (KYOTE) Writing Assessment Rubric, a publicly available instrument accepted by the state of Kentucky for use in the public schools regarding decisions about writing proficiency. Student writing was measured to monitor changes in student writing achievement after teachers received training. Research questions that guided this study were as follows:

1. To what extent did teacher personal self-efficacy change after the LEAD PD intervention?
2. To what extent did teacher professional self-efficacy change after the LEAD PD intervention?
3. To what extent were student writing performance scores on the KYOTE Writing Assessment affected after the LEAD PD intervention?

**To what extent did teachers' personal self-efficacy change after the LEAD PD intervention?**

The Teacher Personal Efficacy Survey (Appendix C) sought to evaluate teachers' beliefs about their own writing before and after the implementation of LEAD PD. Ten questions were designed to provide investigators insight on teachers' self-efficacy beliefs about their own writing skills, which may be a prediction of their writing instruction. Table 1 lists descriptive statistics for each question on the Teacher Personal Efficacy Survey. Paired samples *t*-tests were conducted for the questions on the Teacher Personal Efficacy Survey to determine if the changes between pre-and post-administration averages were statistically significant. The inferential statistics listed in Table 2 suggested that no significant differences were noted between pre and post scores for any of the survey questions.

Table 1

*Descriptive Statistics for Teacher Personal Efficacy Survey*

| Question | Time | Mean | *N* | *SD* |
|---|---|---|---|---|
| 1 | Post | 7.78 | 27 | 1.31 |
| | Pre | 7.56 | 27 | 1.65 |
| 2 | Post | 3.48 | 27 | 2.87 |
| | Pre | 4.22 | 27 | 2.85 |
| 3 | Post | 5.33 | 27 | 2.83 |
| | Pre | 5.19 | 27 | 2.99 |
| 4 | Post | 6.30 | 27 | 2.48 |
| | Pre | 6.44 | 27 | 2.72 |
| 5 | Post | 5.85 | 27 | 2.30 |
| | Pre | 6.22 | 27 | 2.45 |
| 6 | Post | 8.62 | 26 | 1.58 |
| | Pre | 8.50 | 26 | 1.58 |
| 7 | Post | 7.70 | 27 | 1.64 |
| | Pre | 7.70 | 27 | 2.23 |
| 8 | Post | 6.18 | 22 | 2.08 |
| | Pre | 5.96 | 22 | 2.36 |
| 9 | Post | 7.82 | 22 | 2.15 |
| | Pre | 8.09 | 22 | 2.11 |
| 10 | Post | 6.50 | 22 | 2.50 |
| | Pre | 6.73 | 22 | 2.81 |

Table 2

*Differences in Pre/Post Scores on the Teacher Personal Efficacy Survey*

| Question | Mean | *SD* | *t* | *df* | *p* |
|---|---|---|---|---|---|
| 1 | .22 | 1.53 | .76 | 26 | .46 |
| 2 | .74 | 2.47 | -1.56 | 26 | .13 |
| 3 | .15 | 2.25 | .34 | 26 | .74 |
| 4 | -.15 | 2.18 | -.35 | 26 | .73 |
| 5 | -.37 | 1.78 | -1.08 | 26 | .73 |
| 6 | .16 | 1.11 | .53 | 25 | .60 |
| 7 | .00 | 1.84 | .00 | 26 | 1.00 |
| 8 | .23 | 1.77 | .60 | 21 | .55 |
| 9 | -.27 | 1.78 | -.72 | 21 | .48 |
| 10 | -.22 | 3.07 | -.347 | 21 | .73 |

**To what extent did teacher professional self-efficacy change after the LEAD PD intervention?**

The Teacher Professional Efficacy Survey (Appendix D) sought to evaluate teachers' ratings of self-efficacy of teaching writing, frequency of writing instruction, and the types of feedback strategies they use in their writing instruction. Surveys were administered before and after the implementation of LEAD PD. Questions were created to align with the KAS writing standards. For each standard, the survey asked two self-efficacy questions, one frequency question, and one open-ended question regarding

feedback methods. Open-ended responses were coded into one of the following categories: written (organization, grammar, content, citations), verbal (individual conferencing or group), use of a rubric, modeling/providing examples, peer evaluation, other methods, or no response/no opportunity. Questions were designed to prompt for responses that provide insight regarding teachers' current writing instruction. Not only did investigators seek to understand teachers' beliefs in regards to their writing instruction, they also sought answers to how often teachers actually provide these opportunities to students. Responses to the feedback questions provided insight about what methods teachers used to provide opportunities for students to meet the writing standards.

To determine differences between pre and post survey scores, paired samples *t*-tests were conducted on all quantitative data of the Teacher Professional Efficacy Survey. The *t*-test analyses were conducted on efficacy and frequency questions separately. Groupings with two questions consisted of the self-efficacy questions for that standard, while single questions were frequency (i.e. Questions 1 and 2 are efficacy measures; question 3 is a frequency measure). Effect sizes were also computed for each significant difference established. Effect sizes were computed to assist in determining the practical impact of each significant difference observed. Cohen (1988) reported that effect size values of 0.2-0.4 are considered small effects, values of 0.5-0.7 are considered medium effects, and values of 0.8 and higher are considered a large effect. Table 3 lists descriptive statistics for quantitative questions on the Teacher Professional Efficacy Survey, while Table 4 lists the inferential statistics.

Table 3

*Descriptive Statistics for Teacher Professional Efficacy Survey*

| Question(s) | Time | Mean | *N* | *SD* |
|---|---|---|---|---|
| 1 & 2 | Post | 3.00 | 28 | .63 |
| | Pre | 2.39 | 28 | .73 |
| 3 | Post | 2.42 | 26 | .81 |
| | Pre | 1.92 | 26 | .80 |
| 5 & 6 | Post | 2.63 | 28 | .78 |
| | Pre | 2.18 | 28 | .66 |
| 7 | Post | 2.39 | 26 | .85 |
| | Pre | 1.73 | 26 | .72 |
| 9 & 10 | Post | 2.45 | 28 | .97 |
| | Pre | 1.98 | 28 | .77 |
| 11 | Post | 1.74 | 27 | .81 |
| | Pre | 1.48 | 27 | .70 |
| 13 & 14 | Post | 2.73 | 28 | .80 |
| | Pre | 2.32 | 28 | .72 |
| 15 | Post | 2.27 | 26 | .87 |
| | Pre | 1.85 | 26 | .78 |
| 17 & 18 | Post | 2.38 | 28 | .82 |
| | Pre | 1.98 | 28 | .90 |
| 19 | Post | 2.00 | 26 | .89 |
| | Pre | 1.42 | 26 | .64 |
| 21 & 22 | Post | 2.27 | 28 | 1.04 |
| | Pre | 2.07 | 28 | .87 |
| 23 | Post | 1.41 | 27 | .69 |
| | Pre | 1.19 | 27 | .40 |

(continued)

| Question(s) | Time | Mean | *N* | *SD* |
|---|---|---|---|---|
| 25 & 26 | Post | 2.50 | 28 | .79 |
| | Pre | 2.13 | 28 | .83 |
| 27 | Post | 1.56 | 27 | .70 |
| | Pre | 1.59 | 27 | .84 |
| 29 & 30 | Post | 2.44 | 27 | .95 |
| | Pre | 2.09 | 27 | .85 |
| 31 | Post | 1.76 | 25 | .83 |
| | Pre | 1.56 | 25 | .65 |
| 33 & 34 | Post | 2.32 | 27 | .95 |
| | Pre | 2.02 | 27 | .81 |
| 35 | Post | 1.80 | 25 | 1.00 |
| | Pre | 1.72 | 25 | .84 |
| 37 & 38 | Post | 2.50 | 27 | .97 |
| | Pre | 2.07 | 27 | .82 |
| 39 | Post | 2.00 | 26 | 1.02 |
| | Pre | 1.62 | 26 | .85 |

*Note*. Rows with two questions are self-efficacy questions while rows with one question are frequency questions.

Table 4

*Differences in Pre/Post Scores on the Teacher Professional Efficacy Survey*

| Question (s) | Mean | *SD* | *t* | *df* | *p* | *d* |
|---|---|---|---|---|---|---|
| 1 & 2 | .61 | .95 | 4.80 | 27 | .00 | .89 |
| 3 | .50 | 1.03 | 2.48 | 25 | .02 | .62 |
| 5 & 6 | .45 | .83 | 4.03 | 27 | .00 | .62 |
| 7 | .65 | .89 | 3.74 | 25 | .00 | .83 |
| 9 & 10 | .46 | .99 | 3.51 | 27 | .00 | .53 |
| 11 | .26 | .66 | 2.05 | 26 | .05 | .34 |
| 13 & 14 | .41 | .78 | 3.94 | 27 | .00 | .54 |
| 15 | .42 | 1.03 | 2.10 | 25 | .05 | .51 |
| 17 & 18 | .39 | .78 | 3.78 | 27 | .00 | .46 |
| 19 | .58 | .81 | 3.64 | 25 | .00 | .75 |
| 21 & 22 | .20 | .86 | 1.71 | 27 | .09 | -- |
| 23 | .22 | .80 | 1.44 | 26 | .16 | -- |
| 25 & 26 | .38 | .82 | 3.42 | 27 | .00 | .46 |
| 27 | -.04 | .98 | -.20 | 26 | .85 | -- |
| 29 & 30 | .35 | .87 | 2.97 | 26 | .00 | .39 |
| 31 | .20 | .82 | 1.23 | 24 | .23 | -- |
| 33 & 34 | .30 | .92 | 2.36 | 26 | .02 | .34 |
| 35 | .08 | .86 | .46 | 24 | .65 | -- |
| 37 & 38 | .43 | .82 | 3.84 | 26 | .00 | .48 |
| 39 | .38 | .94 | 2.08 | 25 | .05 | .41 |

*Note*. Rows with two questions are self-efficacy questions while rows with one question are frequency questions.

**Standard 1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.**

The literature on best practice in writing instruction states that, to increase the quality of student writing, teachers should create prompts that are not only relevant to the area of study, but are presented in a way that is meaningful to students (Zemelman et al., 2012). By doing so, teachers increase the authenticity of writing while still requiring students to provide evidence and support for their claims.

**Self-Efficacy Questions**

1. *I can provide writing prompts for my students so that they can write in response to arguments related to topics of study.*
2. *I know how to set up writing scenarios whereby students demonstrate their own reasoning to make written arguments.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions one and two on post survey questions ($M$ = 3.00, $SD$ = .63) compared to the pre survey questions ($M$ = 2.39, $SD$ = .73), a statistically significant mean increase of .61, $t(27) = 4.80$, $p < .001$, $d = .89$.

**Frequency Question**

3. *I provide opportunities for students to use evidence from print to write a strong and cohesive piece.*

As observed in Tables 3 and 4, teachers reported higher frequency scores for question three on post survey questions ($M$ = 2.42, $SD$ = .81) compared to the pre survey questions ($M$ = 1.92, $SD$ = .80), a statistically significant mean increase of .50, $t(25) = 2.48$, $p = .02$, $d = .62$.

**Open-Ended Question**

4. *What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 36%, post = 29%) of teachers stated that they provided written feedback to their students. Written feedback from many teachers consisted of "strengths and weaknesses, grammar, organization, sentence structure, and punctuation." Verbal conferences (pre = 21%, post = 17%) and other methods of feedback (pre = 17%, post = 19%) were the next most common responses across pre and post surveys. Examples of other methods of feedback are "encouragement-practical praise, constructive criticism, graphic organizers, and brainstorming with students."

Significant differences and large ($d$ = .89) to medium effects ($d$ = .62) of teacher self-efficacy and frequency respectively were reported in teachers' abilities to incorporate strategies from this standard into their instruction. Additionally, teachers reported providing students with more opportunities to produce writing to this standard.

**Standard 2: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.**

According to literature on authentic writing, students should seek to take ownership of their writing while conveying their meaning to the intended audience (Zemelman et al., 2012). When students are writing about topics that evoke interest and emotion, they are more likely to think through what information they want to provide to

their audience. Teachers are to guide students through the selection of their topics and provide them feedback in relation to the content and organization.

**Self-Efficacy Questions**

5. *I can provide writing assignments for my students that have them write information pieces that examine and convey complex ideas.*
6. *I know how to guide students through writing assignments so that their content writing is clear and accurate.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions of five and six on post survey questions ($M$ = 2.63, $SD$ = .78) compared to the pre survey questions ($M$ = 2.18, $SD$ = .67), a statistically significant mean increase of .45, $t(27) = 4.03$, $p < .001$, $d = .62$.

**Frequency Question**

7. *I provide opportunities for my students to select, organize, and analyze information in focused writing tasks.*

As observed in Tables 3 and 4, teachers reported higher frequency scores for question seven on post survey questions ($M$ = 2.39, $SD$ = .85) compared to the pre survey questions ($M$ = 1.73, $SD$ = .72), a statistically significant mean increase of .65, $t(25) = 3.74$, $p < .001$, $d = .83$.

**Open-Ended Question**

8. *What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 28%, post = 39%) of teachers stated that they provided written feedback to their

students. Examples of written feedback were "feedback concerning emphasis on idea development and supporting details and content related notes on paper." Verbal conferences (pre = 22%, post = 19%) or no response/no opportunity for feedback (pre = 22%, post = 22%) were the next most common responses across pre and post surveys. Examples of verbal conferences were "conferencing with each student during every step of writing process and oral discussion of writing strengths and weaknesses."

Significant differences and medium (*d* = .62) to large effects (d = .83) of teacher self-efficacy and frequency respectively in their ability to incorporate informative/explanatory writing into their instruction were observed. Additionally, teachers reported providing students with more opportunities to produce writing to this standard. Within the open-ended question responses, types of written feedback increased at post intervention. This finding suggested teachers reported providing more feedback to their students in the areas of organization and content of writing pieces.

**Standard 3: Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.**

Similar to the previous standards, best practice literature recommends that students write about topics interesting and meaningful to them. This can be accomplished through narrative writing as the use of the imagination is encouraged (Zemelman et al., 2012). Within this standard, teachers should also expand the audience to individuals other than themselves. Peer feedback and other methods such as non-graded journals or blogs are means of increasing narrative writing and the authenticity of writing.

**Self-Efficacy Questions**

9. *I can provide writing prompts for my students that allow them to develop narratives recanting real or imagined events.*
10. *I know how to guide students through writing assignments that require them to use literary techniques, selective details, and logical event sequences.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions nine and ten on post survey questions ($M$ = 2.45, $SD$ = .97) compared to the pre survey questions ($M$ = 1.98, $SD$ = 0.77). Additionally, a statistically significant mean increase of .46, $t(27) = 3.51$, $p < .001$, $d = .53$ was observed.

**Frequency Question**

11. *I provide opportunities for my students to develop well-structured narratives relating real or imagined experiences or events.*

As observed in Tables 3 and 4, teachers reported higher frequency scores for question 11 on post survey questions ($M$ = 1.74, $SD$ = 0.81) compared to the pre survey questions ($M$ = 1.48, $SD$ = .70), a statistically significant mean increase of 0.26, $t(26) = 2.05$, $p = .05$, $d = .34$.

**Open-Ended Question**

12. *What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 34%, post = 34%) of teachers provided no response or stated they had no opportunity to provide feedback for these types of writing. Reponses for all other types of feedback were variable. Written feedback (pre = 24%, post = 2%), rubric (pre = 18%, post = 11%), and verbal conferences (pre = 11%, post = 17%) were the next most common

responses across pre and post surveys. Written feedback examples were "feedback regarding clear story organization, ask questions about details to expand, focus on details and maintaining sequential order."

Significant differences and a medium effect ($d$ = .53) of teacher self-efficacy was noted in perceived ability to teach students to produce narratives. However, differences between frequency responses indicated a small effect ($d$ = .34) of teacher frequency. Additionally, many teachers reported that they did not provide any feedback on this type of writing before or after the intervention.

**Standard 4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience**.

It is important for students to understand the audience for whom they are writing. Teachers should ensure that students are aware of their audience, whether it be teacher, peers, or for reflective purposes. If students are writing authentically and are aware of their audience, they are prepared to create questions requiring higher-level thinking and purpose (Zemelman et al., 2012). It is important for teachers to guide students to understand their audience and how they intend to communicate with them. Additionally, teachers should not be the sole providers of feedback. When students receive feedback from their peers, they receive a variety of responses that can build their skills.

**Self-Efficacy Questions**

*13. I can provide writing assignments that require my students to produce clear and coherent writing for a specific purpose and audience.*

*14. I know how to guide students through the writing process to ensure their writing is organized and uses appropriate styles for the purpose/audience.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions 13 and 14 on post survey questions ($M$ = 2.73, $SD$ = 0.80) compared to the pre survey questions ($M$ = 2.32, $SD$ = .72), a statistically significant mean increase of 0.41, $t(27) = 3.94$, $p < .001$, $d = .54$.

**Frequency Question**

*15. I provide opportunities for my students to develop organized, clear, and appropriately stylized writings for specific purposes and audiences.*

As observed in Tables 3 and 4, teachers reported higher frequency scores for question 15 on post survey questions (M = 2.27, SD = 0.87) compared to the pre survey questions ($M$ = 1.85, $SD$ = .78), a statistically significant mean increase of 0.42, $t(25) = 2.10$, $p = .05$, $d = .51$.

**Open-Ended Question**

*16. What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 33%, post = 27%) of teachers stated that they provided written feedback to their students. Examples of written feedback were "concerning organization and idea development to promote clarity and purpose, individually write concise comments on what is good and what needs improvement." No response/no opportunity for feedback (pre = 25%, post = 27%) and verbal conferences (pre = 15%, post = 19%) were the next most common responses across pre and post surveys.

Teachers reported that their self-efficacy and frequency of this standard had significantly increased and medium effects were observed ($d$ = .54, $d$ = .51). However,

based on open-ended responses, the teacher's written feedback remained the primary method of feedback for this standard versus other means of feedback.

**Standard 5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.**

To align with the current standards, best practices recommended students write across all content areas (Zemelman et al., 2012). These writing assignments should include the stages of the writing process: planning, revisions, editing, and publishing. As this is not always feasible for every class, the literature recommended students produce different types of writing (i.e. persuasive, informative, narrative, reflective) across different subjects (Graham, 2008).

**Self-Efficacy Questions**

*17. I can provide writing instruction that emphasizes the writing process.*

*18. I know how to provide feedback to students to guide them through the writing process to help students strengthen their writing skills.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions 17 and 18 on post survey questions ($M$ = 2.38, $SD$ = .82) compared to the pre survey questions ($M$ = 1.98, $SD$ = .90), a statistically significant mean increase of .39, $t(27) = 3.78$, $p < .001$, $d = .46$.

**Frequency Question**

*19. I provide opportunities for my students to strengthen their writing by examining all aspects of the writing process.*

As observed in Tables 3 and 4, teachers reported higher frequency scores for question 19 on post survey questions ($M$ = 2.00, $SD$ = .89) compared to the pre survey

questions ($M$ = 1.42, $SD$ = .64), a statistically significant mean increase of .58, $t(25)$ = 3.64, $p < .001$, $d$ = .75.

**Open-Ended Question**

*20. What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 35%, post = 43%) of teachers provided no response or stated they had no opportunity to provide feedback for these types of writing. Written feedback (pre = 22%, post = 11%), verbal conferences (pre = 14%, post = 20%), and peer related feedback (pre = 2%, post = 11%) were the next most common responses across pre and post surveys. Interestingly, written feedback decreased from pre to post survey responses, while peer related feedback increased by 9% from pre to post survey.

A small/medium effect ($d$ = .46) of teacher self-efficacy was observed regarding perceived ability to teach to the writing process. However, a medium/large effect ($d$ = .75) of teacher frequency was observed regarding the amount of opportunities students receive to write to this standard. These results suggested that although teachers are still establishing their ability to teach to the writing process, they reported providing students more opportunities to write to this standard.

**Standard 6: Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.**

Through the use of internet, students have access to current research and multitudes of information regarding their writing topics. Technology allows students to create research based writing while easing the editing/revision process. Additionally,

students can receive frequent writing practice and reach larger audiences as they interact with others (Zemelman et al., 2012).

**Self-Efficacy Questions**

*21. I can provide writing assignments that require students to use technology to publish writing.*

*22. I know how to guide my students through using technology, including the Internet, to interact and collaborate with others as they write.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions 21 and 22 on post survey questions ($M$ = 2.27, $SD$ = 1.04) compared to the pre survey questions ($M$ = 2.07, $SD$ = .87). However, a statistically significant mean increase was not observed for this question .20, $t(27) = 1.70$, $p = .09$.

**Frequency Question**

*23. I provide opportunities for my students to use technology to write and collaborate with others as they publish their writing.*

As observed in Tables 3 and 4, teachers reported higher frequency scores for question 23 on post survey questions ($M$ = 1.41, $SD$ = .69) compared to the pre survey questions ($M$ = 1.19, $SD$ = 0.40). However, a statistically significant mean increase was not observed for this question 0.22, $t(26) = 1.44$, $p = .16$.

**Open-Ended Question**

*24. What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 49%, post = 63%) of teachers provided no response or stated they had no opportunity to

provide feedback for these types of writing. Written feedback (pre = 17%, post = 10%), verbal conferences (pre = 11%, post = 10%), and other types of feedback (pre = 11%, post = 10%) were the next most common responses across pre and post surveys.

No significant differences were noted among qualitative questions within this standard. Additionally, most teachers reported that they did not provide feedback for this standard, suggesting technology was not often used as a means of student writing.

**Standard 7: Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.**

Previous research suggested that writing across content areas can sometimes be brief as long as it ensures students retain the information (Zemelman et al., 2012). However, teachers should ensure that brief or in depth research projects relate to content material while promoting learning and requiring students to think critically.

**Self-Efficacy Questions**

*25. I can develop research projects for my students that require them to investigate questions related to our content.*

*26. I know how to guide students through research projects that require them to write clearly to demonstrate their understanding of the topic in question.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions 25 and 26 on post survey questions ($M$ = 2.50, $SD$ = .79) compared to the pre survey questions ($M$ = 2.13, $SD$ = .83), a statistically significant mean increase of .38, $t(27) = 3.42$, $p < .001$, $d = .46$.

**Frequency Question**

*27. I provide opportunities for my students to write research papers that demonstrate their learning of my content.*

As observed in Tables 3 and 4, teachers reported lower frequency scores for question 27 on post survey questions ($M$ = 1.56, $SD$ = .70) compared to the pre survey questions ($M$ = 1.59, $SD$ = .84). However, a statistically significant mean increase was not observed for this question -.04, $t(26) = -.20$, $p = .85$.

**Open-Ended Question**

*28. What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 50%, post = 29%) of teachers provided no response or stated they had no opportunity to provide feedback for these types of writing. Written feedback (pre = 18%, post = 29%) and verbal conferences (pre = 16%, post = 17%) were the next most common responses across pre and post surveys. Interestingly, no response/no opportunity to provide feedback ratings decreased from pre to post while written feedback ratings increased. This increase in feedback disagreed with the previous analyses of the frequency question indicating no significant mean differences across pre and post surveys. This analysis suggested that teachers are giving students less opportunity to create research papers, but were providing more feedback.

**Standard 8: Gather relevant information from multiple print and digital sources, Assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.**

When producing information to support their claims, students are to provide information from credible and accurate sources. This is a learned process through practice and frequent revision. The literature recommended teachers assist students in researching sources and integrating them into their own writing (Zemelman et al., 2012). One main way to assist students with this is through appropriate feedback methods.

**Self-Efficacy Questions**

*29. I can develop writing projects that require my students to gather information from multiple sources (print and digital).*

*30. I know how to teach my students how to assess credibility and accuracy of print and digital sources while providing citations within their papers.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions 29 and 30 on post survey questions ($M$ = 2.44, $SD$ = .95) compared to the pre survey questions ($M$ = 2.09, $SD$ = .85), a statistically significant mean increase of .35, $t(26) = 2.97$, $p < .001$, $d = .39$.

**Frequency Question**

*31. I provide opportunities for my students to use multiple sources to write papers.*

As observed in Tables 3 and 4, teachers reported higher frequency scores for question 31 on post survey questions ($M$ = 1.76, $SD$ = .83) compared to the pre survey questions ($M$ = 1.56, $SD$ = .65). However, a statistically significant mean increase was not observed for this question 0.20, $t(24) = 1.23$, $p = .23$.

**Open-Ended Question**

*32. What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 58%, post = 55%) of teachers provided no response or reported they had no opportunity to provide feedback for these types of writing. Written feedback (pre = 12%, post = 18%) was the next most common response across pre and post surveys.

Based on the responses to questions, a small effect ($d$ = .39) of teacher self-efficacy was observed for perceived self-efficacy to teach students to gather information from multiple sources. However, no significant differences were noted among frequency questions. Additionally, more than half of the teachers reported that they are not providing feedback for this standard.

**Standard 9: Draw evidence from literary or informational texts to support analysis, reflection, and research.**

Similar to the previous standard, it is important for students, especially middle school students, to begin to understand how to collect information from a variety of sources as evidence to support their writing. This is a skill not only prepares them for the writing demands in upper level grades, but also increases their college and career readiness (Zemelman et al., 2012).

**Self-Efficacy Questions**

*33. I can provide writing experiences for my students that require them to draw evidence from different types of sources.*

*34. I know how to support my students' writing growth in learning how to research topics that include reflective thinking in analysis of information.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for a combination of questions 33 and 34 on post survey questions ($M$ = 2.32, $SD$ = .95)

compared to the pre survey questions ($M$ = 2.02, $SD$ = .81), a statistically significant mean increase of 0.30, $t(26) = 2.36$, $p$ = .02, $d$ = .34.

**Frequency Question**

*35. I provide opportunities for my students to draw evidence from multiple sources to research topics, reflect on information learned, and support analysis of their findings.*

As reported in Tables 3 and 4, teachers reported higher frequency scores for question 35 on post survey questions ($M$ = 1.80, $SD$ = 1.00) compared to the pre survey questions ($M$ = 1.72, $SD$ = .84). However, a statistically significant mean increase was not observed for this question .08, $t(24) = .46$, $p$ = .65.

**Open-Ended Question**

*36. What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 55%, post = 61%) of teachers provided no response or reported they had no opportunity to provide feedback for these types of writing. Written feedback (pre = 16%, post = 19%) was the next most common response across pre and post surveys.

A small effect ($d$ = .34) was noted in teacher perceived self-efficacy to teach to this standard. No significant differences were noted among frequency questions suggesting that teachers are not providing more opportunities for students to draw information from multiple sources. Additionally, little or no feedback was provided by more than half of the teachers.

**Standard 10: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.**

Similar to Standard 5, teachers can ensure that students write to this standard when they write across all content areas (Graham, 2008). Previous literature stated that as teachers align their curriculums, they can coordinate their writing instruction and writing activities across subjects. This assists in multiple times of writing over multiple time periods, and for multiple purposes, tasks, and audiences.

**Self-Efficacy Questions**

*37. I can provide writing experiences for my students that require them to write for varied amounts of time for a variety of reasons and audiences.*

*38. I know how to guide my students through the writing process that involves consideration of task/purpose and audience.*

As observed in Tables 3 and 4, teachers reported higher self-efficacy scores for the combination of questions 37 and 38 on post survey questions ($M$ = 2.50, $SD$ = .97) compared to the pre survey questions ($M$ = 2.07, $SD$ = .82), a statistically significant mean increase of .43, $t(26) = 3.84$, $p < .001$, $d = .48$.

**Frequency Question**

*39. I provide opportunities for my students to write for a variety amount of time and for a variety of purposes and audiences.*

As observed in Tables 3 and 4, teachers reported higher frequency scores for question 39 on post survey questions ($M$ = 2.00, $SD$ = 1.02) compared to the pre survey

questions ($M$ = 1.62, $SD$ = .85), a statistically significant mean increase of .39, $t(25)$ = 2.08, $p$ = .05, $d$ = .41.

**Open-Ended Question**

*40. What types of feedback do you provide to students for these types of writing assignments?*

Based on teacher responses to pre and post questions, the highest percentage (pre = 49%, post = 50%) of teachers provided no response or stated they had no opportunity to provide feedback for these types of writing. Written feedback (pre = 23%, post = 18%) was the next most common response across pre and post surveys.

Small effects ($d$ = .48, $d$ = .41) of teacher self-efficacy and frequency were observed across questions for these standards. To support this small effect, many teachers also reported that they do not provide feedback to have opportunity to provide feedback for this standard.

**To what extent were student writing performance scores on the KYOTE Writing Assessment affected after the LEAD PD intervention?**

Changes in student writing scores were also collected at pre and post intervention and scored by an expert scorer in the KYOTE Writing Assessment Rubric. Changes in student writing scores were to assist teachers in assessing their own instruction and the effectiveness of any instructional changes made after the LEAD PD training. Student writing performance was also provided to assist teachers in assessing any future changes in their writing instruction that may be warranted. To assess changes in student writing scores from pre to post intervention, a paired samples $t$-test was conducted. Student data were assessed by grade level as well as overall school growth. Table 5 presents the

descriptive statistics for pre and post scores by grade level and for the overall school, while Table 6 details the inferential statistics.

As observed in Tables 5 and 6, students' writing scores from all grade levels were higher on post writing samples as compared to the pre writing samples. Statistically significant mean increases were also observed across all grade levels (6th: $d = 1.32$, 7th: $d = .50$, 8th: $d = .41$). These increases across all grade levels support higher total student writing scores on post writing samples compared to the pre writing sample scores, as well as a statistically significant mean increase ($d = .69$).

Table 5

*Descriptive Statistics for Grade Level Writing Scores*

| Grade | Time | Mean | N | SD |
|---|---|---|---|---|
| 6 | Post | 5.00 | 126 | 1.51 |
| | Pre | 2.93 | 126 | 1.62 |
| 7 | Post | 4.58 | 127 | 1.48 |
| | Pre | 3.73 | 127 | 1.86 |
| 8 | Post | 5.47 | 127 | 1.48 |
| | Pre | 4.83 | 127 | 1.67 |
| Total | Post | 5.01 | 380 | 1.53 |
| | Pre | 3.83 | 380 | 1.89 |

Table 6

*Differences in Pre/Post Student Writing Scores*

| Grade | Mean | *SD* | *t* | *df* | *p* | *d* |
|---|---|---|---|---|---|---|
| 6 | 2.06 | 1.53 | 15.17 | 125 | .00 | 1.32 |
| 7 | .84 | 1.58 | 6.03 | 126 | .00 | .50 |
| 8 | .64 | 1.31 | 5.47 | 126 | .00 | .41 |
| Total | 1.18 | 1.60 | 14.35 | 379 | .00 | .69 |

**Summary**

Results of the paired samples *t*-test for the Teacher Personal Efficacy Survey indicated no significant differences from pre to post intervention. Teachers as a group did not report significant changes in their personal writing practices after the LEAD PD intervention. Conversely, significant differences were noted among 24 of the 30 quantitative questions on the Teacher Professional Efficacy Survey. Overall, medium and large effect sizes were observed for 12 of those questions. Teachers reported increases in their confidence and capability to incorporate informative/explanatory, narrative, and argumentative writing assignments into their instruction. Teachers also provided their students with significantly more opportunities to produce informative/explanatory and argumentative writing pieces. Additionally, teachers felt more capable and confident teaching students to write to specific styles, purposes and audiences while teaching them to examine their writing through all phases of the writing process. Finally, results of the paired samples *t*-test for student writing data indicated significant increases across all grade levels and as an overall school group. The students

within the 6th grade group produced the largest increase (2.06, $t(125) = 15.17$, $p < .05$, $d = 1.32$) from scores on pre to post writing samples.

The results of this study are promising as this was the pilot implementation of the LEAD PD initiative. Significant increases were noted across the Teacher Professional Efficacy Survey and across all students' writing samples. However, it is difficult to determine if changes in teacher self-efficacy and student scores are solely a result of the LEAD PD initiative. Within the next chapter, an interpretation of the previous results will be provided. In addition, possible confounding variables and suggestions for future research will be discussed.

# CHAPTER V: IMPLICATIONS

In contrast with traditional professional development programs, LEAD PD sought to provide teachers with more than general information on a one-time basis. Ultimately, the purpose of this study was to create school-wide improvements by training teachers in the LEAD PD model. Not only were teachers trained to align their curricula with best practices of writing instruction, but they were also expected to embed these best practices into their daily instruction. Further, teachers were trained to assess the impact of their instruction by assessing student writing growth and making necessary changes based on this assessment. Through the LEAD PD initiative, investigators sought to train teachers in a model of continual growth and determine if this model ultimately changed teacher behavior. Additionally, the implications from this study will provide a framework for further research and continued teacher growth.

After pre and post data were collected from teachers, statistical analyses were conducted to determine differences in teacher self-efficacy from both a personal and professional standpoint. Similar analyses were also conducted on students' pre and post writing scores. An assessment of the changes between pre and post scores on the Teacher Personal Efficacy Survey revealed that teacher participants did not show significant improvement. Although investigators thought personal self-efficacy might change as a result of the teacher training, the purpose of the LEAD PD model did not focus on specific strategies to increase personal writing self-efficacy. Since research indicates that teachers who value writing personally are typically more self-assured and perhaps better writing instructors, the implications of these results call for more attention to be spent on teachers' own writing experiences (Bandura, 1997). This could be done by asking

teachers to keep personal writing journals about their experiences in LEAD PD, by encouraging teacher to submit manuscripts of their experiences to a professional journal, or by arranging some sort of writing competition for teachers at the school. Investigators anticipated that teachers would "organically" develop a greater appreciation for their own personal writing while undergoing the depth and richness of the writing experiences in the LEAD PD model, but the data did not show improvements.

Conversely, significant differences were noted across 24 of the 30 quantitative questions on the Teacher Professional Efficacy Survey. These differences suggested that teachers felt they had more knowledge and higher feelings of self-efficacy regarding writing instruction at the beginning of the study than they actually had. It was the investigator's intention that LEAD PD would impact teacher perceived self-efficacy beliefs in regard to writing instruction. However, analysis of the Teacher Professional Efficacy Survey calls for several comments and questions. To better comprehend the complexity of analyses on the Teacher Professional Efficacy Survey, Table 7 further contextualizes and summarizes teacher ratings of self-efficacy and frequency.

First, significant differences between pre and post averages for self-efficacy questions were noted on nine of the 10 standards. For Standards one through five and Standard 10, significant differences in both self-efficacy and frequency were observed. It is possible that higher ratings for these Standards were partially due to the fact that they require less planning and scheduling, thus teachers were able to teach to these Standards more often. However, for three of the writing standards, significant differences in self-efficacy were observed, but significant differences among frequency questions were not observed. These results suggested that teachers felt more capable and confident to teach

Table 7

*Significant Differences for Teacher Professional Efficacy Survey Questions*

| Standard | Description of Standard |
|---|---|
| Increases in Self-Efficacy and Frequency | |
| 1 | Argumentative writing |
| 2 | Informative/Explanatory writing |
| 3 | Narrative writing |
| 4 | Organization and style for specific task, purpose, and audience |
| 5 | Develop and strengthen writing through stages of writing process |
| 10 | Write for extended and short time frames |
| Increases in Self-Efficacy but not Frequency | |
| 7 | Research Projects |
| 8 | Information from digital/print sources, assess accuracy and integrate |
| 9 | Draw information from texts to support analysis, reflection, and research |
| No Significant Differences | |
| 6 | Use of technology and Internet for writing |

to the writing standards after the professional development training; however, their responses did not indicate that they provided the opportunities for their students to engage in writing practices related to these standards. When examining the requirements for Standards seven through nine, teachers were required to do more planning and set aside more time for these writing assignments (i.e., research projects). Additionally, the

set of questions related to Standard six were the only set with no significant differences between pre and post intervention assessments. This standard involved the use of technology and Internet to produce writing. One reason for this result may be because LEAD PD did not specifically examine and extensively discuss the use technology for writing within the training. The use of technology and Internet for regular writing instruction could also present issues with planning, availability, and scheduling among teachers. Although some of these results may be due other factors such as limited time between pre and post measures, resources, and specific teaching requirements, they definitely introduce an interesting point.

For some of the open-ended questions, the types of feedback provided to students changed from pre to post responses. Specifically, Standard five related to the writing process. Examination of the open-ended responses revealed that written feedback from the teacher decreased, while peer related feedback increased. Interestingly, the technique of peer feedback was included in LEAD PD training as a means to provide a larger audience and promote more authentic writing. This is a positive aspect most likely attributed to the LEAD PD training and an indicator that teachers adjusted their instructional methods to match best practices techniques for this specific standard. However, for five of the 10 standards, teachers still reported that they did not provide feedback/did not have an opportunity to provide feedback for these standards.

The literature stated that teachers with higher levels of perceived self-efficacy were more likely to experience openness to change as well as changes in behavior and teaching methods (Bandura, 1997). The results from the Teacher Professional Efficacy Survey suggested overall teachers felt a greater sense of self-efficacy to teach to the

writing standards after the LEAD PD training. With this information and the knowledge of previous research, investigators anticipated teachers who reported higher self-efficacy beliefs would also report higher levels of frequency and changes in feedback methods. However, the implications from these results suggested that for some writing standards, when self-efficacy ratings increased, teacher actions measured (frequency of opportunity and appropriate feedback methods) did not increase and/or change. These findings call attention to the fact that continued teacher improvement is needed in the areas of providing students opportunities to write to each standard as well as providing effective feedback aligned with best practice recommendations. It is possible that although they feel more capable and confident to teach writing, teachers still lack the ability to incorporate student opportunities for all ten writing standards within their instruction. LEAD PD provided teachers with best practice instructional methods for all writing standards, but the findings suggested more efforts are necessary to focus on how to provide students with additional opportunities to engage in writing experiences related to each standard. More time in between pre and post measures would allow teachers additional preparation to incorporate the more difficult writing standards into their instruction.

Similar to findings in previous research, changes in self-efficacy are more likely when teachers experience success within their instructional practices or observe success among their colleagues (Bandura, 1997). One primary method of observing this success is through student performance. Additionally, the literature stated that teacher self-efficacy and student performance might form a reciprocal relationship and mutually impact each other (Bandura, 1997; Ross, 1998; Takahashi, 2010). As student

performance increases, it is likely the self-efficacy of teachers will subsequently increase, thus further motivating teachers and impacting their instruction. Significant positive movement was noted across pre and post student writing scores for each individual grade and as a whole. Specifically, a large effect size ($d$ = 1.32) was observed for 6$^{th}$ grade writing samples. Small and medium effect sizes were observed across other student groups (7$^{th}$: $d$ = .50; 8$^{th}$: $d$ = .41). The implications for these results are positive as significant student growth was observed among all grade levels and as an entire student body. Although explanations for student growth could be attributed to other sources outside of the realm of this study, these results indicate a positive trend for continued teacher and student growth. Now that teachers have collected pre and post writing data on the students throughout the course of a semester, they are equipped to continue doing so in the future, using the present results as a baseline for expectations of student growth. This assessment could be done by encouraging teachers to use their training in the KYOTE Writing Assessment Rubric to frequently assess their students' performance and adjust their teaching practices to meet the needs of their students.

As best practice stated, successful professional development allows teachers to go beyond learning new information (Darling-Hammond & McLaughlin, 2002; Wolpert-Gawron, 2014). It should also allow teachers to make changes based on newly learned information and determine if these changes are worthwhile. The LEAD PD model allowed teachers to determine the self-efficacy of their current writing instruction while also examining the growth of their students. These results provided teachers with information regarding where their writing instruction needs additional improvement. With the future use of the LEAD PD model, teachers can independently determine the

impact of their own instruction by assessing student writing scores and more accurately identifying where additional changes may be necessary.

**Limitations**

In examining the results of this study, several limitations arise. First, teachers rated their own self-efficacy, frequency, and feedback methods through a self-report survey. As with any self-reported measure, it is possible that respondents intentionally scored themselves higher or provided inaccurate responses on surveys to insinuate progress post intervention. However, if this was the true intent of teachers, it is likely that they would have intentionally scored themselves higher on the Teacher Personal Efficacy Survey. This was not the case, thus providing evidence for true growth among the professional self-efficacy of teachers. Additional methods of assessing self-efficacy could further measure the self-efficacy of teachers and determine a more accurate depiction of the impact of LEAD PD. Second, given that self-efficacy surveys were created by the researchers to align with KAS writing standards and for the purposes of this study, no previous reliability and validity estimates of the instruments were available. Third, the validity and power of a study typically increases with the randomization of participants. However, randomization of teacher participants was not feasible for this study given that all teachers participated and were grouped by content to receive training. Finally, it is possible that changes in student writing performance may be due to maturation across time. Although the primary focus of this study was to prepare teachers to utilize the LEAD PD model, it was not possible to rule out the possibility of student maturation without a comparison group of paralleled variables such as: school demographics, teaching practices and school needs. However, a comparison group was

not necessary for the pilot implementation of the LEAD PD model. Ultimately, this study sought to provide a foundation for long term teacher and student growth. Finally, the amount of time allotted for this study may not have been enough for teacher growth to occur across all areas of the professional development initiative and writing standards. For standards seven through nine, it is possible that increases in frequency scores may have been observed along with the increases in self-efficacy scores if teachers had additional time to prepare their instructional methods. Additionally, it is possible that more overall growth could have been observed among teachers given more time to incorporate their new learned strategies.

**Recommendations for Future Research**

The results of this study will be shared with teachers and administration from the participating middle school. Additionally, recommendations will be made regarding instructional changes that still may be warranted. As this study was only the initial implementation of the LEAD PD model, future research of this model would provide information to investigators regarding its effectiveness on continual teacher growth.

Future studies may also seek additional measurements of teacher self-efficacy; as self-report alone does not always produce valid results. For example, observations and teacher interviews in addition to self-report measures would provide investigators with information regarding teacher feelings of self-efficacy and the fidelity of instructional practices occurring in classrooms. This study utilized identical personal and professional efficacy surveys for pre and post intervention measures. To minimize threats to the validity of future studies, post surveys should utilize different questions while measuring the same self-efficacy constructs. This would help eliminate the possibility of teachers

scoring themselves higher on post measures. Additionally, teacher demographics were not collected for this study as all teachers were divided by content area. Future research could include demographics of teachers from each content group to better understand the teacher experience in each group. This would provide information regarding another possible variable that could impact quality of instruction and teacher self-efficacy.

Finally, to increase reliability of the measures used, the exact study could be replicated with the addition of a comparison group of paralleled variables. To further the *Assess* component within the model and ensure paralleled intervention and comparison groups, the intervention school from this study could utilize writing data from their previous year's students as a comparison group for future assessments. Teachers from this school are already trained in the same best practice writing strategies and the KYOTE Writing Assessment Rubric, and could continue to have their students produce writing samples and score them independently. Additional training through the university partnership would only be necessary if warranted. To assist in future evaluations of the LEAD PD model, school staff members, such as the school psychologist, could be essential in the statistical analyses component of this research. School psychologists are trained in program evaluation and often establish strong relationships with the teachers and administration of their schools. Therefore, in conjunction with teacher efforts, school psychologists could contribute viable information regarding statistical analyses and overall effectiveness of the program within their schools.

## Conclusion

This study was conducted to evaluate the effectiveness of the LEAD PD model on teacher growth. This model was created to meet the KAS writing standards and in conjunction with the participating school's areas of needed improvement. Teachers involved in LEAD PD, received training from literacy professors and were taught strategies of best practices in writing instruction across all content areas. Additionally, teachers were trained to embed these strategies into their current instruction, evaluate the impact of their instruction, and disseminate their findings with colleagues and into their future instruction. While this study provides a useful professional development framework for continual teacher and student growth, areas of refinement and enhancement are necessary for future research.

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# Appendix A: Institutional Review Board Approval

*INSTITUTIONAL REVIEW BOARD*
*OFFICE OF RESEARCH INTEGRITY*

| | |
|---|---|
| DATE: | July 9, 2015 |
| TO: | Pamela Petty, Ed.D |
| FROM: | Western Kentucky University (WKU) IRB |
| PROJECT TITLE: | [777799-1] LEAD PD: Writing in the Content Areas |
| REFERENCE #: | IRB 16-002 |
| SUBMISSION TYPE: | New Project |
| ACTION: | APPROVED |
| APPROVAL DATE: | July 9, 2015 |
| EXPIRATION DATE: | June 30, 2016 |
| REVIEW TYPE: | Expedited Review |

Thank you for your submission of New Project materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a *signed* consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of June 30, 2016.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Paul Mooney at (270) 745-2129 or irb@wku.edu. Please include your project title and reference number in all correspondence with this committee.

# Appendix B: Informed Consent

**INFORMED CONSENT DOCUMENT**


Project Title: *LEAD PD: Writing in the Content Areas*
Investigators: Dr. Pamela Petty, School of Teacher Education, 270-745-2809
Daniel Super, School of Teacher Education, 270-745-2809
Dr. Kandy Smith, School of Teacher Education, 270-745-5111
Jeremy Logsdon, School of Teacher Education, 270-745-2809
Kristy Cartwright, School of Teacher Education, 270-745-2809
Andrea Greene, School Psychology Graduate Student, 270-745-2809

You are being asked to participate in a project conducted through Western Kentucky University. The University requires that you give your signed agreement to participate in this project.

The investigators will explain to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask any questions you have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have.

If you then decide to participate in the project, please sign on the last page of this form in the presence of the person who explained the project to you. You should be given a copy of this form to keep.

1. **Nature and Purpose of the Project:**

The proposed *LEAD PD: Writing in the Content Areas* model will be implemented at Glasgow Middle School, which is a high-needs district. The proposed professional development model will provide the school with high quality teacher training, while incorporating measures of teacher self-efficacy and student academic performance growth throughout the process.

2. **Explanation of Procedures:**

Your involvement in this process, which is totally voluntary, would consist of the following activities:

**Activity 1: Teacher Efficacy in Writing July - August 2015**

Collecting a baseline measure of teacher efficacy as part of the initial data review will aid in planning and developing the specific professional development needed. Additionally, teachers will have data available to them to address goal-setting and performances in PGES. This will be accomplished via the Teacher Efficacy in Writing Survey and the Personal Efficacy in Writing Survey in the summer of 2015 and again at the end of the fall semester (November/December 2015). These data will only be collected from participants from Glasgow Middle School signing the informed consent document.

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Expedited
Original - 7/9/2015

**Activity 2: Completion of LEAD PD: Writing in the Content Areas**

As part of the professional development, teachers will complete online modules, which have already been created (Coursesites: LEAD PD Writing in the Content Areas). Teachers will complete these modules at their own pace throughout the summer/early fall of 2015.

**Activity 3: Face-to-Face Professional Development Writing Workshops**

Participating teachers will work with WKU faculty during a series of in-person trainings regarding (a) Motivation and Writing, (b) Reading and Writing of Expository Text, (c) Strengthening and Building Writing Vocabularies, and (d) The Writing Process. These dates will be decided in conjunction with the Glasgow Middle School administration, considering the professional development calendar.

**Activity 4: Teacher Training in Scoring and Providing Feedback for Students' Writing**

Writing assessments (particularly, formative assessments) used in the classroom can be a great opportunity for students' growth and provide valuable feedback for revisions. As part of the professional development, teachers will administer writing prompts to students and then learn how to evaluate, score and provide feedback for the student work. These student scores will also serve as an academic performance indicator for researchers to use to gauge growth during the project period. The same prompts and student work will be collected from the comparison school (South Warren Middle School).

These data will be collected via participating teachers in small groups as they work as part of a team with the WKU faculty submitting this application. As part of the training model, teacher participants will meet with their groups (colleagues and WKU faculty) during the school day in the fall semester 2015. The student writing samples will be shared among the group, but will be blinded (student names recoded to protect anonymity). As part of the professional development, WKU faculty researchers will note participant responses to questions regarding best practice in writing instruction. Researchers will score the writing samples collected at the beginning of the year and again at the end of the semester to gauge academic growth. This same process (but without the professional development aspect) will occur with the partnering comparison school, South Warren Middle.

3. **Discomfort and Risks:**

There are no known risks to teacher participants, as this project provides professional development selected and driven by school administrators. Furthermore, teacher participation in efficacy surveys does not carry with it any risks.

There are also no known risks to the students involved in the study, as they are simply responding to standard writing prompts with formal, in-class work. Formal writing requirements are everyday responsibilities of middle school students. Finally, all student work will be blinded and reported in aggregate, solving for any potential risks to anonymity.

4. **Benefits:**

Teacher professional development in writing is a common request by school districts across the country. It is difficult to find a model of training that helps teachers make meaningful improvements in writing support and instruction. This model will allow the researchers to make positive impacts on the participating teachers, while analyzing the effectiveness of the approach.

5. **Confidentiality:**

All data collected will be shared only with the teacher from which it came (for reflective and goal-setting purposes) and the administration of your school. Furthermore, any outside reporting of this project will not reference the name of the school or any teacher participant. Data will be reported in aggregate, protecting the anonymity of all participants. Student work used in the training and evaluation of this project will be blinded by each teacher participant, protecting the anonymity of each student.

6. **Refusal/Withdrawal:**

Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

*You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.*

_____ _____

Signature of Participant Date

_____ _____

Witness Date

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY
THE WESTERN KENTUCKY UNIVERSITY INSTITUTIONAL REVIEW BOARD
Paul Mooney, Human Protections Administrator
TELEPHONE: (270) 745-2129


WKU IRB# 16-002
Approval - 7/9/2015
End Date - 6/30/2016
Expedited
Original - 7/9/2015


## Teacher Personal Efficacy Survey

1. I am confident in my ability to communicate via writing.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

2. I volunteer to produce writing for public consumption.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

3. I am comfortable producing professional writing.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

4. I enjoy writing.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

5. I am confident in my ability to offer meaningful edits to other's writing.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

6. I view writing as a process.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

7. I use writing as a way of clarifying ideas before speaking.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

8. I consider myself to be a strong writer.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

9. I am interested in becoming a better writer.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

10. I am comfortable having my writing evaluated.

1……..2……..3……..4……..5……..6……..7……..8……..9……..10
NONE SOMEWHAT VERY

Appendix D: Teacher Professional Efficacy Survey


## Teacher Professional Efficacy Survey

| | Efficacy 1 - 4 | Frequency 1-4 |
|---|---|---|
| Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. | | |
| 1. I can provide writing prompts for my students so that they can write in response to arguments related to topics of study. | | |
| 2. I know how to set up writing scenarios whereby students demonstrate their own reasoning to make written arguments. | | |
| 3. I provide opportunities for students to use evidence from print to write a strong and cohesive | | |
| 4. What types of feedback do you provide to students for these types of writing assignments? | | |
| Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. | | |
| 5. I can provide writing assignments for my students that have them write information pieces that examine and convey complex ideas. | | |
| 6. I know how to guide students through writing assignments so that their content writing is clear and accurate. | | |
| 7. I provide opportunities for my students to select, organize, and analyze information in focused writing tasks. | | |
| 8. What types of feedback do you provide to students for these types of writing assignments? | | |

| | | |
|---|---|---|
| Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. | | |
| 9. I can provide writing prompts for my students that allow them to develop narratives recanting real or imagined events. | | |
| 10. I know how to guide students through writing assignments that require them to use literary techniques, selective details, and logical event sequences. | | |
| 11. I provide opportunities for my students to develop well-structured narratives relating real or imagined experiences or events. | | |
| 12. What types of feedback do you provide to students for these types of writing assignments? | | |

| | | |
|---|---|---|
| Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. | | |
| 13. I can provide writing assignments that require my students to produce clear and coherent writing for a specific purpose and audience. | | |
| 14. I know how to guide students through the writing process to ensure their writing is organized and uses appropriate styles for the purpose/audience. | | |
| 15. I provide opportunities for my students to develop organized, clear, and appropriately stylized writings for specific purposes and audiences. | | |
| 16. What types of feedback do you provide to students for these types of writing assignments? | | |

| | | |
|---|---|---|
| Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. | | |
| 17. I can provide writing instruction that emphasizes the writing process. | | |
| 18. I know how to provide feedback to students to guide them through the writing process to help students strengthen their writing skills. | | |
| 19. I provide opportunities for my students to strengthen their writing by examining all aspects of the writing process. | | |
| 20. What types of feedback do you provide to students for these types of writing assignments? | | |
| Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. | | |
| 21. I can provide writing assignments that require students to use technology to publish writing. | | |
| 22. I know how to guide my students through using technology, including the Internet, to interact and collaborate with others as they write. | | |
| 23. I provide opportunities for my students to use technology to write and collaborate with others as they publish their writing. | | |
| 24. What types of feedback do you provide to students for these types of writing assignments? | | |

| | | |
|---|---|---|
| Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation. | | |
| 25. I can develop research projects for my students that require them to investigate questions related to our content. | | |
| 26. I know how to guide students through research projects that require them to write clearly to demonstrate their understanding of the topic in question. | | |
| 27. I provide opportunities for my students to write research papers that demonstrate their learning of my content. | | |
| 28. What types of feedback do you provide to students for these types of writing assignments? | | |
| Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism. | | |
| 29. I can develop writing projects that require my students to gather information from multiple sources (print and digital). | | |
| 30. I know how to teach my students how to assess credibility and accuracy of print and digital sources while providing citations within their papers. | | |
| 31. I provide opportunities for my students to use multiple sources to write papers. | | |
| 32. What types of feedback do you provide to students for these types of writing assignments? | | |

| | | |
|---|---|---|
| Draw evidence from literary or informational texts to support analysis, reflection, and research. | | |
| 33. I can provide writing experiences for my students that require them to draw evidence from different types of sources. | | |
| 34. I know how to support my students' writing growth in learning how to research topics that include reflective thinking in analysis of information. | | |
| 35. I provide opportunities for my students to draw evidence from multiple sources to research topics, reflect on information learned, and support analysis of their findings. | | |
| 36. What types of feedback do you provide to students for these types of writing assignments? | | |
| Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences. | | |
| 37. I can provide writing experiences for my students that require them to write for varied amounts of time for a variety of reasons and audiences. | | |
| 38. I know how to guide my students through the writing process that involves consideration of task/purpose and audience. | | |
| 39. I provide opportunities for my students to write for a variety amount of time and for a variety of purposes and audiences. | | |
| 40. What types of feedback do you provide to students for these types of writing assignments? | | |

Appendix E: Kentucky Online Writing Testing (KYOTE) Writing Assessment Rubric

| | |
|---|---|
| **8** | **An "8 paper" is clear and includes meaningful details and clarifying elaboration/examples. Strong topic sentences and a strong closing passage. Sentence structure is good including style and effectiveness. Word choice is almost always accurate and demonstrates an advanced vocabulary. Paper flows nicely, addresses thoughts logically and succinctly, and writer's voice is clear. Any proofreading mistakes and some errors in standard written English (such as in sentence structure, verb and pronoun use, punctuation, spelling, and capitalization), are minimal and do not hamper communication.** |
| **7** | **A "7 paper" offers a clear, meaningful approach to the assigned topic and includes meaningful details and fairly helpful elaboration/examples. Clear organization is apparent through paragraphs and transition signals. Sentence structure is good and coherent including style and effectiveness. Word choice is almost always accurate and demonstrates a strong vocabulary. Paper flows nicely, addresses thoughts logically and succinctly, and writer's voice is clear. Any proofreading mistakes and some errors in standard written English (such as in sentence structure, verb and pronoun use, punctuation, spelling, and capitalization), are minimal and do not hamper communication.** |
| **6** | **A "6 paper" offers a clear, meaningful writing to the assigned topic and includes meaningful details. Clear organization is apparent through paragraphs and transition signals. Sentence structure is overall fluent and coherent. Word choice is mostly accurate and demonstrates an appropriate vocabulary. There may be some proofreading mistakes and occasional errors in standard written English, but these do not significantly hamper communication.** |
| **5** | **A "5 paper" offers clear writing for the assigned topic and includes details of varying quality. Organization is apparent through paragraphs and transition signals. Sentence structure is fairly fluent and coherent. Word choice is mostly accurate. There may be some proofreading mistakes and occasional errors in standard written English, but these do not significantly hamper communication.** |
| **4** | **A "4 paper" offers a somewhat clear writing on the assigned topic and moderately includes details. Organization is mostly apparent through paragraphs and some transition signals. Sentence structure is fairly fluent and coherent. Word choice is sometimes vague. There are likely to be proofreading mistakes and occasional errors in standard written English, but these, while noticeable, do not significantly hamper communication.** |
| **3** | **A "3 paper" offers an approach to the topic, but support may be inadequate or weakly organized. Sentence structure may have lapses from coherence and fluency. Word choice is sometimes vague. There are likely to be proofreading mistakes and some errors in standard written English, but these, while noticeable, do not significantly hamper communication.** |
| **2** | **A "2 paper" may lack a clear approach to the topic, or it may offer inadequate or disorganized support. Sentence structure may be often confused or immature. Word choice is often vague or inaccurate. There are frequent proofreading mistakes and frequent errors in standard written English that may interfere with communication.** |
| **1** | **A "1 paper" may appear to lack an understanding of the topic or may fail to approach the topic with relevant support. Sentence structure may be often confused or immature. Word choice is often vague or inaccurate. There are frequent proofreading mistakes and frequent errors in standard written English that arc likely to interfere with communication.** |