Can Collaborative Professional Development Impact Teachers'

Perceptions Of Their Self-Efficacy Beliefs

And Knowledge Regarding Vocabulary Instruction?

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ABSTRACT

This study examined the variations between providing secondary-school teachers with collaborative professional development (PD) and traditional PD. Although the U.S. local and federal governments spend billions of dollars on teacher PDs each year, there is still a debate on the effectiveness of those trainings. Research suggests that the most effective PDs have several features: 1) teachers can collaborate, 2) ongoing PDs are provided with more content hours for learning, and 3) learning activities are presented with clear objectives. This study examined secondary teachers' knowledge and perceptions of vocabulary instruction gained via a traditional versus a collaborative PD. The researcher conducted a five-session PD emphasizing instructional vocabulary strategies. Thirty-six secondary teachers from different content areas working in a rural southeastern high school participated. The study collected pre- and post-survey data using a quantitative research methodology. Participants were assessed through two survey instruments to determine potential changes in their 1) instructional vocabulary knowledge, and 2) their perceptions of self-efficacy regarding delivering vocabulary via effective instructional strategies. This study's independent variable (IV) was a collaborative PD intervention provided to the collaborative (COL) cohort. The business-as-usual cohort (BAU) received a traditional PD. The dependent variables (DVs) comprised participants' perceptions of self-efficacy and vocabulary content knowledge. Independent and dependent t-tests data were used to analyze differences *within* each cohort from pre- to post-surveys and *between* the two cohorts from pre- to post-surveys. The data showed cohort-wide changes in knowledge and perceptions as an outcome of each PD. When analyzing the data for the differences *within* each cohort, the study determined that both cohorts showed statistically significant gains in knowledge and perceptions from pre- to post-surveys. However, when analyzing the data for the differences *between* the cohorts, the study determined that the COL cohort's growth from pre- to post-surveys was not

significantly different from the BAU cohort. Thus, the collaborative interventional PD did not substantially shape the COL cohort's knowledge and perceptions.

Keywords: vocabulary instruction, professional development, collaboration, literacy strategies.

DEDICATION

This dissertation is dedicated to my husband and son, Ryan Jackson and Rafael Jackson, who have been a source of strength, encouragement, inspiration, and motivation for me throughout this entire experience. I also dedicate this dissertation to my parents, Anna and Robert Caldwell, who have always taught me to work with dedication and persistence. I thank you all for your guidance and love. I am beyond blessed to call you all my family. Lastly, this dissertation is dedicated to God, who unconditionally provides me pathways to success.

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LIST OF TERMS

The following definitions and terms will be used in this study:

Collaboration is defined as "a style for direct interaction between at least two co-equal parties voluntarily engaged in shared decision-making as they work toward a common goal" (Friend & Cook, 1996, p. 6).

Collaborative Professional Development in schools is defined as professional training involving teachers and librarians partnering through planning processes, application processes, and assessment stages related to student learning. Teachers and librarians have shared goals and expectations related to training outcomes (Moreillon, 2013).

Self-Efficacy Beliefs are defined as people's judgments of their abilities to successfully perform a task or accomplish a goal (Bandura, 1986b).

Self-Perception is defined as consciousness or awareness of oneself or one's existence and insight into one's nature or character (Oxford English Dictionary [OED], 2019).

Traditional Professional Development for teachers includes workshops and conferences but not authentic opportunities to learn from and with colleagues (Desimone & Garet, 2015).

Vocabulary Instruction refers to lessons and strategies teachers teach in all content areas to help students learn unfamiliar words they can use when improving literacy skills, such as reading comprehension, writing, speaking, and listening. In this study, vocabulary instruction is related to researched-based strategies focused on the following five areas:

1. Learning vocabulary from context,

2. Learning word parts and roots,

3. Word-learning strategies,

4. Comprehensive vocabulary strategies, and

5. Assessing vocabulary knowledge (Blachowicz et al., 2006).

CHAPTER 1: INTRODUCTION

Background of the Study

This study investigated the effect of collaborative professional development (PD) on a group of 36 teachers in grades 9 through 12. The PD focused on vocabulary instructional knowledge and instructional self-perceptions of the ability to teach vocabulary. Many studies have established the importance of vocabulary knowledge and its connections to reading comprehension (Beck et al., 1982; Dong et al., 2020; Hasan et al., 2022; Oslund et al., 2016; Perfetti & Stafura, 2014). Furthermore, research suggests that a teacher's content knowledge affects students' academic outcomes (Darling-Hammond, 2000; Hill & Chin, 2018; Sanders & Rivers, 1996).

However, it appears adequate PD opportunities for teachers differ from teacher to teacher (Olofsson & Lindberg, 2011). Furthermore, research about vocabulary instruction at the secondary level needs to be improved, as most vocabulary instruction research focuses on the elementary level (Dixon-Krauss, 2002; Dole et al., 1995; McKeown, 2019; Neuman & Wright, 2014). Thus, to provide secondary-level teachers with exemplary vocabulary knowledge and instruction, PD is imperative.

Teacher Professional Development (PD)

In the educational realm, PD is commonly defined as ongoing learning offered to teachers (Darling-Hammond et al., 2017). This ongoing PD for teachers costs federal and local governments billions of dollars each year (U.S. Department of Education [DOE], 2014). Because teachers significantly affect student academic growth, such an investment is appropriate (Darling-Hammond, 2000; Sanders & Rivers, 1996; Seebruck, 2015).

Teachers need to be as knowledgeable as possible to prepare students effectively. However, the effectiveness of PD on teacher and student academic gains remains to be consistently demonstrated (Darling-Hammond et al., 2017; Ucana, 2016).

It was estimated that teachers spend anywhere from 39–70 hours of their time in professional development within a calendar school year (The New Teacher Project [TNTP], 2015) . Over a decade, that would average roughly an entire school year of professional development. Because teachers are dedicating considerable time to professional development, ensuring its effectiveness is imperative.

According to a survey conducted by the National Center for Education Statistics (2013), 45.7% of teachers who left their positions stated that professional development in their new occupation was more beneficial than in their previous educational work (Goldring et al., 2014). Though there is no direct mention of professional development being the cause for teachers to leave, this remains a troubling statistic because almost half of the teachers who left the profession had yet to receive appropriate professional development (Goldring et al., 2014). Furthermore, improving teachers' professional development outcomes is supposed to improve students' educational outcomes (Thurlings & den Brok, 2017). The potential for PD to impact teacher knowledge created a critical need for further research.

Despite recognizing the need for teachers to implement impactful vocabulary instruction, how each PD training is presented makes a difference (Jayanthi et al., 2018). Teachers' opinions about professional development are often unfavorable due to the "sit and get" type of instruction, which treats teachers as passive learners (Perkins, 2022;

Sparks, 1997). However, Diaz-Maggioli (2004) defined professional development as "a career-long process in which educators fine-tune their teaching to meet student needs. As such, it directly tackles teachers' teaching styles—the patterns of decisions teachers make when mediating their students' learning …" (p. 12). This definition speaks to teachers being active participants in their ongoing learning processes.

After years of research, teacher PD has been defined and studied in many ways (Dowling, 2016; Nguyen, 2019; Supovitz, 2001). School districts often face funding limitations when providing PD for their teachers. Because of this, some districts can only afford to offer workshop-style PD programs, while others can provide ongoing professional learning support. How these PD opportunities are offered or presented can significantly impact the PD's effectiveness (Carter et al., 2016; Darling-Hammond et al., 2017; Wallace, 2009).

Furthermore, the inconsistency between what some districts constitute as "ongoing" learning could also affect PD effectiveness. Essentially, there is a difference between post-PD ongoing learning which happens once a year, and continuous learning, which occurs throughout a teacher's entire practicing career (Carter et al., 2016; Darling-Hammond et al., 2017; Wallace, 2009). Researchers must understand which type of ongoing learning is most beneficial for teachers and students and is most cost-effective.

Statement of the Problem and Purpose of the Study

The English Language Arts Tennessee State Standards (ELATSS; 2017) focused on literacy instruction, especially reading comprehension and writing skills. According to The Tennessee Department of Education (TDOE), literacy skills are imperative to post-

secondary and career readiness. Furthermore, students are expected to read, analyze, and interpret data while reporting findings in their science and math classes (Kjelvik & Schultheis, 2019; Swan, 2018). These skills build on a student's comprehension ability, making literacy skills vital in multiple content areas (TDOE, 2018).

Research has shown vocabulary as one of the most foundational literacy components, and a poorly-developed vocabulary can hinder a student's ability to comprehend text (Beck et al., 1982; Dong et al., 2020; Hasan et al., 2022; Nagy, 1988; Oslund et al., 2016; Perfetti & Stafura, 2014). At the secondary level, students are expected to acquire more content-specific terminology (Ehren, 2002) and develop a sophisticated academic vocabulary base for appropriate communication within content areas (Wilson et al., 2010). Also, at the secondary level, teachers are often experts in their specialized fields and are not adequately prepared to teach literacy instruction within their specific content areas (Jones & Lee, 2014). According to Alvermann and Moore (1991), secondary teachers have limited educational experiences regarding disseminating literacy content to students compared to elementary teachers.

Because secondary-level teachers are content experts, teaching much-needed vocabulary comprehension can be problematic. This discrepancy is apparent in secondary teachers' confidence levels in teaching literacy and their perceptions of their teaching literacy roles (Cantrell et al., 2009). There is a nuanced distinction between teachers' self-perceptions of their roles as literacy and vocabulary instructors and their self-efficacy beliefs in teaching literacy and vocabulary strategies (Cantrell et al., 2009; Sharp et al., 2016).

In a study by Cantrell et al. (2009), secondary-school teachers' self-efficacy beliefs in teaching literacy improved after participating in collaborative professional development and ongoing coaching focused on literacy instruction. Providing secondary-level teachers with collaborative vocabulary instruction, professional development could alleviate teachers' new literacy demands. Also, further analyzing secondary teachers' self-perceptions in teaching vocabulary within content areas could provide data for improving how teachers meet students' literacy demands in all content areas.

Significance of the Study

This study is significant because it integrated educational research on vocabulary instruction and teacher professional development research at the secondary level. This study may help teachers implement vocabulary into their regular classroom instruction, especially content-area teachers outside of English/Language Arts. This study's findings may help inform educational policymakers, studying the importance of literacy training and reading and vocabulary comprehension. They can expand on this current study performed within a rural high school, reframing and replicating it in various school settings.

Partnerships between local schoolteachers and instructional coaches can provide a much-needed professional development strategy targeted specifically for improving vocabulary literacy needs at the secondary level. Furthermore, this study could give the districts a replicable framework of implementation for instructional coaches to use within schools. Consequentially, the following research questions were investigated:

RQ1: Is there a difference between high-school teachers who receive business-as-usual professional development versus those who receive collaborative professional development on their knowledge of vocabulary instruction?

RQ2: Within the business-as-usual professional development, is there a difference between pre- and post-survey in high-school teachers' knowledge of vocabulary instruction?

RQ3: Within the collaborative professional development, is there a difference between pre- and post-survey in high-school teachers' knowledge of vocabulary instruction?

RQ4: Is there a difference between teachers who receive business-as-usual professional development versus those who receive collaborative professional development on high-school teachers' perceptions of their self-efficacy beliefs regarding their ability to deliver vocabulary content?

RQ5: Within the business-as-usual professional development, is there a difference pre- and post-survey in high-school teachers' perceptions of their self-efficacy beliefs regarding their ability to deliver vocabulary content?

RQ6: Within the collaborative professional development, is there a difference between pre- and post-survey in high-school teachers' perceptions of their self-efficacy beliefs regarding their ability to deliver vocabulary content?

Delimitations of the Study

The delimitations of this study included:

1. Participants had a minimum of one semester of work experience as secondary-school educators.

2. Participants held a valid Tennessee teaching license, and

3. Participants were teachers at the research site school.

Chapter 1 Summary and Organization of the Remainder of the Study

Chapter 1 presented the introduction, the problem statement, the research questions, and the significance of the study. It has furthermore defined specific terminology and possible limitations of the study. Chapter 2 will contain a review and synthesis of literature and research related to the examined problem. The methodology and procedures used to gather data for the study will be presented in Chapter 3.

CHAPTER 2: LITERATURE REVIEW

Educators in all content areas face a challenge: teaching effective literacy skills for students to be successful. Vocabulary knowledge is essential to a student's reading comprehension and literacy skills (Beck & McKeown, 2007; Dong et al., 2020; Hasan et al., 2022; Wright & Cervetti, 2017). Teachers are expected to teach literacy skills in ways they may not have been trained to do (Alvermann & Moore, 1991; Lester, 2000). Ongoing professional development (PD) is critical in aiding teachers in developing their skills (Darling-Hammond et al., 2017; Garet et al., 2001; Postholm, 2018).

With research suggesting collaborative PD benefits teachers (Darling-Hammond et al., 2009, 2017; Desimone & Garet, 2015; Munro, 1999), it is necessary to understand which types of collaborative PD exist. In some research, collaboration was studied within Professional Learning Communities (PLCs) (Hudson, 2015; Schaap & de Bruijn, 2018) and Teacher Study Groups (TSGs). Other studies focused on online collaboration among educators (Graves et al., 2014; Reed & Oslund, 2018). Additional ways PD was reviewed were by exploring collaboration between teachers and researchers, teachers and instructional coaches, and teachers collaborating within problem-solving teams (Cajkler et al., 2014; Jayanthi et al., 2018; Lippy & Zamora, 2012).

Theoretical Framework

This section discusses the study's theoretical foundation as it supports and aids in investigating the research questions related to this study. Social learning, observational learning, and self-efficacy were explored within Bandura's (1977) Social Learning Theory (SLT), which stated that new behaviors could be acquired by observing and

modeling or imitating others. Moreover, Bandura's Social Cognitive Theory (1986a, 2001), originating from SLT, posited that while individuals learn from watching and modeling others in their environment, learning is contingent on the role of cognitions in determining individuals' behaviors (Bandura, 1986b, 1989). These two theories demonstrate that the nature of an individual's environment contributes to how they behave and learn. These human behavior theories strove to combine cognitive psychology with behavior modification principles (Bandura, 1977, 1986a, 2001).

Observational Learning

Bandura's theory (1977) discussed four steps related to modeling. Each component has a specific function affecting people's ability to collaboratively obtain information and choose the new knowledge to guide their behaviors. First, the observer must be engaged in social learning and observations. Second, the observer must retain the information and materials using either imaginal or verbal structures. Third, the observer must then act on the originally-modeled behavior. Finally, the observer must be motivated to perform the modeled actions.

Thus, per Bandura (1977), most human behaviors are learned via observation of others and modeling; from observing others, the individual forms an idea of how new behaviors are performed; later, this embedded knowledge serves as a guide for action. The SLT and SCT theories explain human behavior and learning through mutual interactions among cognitive, behavioral, and environmental influences.

Research on working conditions within U.S. schools has shown that teachers often work in isolation (Levine & Marcus, 2010; McLaughlin & Talbert, 2006).

Historically, teacher PD has often occurred in isolation or depends on practitioners' expertise outside the schools or districts. When districts choose to run PD in such a manner, they lose a potentially valuable resource in the equation: their teachers. Because teachers have the most significant contact time with students, they are an indispensable means to discover ways to improve students' educational outcomes. According to Diaz-Maggioli (2004), when teachers can reflect and collaborate on instructional methods and teaching styles, they can successfully transform their teaching practices.

Collaboration is a component of social constructivist learning theories (Alzahrani & Woollard, 2013; Johnson & Bradbury, 2015; Udvari-Solner, 2012). The contention is that learners build knowledge through collaborative experiences and interactions such as sharing information, social cooperation, and communicating and learning from others' knowledge and expertise (Bandura, 1977; Cajkler et al., 2014; Mendo-Lázaro et al., 2018). Instead of working and learning autonomously, teachers help one another solve problems and share resources through collaborative interactions.

Federman-Stein and Hurd (2000) contended that the current educational demands and teachers' working conditions are too overwhelming for teachers to successfully complete tasks while working in isolation (National Association of Secondary School Principals [NASSP], 2019; Ostovar-Nameghi & Sheikhahmadi, 2016). Thus, per SLT and SCT, cognitive processes control learning behaviors as cognition transforms the individual through imitation and modeling (Bandura, 1996; Farmer et al., 2018). Stimuli consist of environmental, individual, and social incentives, which reshape teachers' learning environments within collaborative PD sessions (Meijs et al., 2016). These

authors noted that most of the teachers in their study indicated that they liked collaborating to enhance their knowledge and were comfortable asking others for advice if they had problems (Meijs et al., 2016).

Self-Perception

Social learning theory informs that human learning is acquired within a social setting (Bandura, 1977; von Schönfeld et al., 2020). Learning outcomes depend on successful and beneficial interactions within social groups. SLT promotes the development of an individual's skills, accurate perception of self, and acceptance of others (Ormrod, 1999).

On the other hand, self-perception theory notes that individuals' actions are often socially influenced and not necessarily produced by their free will (Bem, 1972; Dico, 2018). For instance, subtly encouraging minor changes in individuals' behaviors can affect their actions. This small obligation can lead to a more-invested commitment if individuals commit to a specific organizational or career goal. This theory is directly related to this study because it aids in investigating teachers' self-perceptions in collaborative groups.

Self-Efficacy Beliefs

Self-efficacy beliefs are "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986b, p. 391). According to Bandura and Adams (1977), self-efficacy beliefs can strongly predict a person's motivations, behavioral changeability, and openness to behavioral improvement.

Stressful situations generally elicit emotional arousal that, depending on the circumstances, might have informative value concerning personal competency. Therefore, emotional arousal is a constituent source of information that can affect perceived self-efficacy in coping with stressful situations (Bandura & Adams, 1977, p. 289).

Such stressful situations include teachers attempting to incorporate new teaching methods into their classrooms. According to Lukáčová et al. (2018), self-efficacy beliefs influence a teacher's decision-making, performance, and teaching quality. In education, self-efficacy beliefs are intricately linked to the defining factors contributing to a teacher's lesson activities.

Essentially, teachers must perceive themselves as capable motivators and directors of classroom strategies and instruction. The concept of self-efficacy is vital in examining this current study (Mickan et al., 2019.) This research analyzed high-school teachers' self-efficacy beliefs and perceptions of their abilities to teach vocabulary within their content areas. Understanding how self-efficacy beliefs impact teachers' motivation to improve vocabulary instruction is vital because content teachers are often specialized within their core subject(s) and often are not trained as vocabulary instructors.

Review of the Literature

The following literature review focuses on research related to vocabulary instruction and secondary teachers' self-perceptions and self-efficacy beliefs regarding literacy and vocabulary instruction. The topics include types of professional

development, including collaborative versus traditional, teacher study groups, and professional learning communities.

Importance of Vocabulary Instruction in Secondary Education

Research has shown a strong relationship between a reader's ability to comprehend text and the reader's vocabulary knowledge (Beck et al., 1982; Dong et al., 2020; Hasan et al., 2022; Nagy, 1988; Yildrim et al., 2011). Vocabulary is essential in reading comprehension (Dong et al., 2020; Hasan et al., 2022). According to Gough and Tunmer's *Simple View of Reading* (1986), reading comprehension, explicitly reading language in print form, is the outcome of two features: Linguistic comprehension (LC) and decoding (D).

LC can only work when the reader can comprehend the spoken language and apply it to what is read. Then, decoding is a skill that readers must learn to understand texts to the level of their language comprehension. In the *Simple View of Reading*, vocabulary is one aspect of LC important to reading comprehension (Gough & Tunmer, 1986).

Furthermore, according to Scarborough (2001), the ability to read skillfully intertwines two main *ropes*, language comprehension and word recognition. Supplementary strands weave to form the primary ropes and include background knowledge, vocabulary, language structures, verbal reasoning, phonological awareness, decoding, and sight recognition (Scarborough, 2001). Once the main ropes are formed - language comprehension and word recognition – they intertwine to produce constructive reading comprehension. Similarly, Hasan et al. (2022) supported these concepts,

including using language structures, decoding, and sight recognition as vital for reading comprehension. Scarborough's (2001) strands work together to aid in skillful reading comprehension. A key aspect of this type of proficient reading includes vocabulary knowledge.

Wright and Cervetti (2017) stated that students with a strong vocabulary foundation could better comprehend text. Weak vocabulary knowledge is often a common characteristic in struggling readers (Dong et al., 2020; Hasan et al., 2022; Joshi, 2005; Spencer et al., 2019). Furthermore, for middle- and high-school students, having a solid vocabulary foundation is an influential contributor to standardized tests and content area educational success (Graves, 2000). Although researchers have acknowledged that for students to build an established vocabulary, appropriate vocabulary instruction must be in place (Scott et al., 2003).

The common notion in education is that students will likely learn new vocabulary independently through reading texts without explicit instruction provided by the teacher (Duff et al., 2015; Graves, 2000). This idea can be problematic when surveys from an online tool (Scholastic, 2019) have seen a 10% decline in time spent reading for children ages 6-17 since 2010. According to the same survey, only 26% of students considered themselves frequent readers (2019). It appeared that not as many students were reading in the manner that students used to read; thus, students' likelihood of gaining vocabulary knowledge from merely reading books is no longer plausible. Moreover, Duff et al. (2015) noted that "exposure to novel words in text does not occur uniformly throughout reading development" (p. 854).

Even more troubling is that there needs to be more consistency between what vocabulary research has deemed best practices in vocabulary instruction and what types of vocabulary instruction educators have been delivering (Greenwood, 2004). Furthermore, many reading programs need a consistent development of vocabulary instructional content (Biemiller, 2001). Improving teachers' vocabulary instructional capabilities to enhance students' educational outcomes is imperative. However, merely stating that vocabulary affects comprehension is not enough. There are specific ways in which vocabulary comprehension plays a role in reading comprehension (Dong et al., 2020; Hasan et al., 2022).

According to Perfetti et al. (2008), to comprehend texts, the reader must first understand words within the context of the text. Researchers have suggested that effective vocabulary instruction should consist of interventions with direct teaching of word meanings (Apthorp et al., 2012; Stahl, 1983) and word-meaning strategies to help students infer the meanings of unknown words during reading (Baumann et al., 2005). Stahl and Fairbanks' (1986) meta-analysis of 52 vocabulary instruction research studies concluded that the most impactful vocabulary instruction included teaching definitional and contextual information.

Graves (2006) claimed that the most effective way to deliver vocabulary instruction is by providing learners with both the definitional and contextual information connected with vocabulary words. In a meta-analysis of 36 vocabulary studies, Wright and Cervetti (2017) found that direct teaching of vocabulary and strategies to support their vocabulary comprehension advanced students' overall reading comprehension.

According to Elleman et al. (2009), vocabulary knowledge is one of the two leading predictors of reading comprehension; the other is background knowledge. Gutierez and Kim (2017) posited that vocabulary knowledge comprehension directly impacts a student's inference-making more than any other reading skill.

Various studies within this literature review were conducted in elementary school settings. Still, the need to provide more collaborative, vocabulary-focused PD at the secondary level could be beneficial, mainly because researchers and educators have suggested a need for better literacy practices throughout all content areas (Biancarosa & Snow, 2004; Jones & Lee, 2014; Smith & Robinson, 2020). Furthermore, research on vocabulary-focused PD is often concentrated more on instruction with phonemic awareness and decoding than on comprehension or vocabulary (Moss et al., 2008; Petscher et al., 2022). Vocabulary-focused PD could be more beneficial for content teachers if the PD is content-differentiated (Jones & Lee, 2014).

Literacy demands among content area teachers have grown recently because of shifts in Common Core State Standards (Carter et al., 2016). With these new demands, secondary teachers can no longer assume that academic language and literacy instruction relies solely on English and Language Arts teachers. This idea was popular before the new standards (Lester, 2000). According to Blachowicz et al. (2006), for a school to have successful vocabulary instructional outcomes, the school needs to implement an all-inclusive, intentional school-wide focus on vocabulary instruction for reading and learning.

Additionally, within secondary education, many content areas, such as science, math, and social studies require students to learn a wealth of new terminology quickly (Deshler et al., 2012; Ehren, 2002; McKeown, 2019). A student's ability to understand this terminology or academic language plays a role in their success (Nagy & Townsend, 2012), mainly because vocabulary and lexical levels become more complex as students advance through upper elementary and secondary schools (Proctor et al., 2012; Reed et al., 2016; Shea & Ceprano, 2017).

Thus, there is a need to support secondary teachers in instilling these literacy standards, particularly in academic vocabulary and language development. All content area teachers ought to be adept at vocabulary instruction, mainly because academic vocabulary has an influential connection to reading comprehension (Carter et al., 2016). Furthermore, a teacher's influence on students' vocabulary growth is critical (Samson, 2012) because research has shown that a teacher's knowledge and instructional practices strongly impact student outcomes (Carter et al., 2016; Wallace, 2009).

Secondary Teachers' Perceptions Regarding Literacy and Vocabulary Instruction

As noted previously, secondary-level teachers are being asked to teach literacy and vocabulary in a way that potentially contradicts their previous preservice training. Many secondary-level teachers have beliefs about literacy and vocabulary instruction and how they pertain to their content areas (Bergeland, 2019). Secondary teachers understand that literacy and vocabulary instruction is needed for secondary-level students' reading comprehension (Hedrick et al., 2004). However, teachers often do not see the importance of their role in teaching literacy and vocabulary-related skills (Bergeland, 2019).

Moreover, according to Borg (2001), teachers' perceptions and confidence regarding their content areas impact their teaching practices.

Teachers' content knowledge and self-perceived teaching ability of the content affect instructional practices (Borg, 2001). Essentially, if teachers do not feel confident in one area of their content, they may not spend as much time teaching that content, or teachers may change their teaching style for that specific content in which they do not feel confident (Borg, 2001; Graham, 2019). It is essential to note that teachers' perceptions of their teaching ability influence the classroom environment (Borg, 2001). Thus, teachers' perceptions of vocabulary instruction impact how they deliver this necessary reading instruction component.

Furthermore, content area teachers' beliefs on the importance of vocabulary instruction impact students' development of reading strategies for informational text within content areas (Hedrick et al., 2004). Textbooks often lack resources to help teach vocabulary within content areas. Teachers must focus on developing vocabulary comprehension more than simple word recognition and retention (Hedrick et al., 2004).

For instance, a survey by Konopak and Williams (1994) indicated that 70% of teachers emphasized the importance of vocabulary learning and theoretical understanding. Unfortunately, 50% of teachers also indicated that students could learn vocabulary solely through repeated encounters with a word's definition (McKeown, 2019; Zimmerman, 1997). This notion can be problematic as an antiquated belief; students need multiple experiences with vocabulary represented in various contexts for acquiring deep vocabulary knowledge (Rupley et al., 2012).

According to a study by Hedrick et al. (2004), teachers reported beliefs supporting current effective and innovative vocabulary instruction. However, their classroom practices and instruction did not reflect such vocabulary instructional strategies, and they used more traditional ideas of how to teach vocabulary within specific content areas (Nahmod, 2017). More research on teachers' perceptions and self-efficacy in vocabulary instruction could aid in understanding this discrepancy.

Types of Collaborative Professional Development

Within the literature, collaborative PDs were studied within the contexts of collective participation, PLCs (Hudson, 2015; Schaap & de Bruijn, 2018), and TSGs. Furthermore, some literature was engaged with studying online collaboration among teachers (Graves et al., 2014; Reed & Oslund, 2018) as well as exploring collaboration between teachers and researchers, teachers and instructional coaches, and teachers collaborating within problem-solving teams (Cajkler et al., 2014; Jayanthi et al., 2018).

Collective Participation. According to Desimone and Garet (2015), for a PD program to be effective for a teacher's learning, as well as for students' learning, the PD must include content focused on the subject matter and how students learn, and teachers actively learning and having opportunities to observe other educators. Moreover, Desimone and Garet noted there must be a coherence of teachers' goals, content, school and district initiatives, and opportunities for teachers to engage in continuous learning with at least 20 hours of mentoring time throughout the school year. Finally, these researchers recommended providing opportunities for collective participation in which teachers interact with one another in learning communities (Desimone & Garet, 2015).

These findings may be at odds with the most popular type of professional development often provided within the United States. In the traditional workshop-style PD setting, teachers are often considered passive learners who learn content in a seminar-based session (Darling-Hammond et al., 2009). However, Bransford (2004) noted that learning could only occur with *active* intellectual engagement.

Though the features established by Desimone and Garet (2015) have defined a conceptual framework for what works well for teachers' professional development, there is new evidence showing a disconnect in translating these features of effective professional development into system-wide practice (Darling-Hammond et al., 2017; Sims et al., 2021). However, studies have examined instructional practices, teachers' knowledge, and beliefs (Byrd-Blake & Hundley, 2012; Carter et al., 2016; Jayanthi et al., 2018).

Collaboration Using Contemporary and Personal Learning Theories. The Munro (1999) study examined the possible impact of teachers' knowledge of learning and their beliefs about learning on a school's success. This study differed from earlier studies in collaborative professional development because it focused on teachers' knowledge related to learning theories. The study consisted of 32 secondary teachers. First, teachers were surveyed about contemporary learning theories and their personal theories of learning. Teachers displayed little knowledge of contemporary learning theories. Also, teachers participated in a collaborative, reflective professional development systematically analyzing vital classroom learning aspects. Results showed an increase in effective behaviors in teachers' instruction, with the most significant gains

in the areas of teachers analyzing their own instructional strategies. Teachers' knowledge of learning theories also increased.

Research from Munro (1999) suggested that certain conditions must be in place for a change to occur in teacher knowledge and instruction. Munro informed that improvement could happen if teachers were provided opportunities to learn through active participation and access to collaborative activities with their peers. Munro further stated that teachers undergoing a constructive transformation of their teaching methods should engage in self-direction, systematic reflection of their practice, and the prospect of exploring and demonstrating new teaching instructional strategies within their classrooms.

Problem-Solving and Team-Based Collaboration. Gregory (2010) conducted a multi-method study researching 34 elementary teachers from 14 schools in the southeast United States. Teachers participated in problem-solving and team-based collaborative professional development where they were to refer a student needing educational support. Then each teacher was expected to work in a team to identify the student's deficit and set specific intervention goals with a detailed intervention plan and a method to measure progress. Researchers collected survey data from teachers who were asked questions about their expectations regarding the team-based process and its effect on students' progress.

The researcher also obtained the teachers' meeting records and separated the data into two codes: a) teams offered input and intervention strategies, and b) did data reflect student progress (Gregory, 2010). Lastly, researchers interviewed teachers about the

problem-solving team-based process. As the researchers hypothesized, teachers who expected tremendous success from the program tended to perceive the problem-solving team-based collaboration's overall effect as more positive. Roughly 60% of teachers reported that they had become better teachers or had learned new intervention strategies. Many teachers described positive views of team-based professional development, benefitting from other teachers' expertise. This helped them encourage students to work in groups within their classrooms. However, 40% of the teachers expressed frustration with the team-based process or said they did not feel they had learned from the professional development (Gregory, 2010).

  Protocol-Guided and Firmly Structured Collaboration. Levine and Marcus (2010) took a distinct perspective on researching collaboration within teacher professional development. Six teachers from one school from various subject areas participated in the study. Within this study, teachers had structured time dedicated to specific areas of development they worked on daily. On Mondays, they analyzed student data within the participating teachers' group, while on Wednesdays and Thursdays, they explored students' social and academic issues.

  The researchers gathered field notes from 37 collaborative teacher meetings throughout the school year. Two aspects were prominent within the research affecting teachers' ability to learn collaboratively: a) the structure in which the collaboration was conducted, and b) the focus on the collaboration activities (Levine & Marcus, 2010). Levine and Marcus argued that these two foci could hinder or encourage teachers' learning through collaboration. The data showed when teachers' collaborative meetings

were protocol-guided and firmly structured, teachers actively participated in roles such as time-keeper or facilitator. Teachers paid close attention to outcomes and the sequence of activities. However, in structured meetings, teachers were not as successful in sharing their teaching practices. According to these researchers, collaboration time with colleagues impacted teachers' learning.

Collaborative Lesson Research and Development (CLRD) Program. Gutierez and Kim (2017) focused their study on classroom-based research to challenge the common teacher perceptions that research data are only sometimes helpful to classroom practice. This research partnered classroom teachers with university science professors. The researchers analyzed in-service teachers' reflections to understand how providing teachers with appropriate professional development and collaboration time would impact teacher practice. The participants were 15 public school science teachers from three different grade levels from the same school in the Philippines (Gutierez & Kim, 2017). The researchers used the *Collaborative Lesson Research and Development* (CLRD) *Program*, which was already widely used by math and science teachers in the Philippines (Gutierez & Kim, 2017).

The researchers reviewed audio- and video-recorded data, and several themes arose. It was the analysis of these themes which spurred further investigations. While examining the results, the authors noted that teachers' understanding of classroom dynamics and research increased. After applying classroom research, teachers began to synthesize the urgency of how their classes functioned. The researchers revealed that teachers then worked more collaboratively on goal setting and took the initiative for their

own learning. Teachers began to grasp the power of ownership while applying purpose in the form of measurable goals. The culmination of teachers' collaboration efforts and reflections helped improve lesson implementation (Gutierez & Kim, 2017).

Pre-Lesson Planning and Post-Lesson Evaluation. Another study by Cajkler et al. (2014) focused on teacher collaboration through lesson study, an educational professional development technique. Teachers were expected to methodically investigate their lessons by working together in pre-lesson planning and post-lesson evaluation. Four teachers from an urban secondary school participated in the study for six months. The researchers provided the first two professional developments to introduce the concept of lesson study groups to teachers.

The collaborative PD followed five stages: a) the teachers reviewed earning challenges facing students in a specific curriculum unit for each content area in grade levels 7, 8, and 9; b) this was followed by teachers tasking themselves to identify three students for detailed observation during a research lesson; c) after the students were placed, one member taught the lesson while others noted how their research participants engaged; d) specific planning of each research lesson was based on the needs of the learners; and e) afterward, the members had a post-lesson evaluation meeting, analyzing their observations and findings (Cajkler et al., 2014).

Then teachers collaborated and participated in lesson group studies. Their lessons were recorded and viewed by both the teachers and the researchers. After analyzing 564 thematic units, several themes arose: a) students' participation and progress; b) student-focused observations; c) teaching approaches; d) amendments agreed upon in review

meetings; e) summative observer evaluations; f) summative teacher evaluations and lesson study potentials; and g) constraints, collaboration, and teacher learning and its impact on practice. Teachers recognized the lesson-study program's potential to improve professional development and solve students' learning deficits (Cajkler et al., 2014).

Reading Assistance Initiative for Secondary School Educators. Clary et al. (2012) researched adapting a program called *Project RAISSE* (Reading Assistance Initiative for Secondary School Educators). Fifty-one teachers from two high schools participated in the study for two years. The teachers partnered with two large southern universities. Data were collected over the first year of the study, and teacher interviews and surveys, coursework, portfolios, and classroom artifacts were analyzed by the project instructor, director, and co-director.

Key themes from the learning communities included shifting theoretical orientation toward reading, beliefs about instructional practice and teaching, and changing thinking about adolescent literacy. Furthermore, themes comprised the growing responsibility for teaching literacy and demonstrating literacy leadership (Clary et al., 2012). Findings suggested that collaborative, ongoing, embedded professional development could increase teacher confidence in incorporating more literacy strategies within the classroom (Clary et al., 2012; Polzin, 2022).

Vocabulary-Focused Collaborative Professional Development (PD). There has been research on how a collaborative PD can affect teacher perceptions (Burke, 2013; Foorman & Moats, 2004; Saunders, 2014). However, there has been less research on how

collaborative PD focusing on teachers' knowledge of vocabulary instruction has impacted teachers' instructional competencies.

One of the few studies focused on vocabulary by Gwinn and Watts-Taffe (2017) investigated the impact of a vocabulary-focused PLC implemented in an elementary school. Four teachers participated in the two-year qualitative study. According to Gwinn and Watts-Taffe (2017), teachers' knowledge of adequate vocabulary instructional practice increased.

Carter et al. (2016) sought to explore teachers' reflections after participating in a yearlong professional learning initiative focused on academic language instruction. The researchers collected surveys and conducted observations of 25 secondary teachers from differing content areas. In the professional learning initiative, the teachers could expand their knowledge of the academic demands for their content, work collaboratively with other teachers in planning lessons geared toward improving students' academic outcomes, and practice and refine academic language instructional strategies.

According to pre- and post-teacher self-evaluations, many teachers self-reported expanding their academic language instructional abilities. These abilities included increasing vocabulary instruction in each class lesson, explaining the importance of academic vocabulary, and selecting content words with which students should engage. (Carter et al., 2016). Although much of teachers' knowledge about academic knowledge had been impacted, the researchers also noted that teachers' ability to change their instructional practice did not vary considerably. Essentially, the findings suggested that teacher buy-in and ownership within the PLC process could significantly impact

instructional change. Teachers could make more substantial instructional practice changes by aligning their instructional objectives with student outcomes.

Wilson et al. (2010) explored the impact of a collaborative PD focused on vocabulary instruction by working with secondary teachers. The researchers investigated teachers' vocabulary instructional knowledge by providing a pre- and post-assessment using concept maps (CM). Three teachers collaborated with speech and language therapists (SLT) to review lesson plan formats and adjustments to impact student learning. Researchers obtained qualitative evidence of pre- and post-collaboration CMs from all teachers. The teachers' CMs were analyzed to demonstrate their prior knowledge connecting to new relevant knowledge focusing on language and learning. The CMs associated the teachers' previous knowledge with newly-learned vocabulary instruction concepts. Two of the teachers showed a unique understanding of language and learning concepts.

In contrast, the third teacher's CM evidence showed fewer interconnections between knowledge and concepts. The findings suggested that this one teacher might not have had a complete understanding of language and learning. The researchers indicated a need to study further if new teacher knowledge can impact teachers' practice and, in turn, if these changes in teacher practice can affect students' learning (Wilson et al., 2010).

Teacher Study Groups (TSGs). One form of PD is the Teacher Study Group (TSG). In TSGs, teachers can grow through collaboration with colleagues who exchange ideas and knowledge about their experiences. TSGs provide successful strategies as members integrate different components and actively participate in increasing motivation and pleasure for professional growth. Furthermore, TSGs are a method to reflect on one's professional performance. Teacher communities engaged in a TSG foster teacher learning through a collaborative culture and integration of the group's collective knowledge (Stanley, 2011).

In a study by Gersten et al. (2010), teachers worked collaboratively in such TSGs, using a similar approach to the PLCs. Gersten et al.'s TSGs comprised small groups of teachers who met regularly to explore the group's interests based on their students' needs (Cunningham et al., 2015). This investigation analyzed teacher perceptions of the TSGs and their inherent use of collaboration. Using data from 81 elementary-school teachers, the researchers examined teachers' practices, knowledge, and perception of professional culture.

The researchers used the *Reading Comprehension and Vocabulary (RCV) Observation* method as a post-test to investigate teacher vocabulary instructional and reading comprehension practice. At the same time, the researchers examined the effect of TSGs on teachers' perceptions of professional culture, collecting data via two instruments: *The Quality Professional Development Scale* and *The Teacher-Teacher Trust Scale* (Gersten et al., 2010; Jayanthi et al., 2015).

Data revealed that teachers participating in TSGs significantly exceeded the control teachers' data in knowledge of vocabulary instruction. Findings suggested that the experimental group's perceptions based on *The Quality Professional Development Scale* presented at a marginally significantly different level than that of the control group. However, there was no significant difference between groups on the *Teacher-Teacher Trust scale*.

In a more recent study similar to that of Gersten et al. (2010), Jayanthi et al. (2018) analyzed data from a sample of 182 first-grade classroom teachers. The teachers participated in a TSG professional development in vocabulary on their knowledge of vocabulary instruction and teaching practices. Most participants noted that the TSG program was more beneficial than other PDs they had attended and also felt it helped them teach vocabulary. A large majority of the participants stated they frequently used what they learned in the TSG program, and many planned to use what they learned in the future. This appears to be because these teachers deemed what they learned was - above all - pertinent to their classrooms and uncomplicated to implement.

Robb (2010) informed that TSGs are considered a form of collaborative professional development and are unique in several ways: a) curriculum can be negotiated as participants have input into what is studied; b) teachers learn by doing; c) experiences are related to the classroom and teachers' inquiries; d) those inquires drive the study groups; e) the goals are to improve teaching, improve students' learning, and broaden teachers' theoretical base; and f) assessments connect what teachers learn about students to the kinds of learning experiences their students receive (Merritt, 2015). Data

analysis showed that TSG participants outperformed control teachers in vocabulary instruction knowledge. However, there were no significant differences between the teacher groups when measuring teachers' perceptions of trust and respect for one another (Robb, 2010).

Studies have shown that many secondary teachers may not be aware of the diverse literacy strategies which aid in instructing their students (Allman, 2006; Brunow, 2016). Stanley's (2011) article posited that TSGs are often considered a valuable form of PD in that they promote teacher learning through natural collaboration and consolidation of collective knowledge. Collective knowledge has been noted as a phenomenon "in which significantly more is achieved by the collective [the TSG, for example] than is possible for any one individual alone" (Whiten et al., 2022, par. 1). However, not all study groups are equally effective as a form of PD. Various factors contribute to the success or failure of each TSG, such as balancing "the group members' diverse characteristics" (Stanley, 2011, p. 73).

Teacher Preferences for Collaborative Professional Development. Correspondingly, a teacher survey in Ontario conducted by Jones and Lee (2014) examined teacher preferences in literacy-related professional development. The results showed that many teachers chose professional development, which incorporated mentoring, collaborative lesson planning, and peer observations. Similarly, research performed by Cantrell et al. (2009) concluded from teacher interviews that content PD with coaching and collaboration supported their self-efficacy beliefs in implementing

content-specific literacy practices. Critical aspects of these research findings showed a need for collaboration and coaching/mentoring when developing a literacy PD plan.

Ultimately, these studies indicate that educator PD is most effective when there are opportunities for educators to collaborate and work toward a shared goal. Additionally, these studies established a need for ongoing PD for teachers to reflect on and refine their teaching practices as they gain new knowledge. Thus, using a collaborative framework for vocabulary instructional PD appears to be an innovative tool for educating secondary teachers and improving teaching practices.

The outcomes of prior independent research were presented in a policy brief authored by the two researchers (Supovitz & Christman, 2003). The initial research projects included two large-scale evaluations of district reform initiatives. In both studies, the researchers theorized teachers working together with other teachers would gain collective knowledge and improve student needs. Teachers' survey data were collected.

Though both reforms differed, the findings reported similarities in both sites, showing a significant and positive influence on teacher efficacy within their teaching environments. Also, teachers reported a more positive communal culture after the reforms, citing that student and teacher engagement had improved. However, the two sites differed in their data regarding instructional practice.

For instance, yearly surveys were given to teachers to examine differences between a team-based instructional approach and a non-team-based approach. One of the study outcomes identified three key areas: academic preparation strategies, collective teaching practices, and student-grouping strategies. Researchers identified no significant

difference between non-team-based and team-based instruction in the three critical areas of group instructional practices. Additionally, team teachers taught with the creation of thematic units integrated throughout all content areas. Though this thematic curriculum helped teachers build a shared identity within their small learning communities, it did not stimulate in-depth professional collaboration centered on instruction.

Chapter 2 Summary

This chapter provided a synthesis of the literature, which supported the investigation into whether secondary-level teachers should incorporate vocabulary comprehension strategies into all content area classes. Despite the common notion that vocabulary and reading comprehension are closely-linked, many secondary teachers need to be equipped to teach effective vocabulary instruction within their subject areas (Bintz, 2011). Moreover, there is evidence that teachers' self-perceptions and self-efficacy beliefs in vocabulary instruction can impact their teaching techniques and classroom practices. Lastly, PD practices directly affect a teacher's ability to improve instruction. If the PD is not continuous and collaborative, teachers may not find the PD helpful, hindering their ability to apply newly-learned techniques.

Effective PD opportunities can help improve various vocabulary instructional difficulties. The literature specifies successful strategies for vocabulary instruction at the secondary level. Research has suggested that PD can be more effective if teachers work collaboratively (Darling-Hammond et al., 2017; de Jong et al., 2019; 200; Gates, 2018; Schleifer et al., 2017). Collaborative PD may encourage more long-term learning within vocabulary teaching practices (Wilson et al., 2010).

Although there are qualitative studies on collaborative professional development related to literacy development for teachers, these studies have limited generalization due to their nature. There is a gap in the literature with a need for more quantitative research on this topic. Upcoming Chapter 3 details this study's research method and design, the population and the setting, the research instruments, and other factors related to the study's methodology.

CHAPTER 3: METHODOLOGY

This chapter includes a restatement of the research problem and a reiteration of the research questions. It furthermore contains a detailed summary of the project's methodology.

Statement of the Problem and Purpose of the Study

The problem is that secondary-level teachers are content experts, and teaching much-needed vocabulary comprehension can be challenging. This discrepancy is apparent in secondary teachers' confidence levels in teaching literacy and their perceptions of teaching literacy roles (Cantrell et al., 2009; Polzin, 2022). This quantitative study examined the effects of collaborative professional development (PD) to improve teachers' vocabulary instruction and their self-efficacy in teaching vocabulary content (Duguay et al., 2016; Lee, 2009; Polzin, 2022; Reed, 2017).

Context of the Study

This study examined two cohorts of teachers, a Collaborative (COL) cohort and a Business-as-Usual (BAU) cohort. The researcher examined and analyzed data from the two cohorts for knowledge of vocabulary instruction and perceptions of the two cohorts' self-efficacy beliefs regarding their ability to deliver vocabulary content.

Research Questions

The research questions were:

RQ1: Is there a difference between high-school teachers who receive business-as-usual professional development versus those who receive collaborative professional development on their knowledge of vocabulary instruction?

RQ2: Within the business-as-usual professional development, is there a difference between pre- and post-survey in high-school teachers' knowledge of vocabulary instruction?

RQ3: Within the collaborative professional development, is there a difference between pre- and post-survey in teachers' high-school teachers' knowledge of vocabulary instruction?

RQ4: Is there a difference between teachers who receive business-as-usual professional development versus those who receive collaborative professional development on high-school teachers' perceptions of their self-efficacy beliefs regarding their ability to deliver vocabulary content?

RQ5: Within the business-as-usual professional development, is there a difference between pre- and post-survey in high-school teachers' perceptions of their self-efficacy beliefs regarding their ability to deliver vocabulary content?

RQ6: Within the collaborative professional development, is there a difference between pre- and post-survey in high-school teachers' perceptions of their self-efficacy beliefs regarding their ability to deliver vocabulary content?

Research Methodology

Quantitative data measuring participant knowledge acquisition of vocabulary instructional concepts and participants' perceptions of their roles as vocabulary instructors were obtained using pre- and post-PD survey instruments. The survey instruments appear in Appendices D and E.

A quantitative method was chosen for this study due to the nature of the research questions, the number of potential participants, and the mathematical nature of the analysis that tallied the results from each survey instrument (Creswell, 2014).

Research Design

This quantitative study examined teachers' self-perceptions of their self-efficacy as vocabulary instructors and examined the teachers' vocabulary instructional knowledge. The design was considered quasi-experimental (QE).

Whereas true experimental research design involves random assignments of individuals into groups in which participants have an equal chance of receiving the treatments - including no treatment - being examined (Deaton & Cartwright, 2018; Drummond & Murphy-Reyes, 2018). QE research does not have the randomization of participants into groups (Cook & Campbell, 1979). Researchers should employ QE designs carefully and in moderation, and only if no alternative is available to answer research questions and address the purpose of the study.

Randomization

Proper randomization arbitrarily assigns each participant to either a treatment or non-treatment group (Deaton & Cartwright, 2018). However, due to scheduling constraints, this study randomly assigned groups of teachers, not individual teachers, to the collaborative PD, known as the intervention.

Teachers were randomly assigned to one of two cohorts, with the Collaborative (COL) cohort receiving collaborative PD while the Business-as-Usual (BAU) cohort received a traditional PD. The researcher provided professional development (PD)

trainings during teacher-planning periods and district-mandated PD days when students were absent. Teachers were assigned to the training sessions based on teachers' shared content planning periods. There were eight groups, four of which were randomly selected for the COL (interventional) PD and four groups for the BAU PD. (See Table 1.)

Table 1.

Participant Content-Area Groups

Group Number	COL/BAU	Content Area	Number of Individuals
1	COL	ELA/Interventionist/Media	8
2	COL	Math	4
3	BAU	Science	3
4	COL	Social Studies/PE	3
5	BAU	Related Arts	3
6	BAU	CTE	6
7	BAU	Special Ed/CDC	4
8	COL	World Language	2

Procedures

The PD trainings were conducted during one teacher planning period and four in-service days from July 2021 to January 2022. The focus of all the PDs was to prepare teachers in all content areas to strengthen their vocabulary instruction. Teachers were placed in groups according to content area team assignments already in place.

Teachers' content-area groups were randomly assigned to one of two cohorts, with the COL cohort receiving collaborative (interventional) PD while the BAU cohort

received a traditional PD. During the first session of PD, all teachers were given a *Teacher Knowledge of Vocabulary Survey* (TKVS) (Instrument #1) and a *Vocabulary Instruction Perception Survey* (Instrument #2).

Teachers received the vocabulary PD over five hourly sessions, receiving (1) face-to-face meeting and (4) remote sessions via Canvas, totaling five hours of PD. The introduction day was comprised of a total of one hour required for the completion of the surveys and the introduction to vocabulary instruction protocols. All remaining PD days consisted of one-hour remote sessions.

Each cohort was presented with the same vocabulary instruction and strategies material, expecting they would incorporate these new protocols into their classroom instructional planning. The COL cohort participants worked collectively. The BAU cohort participated in a traditional PD. In the BAU PD, the instructional facilitator presented information, and the teachers were not provided time to debrief, reflect, or co-plan together. On the other hand, the COL cohort had various opportunities to work together.

Collaborative Cohort

This study proposed to deliver in-person or via remote application a series of collaborative professional development (PD) interventions on vocabulary instruction for teachers of grades nine through twelve. These interventions took place over five weeks instead of the suggested nine (Dimino & Taylor, 2009). Also, the study took place over monthly teacher in-service days instead of the recommended bi-weekly sessions (Dimino

& Taylor, 2009; Jayanthi et al., 2018). The researcher served as the primary remote instructor.

The COL cohort's research data was collected from a) a pre- and post-knowledge survey and b) a pre- and post-Likert-scaled perception survey. This type of quantitative data was associated with a quasi-experimental design within this study. The collaborative PD had the following elements:

1. Teachers created literacy goals and targets,

2. Teachers had the opportunity to co-plan lessons, and

3. Teachers reflected on lessons as a group while providing each other feedback.

Business-as-Usual Cohort

Further, this study delivered in-person or via remote application a series of traditional PD sessions for the BAU cohort on vocabulary instruction for teachers of grades nine through twelve. These PDs took place over the same five sessions as the collaborative cohort's PD. The researcher served once again as the primary remote PD facilitator. Instead of encouraging teachers to work with one another and collaborate on specific goals, this BAU cohort received vocabulary instruction information in the manner of "sit-and-get," meaning the participants were passive learners.

The BAU cohort's research data were collected from a) a pre- and post-knowledge survey and b) a pre- and post-Likert-scaled perception survey. Quantitative data from surveys were associated with the quasi-experimental design used in this study. In contrast to the collaborative PD, the business-as-usual PD had the following elements:

1. Teachers read literacy articles independently rather than collaboratively,

2. Teachers had the opportunity to develop vocabulary lessons independently, and

3. Teachers reflected on lessons independently.

Professional Development Sessions

This study used the text, *Learning How to Improve Vocabulary Instructions Through Teacher Study Groups* (Dimino & Taylor, 2009) as guidance for the PD sessions. Due to time constraints, the PD sessions conducted for the study were shortened to five sessions instead of the preferred nine sessions, as Dimino and Taylor (2009) suggested. One instructional facilitator guided the PD process. Each COL PD session included 30-35 minutes of explicit instructional time, 5 minutes to assess content knowledge, 5-10 minutes for reflective discussion on an online discussion board, and 15-20 minutes to create a collaborative lesson plan. On the other hand, the BAU PD session included 30-35 minutes of explicit instructional time, 5 minutes dedicated to an assessment of content knowledge, 5-10 minutes for independent reflection (without access to the discussion board), and 15-20 minutes dedicated to independent lesson plan creation. See Table 2 for specific procedures used.

Table 2.

Procedures of Professional Development Sessions

PD Session	COL Cohort	BAU Cohort
Session 1	• Participants took the TKVS and Perceptions pre-surveys. • Facilitator explained the importance of vocabulary instruction. • Facilitator provided participants with five essential elements to implementing effective vocabulary instruction: 1) providing rich and varied language experiences, 2) teaching individual words, 3) word-learning strategies, 4) fostering word consciousness, and 5) vocabulary instruction for ELL. • Participants worked within their content-team groups to discuss ways their students could benefit from vocabulary instruction in their subject areas. • Homework: On their own time, participants read pp. 333-340 from Graves et al., 2014.	• Participants took the TKVS and Perceptions pre-surveys. • Facilitator explained the importance of vocabulary instruction. • Facilitator provided participants with five essential elements to implementing effective vocabulary instruction: 1) providing rich and varied language experiences, 2) teaching individual words, 3) word-learning strategies, 4) fostering word consciousness, and 5) vocabulary instruction for ELL. • Participants independently notated ways students could benefit from vocabulary instruction in their content areas. • Homework: On their own time, participants read pp. 333-340 from Graves et al., 2014.
Session 2	• Participants reflected on previous readings, collaborated, and identified at least one strategy they chose to use in their upcoming classroom lessons. • Facilitator provided participants with a PowerPoint presentation on vocabulary strategies and encouraged them to think about which methods would work best for their content areas, including tiered words, student-friendly definitions, and morpheme analysis. • Participants co-planned vocabulary lessons for their classrooms using facilitator-suggested strategies and resources.	• Participants independently reflected on their previous readings and identified one strategy they chose to use in their upcoming classroom lessons. • Facilitator provided participants with a PowerPoint presentation on vocabulary strategies, including tiered words, student-friendly definitions, and morpheme analysis. • Participants independently planned lessons for their classrooms using facilitator-suggested strategies and resources.

PD Session	COL Cohort	BAU Cohort
Session 3	• Participants reflected on previous classroom lessons together and debriefed collaboratively. • Facilitator provided participants with a PowerPoint presentation on vocabulary strategies and encouraged them to think about which methods work best for their content areas using Marzano (2004) six (6) step process for vocabulary instruction. • Participants co-planned vocabulary lessons for their classrooms, providing newly-learned strategies and resources.	• Participants independently reflected on their previous classroom lessons by notating their responses. Then each participant identified one strategy they chose to use in their upcoming lessons. • Facilitator provided participants with a PowerPoint presentation of vocabulary strategies using the Marzano (2004) six (6) step process for vocabulary instruction. • Participants independently planned classroom lessons using resources from the PowerPoint presentation.
Session 4	• Participants read pp. 341-346 from Graves et al., 2014. • Participants reflected on the best teaching strategies for vocabulary instruction that would benefit students most according to each teacher's content area, including classifying words, logic and prediction, synonyms versus antonyms, and multiple exposures in multiple contexts. • Participants co-planned lessons for their content-specific classes.	• Participants read pp. 341-346 from Graves et al., 2014. • Participants independently reflected on the best teaching strategies for vocabulary instruction that would benefit students most according to each teacher's content area, including classifying words, logic and prediction, synonyms versus antonyms, and multiple exposures in multiple contexts. • Participants independently planned lessons for their content-specific classes.
Session 5	• Participants debriefed and shared their vocabulary instructional experiences within the group and discussed strengths and weaknesses, areas for instructional continuation, and other factors. • Participants reflected on students' academic outcomes based on changes learned in the PD. • Participants shared their reflections with the group. • Participants took the TKVS and Perceptions post-surveys.	• Participants independently reflected on their vocabulary instructional experiences and considered strengths and weaknesses, areas for instructional continuation, and other factors. • Participants independently reflected on students' academic outcomes based on changes learned in the PD. • Participants did not share their reflections with other members of their group. • Participants took TKVS and Perceptions post-surveys.

Participants and Sampling

The sample consisted of 36 teachers who worked at the same secondary school in the southeastern United States. This researcher asked teachers to participate in the study, but participation was not required to receive the PD. All participants signed the university's Internal Review Board (IRB) consent form (Appendix A).

All participants were high-school teachers. The participants taught various content areas, including core subjects such as math, science, social studies, English and language arts/intervention/media, and subjects related to arts, physical education, career and technical education (CTE), and world languages. All teachers participating in this research study had at least one semester of experience in the classroom and a valid state teacher's license. Information regarding each teacher's license number, teaching endorsements, and years of teaching experience were accessed through the state's Department of Education website, ensuring each teacher met the research study's requirements. This study obtained 36 teacher participants whose educational work experience varied from novice to veteran status.

There were 19 teachers in the BAU cohort and 17 in the COL cohort. Across the sample, 16 teachers had 20+ years' of experience, while 20 teachers had 19 years or less. Nine teachers had nine or fewer years of experience. Across both groups, 61% of the teachers were female. To ensure there were no differences in gender or experience between groups, Chi-square tests were run to examine whether the ratios were roughly similar across the two cohorts. There were no statistically significant differences in the distribution of experience ($p = .56$). Likewise, the distribution of gender by cohort was

not statistically significantly different ($p = .68$). These findings indicate the teachers were evenly distributed across gender and experience by cohort.

Within the timeframe of this current study, the participating school was documented to be a Level 3 (average distinction) in overall school academic growth before the study was implemented (TDOE, 2022). Within this current study, this school received the vocabulary PD solely focused on vocabulary instructional strategies for all content areas to meet the district literacy initiative. Thus, the participating school chose to provide vocabulary-centered PD for all content-area teachers versus other schools choosing differentiated PDs for multiple content-area teachers.

Instruments

Self-efficacy beliefs influence a teacher's ability to make decisions, teaching performance, and a teacher's quality of teaching. In education, self-efficacy beliefs are intricately linked to the defining factors contributing to a teacher's lesson activities (Lukáčová et al., 2018). Essentially, teachers must perceive themselves as capable motivators and directors of classroom strategies and instruction. Moreover, vocabulary is essential in reading comprehension, as determined by prior research (Beck et al., 1982; Duke & Cartwright, 2021; Elleman & Oslund, 2019; Nagy, 1988; Yildrim et al., 2011).

This study's quantitative data collection methods entailed using the perception survey and the TKVS. Pre-surveys of the TKVS and the perception surveys were administered before each PD. At the end of the PD sessions, the TKVS and perception surveys' post-surveys were re-administered. Additionally, the researcher gathered

teachers' educational and professional teaching backgrounds, years of experience in teaching, and subjects taught.

Perception Survey

To assess teachers' perceptions about the importance of vocabulary knowledge and vocabulary instruction, teachers took a pre-perception, 14-question Likert survey created by the researcher (see Appendix C). An example perception survey item was: I define the term "literacy" as a person's knowledge of a particular subject or skill, for example, "vocabulary literacy." For the collection of the self-perception data, there were 14 items based on participants' choices of *SD) Strongly Disagree; (D) Disagree; (N) Neutral; (A) Agree; (SA) Strongly Agree*

The perception survey was adapted from other perception surveys by Reed (2017) and Lee (2009). The pre-perception survey questioned teachers' views of themselves as vocabulary or literacy instructors and how teachers felt about their vocabulary instructional content knowledge.

Reliability was calculated at both pre- and post-test and indicated the measure met requirements for reliability with Cronbach's alphas of 0.79 and 0.80 at pre- and post-test, respectively. Evidence of the validity of the perception survey was investigated. The instrument's use produced a pattern of content validity by prior researchers (Lee, 2009; Reed, 2017). The survey was deemed valid to measure the usefulness of a training intervention, specifically within the realm of teacher professional development, to examine attitudes and confidence related to vocabulary instruction. The survey was

deemed beneficial and valid in studying this study's specific outcomes (Lee, 2009; Reed, 2017).

At the end of the PD, all teachers were given the same perception survey as a post-PD survey. Based on the PD's impact, the researcher searched for differences in teachers' pre- and post-perception surveys to assess their self-efficacy in delivering vocabulary instruction. Collected data were used to analyze differences *within* each cohort from pre- to post-surveys and *between* the two cohorts from pre-to post-surveys.

Teacher Knowledge of Vocabulary Survey

At the beginning of the PD, all teachers took the *Teacher Knowledge of Vocabulary Survey* (TKVS) (Duguay et al., 2016) as a pre-survey (see Appendix D). For the TKVS, there were 14 knowledge items; the highest score was 14 points based on the participants' correct or incorrect scores. An example item was: Students benefit from vocabulary instruction that incorporates both definition and contextual information. Participants were asked to note if the statement was:

 1) True;

2) False; or

3) I Don't Know.

The survey gave the researcher an overview of the secondary teachers' existing knowledge of vocabulary instruction. The survey consisted of six sections of vocabulary instruction: a) vocabulary development, b) providing rich and varied language experiences, c) teaching individual words, d) word-learning strategies, e) fostering word consciousness, and f) vocabulary instruction for ELL. The researcher searched for

differences in teachers' pre- and post-TKVS survey data based on the PD's impact on assessing vocabulary instructional knowledge. Collected data were used to analyze differences *within* each cohort from pre- to post-surveys and *between* the two cohorts from pre-to post-surveys.

Reliability was measured using Guttman's split-half reliability because the items were dichotomous and measured the same construct. Pre-test reliability was relatively low, at 0.56. However, post-test reliability, which was the measure of knowledge changes following the intervention, was much higher at 0.70. This indicates that - similar to the perception measure - the knowledge measure was a relatively reliable measure of teachers' acquired knowledge. Evidence of the validity of the TKVS was investigated. The instrument's use produced a pattern of content validity by prior researchers (Duguay et al., 2016). The TKVS survey was valid in measuring the value of a training intervention, specifically within the domain of teacher PD, to examine knowledge of vocabulary instruction. The survey was deemed effective and valid in examining the outcomes of this current study (Duguay et al., 2016).

Data Collection Procedures

Data collection employed two instruments, the perception survey and the TKVS. Once participants were selected, agreed to partake in the research, and adhered to the inclusion criteria, emails were sent advising them of the online surveys' access dates and times. The study targeted a population of teachers working at one secondary school in the southeastern United States.

Participants completed the Middle Tennessee State University's Informed Consent Form (ICF) (Appendix B), outlining the study's safeguards. Once ICFs were finalized, the two online surveys were distributed to each individual via an emailed Internet link. A follow-up reminder email was sent to any participant who did not complete the surveys within a week of the emailed notification. Survey data was coded and secured on the researcher's personal computer and password-protected to safeguard participants' confidentiality. Secured data will be maintained for no less than three years when it will be permanently deleted.

The online survey site, https://www.*qualtrics.com*, used for data collection reduced the chance of error versus handwritten response collection while simultaneously allowing the data to be securely stored until ready for analysis. The collection method also enabled the monitoring of the evolving results of the study.

Participants received an email containing a hyperlink to the online surveys housed on a secure Internet site (see Appendices D and E). The link sent participants to the 'landing' page of the surveys, reiterating the Informed Consent Form (ICF) participants have already read and signed. The ICF explained the nature, purpose, potential benefits, and risks of participating in this research study.

To proceed with the online surveys, participants were required to agree to the ICF. All questions within the surveys' designs were randomized for each delivery. In that way, no two participants received identical sequencing of survey statements. Once finalized, the surveys' data produced distinct answers for each of the questions/statements for each of the 36 participants. Upon closure of each survey, data were downloaded from

the site https://www.*qualtrics.com* and input into the software SPSS®. If any participants did not partake in the online surveys, the partially accumulated data were used.

Limitations

For this research study to be implemented correctly, areas of possible limitation were considered. For instance, there was a possibility that data contamination (treatment diffusion) could occur because the COL cohort was being given to teachers within the same school building where they worked together with the BAU PD cohort.

The Hawthorne Effect could have also played a role in the results depending on whether the teachers behaved in an exemplary manner because they knew they were participating in a study. The Hawthorne effect occurs when participants in a research study are conscious of being examined by the researcher (Sedgwick & Greenwood, 2015). This recognition on the participants' part may have created beliefs about researcher expectations, compliance, and social desirability leading to behavioral changes in line with those expectations (McCambridge et al., 2014). This researcher alleviated these biases by assuring the interview participants that their information was confidential and that all interview data were stored electronically and protected.

Finally, teachers' time constraints may have hindered the study because the ongoing PD takes time to be implemented successfully. However, teachers often lack time within their workdays to collaborate effectively while tending to other duties, including parent conferences, grading papers, and participating in additional district-wide PD.

Data Analysis Strategies

Distinguishing inductive from deductive inquiry processes is crucial in identifying how to approach quantitative research data. Inductive reasoning uses data to generate ideas, whereas deductive reasoning begins with a theory or a hypothesis and uses the collected data to confirm or negate the idea (Borgstede & Scholz, 2021; Hyde, 2000). Within this study, a deductive approach to data examination was used. This deductive approach began by collecting data relevant to the phenomenon being studied. At this stage in the study, the data analysis process began.

This study's independent variable (IV) was the collaborative PD intervention. The dependent variables (DVs) comprised participants' perceptions of self-efficacy and content knowledge. Within the data analysis, these components were collected and analyzed.

An independent samples *t*-test was conducted to compare the COL and BAU cohorts' TKVS data pre-PDs. Another independent *t*-test was conducted to compare the pre-PDs' COL and BAU self-perception data. An independent samples *t*-test was conducted to compare the COL and BAU teacher TKVS data post-PDs. Another independent *t*-test was conducted to compare the post-PDs' COL and BAU self-perception data. This process compared data *within* the COL and BAU cohorts to themselves at two different times, pre- and post-PDs.

A dependent samples *t*-test was conducted to compare the COL and BAU teacher TKVS data pre- to post-PDs. Another dependent *t*-test compared the COL and BAU self-perception data from pre- to post-PDs. This process sought to analyze differences

between the two cohorts' data before and after the PDs. SPSS® software was used to conduct these statistical tests.

Chapter 3 Summary

This chapter's emphasis was on the expansion and clarification of details presented in Chapter 1 regarding the methodology for this study. It reiterated the study's problem, purpose, and research questions. Chapter 3 introduced specific information about the research method and its design, sample selection, and data collection process.

Data collection and analysis were discussed in detail for the collected data sources, both the pre- and post-perception and TKVS surveys for the two cohorts of participants. Certain study limitations were explained related to the potential contamination of the collected data and the possible Hawthorne Effect's influence. Confidentiality and objectivity of the quantitative data aided in addressing these limitations.

Next, in Chapter 4 is a presentation of the collected data results. This data was sorted and reviewed using the software SPSS® to support confirming and substantiating conclusions and interpretations. Likewise, Chapter 4 provides results specifically addressing the research questions of this study, with any outcomes described judiciously.

CHAPTER 4: RESULTS

Overview of the Study

The purpose of this chapter is to summarize the collected statistical data. This study investigated secondary-level teachers' ability to gain much-needed vocabulary instructional strategies (Beck et al., 1982; Dong et al., 2020; Hasan et al., 2022; Oslund et al., 2016; Perfetti & Stafura, 2014). In addition, this study examined secondary-level teachers' confidence levels in teaching literacy and their perceptions of their teaching literacy roles (Cantrell et al., 2009; Sharp et al., 2016).

Participants

The sample of this study consisted of 36 high-school teachers of varied content areas and assorted years of experience, who all worked at one secondary school in the southeastern United States. Teachers were asked to participate in a vocabulary instructional professional development study. Participation was not required to attend the professional development (PD). Although the study began with 36 participants, there was attrition causing a loss of four individuals over the course of the study.

All teachers participating in this research study had at least one semester of experience teaching in the classroom, and all held valid state teacher's licenses. There were 19 teachers in the BAU cohort and 17 in the COL cohort. Across the sample, there were 16 teachers with 20+ years' of experience and 20 with 19 or fewer. Nine teachers had nine or fewer years of experience. Across both cohorts, 61% of the teachers were female. Teachers were evenly distributed across gender and experience within each cohort.

This study sought to evaluate the impact of a collaborative (interventional) PD training focused on vocabulary instructional strategies and its effect on secondary-school teachers' knowledge and self-efficacy perceptions. The two cohorts are identified as Business-As-Usual (BAU) and Collaborative (COL). The COL cohort received the interventional PD.

Results

This study examined data from two cohorts, a COL (experimental) one and a BAU one. The researcher analyzed data obtained from the TKVS and a perceptions of self-efficacy beliefs surveys. This investigation sought to understand the potential impact of a collaborative (interventional) PD training focused on teachers' vocabulary instructional strategies and self-efficacy perceptions.

TKVS Survey Results

The first set of research questions addressed by this study examined if there were differences in participants' knowledge of vocabulary instruction, whether they gained knowledge from pre- to post-survey, and whether that growth was differential due to the type of instructional PD (BAU versus COL). The idea of *knowledge* was investigated through the two cohorts' pre- and post-assessment scores of the 14-question *Teacher Knowledge of Vocabulary Survey* (TKVS) instrument. This study's three research questions addressed through this instrument study were:

- RQ1: Is there a difference between teachers who receive business-as-usual professional development versus those who receive collaborative professional development on their knowledge of vocabulary instruction?

- RQ2: Within the business-as-usual professional development, is there a difference pre- and post-survey in teachers' knowledge of vocabulary instruction?

- RQ3: Within the collaborative professional development, is there a difference pre- and post-survey in teachers' knowledge of vocabulary instruction?

For the *TKVS*, there were 14 knowledge questions; the highest score was 14 points based on the participants' correct or incorrect scores. Table 3 displays both pre- and post-survey data for the BAU and COL cohorts.

Table 3

Business-as-Usual Versus Collaborative Cohorts TKVS

	Pre-PD			Post-PD		
	N	*M*	*SD*	*N*	*M*	*SD*
BAU	19	10.95	1.39	18	12.28	1.36
COL	17	10.75	2.11	16	12.69	0.95

An independent samples *t*-test was used to compare the cohorts' TKVS results for the pre-survey. The pre-survey analysis sought to understand if there were differences between the two cohorts before introducing the PDs (the BAU traditional PD and the COL interventional PD). For all *t*-tests conducted, normality and homogeneity of variance could be assumed.

The pre-survey data were normally distributed, and equal variances were assumed. The mean for the BAU cohort was 10.95 ($SD = 1.39$), and the mean for the

COL cohort was 10.71 ($SD = 2.11$), and they were not statistically significantly different ($t = 4.09$, $p = 0.34$). The magnitude of the difference of means in the pre-survey (mean difference) was 0.24, and the effect size was small (Cohen's $d = 0.14$). Both cohorts' baseline knowledge results based on the TKVS were similar at the pre-test.

Post-survey TKVS results were determined using an independent samples t-test to compare the two cohorts' data. This analysis attempted to understand if there were differences between the two cohorts after introducing the PDs (the BAU traditional PD and COL interventional PD). The mean for the BAU cohort was 12.28 ($SD = 1.36$), and the mean for the COL cohort was 12.69 ($SD = 0.95$), and they were not statistically significantly different ($t_{33} = 4.09$, $p = 0.45$). The magnitude of the difference of the means post-survey was 0.41. Though the effect size from pre- to post-survey increased, the effect size was still considered small (Cohen's $d = 0.35$).

In addition, a dependent samples t-test was performed to assess the impact of the PDs (the BAU traditional PD and COL interventional PD) on the participants' knowledge of vocabulary instructional strategies comparing pre- to post-survey data from the BAU cohort and the pre- to post-survey data for the COL cohort. This analysis sought to understand if there were differences within the cohorts' vocabulary instructional knowledge from the pre-survey to the post-survey.

For the BAU cohort, the difference from pre ($M = 10.94$, $SD = 1.43$) to post ($M = 12.28$, $SD = 1.36$) was statistically significantly different ($t_{17} = 2.43$, $p = .03$). The difference between pre- and post-survey for the BAU cohort was 1.39, indicating they grew in knowledge of vocabulary instruction following the traditional PD. Likewise, on

the TKVS, for the intervention cohort, the difference from pre- ($M = 10.75$, $SD = 2.18$) to post-survey ($M = 12.69$, $SD = 0.95$) was statistically significantly different ($t_{15} = 3.85$, $p = .00$). The difference from pre- to post-survey was greater for the COL cohort, whose mean was 1.94 higher post-survey. The effect size from COL and BAU cohorts' TKVS post-survey results was small (Cohen's $d = 0.35$).

Self-Perception Survey Results

The second set of this study's research questions addressed if there were differences in participants' perceptions of self-efficacy beliefs regarding their ability to deliver vocabulary instruction. The construct of perceptions of self-efficacy was analyzed through each cohort's pre- and post-survey data of a 14-question perceptions of self-efficacy Likert-scaled instrument. This survey also addressed whether the participants grew from pre- to post-survey and whether that growth was differential due to the instructional PD intervention. The associated research questions were:

- RQ4: Is there a difference between teachers who receive business-as-usual professional development versus those who receive collaborative professional development on teachers' perceptions of their self-efficacy beliefs regarding their ability to deliver vocabulary content?

- RQ5: Within the business-as-usual professional development, is there a difference between pre- and post-survey of teachers' perceptions of their self-efficacy beliefs regarding their ability to deliver vocabulary content?

- RQ6: Within the collaborative professional development, is there a difference between pre- and post-survey in teachers' perceptions of self-efficacy regarding their ability to deliver vocabulary content?

For the collection of the self-perception data, there were 14 questions based on participants' choices of *(SD) Strongly Disagree; (D) Disagree; (N) Neutral; (A) Agree; (SA) Strongly Agree*. Table 4 displays both pre- and post-survey data for the BAU and COL cohorts. An independent samples *t*-test was used to compare the two cohorts' self-perception results from the pre-survey data. The pre-survey analysis sought to understand if there were differences between the two cohorts before introducing the PDs (the BAU traditional PD and COL interventional PD). (See Table 4.)

Table 4

Business-as-Usual Versus Collaborative Cohorts Perceptions/Self-Efficacy Survey

	Pre-PD			Post-PD		
	N	*M*	*SD*	*N*	*M*	*SD*
BAU	18	42.67	11.06	15	46.87	6.88
COL	17	41.31	6.77	16	45.38	6.75

The pre-survey and post-survey data were normally distributed, and equal variances were assumed. The mean for the BAU cohort was 42.67 ($SD = 11.06$), and the mean for the COL cohort was 41.31 ($SD = 6.75$). This difference was not statistically significantly different ($t_{33} = 0.16$, $p = 0.44$). The magnitude of the difference of means in

the pre-survey (mean difference) was 1.36, and the effect size was small (Cohen's d = 0.05). Both cohorts' baseline perceptions of their self-efficacy were similar.

Post-survey data of the participants' perceptions of their self-efficacy were determined using an independent samples t-test to compare their post-survey means. This analysis attempted to understand if there were differences between the two cohorts after introducing the PDs (the BAU traditional PD and COL interventional PD). The mean for the BAU cohort was 46.87 (SD = 6.88), and the mean for the COL cohort was 45.38 (SD = 6.75). The group differences were not statistically significantly different (t_{29} = .61, p = 0.27). The magnitude of the difference of the means in the post-survey was 1.43. The effect size from pre- to post-survey increased, and the effect size was medium (Cohen's d = 0.61).

In addition, a dependent samples t-test was performed to assess the within-cohort change from pre- to post-survey for each cohort on the participants' perceptions of their self-efficacy utilizing practical vocabulary instructional strategies. This analysis sought to understand if there were differences between the cohorts' perceptions of their self-efficacy from pre- to post-survey. For the BAU cohort, the difference from pre (M = 42.67, SD = 11.06) to post (M = 46.87, SD = 6.88) was statistically significantly different (t_{15} = 2.34, p = 0.02). The difference between pre- and post-survey means for the BAU cohort was 4.2, indicating the participants' self-perceptions of self-efficacy increased following the traditional PD. The effect size from pre- to post-survey was medium (Cohen's d = 0.45)

Likewise, for the intervention cohort (COL), the difference from pre- ($M = 41.31$, $SD = 6.77$) to post-survey ($M = 45.38$, $SD = 6.75$) was statistically significantly different ($t_{16} = 4.11$, *p<.001*) on the self-perceptions of self-efficacy. The effect size from pre- to post-survey was medium (Cohen's $d = 0.60$) The difference from pre- to post-survey means was higher for the COL cohort, whose mean of 4.07 was higher post-survey. The effect size from COL and BAU cohorts' post-survey self-perceptions results, was of small effect (Cohen's $d = 0.22$)

Similar to the BAU cohort, the COL data indicated that participants' self-perceptions of self-efficacy increased following the collaborative PD. However, the data suggest the collaborative PD's impact on participants' self-perceptions of self-efficacy was not significantly different from that of traditional PD.

Summary

The results of the quantitative data analysis indicated that the vocabulary instructional intervention (PD) produced changes in participant knowledge (TKVS) and perceptions of their self-efficacy beliefs regarding their vocabulary instructional role. Dependent sample *t*-tests demonstrated statistically significant gains in knowledge and perceptions on a cohort-wide basis. Yet, independent sample *t*-tests concluded no statistically significant difference between cohorts in either knowledge or self-efficacy perception gains.

CHAPTER 5: SUMMARY AND DISCUSSION OF FINDINGS

This study aimed to investigate the impact of vocabulary instruction as an outcome of teacher professional development (PD). The study was framed by social learning and cognition theories as collaborative paradigms for teachers' learning (Bandura, 1977, 1986a, 2001). Chapter 5 includes a discussion of the research methods used, the findings and their interpretations, connections to the literature, and recommendations for future research and practice.

Summary of Findings

Vocabulary knowledge is a predictive factor in improving K-12 students' reading comprehension (Dong et al., 2020; Hasan et al., 2022). Impactful vocabulary instruction varies from teacher to teacher, depending on each teacher's content knowledge (Jayanthi et al., 2018). Furthermore, educational preparation programs for secondary-school teachers often focus on content-specific strategies and lack instilling literacy instructional approaches (Graham, 2019).

In addition, research shows that teachers rarely have opportunities to collaborate at the secondary level and often plan lessons in isolation (Johnston & Berglund, 2018; Shaffhauser, 2018). As Darling-Hammond et al. (2017) noted, high-quality PD allows teachers to communicate their ideas and collaborate; thus, teachers can create communities that positively change their school's culture and the ensuing instructional practices.

The results of this study indicated that the vocabulary instructional PDs produced changes in participant knowledge (TKVS) and perceptions of their self-efficacy beliefs regarding teachers' vocabulary instructional roles. The study addressed whether there were significant differences within the pre- and post-survey data. This was achieved by:

1. comparing the two cohorts' (BAU and COL) results to each other and

2. comparing the BAU and COL results within the cohorts.

In comparing the two cohorts' results to each other, an independent sample *t*-test demonstrated their baseline knowledge was similar based on the TKVS pre-survey data. Comparing the BAU and COL results within the cohorts, a dependent samples *t*-test indicated both cohorts' vocabulary instructional knowledge increased on the TKVS post-survey. The COL cohort showed slightly more growth; however, the mean differences between both groups were not statistically significant.

In comparing the two cohorts' results to each other, another independent sample *t*-test demonstrated that the two cohorts' baseline perceptions were similar on the perceptions of self-efficacy pre-survey data. Comparing the BAU and COL results within the cohorts, an additional dependent samples *t*-test indicated that both cohorts' perceptions of self-efficacy increased post-survey. The BAU cohort showed slightly more growth; however, the mean differences between both groups were not statistically significant.

Independent sample *t*-tests for both cohorts' data reflected similar starting points in both TKVS and perceptions of self-efficacy. Dependent sample *t*-tests demonstrated there were statistically significant gains in knowledge and perceptions on a cohort-wide

basis. Yet, independent sample *t*-tests concluded that there were no statistically significant differences between cohorts in either knowledge or perception gains based on whether they received the traditional or interventional PD. While not statistically significant, the TKVS data for the COL cohort did reveal a slight improvement exceeding that of the BAU cohort. On the hand, the perception data for the BAU cohort, while not statistically significant, did show a slight improvement exceeding that of the COL cohort.

This study examined the use of vocabulary instructional PDs (traditional versus collaborative) as a possible answer to the lack of vocabulary instruction provided by teacher education programs and training. The study's PDs emphasized practical vocabulary instructional strategies that could be integrated into regular classroom lessons in multiple content areas. The COL cohort, which received the interventional PD, was assumed to acquire an advantage from their PD training outcomes.

This study's theoretical foundation aided in investigating the research questions. Social learning, observational learning, and self-efficacy were explored using Bandura's (1977) Social Learning Theory (SLT) and Social Cognitive Theory (SCT) (Bandura, 1986b, 1989, 1996). SLT informs that new behavior could be acquired by observing, modeling, or imitating others. This study was framed by and sought to advocate the foundational components of Bandura's theories (1977, 1986a, 2001), specifically concerning the observational and modeling aspects, which explain how individuals adapt their behaviors within their environments. However, within this study, no instructional leader was present in person during the PDs or during classroom instructional settings to model how to implement newly-learned instructional techniques into teaching practices.

Moreover, teachers within this study may have modeled instructional strategies after one another within both cohorts. The lack of a mentor-observer could have affected the data in this study due to its implementation.

The BAU and the COL cohorts were to undergo the PDs quite differently. However, it is possible, due to constraints on completing this study, that all participants were likely observing and modeling the behaviors of their peers during district-mandated PD days. According to SLT, individuals' behaviors are formed according to and through their environment (Bandura, 1977; von Schönfeld et al., 2020). This study's PDs were required to occur during teachers' planning time, possibly providing a collaborative environment even when the BAU cohort was not expected to work in such a way. This constraint could explain why both cohorts showed growth in both pre- to post-survey data, with the BAU cohort unexpectedly showing more growth in the perception survey than the COL cohort.

Fixed Perceptions of Veteran Teachers

Even though research has suggested that collaborative models in teacher training have become common and worthwhile, the outcomes of such PDs remain unclear (Ghedin & Aquario, 2020; Svendsen, 2017). Further, teacher planning practices may not be adequately implemented simply based on a collaborative model of PD (Ghedin & Aquario, 2020). In explaining this, one possibility is that teachers often have fixed perceptions - known as a fixed mindset - of instructional practices (Darling-Hammond et al., 2017; Dweck, 2016; Ucana, 2016).

Therefore, whether these routines or practices are effective or ineffective, teachers may still find it difficult to change. Ghedin and Aquario noted that a co-teaching paradox occurs, defined as a "contradiction which often exists between what a teacher believes is important at an ideal level, and what is actually deemed to be important on a plane of reality" (2020, p. 25). Despite this, teachers may benefit from working with scientists, researchers, or university faculty to address changes in behavior (Andrews et al., 2016; Darling-Hammond et al., 2017).

It is plausible that the participants of this current study had fixed perceptions of their instructional practices as 22 of the study's teachers were considered *veterans* with teaching experience between 15-20 years. Veteran teachers should be provided with more effective opportunities to actively engage with their learning, as well as ample time to apply new instructional strategies with their students (Fullan, 2016; Hargreaves, 2005). Furthermore, there was no actual instructional coach or university faculty member to provide regular feedback and support outside the online platform (Hammond & Moore, 2018; Mchenry et al., 2017). For this current study, the researcher only answered clarifying questions via the online platform. Thus, the opportunity for an expert to expand teacher perceptions was limited. Additionally, research suggested that educational leaders' approaches to implementing PDs and initiatives for veteran teachers must provide open conversations and active engagement to lower resistance to PDs (Goodson et al., 2006; Hargreaves, 2005).

Similar to previous research, this current study provided the COL cohort with opportunities to reflect on and refine their vocabulary instructional strategies

cooperatively and unitedly (Gersten et al., 2010; Stanley, 2011). However, while this current study encouraged teachers to apply their learning within the classrooms, it did not have the means of observing the participants' post-study interactions with their students. Gersten et al. (2010) observed teachers' instruction using the RCV Observation Measure. Teachers within the Teacher Study Groups (TSGs) scored 0.86 standard deviations higher on the comprehension measure and 0.58 standard deviations higher on the vocabulary measure. Within Gersten et al. (2010), the *MDES* (minimal detectable effect size) for reading comprehension prior to the study was 0.65 and 0.76 post-study.

Student performance was outside the scope of this current study. However, student achievement is an area for further research to examine whether students performed better on vocabulary tasks following their teachers' PD.

Furthermore, allowing teachers access to educational leaders can be beneficial in validating their needs and concerns regarding their professional development (Goodson et al., 2006; Hargreaves, 2005). This current study did not intend to observe whether open dialogue with educational leaders or administration occurred. So, perhaps, the veteran teachers of this study did not feel as empowered as they may have if they had been provided opportunities to voice their feedback.

Training Durations

In concert with Jayanthi et al.'s (2018) study, which provided participants with more time, Stanley (2011) suggested the need for teacher groups to have sufficient time to develop norms and goals. Specifically, Stanley (2011) stated the need for teachers to

move beyond the "politely formal stage" (p. 74) and become comfortable with having disagreements and differences of opinion as they build genuine and honest collaboration.

A major difference between Jayanthi et al.'s (2018) study and the current study was the duration and timeline of the PDs. The current study only had five PD sessions provided once every five to six weeks, while Jayanthi et al. offered ten PD sessions twice a month. Thus, within the current study, the timeline of the PD sessions was potentially too extensive throughout the year for beneficial collaboration among the participants.

Due to external constraints, the current study might not have provided sufficient time for teachers to develop proper collaborative skills (i.e. approximately 20 minutes per session to collaborate) with such productive discords. Gruenhagen (2008), as cited in Stanley (2011), also suggested that collaborative teacher groups need to be "teacher-centered, growing organically from local context [school level] with teachers leading and taking responsibility for learning opportunities" (p. 183). Thus, the teachers gained more investment in their training.

Though the current study encouraged teachers in the COL cohort to collaborate at the local level, the initiative did not grow organically from the participants. Furthermore, the collaborative tools provided through the online platform were prompted by the facilitator through discussion boards and through co-planning of lessons. Again, this design was not truly organic in nature and might have impacted the participants perceptions. This limitation might have contributed to the lack of significant differences within the COL and BAU cohorts.

In addition to timelines, other areas of comparison between Jayanthi et al.'s (2018) research and the current study were effect sizes of content knowledge and self-perceptions. Jayanthi et al.'s s study used the *Content Knowledge for Teaching Reading* (CKTR) assessment (Phelps & Schilling, 2004) to assess the intervention's impact on teacher vocabulary knowledge, while the current study used the Teacher Knowledge of Vocabulary Survey (TKVS); both surveys focused on teachers' content knowledge in teaching literacy. The impact of CKTR of Jayanthi et al.'s study was statistically significant with an effect size (Hedges's g) of 0.38. The current study's effect size was similar, with an effect size (Cohen's d) of 0.34. However, the current study's data did not indicate statistical significance in the impact of the collaborative PD.

Like the current study, Jayanthi et al. (2018) researched teachers' perceptions of professional culture, by using *The Nature of the Professional Development Scale*. On the other hand, the current study explored perceptions of teachers' self-efficacy. The current study did not seek to assess teachers' perceptions of the value of the PD. However, in Jayanthi et al.'s study, teachers were surveyed about their perceptions of the usefulness of the PD experience.

Teachers in Jayanthi et al.'s TSG were of the opinion that the PD they received was superior to that of the teachers in the control group with an effect size (Hedges's g) of 0.54. Where Jayanthi's study provided participants an opportunity to assess participants perceptions of the value of the collaborative PD after the PD, this current study did not provide this kind of perceptions survey. Providing teachers an opportunity to express perceptions of the value of the PD could be useful in further research.

School-Level Versus District-Level PDs

Similar to other research, data from the treatment group in the current study (COL cohort) revealed that vocabulary instructional knowledge grew from pre- to post-survey (Carter et al., 2016; Jayanthi et al., 2018). Moreover, Jayanthi et al.'s and Carter et al.'s research showed positive teacher self-perceptions of their ability to teach literacy strategies, similar to the current study results.

However, unlike Jayanthi et al.'s (2018) study, the current study provided a vocabulary PD at the local level for both cohorts. Jayanthi et al.'s study provided a school-level PD (treatment group) and a district-level PD (control group). Within the current study, the vocabulary PD was perhaps not distinctive enough for each cohort.

Furthermore, Jayanthi et al.'s research used a larger sample of 182 teachers within 62 schools across several districts, while the current study only used 36 teachers at one school. In another study, Gersten et al. (2010) used teachers from multiple schools in different states for their TSGs. Their study had a better representation of randomization, and their sample size was 84. The small sample size of the current study and the inability to access teachers in multiple districts could have impacted this study's cohorts' lack of statistically significant differences.

Elementary Versus High-School Teacher Training

Another vital distinction between Jayanthi et al.'s study and the current study is that Jayanthi et al.'s study, similar to other vocabulary studies, utilized elementary teachers as the sample (Gersten et al., 2010; Hudson, 2015; Moreillon, 2013; Neugebauer

et al., 2017). This current study focused on high school teachers. So, perhaps both cohorts showed growth in the TKVS due to all teachers having a deficit in the area.

Limitations

Several aspects of the participant sample limited this study. Although the study began with 36 participants, there was a loss of four individual participants over the course of the study. Thus, with 31 total participants (after a loss of 5 participants) completing the PD and the two surveys, this small sample limited the ability to generalize the effects of the study to a larger population. Another limitation of this study was the absence of a no treatment control group. Both cohorts (COL and BAU) received a vocabulary instructional PD, regardless of whether the PD was collaborative or traditional.

For this study, groups of teachers, not individual teachers, were randomly assigned. This was due to reasons related to feasibility, as the researcher was able to provide the PD interventions only during teacher planning periods to adhere to teacher schedules. Teachers were predominantly assigned to planning periods related to their content areas.

Thus, there was a limitation in using a quasi-experimental (QE) study design. This current QE study compared outcomes between groups in which participants were not randomized to their respective interventions (Andrade, 2021). In QE studies, groups (not individuals) may differ in several ways. Thus, the data may generate misleading results when these differences influence the study's outcome. Additionally, since the researcher chose the group's factors and admissibility, there was a risk of human bias in that selection (Maciejewski, 2018).

Proper randomization traditionally assigns participants to either a treatment or non-treatment group (Deaton & Cartwright, 2018). However, this study could only randomly assign cohorts, or groups, of teachers, not individuals. Each of the eight groups was assigned to either the COL or the BAU PD. There were eight groups, within which four were randomly selected for the COL PD and four for the BAU PD.

Additionally, due to the PDs being delivered via an online platform - but still in-person within the school setting - there were limited ways for the researcher to monitor whether teachers were working independently or collaboratively. The researcher could only examine the work provided online, but the researcher did not have access to teacher interactions within the workplace. Due to the participants working in the same school, participants could have collaborated in person, outside of the PD lessons provided.

Therefore, treatment diffusion might have affected the results of the study. Each cohort of teachers was instructed to work as the PDs were designed. The COL cohort was asked to work together specifically, while the BAU cohort was instructed to work in isolation. Due to the online delivery of the PDs, the researcher could not monitor whether these specific instructions were carried out.

Many challenges were presented due to the study taking place during the COVID-19 pandemic. Timelines for the original research changed. At first, the study was to take place over consecutive weeks. Unfortunately, the study had to be presented during district-mandated PD days when students were absent, which extended the PD sessions to monthly timelines. Also, several teachers could not complete part of the PD sessions due to illness.

Recommendations for Future Research and Practice

The findings of this study could be expanded and developed in various pathways from both a developmental approach and a methodological standpoint. Broadening the sample's traits and its size, and the location of the study might allow future researchers to gather a broader range of experiences from a more diverse population of teachers. Additional research methods may enable opportunities for participants to enact their own behavioral changes as they influence one another.

Recommendations for Future Research

Future studies could include consistent feedback and onsite support from an instructional expert, such as a university professor or instructional coach, to better understand these results' implications. Research has suggested that teachers benefit from consistent onsite PD with outside experts (Darling-Hammond et al., 2017; Hammond & Moore, 2018; Mchenry et al., 2017). Of note, Jayanthi et al.'s (2018) research had continuing modeling and classroom observations from literacy experts. Providing such literacy experts could encourage teachers to expand their previous constructs to further develop instructional techniques.

Furthermore, with these results in mind, future studies could address how teachers' vocabulary instructional knowledge can improve students' vocabulary comprehension and reading comprehension. It would be essential to study whether teacher instructional improvement could correlate to students' literacy improvement. A study that examined the relationship between teacher vocabulary instructional gains through all content areas and student performance could be extended to see if these gains

generalize to student achievement in content areas' standardized tests and content area courses.

Future studies on collaborative PD for teachers might consider using a research method known as Participatory Action Research (PAR). PAR is a data-gathering method where the selected participants are brought together for a set number of meetings. They share experiences with the researcher and the population being studied (Sendall et al., 2018). The PAR method can combine substance with the processes of a research study.

According to Freire (1968), personal actions or behaviors can arise from the critical consciousness of individuals about shared concerns to changes in practices. Thus, the central principle of PAR is that it begins with a real-life challenge or need rather than with a researcher's perception of those problems (Freire, 1968). A critical phase of a PAR process should stimulate a *reflection–action–reflection* cycle in which ongoing understanding of new problems and actions to address those problems is facilitated by the generation of knowledge (Frank, 2018; Park, 1999).

Recommendations for Practice

Future practice could focus on educational leaders providing a focused vocabulary and literacy PD for all content areas throughout multiple schools within one district. The current study provided vocabulary instructional PDs for various content areas, both collaborative and traditional. Though there were no significant differences between data from the cohorts' post-surveys, both cohorts' content knowledge and perceptions of their self-efficacy grew. This growth might have impacted the school's overall growth on state standardized tests.

Literacy skills are essential to post-secondary and career readiness, with individuals expected to read, analyze, and interpret data. In addition, post-secondary students will be required to report findings in their higher-education courses (Kjelvik & Schultheis, 2019; Swan, 2018). Furthermore, reporting findings based on readings, and analyzing and interpreting data require a student's effective and robust reading comprehension abilities, making literacy skills vital across multiple content areas (TDOE, 2018). TDOE assesses these academic skills with a yearly standardized test, the Tennessee Comprehensive Assessment Program (TCAP/TN READY).

After the conclusion of this study, the participating school was the only one within the district to reach Level 5 (the highest distinction) for overall school academic growth (TDOE, 2022). Within this current study, this school received the vocabulary PD solely focused on vocabulary instructional strategies for all content areas. Thus, the participating school chose to provide vocabulary-centered PD for all content-area teachers versus other schools choosing differentiated PDs for multiple content-area teachers.

Subsequent to this current study, the participating school used the vocabulary PD as their exclusive academic initiative, providing clarity and not overwhelming teachers with too many varied activities. For reference, the last time the participating school achieved a Level 5 was six years prior (TDOE, 2022). Perhaps, for further practice, this current PD structure could be used throughout the district to encourage the schools to focus on one goal for all contents and empower teachers to use similar strategies within their different classes to improve literacy throughout the entire school.

Teacher PD, aligned with a PAR study and within a Professional Learning Community (PLC), should be considered (Gwinn & Watts-Taffe , 2017; Hudson, 2015; Schaap & de Bruijn, 2018). The PAR approach would enable the teachers to design their goals and objectives for the PD and elect how to carry out newly-learned instructional practices into their classrooms (Morales, 2016). The participating members would construct their experience through a combination of collaboration and action. Furthermore, a PLC within the K-12 setting would encourage teachers' PD, cooperation, and innovation (Brown et al., 2018; Christie, 2019).

A well-designed and teacher-focused PD is essential to enhance teaching practices comprehensively (Kalinowski et al., 2019). The effectiveness of teacher PD should be results-focused and measured via the teachers' acceptance of and satisfaction with the training, their changes in knowledge and behaviors, the teachers' newly-discovered instructional practices, and, ultimately, student learning (Del Toro Mijares et al., 2022; Rodriguez et al., 2020).

To support teachers throughout their careers, PDs should connect to teachers' prior experiences while linking and scaffolding new techniques to their current teaching practices (Darling-Hammond et al., 2017). Teachers should be empowered to provide deep learning through knowledge construction and use.

Conclusions

Teacher PD provides ongoing educational opportunities and includes wide-ranging methods, techniques, and approaches to help encourage the growth of teachers' content knowledge and their self-efficacy beliefs. This study's findings may help inform

educational policymakers, examining the importance of literacy training and vocabulary comprehension teaching strategies for secondary-level teachers. This study's findings may also encourage schools to provide appropriate settings to enhance teacher collaboration. Researchers and practitioners can expand on this current study performed within a rural high school, reframing and replicating it in various other school settings.

In meeting teachers' PD requirements, administrators and practitioners must consider supporting and encouraging participation and collaboration, ensuring that PD aligns with teachers' perceived needs and teaching abilities. Those needs should also connect with the broader goals of improving teachers' instructional practices and how well teachers' PD is coordinated with feedback practices, such as appraisals, within their school environments. Researchers' information and conclusions may differ. Nonetheless, there is broad agreement on essential elements to improve teacher development and practices. Those elements include that teachers should be active participants in their PD trainings and need sufficient time and multiple experiences to reflect and collaborate with their peers.

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APPENDICES

Appendix A: IRB Approval

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129
FWA: 00005331/IRB Regn.. 0003571

MIDDLE TENNESSEE STATE UNIVERSITY

IRBN007 – EXEMPTION DETERMINATION NOTICE

Thursday, April 22, 2021

Protocol Title   ***Can Collaborative Professional Development Impact Teachers Knowledge and Perceptions of their Selfefficacy Beliefs Regarding Vocabulary Instructions?***

Protocol ID   **21-1161 2qi**

Principal Investigator   **Leticia Skae-Jackson** (Student)
Faculty Advisor   Eric Oslund
Co-Investigators   NONE
Investigator Email(s)   *les5b@mtmail.mtsu.edu; eric.oslund@mtsu.edu*
Department/Affiliation   Literacy Studies

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the research category **(2) *Educational Tests, surveys, interviews or observations of public behavior*** *(in person and Qualtrics survey)*. A summary of the IRB action and other particulars of this protocol are shown below:

IRB Action	**EXEMPT from further IRB Review** Exempt from further continuing review but other oversight requirements apply
Date of Expiration	12/31/2022 *Date of Approval:* **4/22/21** *Recent Amendment:* NONE
Sample Size	FIFTY (50)
Participant Pool	**Healthy adults (18 or older) - School Teachers**
Exceptions	1. In person session is allowed in accordance with CDC guidelines. 2. In person informed cosnent is permitted. 3. Data collection may be done via Qualtrics
Type of Interaction	☐ Non-interventional or Data Analysis ☐ Virtual/Remote/Online Interview/survey ☒ In person or physical– Mandatory COVID-19 Management (refer next page)
Mandatory Restrictions	1. All restrictions for exemption apply. 2. The participants must be 18 years or older. 3. Mandatory ACTIVE informed consent. Identifiable information including, names, addresses, voice/video data, must not be obtained. 4. Must adhere by CDC guidelines and follow COVID-19 Management Plan
Approved IRB Templates	*IRB Templates:* Informed Consent *Non-MTSU Templates:* Recruitment Script
Research Inducement	NONE
Comments	NONE

IRBN007 (Ver: 2.0; Rev: 08/14/2020)   FWA: 00005331   IRB Registration. 0003571

Summary of the Post-approval Requirements: The PI and FA must read and abide by the post-approval conditions (Refer "*Quick Links*" in the bottom):

- *Final Report:* The Faculty Advisor (FA) is responsible for submitting a final report to close-out this protocol before <mark>12/31/2022</mark>; if more time is needed to complete the data collection, the FA must request an extension by email. <u>REMINDERS WILL NOT BE SENT</u>. **Failure to close-out (or request extension) may result in penalties** including cancellation of the data collected using this protocol or withholding student diploma.
- *Protocol Amendments*: IRB approval must be obtained for all types of amendments, such as:
  - o Addition/removal of subject population and sample size.
  - o Change in investigators.
  - o Changes to the research sites – appropriate permission letter(s) from may be needed.
  - o Alternation to funding.
  - o Amendments must be clearly described in an addendum request form submitted by the FA.
  - o The proposed change must be consistent with the approved protocol and they must comply with exemption requirements.
- *Reporting Adverse Events:* Research-related injuries to the participants and other events , such as, deviations & misconduct, must be reported within 48 hours of such events to compliance@mtsu.edu.
- *Research Participant Compensation:* Compensation for research participation must be awarded as proposed in Chapter 6 of the Exempt protocol. The documentation of the monetary compensation must Appendix J and MUST NOT include protocol details when reporting to the MTSU Business Office.
- *COVID-19:* Regardless whether this study poses a threat to the participants or not, refer to the COVID-19 Management section for important information for the FA.

COVID-19 Management:
The FA must enforce social distancing guidelines and other practices to avoid viral exposure to the participants and other workers when physical contact with the subjects is made during the study.

- The study must be stopped if a participant or an investigator should test positive for COVID-19 within 14 days of the research interaction. This must be reported to the IRB as an "adverse event."
- The FA must enforce the MTSU's "Return-to-work" questionnaire found in Pipeline must be filled and signed by the investigators on the day of the research interaction prior to physical contact.
- PPE must be worn if the participant would be within 6 feet from the each other or with an investigator.
- Physical surfaces that will come in contact with the participants must be sanitized between use
- **FA's Responsibility:** The FA is given the administrative authority to make emergency changes to protect the wellbeing of the participants and student researchers during the COVID-19 pandemic. However, the FA must notify the IRB after such changes have been made. The IRB will audit the changes at a later date and the PI will be instructed to carryout remedial measures if needed.

Post-approval Protocol Amendments:
The current MTSU IRB policies allow the investigators to implement minor and significant amendments that would not result in the cancellation of the protocol's eligibility for exemption. <mark>*Only THREE procedural amendments will be entertained per year*</mark> *(changes like addition/removal of research personnel are not restricted by this rule).*

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

Post-approval IRB Actions:
The following actions are done subsequent to the approval of this protocol on request by the PI or on recommendation by the IRB or by both.

Date	IRB Action(s)	IRB Comments
NONE	NONE.	NONE

Mandatory Data Storage Requirement:
All research-related records (signed consent forms, investigator training and etc.) must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data must be stored for at least three (3) years after the study is closed. Additionally, the Tennessee

State data retention requirement may apply (*refer "Quick Links" below for policy 129*).   Subsequently, the data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects. **The IRB reserves the right to modify/update the approval criteria or change/cancel the terms listed in this notice**. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:
- Post-approval Responsibilities: http://www.mtsu.edu/irb/FAQ/PostApprovalResponsibilities.php
- Exemption Procedures: https://mtsu.edu/irb/ExemptPaperWork.php
- MTSU Policy 129: Records retention & Disposal: https://www.mtsu.edu/policies/general/129.php

Appendix B: Informed Consent Form

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd, Murfreesboro, TN 37129

INFORMED CONSENT – RESEARCHERS' DISCLOSURES
(Part A – Participant's Copy)

Study Title	*Click and Enter Title*	Office Use
Principal Investigator	**Enter PI's Name**	*IRB ID: NOT APPROVED*
Faculty Advisor	Enter FA's name if PI is a student - Type "N/A" if otherwise	Approval Date: mm/dd/yyyy
Contact Information	PI's email and telephone number	Expiration Date: N/A

Dear Participant,

On behalf of the research team, the Middle Tennessee State University (MTSU) would like to thank you for considering to take part in this research study. You have been contacted by the above identified researcher(s) to enroll as a participant in this study because you met its eligibility criteria.

This consent document describes the research study for the purpose of helping you to make an informed decision on whether to participate in this study or not. It provides important information related to this study, possible interventions by the researcher(s) and proposed activities by you. This research has been reviewed by MTSU's internal oversight entity - Institutional Review Board (IRB) - for ethical practices in research (visit www.mtsu.edu/irb for more information).

As a participant, you have the following rights:
- You should read and understand the information in this document before agreeing to enroll
- Your participation is absolutely voluntary and the researchers cannot force you to participate
- If you refuse to participate or to withdraw midway during this study, no penalty or loss of benefits will happen
- The investigator MUST NOT collect identifiable information from you, such as, name, SSN, and phone number
- The researcher(s) can only ask you to complete an interview or a survey or similar activities and you must not be asked to perform physical activities or offer medical/psychological intervention
- Any potential risk or discomforts from this study would be lower than what you would face in your daily life

After you read the following disclosures, you can agree to participate in this study by completing "Part B" of this informed consent document. You do not have to do anything further if you decide not to participate.

1. What is the purpose of this study?
<Type or Paste - Do not Leave Blank>

2. What will I be asked to do in this study?
<Type or Paste - Do not Leave Blank>

3. How many times should I participate or for how long?
<Type or Paste - Do not Leave Blank>

4. What are the risks and benefits if I participate?
<Type or Paste - Do not Leave Blank - INCLUDE INFORMATION ON ANY COMPENSATION>

IRBF004IC – Informed Consent EXEMPT

IRB ID:
APPROVAL DATE:
EXPIRATION DATE: N/A

5. What will happen to the information I provide in this study?
<Type or Paste - Do not Leave Blank>

6. What will happen if I refuse to participate and can I withdraw if I change my mind in the middle?
<Type or Paste - Do not Leave Blank>

7. Whom can I contact to report issues and share my concerns?
You can contact the researcher(s) by email or telephone (**Enter email and telephone numbers for both PI AND FA**). You can also contact the MTSU's Office of Research Compliance by email – irb_information@mtsu.edu.
Report compliance breaches and adverse events by dialing 615 898 2400 or by emailing compliance@mtsu.edu.

_____
INVESTIGATOR's SIGNATURE   FACULTY ADVISOR's SIGNATURE   DATE

NON-IDENTIFIABLE PARTICIPANT ID# _____

Confidentiality Statement:
All efforts, within reason, will be made to keep the personal information in your research record private but total privacy cannot be promised, for example, your information may be shared with the MTSU IRB. In the event of questions or difficulties of any kind during or following participation, you may contact the Principal Investigator as indicated above. For additional information about giving consent or your rights as a participant in this study, please feel free to contact our Office of Compliance at (615) 898 2400.

Compensation:
Unless otherwise informed to you by the researcher(s), there is no compensation for participating in this study. The investigator must disclose if the participant would be compensated in the benefits section.

Study-related Injuries:
MTSU will not compensate for study-related injuries.

Exemption Criteria:
This study was submitted to the MTSU IRB – an internal oversight entity to oversee research involving human subjects. The IRB has determined that this investigation consists of lower than minimal risk and it is exempt from further IRB processes based on the criteria: "Choose a category."

<p style="text-align:center;color:red;">Note to the Participant</p>

You do not have to do anything if you decide not to participant in this study. But if wish to enroll as a participant, please complete "Part B" of this informed consent form and return it to the researcher. Please retain the signed copy of "Part A" for your future reference.

Appendix C: Site Authorization

Mt. Pleasant High School
600 North Greenwood Street
Mt. Pleasant, Tennessee 38474
931-379-5583
Fax: 931-325-2110

Dr. Ryan B. Jackson
Principal

Eric Hughes
Assistant Principal

600 Greenwood St

Mt. Pleasant, TN

38474

5/7/2021

Dear MTSU IRB:

On behalf of Mt Pleasant High School I am writing to grant permission for Leticia Skae-Jackson, a graduate student of MTSU, to conduct her online research titled, "Can Collaborative Professional Development Impact Teachers' Knowledge and Perceptions of their Self-efficacy Beliefs Regarding Vocabulary Instruction?" I understand that Leticia Skae-Jackson will work with teachers at the research site, Mt. Pleasant High School over the period of five PD sessions beginning July 20, 2021. We are happy to participate in this study and contribute to this important research.

Sincerely,

Executive Lead Principal
Mount Pleasant High School

Appendix D: Instrument #1: Self-Perception Survey

(pre- and post-)
Secondary Teacher Perceptions of Vocabulary Instruction within the Classroom

The following 14 statements relate to your literacy and vocabulary instruction opinions and how your instruction fits your classroom practices. Select the response that best corresponds to what degree you agree with each statement.

Response Key SD) Strongly Disagree; (D) Disagree; (N) Neutral; (A) Agree; (SA) Strongly Agree.	
1. I define the term "literacy" as a person's knowledge of a particular subject or skill, for example, "vocabulary literacy."	SD D N A SA
2. Every educator is a literacy instructor.	SD D N A SA
3. I regularly collaborate with other classroom teacher on joint lessons to support literacy standards, for examples academic vocabulary knowledge.	SD D N A SA
4. I have the ability and training necessary to motivate students to improve their vocabulary knowledge.	SD D N A SA
5. Increasing literacy proficiency levels should focus in secondary (middle and high) schools.	SD D N A SA
6. Vocabulary knowledge is the essential factor in how well students can read.	SD D N A SA
7. I consider the incorporation of literacy and vocabulary instruction to be a major responsibility of my job.	SD D N A SA
8. I regularly collaborate with other classroom teachers on joint lessons, which include reading and vocabulary comprehension strategies.	SD D N A SA
9. My training and my coursework during my education preparation gave me the skills to effectively teach academic vocabulary	SD D N A SA
10. I define the term "literacy" as the ability to read with at least a minimum level of proficiency.	SD D N A SA
11. I consider vocabulary instruction a pivotal part of literacy instruction.	SD D N A SA
12. I consider the teaching and support of reading and vocabulary comprehension strategies a major responsibility of my job.	SD D N A SA
13. My administrator values my role in supporting student literacy achievement objectives.	SD D N A SA
14. I am treated as an equally other classroom teacher when planning and designing lessons that support school literacy achievement goals.	SD D N A SA

Appendix E: Instrument #2: Teacher Knowledge of Vocabulary Survey (TKVS)

(Adapted from Duguay et al. (2016)

Background Information

What content area do you teach?

	TRUE	FALSE	I DON'T KNOW
1.Students benefit from vocabulary instruction that incorporates both definition and contextual information.			
2.Using word parts is a helpful strategy for students to figure out unknown words.			
3.Students can generally identify the words they do not know from a text that they are reading.			
4.Many words in English have multiple meanings.			
5.There is no relationship between instruction in individual words and the quality of students' writing.			
6.College-and-career-ready students have a reading vocabulary pf approximately 5,000 words when they graduate from high school.			
7.Effective instruction in word-learning strategies should include ongoing classroom activities that incorporate the strategies.			
8.Students with strong reading comprehension tend to able to use context for learning vocabulary.			
9.Teaching individual words is ineffective for increasing a students' comprehension of text selections containing those words.			
10.Having more extensive vocabulary has little effect on reading comprehension.			
11.When teachers help students move words from their reading vocabulary to their writing vocabulary, students become more precise communicators.			
12.A single instance of a word in context is often sufficient to reveal its full meaning.			
13.Children with larger vocabularies tend to learn more vocabulary incidentally than children with smaller vocabularies.			
14.Research studies show that vocabulary knowledge is one factor that influences reading comprehension.			

Appendix F: Syllabus Vocabulary Instructional PD

INSTRUCTOR

Leticia Skae-Jackson

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OVERVIEW

This course is an overview of evidence-based vocabulary instructional strategies with specific application to the instructional practices for content area secondary teachers.

REQUIRED TEXT

(PDF copies of texts will be provided)

Graves, M. F., Baumann, J. F., Blachowicz, C. Z., Manyak, P., Bates, A., Cieply, C., & Von Gunten, H. (2014). Words, words everywhere, but which ones do we teach? The Reading Teacher, (5), 333.

Marzano, R. J. (2004). Building background knowledge for academic achievement: research on what works in schools. Association for Supervision and Curriculum Development. https://archive.org/

CLASS WEBSITES ARE IN CANVAS

Cohort 1 https://canvas.instructure.com/courses/3170868
Cohort 2 https://canvas.instructure.com/courses/6325093

COURSE SCHEDULE

SESSIONS	AREA OF FOCUS
1	Pre-surveys and introduction to vocabulary importance; five essential elements to implementing effective vocabulary instruction
2	Tiered words and content specific engagement
3	Marzano 6 Step process for vocabulary instruction
4	Content area focus: logic and prediction, word classification, synonyms, etc.
5	Reflection and post-surveys

HOMEWORK POLICY

Light reading will be given as homework after session 1.

LEARNING OUTCOMES

Upon completion of this course, participants will be able to:

a. Understand the importance of vocabulary instruction in all content areas
b. Apply vocabulary instructional strategies within their content-specific classrooms

ADDITIONAL INFORMATION

This PD will fulfill the requirement of district in-school PD expectations. As an expectation of the district, PDs are to be completed in-person. After completion of all five sessions of the PD, administrators will be notified of your course completion.

Appendix G: Literature Review Articles

Research	Intent	Participants	Length	Treatment	Measure	Results	Limitation
Munro (1999), Learning More About Learning Improves Teacher Effectiveness.	Use three aspects of teacher professional development to improve students' educational outcomes. 1) Direct instruction 2) Peer coaching/collaboration 3) Reflection	Secondary teachers n=32, from 3 different schools in Melbourne	N/A	Workshop model of PD given for educational theory, then collaborative/reflective PD 12 teacher lessons were analyzed.	Quantitative	Mean number of effective teacher behaviors increased after completing the program (F (1,31) =37.8, p<.01)- significant Teacher knowledge increased. Of 127 students' scores, 75% of students showed substantial gains.	Which teaching behaviors had the most impact? The students' scores were summarized and taken from a standardized assessment, but could other variables be at play?
Gregory (2010), Teacher Learning on Problem-Solving Teams.	Elementary teachers from 14 Southeast elementary schools collaborated on how to improve targeted students' deficits such as behavior or poor standardized test scores.	34 elementary teachers from 14 Southeastern elementary schools	Three months	N/A	Mixed methods	60% of teachers reported feeling like their teaching had improved & 40% reported frustration. Meeting records fell into two codes: 1) team offered input on interventions 2) did data reflect student progress	Quantitative measurement measures teachers' perceptions of improvement but not actual behavioral improvement or student educational progress.

Research	Intent	Participants	Length	Treatment	Measure	Results	Limitation
Levine & Marcus (2010), How the Structure and Focus of Teachers' Collaborative Activities Facilitate and Constrain Teacher Learning.	Six teachers from one school, all different subject areas, collaborated on daily foci. (Ex.- Monday= analyzing student data, Wednesday and Thursday= social/academic strategies)	Six teachers from one school	N/A	Collaborative meetings	Qualitative	Structure of activity within the meetings and meeting's focus can either hinder or encourage teacher collaboration	Measuring effectiveness seemed vague
Cajkler et al. (2014), Lesson Study as a Vehicle for Collaborative Teacher Learning in a Secondary School	Induct teachers into lesson-study framework program. Teachers collaborate to create lessons and analyze data from teaching practices and lessons	Four math teachers, three language teachers	Six months	Teachers participated in 2 PD sessions about lesson study, and then teachers worked in groups to plan collaboratively	Qualitative	Data separated into two sections 1) how teachers planned lessons together 2) how were two PDs about lesson study evaluated? Ten codes arose. Teachers acknowledged benefits and potential in the program	Rater reliability was at 85% and should have been at 90% Data came from observations and teachers' perceptions only. Teachers volunteered
Gutierez & Kim (2017), Becoming Teacher-Researchers: Teachers' Reflections on	Classroom-based action research. Teachers partnered with university professors.	15 public school science teachers (grades 1-6) All teachers were from the same	N/A	Classroom-based research methods	Qualitative	Theme 1: teachers' increased understanding of classroom dynamics	Teachers' perceptions were used, and further research needs to be done to see how

Research	Intent	Participants	Length	Treatment	Measure	Results	Limitation
Collaborative Professional Development.	Challenge the idea that classroom-based research is not a meaningful type of professional development.	school in the Philippines				Theme 2: shared ownership and involvement Theme 3: reflective practice	effective this type of PD is
Clary et al. (2012), Literacy Learning Communities in Partnership	To understand how learning communities can affect teachers' learning about literacy practices.	Seven teachers from two rural high schools	One school year	Literacy learning community	Mixed methods	Teacher interviews, surveys, classroom artifacts, and teacher portfolios were examined. PLCs are effective, especially for teaching reading.	Effectiveness was determined by teachers' perceptions and not by students' academic progress.
Gersten et al. (2010), Teacher Study Group: Impact of the Professional Development Model on Reading Instruction and Student Outcomes in First Grade Classrooms.	Investigate teacher perceptions of TSG and collaboration. Investigate the impact of TSG on teachers' vocabulary instruction and students' vocabulary academic outcomes.	19 elementary schools (10 TSG, nine control) 81 teachers (39 TSG, 42 control) 468 students (217 TSG, 215 control)	One school year	TSG (Teacher Study Group) similar to a PLC	Mixed methods	Analysis of data showed marginally significant effects on students' oral vocabulary in the TSG group. TSG teachers outperformed control teachers in vocabulary instruction knowledge. TSG teachers showed improvement in classroom instructional practices through observations. No significant effect in trust of collaboration with peers in teachers.	More gains were seen at the teacher level and not at the student level, where the need is most critical. The intervention focused more on changing teacher behaviors and knowledge, and student learning was indirect.

Research	Intent	Participants	Length	Treatment	Measure	Results	Limitation
Wilson et al. (2010), Supporting Students With Language Learning Difficulties in Secondary Schools Through Collaboration: The Use of Concept Maps to Investigate the Impact of Teachers' Knowledge of Vocabulary Teaching.	Investigate if collaboration with SLT affects teachers' instructional knowledge through analyzing teachers' concept maps (CMs)	Three secondary teachers from two schools. Teacher A- Geography, Teacher B- Modern Studies, and Teacher C-	Ten weeks	Collaborative work done with teachers and speech and language therapists. Teachers did a pre-collaborative concept map and a post-collaborative concept map.	Qualitative	Teacher B and C CMs appeared to show a deeper understanding of robust vocabulary instruction. Teacher A showed some growth with collaboration but will require more support.	The study was designed as a preliminary measure. The effects cannot be generalized to all teachers. Lack of a control in the experiment, so one cannot assume that the teachers' changes were due to collaboration.
Gwinn & Watts-Taffe (2017), The Impact of Vocabulary Focused PLC and Research-Based Practices in Teacher and Student Learning	Investigate the impact of vocabulary instruction PLC on teacher and student learning	Four Humanities teachers (year 1), 11 teachers with three from the previous year, elementary grades, and 1,370 elementary students	Two years	PLC approach			
Carter et al. (2016) Secondary Teachers' Reflections From a Year of Professional Learning Related to Academic Language	Investigating the aspects of PL that most influence teacher knowledge and practice related to academic language (vocabulary) and investigating how teachers' beliefs about academic language change	25 teachers from all content areas ranging from English to Special Education	One year	PL initiative focused on supporting teachers in disciplinary language instruction	Qualitative data (entry and exit surveys and classroom observations)	Teachers' understanding of academic language deepened, and the importance they placed on academic language increased.	This research was only for exploring PL initiatives, and there was no control group.