Abstract

By 2044, more than half of all Americans are projected to speak a language that is not English. These English language learners (ELLs) are challenged with learning academic English in order to be proficient. However, many mainstream teachers are not professionally trained to support their academic language development. This was the case at the preschool through Grade 8 school located in New Jersey that was part of the study. The needs assessment conducted at the school showed that mainstream teachers would benefit from increased knowledge and explicit instructional strategies to foster academic English vocabulary development in all content areas.

Based on these findings, the researcher designed and implemented a teacher study group focused on increasing teacher knowledge of second language acquisition, academic vocabulary development, and dialogic pedagogies. Teachers engaged in activities that included reading articles, discussions, coplanning lesson plans and implementing two instructional strategies to increase ELLs vocabulary development and academic language use. The group was composed of 20 teachers who participated in the intervention for a duration of 11 weeks. A mixed method study using both qualitative and quantitative methods was used to assess the process and outcomes of the intervention. Findings included a high level of collegial interaction and participant responsiveness. The participants stated an increase in self-efficacy and perceived preparation to teach ELLs and confidence in increasing ELLs academic vocabulary development. Implications of the findings, limitations and future research are discussed along with the limitations of this study.

Keywords: Explicit vocabulary instruction, teacher knowledge of vocabulary, academic vocabulary instruction in content areas, second language acquisition, dialogic strategies

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Doctor of Education Program
Dissertation Approval Form

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EFFECTIVE PROFESSIONAL LEARNING FOR MAINSTREAM TEACHERS TO SUPPORT ENGLISH LANGUAGE LEARNERS ACADEMIC ENGLISH DEVELOPMENT

The student has made all necessary revisions, and we have read and approve this dissertation for submission to the Johns Hopkins Sheridan Libraries as partial fulfillment of the requirements for the Doctor of Education degree.

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April 3, 2023

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Dedication

This dissertation is dedicated to all mainstream teachers who want to support English language learners. By sharing the outcomes of the interactive pedagogical model that can be used in mainstream classrooms for both native English speakers and ELLs, I hope teachers are encouraged to experiment with this approach.

My professional support system includes Dr. Barbara Seidl who has guided me every step of the way in my Ed. D journey.

My personal support system includes my husband Dr. Raghu Menon, my son Roshun Menon, Mrs. Karen Yurman, Mr. Donald Seeley, and the staff at the school who have championed my desire to pursue this degree. I am grateful for their understanding, encouragement, and support.
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I would like to acknowledge my advisor Dr. Barbara Seidl for her singular commitment, dedication, and patience by being my mentor, advisor and academic coach. Thank you for your unwavering conviction in my abilities. The support of the doctoral committee who include Dr. Chris Eccles and Dr. Laura Shaw has made this journey come to fruition and truly rewarding.
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Executive Summary

The focus of this mixed method study was to examine the effectiveness and impact of the teacher study group (TSG) activities in increasing mainstream teachers’ knowledge and strategies to support the academic vocabulary development of English language learners (ELLs). Twenty K–8 teachers engaged in the TSG cycle of activities to learn about second language acquisition, academic vocabulary development, and dialogic strategies. Activities included readings, discussions, reflection posts, coplanning lessons that incorporated new strategies, and implementing the lessons. Both quantitative and qualitative data were collected to evaluate perceived preparation, teacher knowledge of vocabulary instruction, and change in teacher self-efficacy.

Problem of Practice

Mainstream teachers have not received enough training or support to provide instruction to build the academic English language in ELLs (de Jong, 2013; Harklau, 2000; Harper & de Jong, 2004). Research findings show that the success of ELLs in mainstream classrooms depends on (a) the teachers’ knowledge about language acquisition, (b) the components of academic English and providing differentiated instruction tailored to student levels in specific subjects (Estrada, 2014), (c) teacher understanding of how oral language development can be fostered using dialogic pedagogy (Gupta & Lee, 2015), and (d) knowing the ways of using direct explicit instruction of academic vocabulary to facilitate ELL comprehension in content areas (Schleppegrell, 2012).
Theoretical and Conceptual Frameworks

The major theoretical framework of the study was teacher self-efficacy and Bandura’s (1977) theory of social learning as it related to positively impacting efficacy. A conceptual framework was drawn from the initial literature review and the needs assessment.

Teacher Self-Efficacy

Teacher beliefs and their sense of efficacy influence their effectiveness as teachers. According to researchers, teachers’ self-efficacy is one of the few individual teacher characteristics that reliably predicts teacher practice and student outcomes (Poulu et al., 2018; Tschannen-Moran & Johnson, 2010). Additionally, teacher self-efficacy is critical for supporting teacher learning, improving instructional practices and increasing student achievement (Barni et al., 2019; Caprara et al., 2006; Klassen et al., 2009; Klassen & Tze, 2014).

It was important for the researcher to determine the most effective professional development and understand what activities will influence teacher self-efficacy. The social theory of learning postulated by Bandura (1977) highlights four major influences on self-efficacy: vicarious experiences, verbal/social persuasion, physiological arousal, and mastery experiences (Tschannen-Moran et al., 2011).

Professional Development and Teacher Self Efficacy

Connecting the theory of social theory of learning to teacher self-efficacy provided the theoretical framework to plan the activities for the TSG. Evidence from existing research show that teachers make judgements of their self-efficacy based on the feedback and verbal encouragement they receive from colleagues, supervisors, administrators (verbal/social persuasion), success and failures of other teachers and mentors (vicarious experiences), perceptions from past teaching experiences (mastery experiences), and their personal
physiological and emotional state (Tschannen-Moran et al., 1998). Moreover, there is empirical evidence that, when a professional development workshop facilitates the implementation of new knowledge and strategies, it contributes to positive changes in teacher self-efficacy (Ross, 1994).

**Conceptual Framework**

The conceptual framework was derived from a literature review on the factors that influence teachers’ abilities to support ELLs and a needs assessment study. This led to the identification of factors critical to supporting teachers’ ability to promote academic language development in ELLs. Additionally, the conceptual framework shows the relationships among teacher beliefs, knowledge, and instructional practices and their influence on the academic vocabulary development and language use of ELLs. Specifically, it provides a road map correlating teachers’ knowledge of English language development in ELLs, including knowledge about second language acquisition, explicit vocabulary instruction and dialogic pedagogy and ELLs’ academic English proficiency.

**Intervention Design: Synthesis of Relevant Research Literature**

A review of the literature was used to design an intervention. This included literature on the key elements of effective professional development models and various formats of professional learning communities that promote teacher self-efficacy. According to Darling-Hammond (2017) effective professional development (a) is content-focused, (b) incorporates active learning, (c) supports collaboration, (d) uses models of effective practice, (e) provides coaching and expert support, (f) offers feedback and reflection, and (g) is of sustained duration. Evidence from research also indicates that job-embedded professional development enables teachers to apply what they learn into their daily practice and actively engage in professional learning (PL) to promote change in instructional practice and student learning (Desimone &
This also increases teacher self-efficacy and their perceived preparation to support student learning.

**Professional Learning Communities**

Three common professional learning formats to engage teachers in analyzing and learning from their own practice were examined. They were (a) the cohort model, (b) the virtual professional learning community (VPLC) model, and (c) the teacher study group (TSG). Teachers engaged in either lesson study, teacher action research, cognitively guided instruction, and instructional coaching in these formats (Youngs & Lane, 2014). Based on the literature the researcher decided to use the teacher study group model for the intervention. This is because prior studies have found significant effects on teacher knowledge and practice from participation in teachers study groups related to instruction in reading and vocabulary development (Ernweb.com, n.d.).

**Research Purpose and Objective**

The purpose of the study was to examine the impact of professional development using the TSG approach on mainstream teacher knowledge and instructional practices to meet the academic vocabulary development of ELLs.

**Research Questions**

The following research questions (RQ) targeted both the process of the intervention and the outcomes or impact of the intervention.

RQ1: To what extent did the implementation of the TSG align with the intended intervention design?

RQ2: To what extent did teachers participate in the professional development as planned?
RQ2a: What elements of the TSG did participants identify as supports and barriers in developing knowledge of second language development, supporting academic vocabulary development in ELLs and using active pedagogies?

RQ3: While participating in the TSG, what did teachers learn about second language development, supporting academic vocabulary development in ELLs, and using dialogic pedagogical strategies?

RQ4: While participating in the TSG, how do teachers integrate academic vocabulary instruction and dialogic pedagogical strategies in their teaching?

RQ5: How do teachers perceive their efficacy in supporting academic vocabulary development before and after participation in the TSG?

**Research Design**

A mixed methods convergent design was used to evaluate the implementation and impact of the TSG. The research questions guided the research design, data collection instruments, data analysis, and data interpretation. Process evaluation measures included assessment for fidelity of implementation using an adherence checklist, participant responsiveness checklist, elements of intervention checklist. Outcome evaluations were made using both qualitative methods like teacher reflection posts, researcher notes from cohort discussions, classroom observation logs and lesson plans. Quantitative methods included survey responses and frequency tally. By using multiple forms of data, the researcher gained additional insights and opportunity to triangulate and increase the credibility (Creswell & Creswell, 2017; Lochmiller & Lester, 2017).
Researcher Positionality

I am the researcher, founder and owner of the school, and multilingual. Additionally, my position as a multilingual researcher makes me an indigenous insider with an experiential understanding of the behaviors and learning sequence of ELLs. While there are strengths in having an insider perspective, the perception of power and potential research bias needed to be addressed. I approached these two issues in the following ways. First, the vice principal of the school and Grade 4 teacher, Mrs. Karen Yurman, held the responsibility for recruitment of participants, inviting them via email to participate in the study. This email explicitly stated that participation in this study was voluntary even though the TSG PD was part of the school practice. Interested teachers were directed to a non-conflicted designee, my dissertation advisor, for more information and to ask questions. Consent forms were returned to the non-conflicted designee.

The use of a priori codes and protocol checklists for lesson plans and classroom observation logs provided a degree of objectivity to data collection allowing for more control over researcher bias. The use of both qualitative and quantitative data sets allowed for triangulation which also controlled for bias.

Intervention

The TSG was implemented from February to April 2022, with a preintervention session, asynchronous access to resources (reading, pedagogy, videos), two face-to-face discussion sessions, lesson planning cohort meetings, two implementation sessions for new instructional strategies. There were two cycles of activities. Cycle 1 included (a) reading about second language acquisition and academic vocabulary development, six-step vocabulary method, (b) face to-face discussions about second language acquisition and vocabulary
development to daily practice, (c) coplanning lesson plans incorporating the six-step method to content, (d) implementing the lesson plan, and (e) posting reflections two times (one after reading and one after implementing lesson). Cycle 2 included (a) reading about dialogic strategies that included the jigsaw method and opinion stations, (b) face-to-face discussions in cohort groups to connect new learning about dialogic strategies to daily practice, (c) coplanning lesson plans incorporating dialogic strategies, (d) implementing the lesson plan, and (e) posting reflections two times (one after reading and one after implementing lesson).

**Data Collection and Analysis**

Data collection measures included both qualitative and quantitative methods. Reflection posts, discussion posts, researcher notes, lesson plans and classroom observations were used to collect qualitative data. Analysis of the qualitative data was conducted using both a priori and emergent coding. Quantitative data included an adherence checklist, participant responsiveness checklist, elements of intervention questionnaire and two surveys. Two surveys were used (a) the Teachers Perceived Preparation and Self-Efficacy to Teach ELL survey (TPPSE; Durgunoglu & Hughes, 2010) and (b) the Teacher Knowledge of Vocabulary Instruction survey (TKVS, Duguay et al., 2016). The quantitative data were analyzed using descriptive statistics and frequency tally. After analyzing the qualitative and quantitative data separately, they were merged for further analysis and the findings were correlated to the research questions.

**Findings**

The findings from the process evaluation included data to capture the fidelity of implementation. Teacher responses to the adherence to intervention checklist showed that the intervention took place as planned, but two activities—coplanning sessions and the discussion
posts with other teachers—did not take place as planned; instead, teachers continued to co-plan lessons in their regular cohort meetings and some teachers commented on others’ posts in their reflection posts. Possible modifications in the intervention design include allocating more time for lesson planning and adding structure and an example of a discussion post for teachers to model after.

Participant responsiveness of the 20 was 100% in all activities, which were face-to-face discussions, coplanning lesson plans, implementing strategies, and posting reflections. Teacher responses to the Elements of Intervention Questionnaire indicated a deep level of engagement where teachers stated that the face-to-face discussions and coplanning activities supported their learning the most. Another future modification could be to add a cycle of teaching to solidify their learning and practice.

Findings from the reflection posts, classroom observation logs, lesson plans and pre and post survey responses from the teachers provided evidence that by participating in the intervention teachers increased their knowledge and strategies to support ELLs’ academic vocabulary development and oral language use. Based on the survey responses to the TPPSE, teachers increased their perceived preparation and self-efficacy to teach ELLs and based on their responses to the TKVS survey, their knowledge of vocabulary instruction increased. Key aspects of their learning included (a) extending vocabulary and language development strategies across all content areas; (b) implementing the six-step vocabulary instruction method (Marzano & Pickering, 2005) to explicitly teach vocabulary, which demonstrated increased student comprehension of content; (c) using multidimensional approaches, linguistic and non-linguistic tools to provide insights on student learning; (d) using dialogic strategies to
reinforce academic language use within the classroom; and (e) promoting interaction between native speakers and ELLs and increased language proficiency.

Teacher responses to the TPPSE survey about perceived preparation and self-efficacy showed the effectiveness of the intervention. Based on their individual appraisal, the majority of the teachers had increased confidence in (a) their knowledge of second language acquisition, (b) preparation to teach ELLs, and (c) tailoring instruction to service ELLs’ language development. Additionally, the cohort structure provided collegiality, support, and motivation to learn.

While the conceptual framework was engineered to focus on teacher knowledge of second language acquisition, direct explicit vocabulary instruction, and dialogic strategies, the teachers would benefit from adding two more features: (a) knowledge about English grammar and (b) tenets of communication in diverse cultures. Future research could be to replicate this pedagogical sequence of direct explicit vocabulary instruction followed by dialogic strategy in diverse school settings—elementary and middle schools that include both ELLs and native English speakers. Overall, there is a dearth of studies that exploit a single curricular approach that is easy to implement within mainstream classrooms. This study adds to the body of research that addresses the needs of ELLs in mainstream classrooms and provides a solution for mainstream teachers to support academic English development in ELLs.
Chapter 1

Mainstream Teachers and Academic Language Development of English Language Learners

The United States of America has always been a land of immigrants. Starting with the early settlers from Europe to the last decade, America continues to attract immigrants from all over the world (Orfield & Coughlan, 2017; Ovando, 2003; Pew Research Center, 2015). Currently, one in five school-aged children in the United States speaks a language other than English at home (Camarota & Zeigler, 2015). These English language learners (ELLs) are transforming schools across the country as the fastest-growing official subgroup of students, in cities as well as rural communities, in traditional immigrant-receiving areas as well as new immigrant destinations (Orfield & Coughlan, 2017; Park et al., 2017; Pew Research Center, 2015; Umansky et al., 2016).

New Jersey is one of the most ethnically diverse states in the United States with the largest population of Peruvians and Cubans in the country, along with very high numbers of Portuguese and Brazilian Americans, Hispanics, Arabs, African Americans, Asians, Chinese and Italian Americans (World Population Review, 2023). This ethnic diversity is reflected in the school populations of New Jersey, with most of these students classified as ELLS since their native language is not English (Orfield & Coughlan, 2017). The state has experienced a 24% increase in children between the ages of 1- and 8-years-old who are ELLs, and between 1989 and 2015, schools serving a majority nonwhite student population more than doubled from 22% to 46% (Orfield & Coughlan, 2017). Roughly half of these emerging bilingual students are classified as ELLs when they enter school, meaning they do not meet state or district criteria for English proficiency (Kena et al., 2016; Umansky et al., 2016). The increases in the enrollment of
ELLs combine with political, economic, and other educational trends to create a situation where many ELLs are placed fulltime or for most of the day in regular or mainstream classrooms (where teachers teach all subjects to students) rather than specialist language programs (Coady et al., 2011; de Jong, 2013; Zinth, 2013). In 2015, 34% of New Jersey schools were multiracial and multilingual, reflecting an increase in overall diversity in New Jersey schools, especially in the proportion of non-English speaking students (Orfield & Coughlan, 2017).

ELLs are challenged with learning not only conversational English, but also academic English, which is required to interpret and understand textbooks and school materials (de Jong, 2013; Fillmore & Snow, 2000; Reeves, 2006). The academic English proficiency of ELLs takes 3 to 5 years to develop and is not at the same level as native English speakers, contributing to an achievement gap (de Jong, 2013). Currently, the language instruction that ELLs receive in mainstream classrooms does not prepare them adequately for high academic achievement in English (de Jong, 2013; Gándara & Rumberger, 2009; Goldenberg, 2008; Harklau, 2000). Unlike the state certification requirements for bilingual or English as a Second Language (ESL) specialist teachers, only a limited number of districts reported such requirements for mainstream teachers (de Jong, 2013; Zinth, 2013). Also, many mainstream teachers are not trained in language and linguistics nor to teach ELLs specifically to meet their language development needs, and teachers vary greatly in their willingness to accommodate their instruction for ELLs to integrate language and content development (de Jong, 2013; Gupta, 2019; Khong & Saito, 2014; Lucas & Villegas, 2013). Additionally, many ELL students are unable to learn content material due to limited receptive and expressive vocabulary, and mainstream teachers are not familiar with instructional methods to explicitly teach vocabulary to ELLs (Gupta, 2019). ELLs,
therefore, are unable to get the necessary educational support to become proficient in academic English.

To improve education for these students, we must understand the characteristics of the ELL population within a larger context: how they are positioned in society and in schools, what has been learned about their educational needs, how well their needs are serviced in schools, and whether mainstream teachers are trained to adequately support ELLs language development. A review of existing research on best practices in schools and classrooms, including teacher pedagogy, will additionally help understand the deficiencies in the existing programs. Researchers have been consistent in highlighting the vital role teachers play in student learning outcomes (García et al., 2010; Khong & Saito, 2014; Pettit, 2011). Knowing that ELLs spend most of their time with mainstream teachers, teacher practices as they pertain to ELLs need to be examined, including their knowledge and beliefs, demographic characteristics, instructional practices, and challenges, obstacles, and successes in teaching ELLs.

**Problem of Practice**

Many ELLs are currently not proficient in academic English, and they spend most of their time in mainstream classrooms and mainstream teachers have not received training or support to provide instruction to support English language development in ELLs (de Jong, 2013; Harklau, 2000; Harper & de Jong, 2004). Thus far, most of the research and remedies for improving the academic English proficiency of ELLs have relied on policy initiatives (de Jong, 2013; Estrada, 2014; Zinth, 2013), particularly classification of students by English proficiency and language-based solutions (Markham & Gordon, 2007; Samson & Collins, 2012; Umansky, 2016b). Despite these measures, there is an achievement gap between ELLs and native English speakers and the existing language programs do not seem to resolve the challenges associated
with the English proficiency needs of ELLs (Coady et al., 2011; DelliCarpini & Alonso, 2014; Estrada, 2014; Henderson, 2019; Park et al., 2017). Therefore, it is important to examine the factors and causes, including mainstream teachers and their pedagogical practices, to help improve the academic language proficiency of ELLs.

The school in this context is a K-8 suburban school in New Jersey representing the demographics of the larger New York metropolitan area, with a large Asian and South Asian community and people from the Caribbean nations. Students from South Asia speak many different languages depending on the region. Most of the teachers are monolingual native English speakers and are not familiar with the language development trajectory of ELLs and the nuances in gaining academic English proficiency. This is a problem because ELLs need explicit and systematic instruction in understanding the meaning of words used within the context of literacy and content areas, but the teachers do not have the knowledge and skills to support their language development trajectory or to differentiate their instruction for ELLs.

**English Language Learner Definitions and Characteristics**

Federal law defines ELLs as anyone who is aged 3 until 21 years enrolled in elementary or secondary school who comes from an environment where a language other than English has a significant impact on the individual’s level of English proficiency (Gándara & Rumberger, 2009; Kena et al., 2016, Zinth, 2013). New Jersey law further defines this group as “Limited English Proficient” students whose primary language is not English and who have difficulty performing ordinary class work in English due to difficulty in spelling, reading, writing, or understanding the English language, as measured by an English language proficiency test (Orfield & Coughlan, 2017). Both definitions are broad and federal policies are focused singularly on English.
According to the Pew Research Center (2015), ELLs will make up more than 40% of the school population by 2030. To service the educational needs of ELLs, the federal government has laws and policies to guide the states and local school districts. All culturally and linguistically diverse learners, regardless of their differences, are grouped into one large classification called “English language learners” based on one condition: that their native language is different (Calderón et al., 2011; de Jong, 2013; Jiménez-Castellanos & García, 2017; Markham & Gordon, 2007). However, it is important to highlight that within the ELL classification, students exhibit diversity in (a) family background, (b) country of origin, (c) language spoken within the home, (d) parent education, (e) formal schooling and compulsory education experience, and (f) English proficiency (Jiménez-Castellanos & García, 2017).

Furthermore, within the large ELL group, there are subgroups whose needs are greater and currently not addressed by policies (Calderón et al., 2011; Menken & Kleyn, 2010). About 80% of second-generation immigrant children are long-term English language learners (LTELLs; Calderón et al, 2011; Zinth, 2013) and are still classified as limited English proficient (LEP) when they reach middle or high school, suggesting that preschool and elementary programs are not adequately addressing the basic needs of ELLs (Calderón et al., 2011; Menken & Kleyn, 2010).

About 20–30% of ELLs are recent migrants who represent a heterogeneous group ranging from highly schooled students who need to learn the academic English language vocabulary to students whose schooling was interrupted, sometimes for years, before coming back to the U.S., resulting in both literacy and subject matter gaps (Calderón et al., 2011). ELLs also include transnational English learners who return and attend school for a short period in their native countries and some ELLs who move within the city to different schools based on
parental financial constraints (Calderón et al., 2011). Lastly, refugee children who never attended school are yet another group of ELLs whose academic needs are much greater than servicing their language development needs.

The ways in which students are designated or re-designated in specific categories determine the number of students classified as ELLs, which informs federal funding allocations (de Jong, 2013; García et al., 2008; Jiménez-Castellanos & García, 2017). Unlike other categories of identification such as ethnicity, race, and gender, the ELL classification is fluid. Each state has different policies and mandates for ELLs and English proficiency scores, and children move in and out of being classified as an ELL according to various cut off scores and policies (García et al., 2008).

**Theoretical Framework**

The ecological systems theory (EST) by Bronfenbrenner (1992) provides a theoretical framework to understand the factors that influence teachers’ ability to support the academic language development of ELLs. The theory helps identify the factors and their overlapping influences in the issues related to ELLs’ academic English proficiency. These include the characteristics of the ELL within the larger chronosystem of the historical timeline, the impact of immigration, immigrant cultures, the positioning among cultures and the establishment of dominant ideologies. The exosystem level will include the historical impact of the United States educational mandates and policies and how it manifests in terms of educational opportunity for ELLs, resources available, and daily experiences. The macrosystem depicts the broad societal settings of the ELL, such as whether they are a large minority population of ELLs or isolated ELLs, and how their population density impacts access to language programs and quality teachers. The mesosystem includes the student-teacher interactions, teacher-administration
interactions, and teacher-parent interactions. The microsystem level examines teachers within this context, exploring factors that influence their beliefs, knowledge, and instructional practices to support ELLs. All these factors interact with each other and influence teaching and learning outcomes in ELLs.

**Figure 1**

*Theoretical Framework: Ecological Systems Theory*

Factors that impact Mainstream teachers’ ability to support ELLs academic English language needs. -EST

**Literature Review**

The education of ELLs is a complex process and involves their learning a second language while assimilating into a new culture and adapting to norms that may not overlap with their native culture (Cummins, 2012; Fillmore & Snow, 2000). This review synthesizes literature across a number of major areas to explore their influences on the academic English proficiency of ELLs. It begins with a look at historical influences and then explores how legislation and policies have impacted language use and language education. I next examine common structures
for delivering language instruction as well as examine the characteristics mainstream teachers bring to teaching ELLs. Finally, I provide a high-level overview of best practices and explore teacher preparation for ELLs. Finally, I examine the work and preparation of teachers, exploring factors that contribute to teacher beliefs, knowledge, and instructional practices with ELLs.

**Historical Perspectives on Language and Education**

The early history and demographics of the original settlers play a pivotal role in the language policy of the country and the role of language and its cascading effects either in serving as a unifying theme or to marginalize non-native English speakers (Castellanos & Leggio, 1983). Below I elaborate on the key themes that provide a chronological history of immigrant settlements and the pluralistic beginnings, to the emergence of an English-only agenda, and public education to enforce social conformity.

**Emergence of English-Only**

Political ideologies, educational reformists, school pedagogical practices and learning models of language acquisition have been at odds since the formation of this country (de Jong, 2013; Umansky, 2016a). The United States has always been a culturally and linguistically diverse country. From the late 19th century until today, there has been a steady stream of non-English immigrants into the United States (Castellanos & Leggio, 1983; de Jong, 2013; Ovando, 2003). Fifty-nine million immigrants came to the U.S. between 1965 and 2015, even more than during the great European immigration of the 19th and early 20th centuries (Pew Research Center, 2015). In 1965, 84% of the population was classified as non-Hispanic white. Hispanics represented 4%, while Asians were less than 1%. In contrast, in 2015 non-Hispanic whites accounted for 62% of the overall population, while Hispanics rose to 18% and Asians represented 6% (Pew Research Center, 2015).
Despite the increase in cultural diversity, Crawford (2000) stated that American society has not valued ethnic diversity, cultural plurality, other languages, or bilingualism. On the contrary, the vision of the founding fathers was to unify the country with one language, namely English, and promote common traditions and events to foster nationalism (Castellanos & Leggio, 1983; Ovando, 2003). Additionally, American ideologies have vacillated between assimilationist (monolingual) and pluralist (multilingual) views in terms of the country’s overarching position toward its linguistic and cultural diversity (de Jong 2013; Samson & Collins, 2012).

**Pluralistic Beginnings.** Pluralism is about supporting the use of languages other than English to embrace immigrants and cultural diversity (Coady et al., 2011; de Jong, 2013; Estrada, 2014; Ovando, 2003; Zinth, 2013). The early settlers from Europe spoke Spanish, French, German, Dutch, English, and several other northern European languages (Castellanos & Leggio, 1983; de Jong, 2013). In the country’s early years, Congress believed that to fight the British, we needed to be pluralistic, accepting of linguistic diversity, and avoid declaring an official national language (Ovando, 2003). Government policies encouraged the use of immigrant language at all levels (Castellanos & Leggio, 1983) and favored linguistic diversity to fight the monolingualistic British (Ovando, 2003). This pluralistic policy of Congress was reflected in the instructional pedagogy of schools, where there was explicit dual instruction in English and native language (Ovando, 2003). Additionally, scarcity of English-speaking teachers also provided an additional reason to continue with multilingual traditions (de Jong, 2013).

**English-Only Agenda.** Eventually, the formation of the new nation, establishing an American identity among the culturally diverse citizens and posturing of the majority Anglo-Saxon leadership gave way to the English-only doctrine (de Jong, 2013; Ovando, 2003). As the nation grew, due to the constant influx in immigrant populations from Asia and Russia, there was
a general sense that the differences manifested were greater than the similarities with early American settlers (Fass, 1980). The social problems slowly increased and did not support the mission of integrating these diverse cultures. Instead, it resulted in racial and ethnic stereotyping and cultural bigotry (Castellanos & Leggio, 1983). Eventually, in response to the cultural clashes and nationalist sentiments, amidst an increase in population, the founding fathers felt a need to shift from cultural pluralism to selective assimilation as in “English-only” language policy, which took place predominantly during the period from 1880 to 1960 (Castellanos & Leggio, 1983; Ovando, 2003).

The belief that English would unify the country and promote the American identity was promoted hand in hand with the notion that literacy in other languages was a hindrance to English immersion (Wink, 2011). However, the heterogeneous nature of the American population challenged the administrative goals of mass schooling (Fass, 1980). As a result, during the early 1900s, school officials needed to come up with an organizational system to group students to disseminate curriculum and provide instruction to the diverse population that included native English speakers and ELLs. This led to legislation and policies that provided a basis for public education. Below are key legislations and policies that play a significant role in the education of ELLs.

**Legislation and Policies Related to English Language Learners**

There are five major pieces of legislation that have impacted the education of ELLs: (a) the Bilingual Education Act, (b) 1974 Supreme Court verdict in response to the *Lau v. Nichols* class action suit, (c) *Castenada v. Pickard* case in 1981, (d) Proposition 227, (e) Every Student Succeeds Act (ESSA), and (f) No Child Left Behind (Parsi, 2016). Each is explored below.
The Bilingual Education Act

The landmark legislation that brought a pluralistic shift to the English only educational policy was the Bilingual Education Act (de Jong, 2013). The rebirth of bilingual education in the United States can be attributed to the influx of economically wealthy Cubans because of the Cuban revolution of 1959 (Ovando, 2003). The establishment and dissemination of two-way bilingual programs by Cuban bilingual teachers to the refugees and the government’s interest in maintaining the Cuban immigrants led to shifts in the educational policy (Ovando, 2003). To aid and monitor the education of English language learners through mother-tongue and English education, the federal government enacted the Bilingual Education Act (Title VII of the Elementary and Secondary Education Act) in 1968 (Wiese & Garcia, 1998). As school districts received federal funds, they were obligated to show compliance with the law to address the needs of ELLs (Parsi, 2016).

1974 Supreme Court Lau v. Nichols Decision

Additional policies that brought about changes and addressed the needs of English language programs include the 1974 Supreme Court case Lau v. Nichols, a class action suit representing 1,800 Chinese students (Frantz et al., 2014). The Lau v. Nichols lawsuit served as a landmark discrimination case against English-speaking teachers since the students could not understand the teachers' instruction, contributing to their achievement gap (Castellanos & Leggio, 1983; de Jong, 2013; Ovando, 2003). According to de Jong (2013), the Lau verdict resulted in the termination of the sink-or-swim practices (i.e., English immersion in mainstream classrooms without language support) and led to the Equal Educational Opportunities Act in August 1974. As a result of the landmark 1974 Lau v. Nichols Supreme Court decision, the court ruled that offering students of limited English proficiency the same teachers, textbooks, and
curriculum provided to their English-proficient peers violated the Civil Rights Act of 1964 because it denied them access to a comprehensible education (de Jong, 2013). This resulted in the creation of explicit guidelines, called “Lau remedies,” to identify language minority students, determine their English-language proficiency, specify pedagogical strategies, and provide implementation goals (de Jong, 2013).

1981 Castaneda v. Pickard Decision

The Castaneda v. Pickard court decision in 1981 was another landmark case, which helped bring more accountability measures to the schools by establishing a three-step test for determining (a) whether school districts were taking “appropriate action” for assessing programs serving language-minority students, which included evidence of programs based on sound educational theory, (b) what evidence there was of providing adequate resources and personnel in the school program, and (c) that programs must show evidence of sound practices and results, not only in language but also in content areas such as math, science, social studies, and language arts (Ovando, 2003).

Proposition 227

In the 1990's, the passage of Proposition 227 by California voters restored English as the primary medium of instruction for ELLs in that state, despite having the largest ELLs population in the country (Ovando, 2003). Proposition 227 and the establishment of English-only as the primary language of instruction for ELLs in California resulted in other states such as Arizona, Colorado, Washington, and Massachusetts instituting English only policies for language instruction (de Jong, 2013; Khong & Saito, 2014; Ovando, 2003). Studies in California, Arizona, and Massachusetts have demonstrated that ELLs’ academic language development and
achievement has not significantly improved over time because of the English-only laws (de Jong, 2013).

**Every Student Succeeds Act**

Every Student Succeeds Act (ESSA) was the next big policy initiative in 2015, that specifically addressed the needs of English language learners. Under ESSA, states must establish clear English language proficiency (ELP) standards. ESSA moved accountability for ELP from Title III of ESEA (Elementary and Secondary Education Act) to Title I (Parsi, 2016). With this provision, states needed to establish long-term goals for achievement that included ELL students and identify persistently failing schools for targeted or comprehensive reforms (Parsi, 2016). ESSA is more explicit than No Child Left Behind (NCLB) about ensuring that educators develop skills to serve ELL populations. For example, under the Title II state plan, states must (a) identify how educators are prepared to support ELLs, (b) make accommodations for ELLs in assessments, public reporting, and parental engagement, and (c) ensure that assessments and public outreach accommodate the needs of nonnative English speakers and their families (Parsi, 2016). However, to meet the mandates of legislations, court rulings, the Bilingual Education Act, and other educational policy, states need federal funds, without which they are unable to effectively implement language programs (Zinth, 2013).

**No Child Left Behind**

The No Child Left Behind (NCLB) Act broadened the scope by including ELLs in the assessment data for academic English proficiency and ushered in the standards driven, skill-based measurements and assessments. NCLB Title 1 required that elementary and secondary students in all states demonstrate adequate yearly progress to meet academic achievement standards; NCLB Title III required each state that receives funding under the act to raise the level
of English proficiency of ELLs and assess ELLs’ progress in learning English and attaining academic achievement standards (Frantz et al., 2014). Additionally, NCLB states that instructional standards and assessments must address the English language skills and proficiency needed to engage successfully in academic content (Frantz et al., 2014).

**Issues With Educational Policies**

Policy directives impact the language programs and instructional instruments offered, since federal funding is tied to school accountability and student performance. The NCLB mandated inclusion of ELL data in school data, which resulted in ELLs being placed in mainstream classrooms on the belief that immersion in English would boost their standardized test scores (Cadiero-Kaplan & Rodriguez, 2008). Schools also cut down the literacy curriculum to the basic, lower-level, discrete reading skills that are measured by the standardized test, thereby compromising ELLs attainment of academic English proficiency (Cummins, 2007; Sleeter & Stillman, 2005). These policies further marginalized ELLs by not addressing their needs and not providing alternate assessments that recognize their strengths, resulting in ELLs being mistakenly labelled as having language-based disabilities, leading to more referrals to special needs and higher drop-out rates among ELLs (Gándara & Hopkins, 2010). Additionally, evidence that ELLs proficiency levels lower overall school performance scores have proved to be detrimental to ELLs and feed into the belief that bilingualism is a liability (Escamilla et al., 2005).

**Inadequate Funding for English Language Learners’ Education**

While educational policies are the drivers to address the needs of ELLs, the funding mechanisms, making ELLs’ educational needs a national priority and the need for accountability measures are critical to improve the educational outcomes of ELLs. Educational policy drives the
funding of school programs. The quality and accountability of these programs, which includes ELLs and special populations, are in many ways dependent on this funding. As described in the previous section, there have been many policy initiatives that address the underachievement of ELLs and their English language proficiency. For example, under the Civil Rights Act of 1964 and the Equal Educational Opportunities Act of 1974, public schools are mandated to provide the academic and fiscal resources to help ELLs overcome language barriers and gain English fluency (Jiménez-Castellanos & García, 2017).

However, one problem with the successful implementation of these policies has been that they were not supported with adequate financial instruments (de Jong, 2013). For example, while the Bilingual Education Act recognized the merits of knowing a second language and created a policy mandate, it did not create a funding mechanism at the federal or state level to influence teacher education programs, the creation of curriculum, or provision of instructional resources to support the states in implementing these bilingual programs (Umansky, 2016a; Zinth, 2013). Without including financial instruments in policy directives to institute measures that improve the schooling of ELLs, closing the achievement gap is challenging (de Jong, 2013; Umansky, 2016a; Zinth, 2013).

Additionally, there are many inconsistencies in the policy directives leading to confusion and re-interpretation of policy mandates at the state and local level (Zinth, 2013). For example, the Common Core State Standards Initiative published information on adapting its standards for ELLs (Zinth, 2013), and the U.S. Department of Education’s Race to the Top Fund was created primarily as an incentive for states to adopt the common core standards (de Jong, 2013). However, according to civil rights groups, the fund does not include accountability measures for ELLs (Zinth, 2013). Not providing instruments to support ELL education in the funding
mechanism deprives states from adequate resources to implement programs that address the core curriculum requirements for ELLs.

**English Language Learners’ Education not a Priority for Policymakers**

It seems that policymakers do not understand the program components to meet ELL needs, despite an urgency to address the unprecedented increase of ELLs in schools and their widening achievement gap. The English-only policy approach of the United States’ educational policies (a) mandates English immersion for ELLs; (b) implicitly and explicitly influences language programs in schools, classroom environments, and proficiency standards; and (c) dismisses the complex process of second language acquisition and the needs of ELLs (de Jong, 2013; de Jong & Harper, 2005). The language needs of ELLs are consistently subordinate to the English-only directive. Over the last 3 decades, English-only policies have gained momentum, resulting in English becoming the official language for federal and state government agencies and workplaces (de Jong, 2013). According to Wink (2011), current educational policies position knowledge of other languages as subordinate to English, with Anglo-European values considered superior to other cultures.

Researchers have also pointed out that the definition of ELL per educational policy is too broad, considering that it represents students who speak different languages and come from different cultures (Jiménez-Castellanos & García, 2017; Umansky, 2016b). Additionally, current standardized assessments were created for native English speakers, and ELLs scores on these assessments may not be able to accurately reflect their true English proficiency (Jiménez-Castellanos & García, 2017). The policies and assessments fail to acknowledge that (a) the needs of these linguistically diverse students are different and (b) their English language proficiency is at varying levels, and one-size-fits-all language programs may not be able to meet their English
language development needs (Jiménez-Castellanos & Garcia, 2017). Scholars have argued that integrating content and language without sufficient teacher education and resources, risks diminishing ELL education to a set of strategies that fail to attend to students’ complex linguistic and cultural needs (de Jong & Harper, 2005; Harper et al., 2008).

**Types of English Language Learner Programs**

English language learners and their schooling are an outcome of historical events and related policies. These influence the classification of ELL students and the programs provided to them. Federal education code stipulates that students classified as ELLs must be provided English language development (ELD) instruction as well as meaningful access to grade-level academic content (Umansky, 2016a). ELD is direct instruction in the English language, designed to advance ELL’s competency in English and facilitate successful participation in academic subject areas in school (Saunders et al., 2013).

According to researchers, although some evidence indicates bilingual education is more effective, most empirical evidence suggests that English learners achieve about the same English proficiency whether they are placed in bilingual or English immersion programs (Barrow & Markman-Pithers, 2016). The differences between the two programs are that in bilingual programs teachers deliver instruction in both the native language and English to both ELLs and native English speakers and in English immersion programs teachers provide instruction in English to ELLs in a self-contained classroom (Rossell, 2005).

**Language Programs by Instruction Type**

There are currently three broad English language programs in place. The first is dual language where students learn in both languages. In elementary school’s students learn at least 50% of the education in the native language and in secondary school the ELL learns in the native
language for two periods per day (Estrada, 2014; Gándara & Rumberger, 2009; Zinth, 2013).

The second type of English language program is transitional bilingual education, which can be further differentiated by the language goals as to whether (a) it promotes bilingualism or biliteracy or (b) ELLs’ proficiency and literacy in English is supported with instruction in their native language or English immersion. For example, in transitional bilingual programs, initial instruction is in the native language with the goal of using it to build the foundational knowledge in English; eventually, native language use gradually tapers to less than 50% (Zinth, 2013).

There is also a third type with specific entry and exit points determined by initial proficiency to transitioning, in 2 to 5 years, into mainstream classrooms (Coady et al., 2011; Cummins, 2012; Estrada, 2014; Gándara & Rumberger, 2009; Zinth, 2013). For example, language programs that begin in kindergarten are called early exit programs if students transition out after 1 to 3 years or late exit if they transition after 4 to 5 years (Genessee et al., 2005; Umansky et al., 2016; Zinth, 2013). The third type consists of English-only programs, all of which require instruction from a language specialist (Harper & de Jong, 2004; Parsi, 2016; Zinth, 2013).

Currently, language programs are either developmental bilingual instruction or two-way immersion (Gándara & Rumberger, 2009; Umansky et al., 2016; Zinth, 2013). The predominant manner of classification is whether students speak a language other than English at home. This means dual-language programs are limited depending on the demographic density of the language minority population. There are many languages that are not identified with programs or do not have specialized instructors (Markham & Gordon, 2007; Zinth, 2013). Further program differences include the language of instruction to teach content areas such as math, science,
social studies, and the arts, which impacts the academic English proficiency of ELLs (Estrada, 2014; Gándara & Rumberger, 2009; Markham & Gordon, 2007; Zinth, 2013).

**Language Programs by Classroom Structure**

Language programs can also be differentiated based on classroom structure and instructors and whether instruction is in segregated, self-contained classrooms or in mainstream classrooms along with native English speakers (Calderón et al., 2011; Umansky, 2016a). ELLs are in pull-out programs when they receive specialized instruction from instructors who are trained to teach ESL in segregated elementary school settings or during a special period called classroom ESL on a weekly basis in secondary school settings (Calderón et al, 2011; de Jong, 2013, Estrada, 2014; Gándara & Rumberger, 2009; Harper et al., 2004; Zinth, 2013).

The current achievement gap between ELLs and native English speakers indicate that existing language programs are unable to provide adequate English content instruction and academic vocabulary development to develop academic language proficiency (Coady et al., 2011; Cummins, 2012; DelliCarpini & Alonso, 2014; Estrada, 2014; Lucas & Villegas, 2013). Reading comprehension and writing connected text are higher level cognitive processes that require conceptual processing, such as drawing on prior knowledge, making inferences, and resolving structural and semantic ambiguities (Cummins, 2012). The pullout programs that many districts rely on to teach ELLs limit the students’ exposure to content knowledge that builds academic English knowledge, vocabulary, and inferential comprehension skills (Estrada, 2014).

**Mainstream Teacher Ability and Knowledge**

The success of ELLs in mainstream classrooms depends on the teachers’ knowledge about language acquisition and the components of academic English and differentiated instruction tailored to student levels in specific subjects (Estrada, 2014). Within the school
environment, mainstream teachers play a large role in the academic outcomes of ELLs (Jiménez-Castellanos & García, 2017; Pettit, 2011; Samson & Collins, 2012). Teacher beliefs and adequate preparation are imperative for the academic outcomes of ELLs (Darling-Hammond, 2010; DelliCarpini & Alonso, 2014; García et al., 2010; Henderson, 2019; Lucas & Villegas, 2013; Pettit, 2011; Samson & Collins, 2012). The main factors that will be explored below include mainstream teacher characteristics, teacher beliefs about ELLs, teacher knowledge of ELLs, the obstacles, challenges, and successes in teacher preparation, as well as what scholarship tells us about best practices in supporting ELLs.

**Mainstream Teacher Characteristics and English Language Learners**

Mainstream teachers can be defined as those whose primary training has been in general education that includes one or more traditional subject area such as mathematics, science, English, or social studies (de Jong, 2013; Pettit, 2011). Many mainstream teacher candidates are white, monolingual English speakers; however, they are diverse in terms of their backgrounds, credentials, teaching histories, and training (de Jong, 2013; Pettit, 2011). The demography of the U.S. teaching workforce is still rather homogeneous, in direct contrast to the students attending schools, who are growing in diversity culturally, racially, and linguistically (de Jong, 2013; de Jong et al., 2013; García et al., 2010).

**Teacher Beliefs**

Researchers note that teachers’ beliefs are influenced by societal attitudes and their exposure to different cultures, and are influenced by institutional, local community demographic factors, and national policies (Harklau, 2000; Pettit, 2011; Yoon, 2008). Additionally, mainstream teacher beliefs and misconceptions (Yoon, 2008) are mostly a product of their social context, prior experiences, and the school environment (Salerno, & Kibler, 2013; Coady et al.,
Mainstream teacher beliefs about ELLs impact the placement of students in mainstream classrooms (Harklau, 2000; Harper & de Jong, 2004; Yoon, 2008). Teachers’ attitudes toward ELLs also affect the classroom culture and student-teacher interactions, which ultimately affects ELLs’ motivation and academic achievement (Glisan, 2012; Yoon, 2008).

Teachers’ misconceptions about learning and teaching can lead them to inaccurate conclusions regarding the language ability, intelligence, and motivation of ELLs, thereby negatively influence teachers’ attitudes toward ELLs in mainstream classrooms (DelliCarpini & Alonso, 2014; Harper & de Jong, 2004; Reeves 2006). Preservice teachers have admitted that sometimes they base their beliefs about teaching ELLs on experiences they had as students (Salerno & Kibler, 2013; Yoon, 2008). Misconceptions also play a significant role in the misdiagnoses of learning difficulties and erroneous placement of ELLs in special education programs, thus limiting their opportunities to keep up with their peers and enrich their learning experiences (Harper & de Jong, 2004; Khong & Saito, 2014; Yoon, 2008).

According to Yoon (2008), there is a clear link between belief and practice: “Teachers with a narrow notion of their roles limited their teaching approaches for their ELLs” (p. 516). Pettit (2011) cited research that many teachers do not believe ELLs have enough language skills to be in the mainstream classroom; they believe that ELLs should be in transitional classes before students are put in mainstream classes. In addition, there is evidence that ELLs are exposed to much simpler English by teachers based on beliefs that ELLs may not understand the language (Markham & Gordon, 2007), and many teachers believe that ELLs are not capable of pursuing higher education (Harklau, 2000; Khong & Saito, 2014). Teachers who lack cultural understanding often assume students who do not adhere to expected norms are unintelligent or
ill-behaved (Harklau, 2000; Nelson & Guerra, 2014; Yoon, 2008). In this way, lack of cultural knowledge leads to, or reinforces, deficit thinking and subtractive schooling experiences for ELLs (Nelson & Guerra, 2014). Researchers also found many teachers believed that ELLs should primarily be taught by a specialist, ESL teacher (Yoon, 2008), and that mainstream teachers should not be responsible for ELL student performance (Freeman & Johnson, 1998; Reeves, 2006).

**Teacher Knowledge**

While teacher beliefs hold powerful implications for ELLs in their classroom (Pettit, 2011), teacher knowledge can impact ELL student outcomes in terms of their academic English proficiency (Darling-Hammond, 2010), content knowledge (Cummins, 2012; Darling-Hammond, 2010) and can guide their instructional practices (DelliCarpini & Alonso, 2014). Teachers gain knowledge pertaining to ELLs from their course work during teacher education, preservice and inservice training (Coady et al., 2011; DelliCarpini & Alonso, 2014) and personal experiences with other cultures and societal norms (Lucas et al., 2008).

The language and literacy demand, in the new common standards; the linguistic needs represented by ELLs of different backgrounds; and the lack of preparation most teachers have received to address the academic English development of ELLs demonstrate the need to bolster mainstream teachers' knowledge about second language development (Bunch, 2013). This contrasts with most ESL teacher preparation programs, which provide teachers with discrete disciplinary knowledge that can be applied to any teaching context (Bunch, 2013).

According to researchers, mainstream teachers should be familiarized with basic issues related to ELL language development, bilingualism, differences between social and academic language proficiency, and the role that language and culture plays in learning (Cummins, 2012;
Hoover et al., 2016). Moreover, teacher knowledge of English language development in ELLs is dependent on a better understanding of second language acquisition and strategies to foster academic language development (Bunch, 2013; Cummins, 2012; de Jong, 2013; Hoover et al., 2016; Snow, 2014). To successfully teach ELLs, mainstream teachers must teach in ways that make academic content comprehensible and meaningful to the students while simultaneously supporting their use of English in lessons (Cummins, 2012; Darling-Hammond, 2010; DelliCarpini & Alonso, 2014; Villegas et al., 2018). This demands not only knowledge of the subject matter but also an understanding of how language is used in that subject area to scaffold ELLs learning of academic content and language (DelliCarpini & Alonso, 2014; Pettit, 2011; Villegas et al., 2018).

Additionally, for ELLs to develop oral language fluency, they need opportunities to engage in English language with native English speakers (Cummins, 2012; de Jong, 2013; Gupta, 2019). This requires teachers to provide ELLs opportunities to use academic vocabulary orally to build familiarity with the language. A common misconception for teachers is the assumption that good instructional practices for native English speakers are the same for ELLs (Cheuk, 2016; de Jong et al., 2013; Snow, 2014). Teachers need to facilitate how students are negotiating meaning with others and support students’ repertoire of communicative skills so that they are understood by others (Cheuk, 2016). According to researchers, poor language outcomes for ELLs in California and elsewhere could have been avoided, had teachers known enough about the second language learning process and the stages of language development (Cheuk, 2016; de Jong & Harper, 2005; Fillmore & Snow, 2000).
Teacher Practices

Mainstream teachers are challenged with meeting the diverse needs of ELLs. While they learn the importance of content knowledge in their specific area, they lack knowledge in delivering content information with an emphasis on language development, including vocabulary strategies and oral language skills that support ELLs’ needs (Gupta, 2019; Irby et al., 2018; Lara-Alecio et al., 2012). For mainstream teachers to engage in instructional practices that support academic English language development in ELLs, they need adequate preparation about language acquisition, preservice training prior to working with ELLs, and inservice training in schools. However, there are many factors that impact teacher education and preparation to service the diverse needs of English language learners. Next, I would like to focus on what instructional practices are effective for ELL language development.

Effective Instructional Practices for English Language Learner Language Development

There are several recommendations for supporting English language development in ELLs. These include recommendations from the U.S. Department of Education, research from the Institute of Education Sciences, and more.

United States Department of Education: The English Learner Tool Kit

English language development for ELLs is key to their academic success and teacher knowledge and instructional practices are important factors in ELLs gaining proficiency in mainstream classrooms. The English learner tool kit provided by the U.S. Department of Education (Baker et al., 2014) provides teachers key instructional principles to support ELLs’ language development:

1. Mainstream teachers must provide ELLs with opportunities to engage in discipline-specific practices, which are designed to build conceptual understanding and
language competence in tandem. Since learning is a social process, teachers need to intentionally design learning opportunities that integrate reading, writing, speaking, and listening with the practices of each discipline.

2. Teachers’ instructional practices must leverage ELLs’ home language(s) and cultural assets to connect prior knowledge to new knowledge and make content meaningful and comprehensible.

3. Standards-aligned instruction for ELLs should be rigorous, appropriate by grade-level, and provide deliberate and appropriate scaffolds. Teachers need to align instruction to reflect the key shifts in CCSS and NGSS. Therefore, teachers need to provide students with opportunities to describe their reasoning, share explanations, make conjectures, justify conclusions, argue from evidence, and negotiate meaning from complex texts. Students with developing levels of English proficiency need instruction that carefully supports their understanding and use of emerging language as they participate in these activities.

4. Mainstream teachers must design instruction considering ELLs’ English proficiency level and prior schooling experiences. They should be aware of the heterogeneous languages spoken by ELLs.

5. Teacher instructional practices must foster ELLs’ autonomy by using strategies that support comprehension and use language in a variety of academic settings. ELLs must learn to use a broad repertoire of strategies to construct meaning from academic talk and complex text, participate in academic discussions, and express themselves in writing across a variety of academic situations. Ultimately, tasks must be designed to foster student independence. In addition, there have been numerous empirical studies
to help teachers understand the most effective instructional practices (Baker et al., 2014; Gersten & Baker, 2000; Snow, 2014).

**Institute of Education Sciences: Evidence Based Practices**

The Institute of Education Sciences (IES) What Works Clearinghouse Practice Guides provide educators specific, evidence-based recommendations and practice guides that address the challenge of teaching ELLs in the elementary and middle grades to increase their English language proficiency while simultaneously building literacy and numeracy skills, as well as content knowledge of social studies and science (Baker et al., 2014; Gersten et al., 2007; Gersten et al., 2010). These recommendations exhibit strongest evidence in teacher change and student outcomes (Baker et al., 2014) and are further examined below.

**Teach a Set of Academic Vocabulary Words Using a Variety of Instructional Activities.** Academic vocabulary represents words that are used primarily in academic disciplines such as science, history, geography, mathematics, and literary analysis. These words are much more frequently used in discussions, essays, and articles in these disciplines than in informal conversations and social settings (Baker et al., 2014). Teachers need to provide high quality vocabulary instruction throughout the day, teach essential content words in-depth, and use instructional time to address the meanings of common words, phrases, and expressions that students have not yet learned (Baker et al., 2014; Ford-Connors, & Paratore, 2015; Gersten & Baker, 1999; Marzano & Pickering, 2005; Zwiers, 2013). Research shows that vocabulary instruction should also be emphasized in all other parts of the curriculum, including reading, writing, science, history, and geography (Chval et al., 2015; de Oliviera, 2016; Fisher & Frey, 2014; Schleppegrell, 2012; Schulze, 2015; Villegas et al., 2018).
Researchers noted that effective vocabulary instruction includes multiple exposures to target words over several days and across reading, writing, and speaking opportunities (Baker et al., 2014; Ford-Connors & Paratore, 2015; Marzano & Pickering, 2005; Zwiers, 2013). Additionally, some strategies include careful selection of words (e.g., evocative words to stimulate instruction, key words for understanding a story); linking words or concepts to words known in the native language; showing new words in print; and using visuals such as concept maps to depict concepts or word meanings (Ferlazzo, & Sypniewski, 2018; Ford-Connors & Paratore, 2015; Marzano & Pickering, 2005; Rousseau et al., 1993; Saunders & Goldenberg, 1999; Zwiers, 2013).

Another suggestion is to adopt a districtwide core vocabulary list for ELLs to help focus instruction on valuable words and reduce unnecessary duplication, with scope for adding words based on context. Within schools, inservice training in the form of teacher study groups and lesson study groups have shown to be effective in planning vocabulary instruction (Baker et al., 2014; Gersten & Baker, 1999; Gersten et al., 2010; Jayanthi et al., 2018; McKeown et al., 1983).

Integrate Oral and Written English Language Instruction Into Content-Area Teaching. ELLs need frequent opportunities to engage with teachers and peers in language use within classrooms. This daily and active use of language should be structured to include both conversational language and academic discourse (Baker et al., 2014; Gersten & Baker, 1999; Lucas et al., 2018). Experts recommend providing structured opportunities for engaging students in academic discussions about the content, using instructional tools strategically to clarify and anchor the content, and teaching explicitly academic vocabulary that is central for understanding the content (Baker et al., 2014; Marzano & Pickering, 2005; Zwiers, 2013).
Evidence supports teaching structures and formats that elicit frequent responses and extended student responses, more extensive modeling and think-alouds, and student and teacher talk focusing on discussions of concepts (Ferlazzo & Sypniewski, 2018; Portes et al., 2018). Opportunities for students to discuss content with their peers do not have to be long, but should occur multiple times daily (Portes et al., 2018). Additional activities, such as having students read and discuss short text passages, role-play a word or concept’s meaning, or complete a think-pair-share activity, are also useful for both processing content and practicing language (Echevarría, 2012; Gupta, 2019; Lesaux et al., 2010; Peercy et al., 2015).

Over the last decade, researchers have consistently noted the importance of providing ELLs with opportunities to talk and interact with their English-proficient peers, since these interactions are essential for language learning (Cummins, 2012; Echevarría, 2012; Gupta, 2019; Lesaux et al., 2010, Swain, 1995). Providing more opportunities for ELL students to simultaneously practice the target language and co-construct content knowledge through increased student talk and interaction increases ELL language proficiency (Choi & Morrison, 2014; DaSilva Iddings & Rose, 2012; Peercy et al., 2015).

In promoting oral use of academic English, in classroom settings, the IES recommends other effective practices that to support ELLs’ language development. They include providing language supports while supporting access to content to help ELLs accelerate their English language development and literacy (Baker et al., 2014). Teachers need to learn to (a) build opportunities for students to learn language and content from each other through purposeful, carefully structured scaffolded tasks, (b) create engagement and discussion opportunities that socialize students to the language of the discipline through structures and routines that develop skill in disciplinary discourse, and (c) carefully organize groupings (pair, small group, and whole
group) in classrooms to amplify and enrich the opportunities for comprehension, discussion, and interactions with ideas (Santos et al., 2012).

**Formative Assessments.** Teachers in mainstream classrooms also need to conduct formative assessments to measure student language proficiency, development and provide agile solutions (Baker et al., 2014; Cruz, 2015). Studies by the IES showed that teachers need to conduct formative assessments with English learners using English language measures of phonological processing, letter knowledge, and word and text reading. The data from the assessments should be used to identify English learners who require additional instructional support and monitor their reading progress over time (Baker et al., 2014; Lesaux & Geva, 2006; Lesaux et al., 2010).

In K–2 settings, assessments should include measures of phonological awareness such as segmenting the phonemes in a word, sound blending, and rhyming, which are useful in both kindergarten and first grade (Baker et al., 2014). Additionally, measures of familiarity with the alphabet and the alphabetic principle, especially measures of speed and accuracy in letter naming and phonological recoding, are useful in both kindergarten and first grade. Measures of reading single words and knowledge of basic phonics rules are useful in first grade. Toward the middle and end of the first grade, and in the next few grades, measures of reading connected text accurately and fluently are useful. For students in Grades 2 to 5, oral reading fluency assessments are valid screening measures for ELLs and are positively associated with performance (Baker et al., 2014).

**Teacher Preparation**

Teacher preparation plays an important role in ensuring that teachers are able to support ELLs. However, there is ample evidence that teachers do not get what is necessary in either
preservice or inservice opportunities. Below I discuss the challenges encountered in teacher preparation, the policies influencing teacher education in colleges, the existing teacher education programs, and recommendations in teacher preparation to meet the academic needs of ELLs.

**Challenges in Preservice Teacher Preparation**

Approximately 60% of deans of colleges of education in the United States admitted the lack of adequate focus in coursework pertaining to ELL teaching in their teacher education programs (Khong & Saito, 2014). A survey of 4,800 teachers of ELL students in California expressed concerns about being ill-prepared to teach ELL students (Khong & Saito, 2014). Researchers continue to call attention to the fact that state certification practices, preservice teacher training, and the social contexts of schools do not adequately prepare teachers for the demands of teaching ELLs reading and writing (Lucas & Villegas, 2013; Lucas et al., 2018; Moats, 1994, 2009). The reasons for mainstream teachers’ insufficient knowledge include the difficulty of the subject matter, the time required to learn it, the absence of specific standards for training, and ELLs’ educational needs not being a priority in their schools (Lucas & Villegas, 2013; Lucas et al., 2018; Moats, 1994, 2009).

Preparing mainstream teachers to teach ELLs can reduce or eliminate the need for pullout programs, student tracking, and ELL classification programs (Zinth, 2013). Currently, only four states require mainstream teachers to complete training in teaching ESL, and in a survey 73% of Title III district officials indicated that the lack of expertise among mainstream teachers was a major challenge to closing the achievement gap (Cummins, 2012; DelliCarpini & Alonso, 2014; Estrada, 2014; Harper et al., 2004; Lucas et al., 2018; Park et al., 2017; Zinth, 2013). According to Mill et al. (2020), although the federal government, through ESSA, requires school districts to provide professional learning opportunities for mainstream teachers who work with ELLs, only
12 states require teacher education programs to provide preservice teachers some type of preparation, such as targeted coursework, bilingual education and/or ESL endorsement options, or English learner certificates (Mills et al., 2020). As of 2012, only three state exams—those in Florida, Massachusetts, and Texas—ask for evidence of oral language, academic language, and culture/diversity for ELLs in their teacher observation rubrics (Samson & Collins, 2012).

**Challenges in Inservice Professional Learning**

Inservice teacher education often focuses on the “one-shot” approach to professional development, relying on teachers to take what they have learned in short-term workshops and apply it appropriately in an instructional setting with the assumption that teachers can do this without continued support (Hansen-Thomas et al., 2013). Although the number of ELLs in U.S. schools increased significantly in the early 2000s, training for teachers charged with teaching academic content to those students has not increased proportionately (Ballantyne et al., 2008). Additionally, though the empirical literature on inservice professional learning for teachers of ELLs has grown in the past decade, it has not been examined as a body of work, and little is known about how inservice teachers are being equipped for teaching ELLs (Lucas et al., 2018).

Recommendations from research indicates that evidence-based vocabulary instruction needs to be a strong part of reading instruction and an integral part of English language development. Researchers indicate that teachers need to engage in vocabulary instruction across the curriculum, including reading, writing, science, history, and geography (Baker et al., 2014; Jayanthi et al., 2018). Therefore, teachers need to possess pedagogical language knowledge (Bunch, 2013) and disciplinary linguistic knowledge (Hutchinson & Hadjioannou, 2011; Mills et al., 2020; Turkan et al., 2014) to develop students’ language and literacy skills needed for learning (Bunch, 2013; Zwiers, 2013). However, a study by Hiatt and Fairbairn (2018) revealed
most teacher participants felt underprepared and teachers expressed they would benefit from ELL professional development in all areas related to the language, culture, instruction, and assessment domains (P–12 professional teaching standards as stated by TESOL), with additional priority given to the areas in which teachers felt least prepared. Participants felt poorly to somewhat prepared in their knowledge of ELL strategies (M = 2.90) and wanted more practical training on strategies for ELLs. The researchers recommended professional development to foster foundational ELL development in the language domain, which starts by building an understanding of the second language acquisition process, as well as building understanding language acquisition factors (Hiatt & Fairbairn, 2018). In addition, the researchers suggested building knowledge of the four language domains commonly referred to in TESOL (i.e., listening, speaking, reading, and writing) to help increase understanding of how language works (Hiatt & Fairbairn, 2018). Other researchers recommend that teacher training should introduce the basic components of academic language which include phonemic awareness, grammar, understanding syntactic and semantic features as a precursor to explicitly teaching academic language across the curriculum predominantly focused on word meanings within context (August et al., 2014; Frantz et al., 2014).

What is needed for mainstream teachers is a new type of professional development program that moves beyond the typical short-term workshop training format and provides long-term, sustained classroom support through school-based cohort groups which systemically address training needs (Baker et al., 2014; Hansen-Thomas et al., 2013). Meaningful learning for teachers is situated in everyday life and engages them with practices that are directly applicable in their own classrooms (Hansen-Thomas et al., 2013; Mills et al., 2020). Additionally, teachers learn most when they are actively engaged in examination of their regular practice (i.e., teaching
and learning) and how the PD activities contribute to their daily work in this local context (Gersten et al., 2010; Hansen-Thomas et al., 2013; Jayanthi et al., 2018; Lucas et al., 2018; Mills et al., 2020). An emerging body of literature suggests that effective, sustained professional learning takes place in a community that supports learning, where teachers are engaged with other professionals in collaborative learning about their situation and professional practice (Baker et al., 2014; Hansen-Thomas et al., 2013; Khong & Saito, 2014; Peercy et al., 2015).

Discussion and Conceptual Framework

This literature review highlighted important factors that influence teacher’s ability to support ELLs. These factors and their initial relationships are illustrated in the conceptual framework presented below.

**Figure 2**

*Mainstream Teachers’ Abilities to Support Academic Language Development in English Language Learners*

Figure 2 illustrates the connections between several factors. First, it demonstrates relationships between key constructs in teachers, their beliefs, knowledge about English language development in ELLs, and cultural knowledge relevant to their pedagogical practices in
working with ELLs. The conceptual map also illustrates how larger social influences, policies, and historical beliefs combine with teacher preservice training, inservice training and professional development to influence teacher beliefs, knowledge, and instructional practices. Teacher beliefs affect the classroom pedagogical practices, and their knowledge (English language development and cultural knowledge) and practices influence student outcomes (Khong & Saito, 2014).

For most mainstream teachers, teaching academic English is a novel experience (Bowers et al., 2010). The factors supporting academic language development in ELL students indicate that historical and policy influences create a complex context for teachers and the ELL students they support. Social beliefs about immigration, language, and approaches to supporting ELLs are a part of this complexity. Furthermore, this complexity is not always adequately addressed in teacher preparation and inservice development. Exploring the beliefs, knowledge, and skills that teachers bring to working with ELLs is an important step in addressing student’s needs.
Chapter 2

Assessing the Needs of Mainstream Teachers Working With English Language Learners

English language learners (ELLs) are spending more time in mainstream classrooms than ever before (Coady et al., 2011; de Jong, 2013; Zinth, 2013). While the term ELL connotes a general classification or category, it represents a heterogenous group of students who speak different languages and represent different cultures. Mainstream teachers teach in classrooms where all students receive instruction in English from one teacher in regular content areas (English, math, science, and social studies), and the classrooms typically include (a) native English speakers, (b) fully functional speakers of English who speak languages other than English at home, and (c) native speakers of English dialect (Bunch, 2013; Coady et al., 2011; de Jong, 2013; Pettit, 2011; Zinth, 2013). Classroom culture and student learning are dependent on the characteristics of mainstream teachers which include their instructional practices, knowledge, and beliefs.

A review of the literature demonstrated that several factors, from historical/policy to direct experience, affect mainstream teacher’s ability to support ELLs in meeting their academic needs. According to researchers, most mainstream teachers have received little or no preparation for working with ELLs in terms of meeting their English language development needs (Bunch, 2013; Kibler et al., 2019; Lucas et al., 2008; Pettit, 2011). Additionally, teacher education programs did not adequately address the needs of ELLs in their curriculum, and this contributes to many mainstream teachers feeling ill prepared to meet their unique needs (Darling-Hammond, 2010; Lucas et al., 2008). Mainstream teachers also seem to believe ELLs do not have enough language skills to be in mainstream classrooms (Pettit, 2011) and teacher misconceptions play a significant role in the misdiagnosis of ELLs as having language-based disabilities (Yoon, 2008).
Based on the findings from the literature review, it seemed relevant to examine existing teacher beliefs, knowledge, and classroom practices as they are critical constructs that determined the educational outcomes of ELLs.

**Context of the Study**

To explore the strengths and challenges of mainstream teachers' support for ELLs, a needs assessment study was conducted. The study focused on understanding the beliefs, knowledge, and instructional practices of mainstream teachers in facilitating the academic English proficiency of ELLs. Teacher beliefs, knowledge and classroom practices were chosen because teachers have an impact on English language development, proficiency, and vocabulary development of ELLs.

The needs assessment study was conducted in a preschool through Grade 8 private school located in New Jersey that served 253 students. The native languages spoken by the students include at least 20 languages: Bengali, Gujarati, Hindi, Japanese, Kannada, Korean, Luhya, Malayalam, Mandarin, Punjabi, Sinhalese, Spanish, Swahili, Taiwanese, Tamil, Telugu, Turkish, Twe, Urdu, and Yoruba. Most of the parents are professionals who have strong content knowledge. However, their communication styles differ by culture and lifestyle. Students within the school learn a foreign language from preschool through Grade 8. Spanish is taught from preschool through Grade 3; in Grade 4, they learn French, and students choose to learn Spanish or French for 4 years in middle school. Therefore, ELLs within the school are actually trilingual, learning English and a foreign language in school and speaking another native language at home.

The context of this study is majority minority classrooms. The term *majority-minority* was coined by the United States Census Bureau in its population report (Colby & Ortman, 2015) and is defined as communities where one or more racial and ethnic minorities (relative to the
whole country's population) make up a majority of the local population. The report also stated that by 2044, more than half of all Americans are projected to belong to a minority group (any group other than non-Hispanic White alone). Within the context of the needs assessment, the term majority-minority means that ethnic minorities make up the majority of the classroom population.

Researchers believe the challenges impacting schools with the increase in multilingual population include that the teaching force is predominantly White and monolingual (Bunch, 2013; de Jong, 2013; Zinth, 2013). This contrast between student and teacher demographics is currently duplicated in the school. Within the school, 76% of the teachers are native English speakers and monolingual and 24% are multilinguals and fluent in Hindi, Marathi, Telugu, Creole, and French. The percentage of ELL students in each grade ranges from 55% to 85%. The languages spoken by the students include Bengali, Gujarati, Hindi, Japanese, Kannada, Korean, Luhya, Malayalam, Mandarin, Punjabi, Sinhalese, Spanish, Swahili, Taiwanese, Tamil, Telugu, Turkish, Tew, Urdu, and Yoruba.

**Statement of Purpose**

The purpose of the needs assessment was to investigate the beliefs, knowledge and pedagogical practices of mainstream teachers who teach English language learners in a preschool through Grade 8 school in New Jersey to better understand their strengths and growth areas. The following research questions guided the study: (a) What are mainstream teacher’s beliefs about ELLs’ abilities, needs and challenges? (b) What do mainstream teachers know and understand about teaching ELLs? and (c) What are the pedagogical practices of mainstream teachers of ELLs?
Research Design

This study used a mixed method, convergent parallel design to understand the teachers support of ELLs. The assumption in using a mixed methods design is that the method provides additional insights compared to engaging each of the individual methods of qualitative or quantitative analysis (Creswell & Creswell, 2017). A convergent mixed methods design means that qualitative and quantitative data are collected in parallel, analyzed separately, and then merged. Contradictions or incongruent findings are explained or further probed in this design (Creswell & Creswell, 2017). In this needs assessment study, quantitative research was conducted using an existing survey instrument and qualitative research was performed using a semistructured interview protocol. Both the survey instrument and semi-structured interview protocol were administered simultaneously to find associations and links in the data from both, to produce a coherent narrative (Creswell & Creswell, 2017).

Participants

The needs assessment took place in a preschool to Grade 8 suburban school (NJPS) serving a culturally, linguistically diverse population of students. Eighteen mainstream teachers comprised the teacher sample, out of which 76% of the teachers were native English speakers and monolingual and 24% were multilingual, representing south Asia (linguistically proficient in Telugu, Marathi, Hindi, Haitian (fluent in French Creole), French, and Spanish. The convenience sample represented all the core subject teachers and Spanish and French teachers from kindergarten through Grade 8. On average, teachers at the school had 15 years of classroom teaching experience.
**Researcher Positionality**

The researcher/facilitator for the needs study is the founder of the school who has more than 17 years of experience as an administrator, teacher, and curriculum director at the school. Given the power dynamics and to ensure that participants did not experience coercion and felt free to decline and share their perceptions and experiences the needs assessment interviews were conducted by an independent research assistant who held a neutral position but also was an indigenous insider with the teachers (Caucasian, monolingual characteristics) in terms of identifying with their unique values, perspectives, and behavior.

**Recruitment and Consent**

Because of a potential conflict of interest and uneven power dynamics between the student researcher who owns the school and potential teacher participants, the vice-principal who is a fourth-grade teacher and who does not occupy a position of authority at the school sent out a recruitment email to teachers at the school with information about the study that included a description of the study, a statement that the study is conducted through the Johns Hopkins School of Education, information about eligibility, and the voluntary nature of participation. Potential participants were told that there was no penalty for not participating in the study and that they would have access to the professional learning regardless. They were also told that there was no penalty if they chose to be involved and then withdrew. The recruitment email asked potential participants to reach out to the non-conflicted designee—the PI, Dr. Barbara Seidl—to get details about the study and to answer any questions. Dr. Seidl then communicated the names of consented participants to the student researcher.
Measures

Two different measures were used to gather data pertaining to the research questions related to teacher beliefs, teacher knowledge, and classroom practices. A survey instrument and a semistructured interview protocol was administered to the mainstream teachers in the school who chose to participate. The survey instrument had questions pertaining to teacher beliefs and instructional pedagogy while working with ELLs and the semistructured interview protocol had questions pertaining to teacher beliefs, knowledge and classroom practices related to ELLs. A more detailed description of each is provided below.

*English Language Learners in Mainstream Classroom Survey*

An existing survey (Reeves, 2006) was used to measure teacher beliefs and attitudes towards ELLs in mainstream classrooms was used and reformatted to be taken online by the mainstream teachers (See Appendix A). The survey had 16 questions about teacher attitudes with responses on a 4-point Likert scale (*strongly disagree* to *strongly agree*). It also included five questions on classroom practices, three questions on the impact of inclusion, and two questions on teacher support with responses measured on a 3-point Likert scale (*seldom or never*, *some of the time*, and *most or all of the time*). There were four questions at the end of the survey to gather information about the subject areas the teacher taught, years of experience, gender, and whether English was a native language. In addition, the survey included two open-ended questions about the type of teacher training they received in teaching ELLs and about their concerns regarding inclusion of ELLs in subject area classes.

*Semistructured Interview*

A semistructured interview protocol (see Appendix B) was used to explore information across the three factors of beliefs, knowledge, and practices. The protocol allows for an in depth
understanding of mainstream teacher characteristics within the context of teaching ELLs, and this format afforded the flexibility to add probes to the existing questions and allow for new insights from the information.

There were four general questions pertaining to teacher experience, highest degree attained, field of study, and length of employment at the school. There were an additional 12 interview questions related to the research questions including whether teachers had changed their practices due to the student population, their strengths, knowledge, and experience to teach ELLs. Teachers in early childhood classrooms were asked if they could see differences in the language development trajectory between native English speakers and ELLs. Teachers were asked to comment on the oral expressive language patterns between ELLs and native English speakers, whether there were visible differences in responses to verbal instruction, whether they could see cultural differences. Teachers were questioned about their pedagogical practices to help students with limited English proficiency, how they met the needs of students at diverse reading levels and students who learned differently and at a different pace. Finally, there were questions relating to formal and informal assessments.

**Data Collection**

The data was collected over a 3-week period between April 15th, 2019, and May 3rd, 2019, by the independent research assistant who was a part time employee at the school. An email was sent to all the teachers by the researcher/facilitator informing them about the study. The research assistant visited each mainstream teacher to distribute the informed consent form.

**Survey**

Once the research assistant received the signed consent forms, the online survey link was sent to their email addresses. Teachers were given 2 weeks to complete the online survey.
(Appendix A). Of the 18 mainstream teachers in the school, 12 teachers participated in the survey, out of which two were male teaches and 10 were female. Out of the 12 participants, nine teachers taught the content areas of math, science, language arts and social studies, one taught music and two teachers did not specify their content areas in the survey. Ten of the teacher participants were native English speakers and two participant teachers were non-native English speakers, based on 12 responses to the survey question. Ten of the 12 responses indicated that they were female, and two responses were from male participants. Also, out of the 12 responses, nine teacher participants said they did not speak a second language, two participants said they had beginning level proficiency in the second language, and one participant was fluent in a second language.

**Semistructured Interview**

The interviews were conducted individually by the research assistant either face-to-face or over the telephone (Appendix B). The interview questions guided the informal conversation allowing for clarifications and additional voluntary information. The duration of the interviews ranged from 16 minutes to 45 minutes. The interviews were recorded using an audio recorder and notes were taken during the interview. These notes were later transcribed onto a word document and reviewed to evaluate the major themes of discussion.

Nine mainstream teachers who took the online survey, also participated in the semistructured interview. Among the teachers who participated in the interview, the average teaching experience ranged from 1 year to 16 years. Six out of the nine teachers hold a Bachelor’s degree, and three teachers have a Master’s degree. Two teachers among the overall participants were multilingual, and the remaining 10 were monolingual teachers.
Data Analysis

The survey and interview data were analyzed independently. The survey data followed a descriptive analysis while the interview data was analyzed using Braun and Clarke’s (2006) six-step approach. The steps for analyzing the data are described below.

Survey

The survey responses were independently generated, summarized, and stored in Google drive. The survey results were automatically summarized, tabulated by Google Analytics and the responses were depicted using pie charts. A univariate analysis was used to explore individual questions. Univariate analysis is the simplest form of analyzing data and its primary purpose is to describe data, summarize the data and find patterns in data (Creswell et al., 2011). In this case univariate analysis of each question from the survey data was done to identify mainstream teachers’ attitudes and perceptions according to the strength of their (dis)agreement with the survey items.

Semistructured Interview

Borrowing from Braun and Clarke’s (2006) six steps of conducting thematic analysis, the analysis involved familiarizing with the data by re-reading the responses, generating the initial categories, searching for themes, reviewing the themes, defining the themes, and compiling the evidence for the final analyses. The interview questions had been formulated to align with the three broad research questions prior to conducting the interviews, and this facilitated the analyses and derivation of themes. Additionally, while rereading the notes, the responses from the interviews were categorized using a table such that the three main research questions were represented by rows and the interview responses were input into columns which included evidence of the research questions from the responses; patterns; emerging themes as we see more
evidence of patterns; qualities of themes and connection to literature. The second stage of analysis of the interview responses included reading the notes and color coding the responses to correlate to the three research questions (RQ 1 – yellow, RQ 2 – green; RQ 3 – blue).

**Findings**

Three research questions provided the framework for the needs study. They were (a) what are mainstream teacher’s beliefs about teaching English language learners? (b) What do mainstream teachers know and understand about teaching ELLs? and (c) What are the pedagogical practices of mainstream teachers of ELLs? The survey and interview responses provided important information about mainstream teacher beliefs with respect to ELLs in mainstream classrooms, how they perceived ELLs, teacher preparedness in terms of experience and knowledge to teach ELLs, and their current classroom practices.

The major themes that emerged included (a) mainstream teacher’s beliefs about ELLs in classrooms was favorable, (b) monolingual teachers understood the developmental needs of mainstream students but not the specific needs of ELLs, (c) multilingual teachers understand the characteristics and have a different knowledge base for teaching ELLs, (d) monolingual teachers classroom practices showed they were unaware of the needs of ELLs, and (e) multilingual teachers based on their own personal learning experiences and were aware of culturally responsive practices that supported ELLs academic needs. The predominant themes that resonated through the survey and interview data will be illustrated in the next section within the broader research questions. Participant responses to survey data are referenced by survey question (SQ) and the question number (i.e., SQ1, SQ2, and so on). Multilingual teacher responses are coded to include their native language; therefore, M1SA stands for multilingual Teacher 1 speaking south Asian languages, M2HC represents multilingual Teacher 2 who speaks...
Haitian Creole. Participant responses to interview questions are coded INT.Q and the question number, as in, INT.Q 1.

RQ1 and RQ2: What are Teachers’ Beliefs and Knowledge About English Language Learners in Mainstream Classrooms?

Based on the data from the survey and responses to the interview questions, teacher beliefs seemed to influence their knowledge. Therefore, for the purpose of understanding mainstream teacher’s perspectives about ELLs the findings from the research questions pertaining to teacher beliefs and knowledge were merged. The data exhibited clear patterns between monolingual teachers and multilingual teacher’s beliefs and knowledge and therefore the analysis will focus on illuminating the patterns.

Monolingual and Multilingual Teachers’ Beliefs About English Language Learners in Classrooms Were Favorable

The survey data indicated that teachers were overall positive in their perception of ELLs in the mainstream classrooms. The response rate to the survey questions about teacher beliefs about ELLs are shown below in Figure 3.
Survey data indicated that the general beliefs among teachers was that inclusion of ELLs in mainstream classrooms was good (SQ1, SQ2) and that their presence in general education classrooms was beneficial. Majority of teachers believed they had adequate instructional time to teach ELLs (SQ6). Additionally, teachers felt positive about supporting ELLs in mainstream classrooms by giving them additional time and modifications to facilitate their needs (SQ9, SQ11, and SQ12). Teachers also believed that ELLs did not need their class work scaled back or simplified (SQ7 and SQ8).

Data also show that teachers enjoyed teaching the ELL population. In response to the interview question about whether they enjoyed teaching the ELL population, all nine teachers expressed they enjoyed teaching the students. Some teachers expressed they enjoyed seeing the growth in reading skills (ML1, ML3), one teacher enjoyed teaching content (ML4). Most of the
responses were again about general enjoyment of teaching without specific responses about ELLs and addressing the specific needs of second language acquisition.

**Monolingual Teachers Did not Understand the Specific Needs of English Language Learners**

In general, data indicated that monolingual mainstream teachers were familiar with the developmental needs of mainstream students. Their knowledge was tailored to the students within the general classroom which include literacy development for native English speakers. However, they were not able to differentiate the proficiency in academic language between native English speakers and ELLs since the oral fluency seemed on par. There were several nuances in this finding.

**Monolingual Teachers’ Knowledge was Aligned to Individual Abilities of Students**

Teacher responses to both survey and interview questions about ELLs elicited answers that seemed to describe their knowledge and practices with mainstream students. For instance, in the semi structured interview protocol teachers were asked, “How has your classroom practice changed over the last few years with respect to the student population?” Of the nine teachers who participated in the interview protocol, seven teachers in their reflections did not correlate their responses to ELLs but to general student characteristics. They mentioned that student skill sets varied each year (ML1), changes in instruction were mainly in response to the different reading levels of students, especially if the student transferred in from a new school (ML3). A couple of teachers (ML4, ML7) believed there were no significant differences to their instructional practices. ML2 believed the changes she made were based on her increase in knowledge to fill the holes and what to fill with respect to student learning. One teacher (ML5) who was a new teacher in the school felt for her it was a personal, cultural adjustment, teaching students who were from different ethnicities.
Another example from the data highlighting monolingual teachers and their familiarity with pedagogical practices for mainstream students was in their response to a question about the challenges experienced in the classroom. All nine teachers described general challenges in mainstream classrooms including, wanting to service every child’s needs (ML1) within the limited instructional time, lamenting on the role of the mainstream teacher in early grades of being “everything” to the student (ML1, ML4), and spending time doing administrative work related to progress monitors (ML4). Another challenge that was mentioned was dealing with the varied skill sets when students come from other schools in comparison to the students from within (ML3). While most of the challenges described relate to mainstream student needs and transition struggles of new students, only one teacher addressed the challenge that was specific to ELLs. ML7, who taught upper elementary grades, mentioned it was challenging meeting the linguistic aspects, especially grammar and writing needs of students who spoke two languages.

It was evident that all nine teachers demonstrated general teacher efficacy. This was demonstrated when teachers were asked, “What do you consider to be your strengths and how do you use them in your setting?” Teachers responses regarding their strengths ranged from (a) teaching to the level of the student and providing information in comprehensible formats (ML1, ML3), (b) to challenging individual students to work to their potential and meet their holistic needs (ML2), (c) strengths based on reflection and life experiences of raising children (ML4, ML7), (d) teaching to support student learning (ML4), (e) using their sense of humor as their strength (M1SA, ML6), and (f) exhibiting patience and understanding the psychology of children (ML6). These are all tenets of general teacher efficacy.
Monolingual Mainstream Teachers Were Unfamiliar With the Characteristics of English Language Learners

Teachers seemed confused about who represented English language learners. While they noticed patterns of language use in multilingual learners, their concept of ELL was that of a student who had limited oral proficiency in conversational English. Teachers were asked, “In early childhood classrooms, do you see a difference in the language development between native English speakers and ELLs?” The responses from all nine teachers exhibited different perceptions of ELLs and beliefs about language acquisition. For instance, ML1 said she did not have much experience teaching ELLs because she did not know any ELLs in her classroom, and ML2 referred to only experiencing ELLs in her prior school where the kids spoke Spanish at home and English in the school and felt she was not aware of students in this school who speak another language at home or the extent to which they spoke another language at home. She felt the community here was different, they blended the languages. ML3, ML4, and ML5 all believed they did not have any ELLs and so could not compare language development between native English speakers and ELLs.

Data also show that monolingual teachers’ perceptions of ELL were unclear, and some saw them with a deficit perspective. For example, out of the nine responses to the question, “What knowledge and experience do you have to facilitate teaching ELLs?” one teacher (ML1) who taught early childhood credited peer interactions as helping the English language development of ELLs. Three teachers (ML2, ML4, and ML5) mentioned courses in special education, and one teacher (ML2) mentioned studying to be an Orton-Gillingham (OG) certified teacher since it would help ELLs break down language and help all students with language disabilities. Three teachers (ML2, ML5, and ML6) mentioned prior experiences teaching in
public schools with primarily Spanish speaking students but felt they had not encountered any ELLs in this school. One teacher (ML3) believed that the textbook provided enough support to furnish the needs of the ELLs in her classroom.

**Monolingual Mainstream Teachers Were Unsure of the Differences Between English Language Learners and Native English Speakers**

Data indicated that a student's conversational English fluency can mislead teachers with respect to academic English proficiency and teachers assume they are native English speakers. This was illustrated when teachers were asked, “Can you comment on the differences you see in the oral proficiency between native English speakers and ELLs?” Six out of the seven monolingual teachers noticed nuances in one or two students and unequivocally believed that they have very few ELL students in their classrooms. Of the seven monolingual participants, ML1 noticed differences in the way students who spoke another language, structured sentences, but felt in kindergarten, it was easy to correct and explain and reiterated that she did not have many ELLs. ML2 said some children do not put sentences together but that she did not have a background to know the cause. ML4 remarked that, since all students spoke English fluently, she did not see any differences and did not know what language they spoke at home.

Other data showed that despite teachers making statements that the school did not have ELLs, some teachers provided responses that were specifically related to differences between native English speakers and ELLs. ML3 believed she saw differences in the word order semantics. ML5 said she noticed a difference in the pronunciation of words, even if the student spoke fluently. She noticed that the syllables were enunciated differently but by doing a lot of read-alouds in class allowed for correction. ML7 noticed that the students who spoke another
language at home were shy to speak up and tend to read slowly. What was interesting is that ML3 and ML4 taught the same group of students, but their perceptions were different.

It seemed that some teachers were able to notice some of the attributes of second language acquisition but did not really correlate the observation to ELL characteristics. This is highlighted by the responses of monolingual teachers when they were asked if they noticed any differences between native speakers and ELLs in student responses to their verbal instruction. ML2, ML3, and ML4 did not notice any differences. ML6 noticed some students have difficulty understanding idioms and figure of speech, and ML7 felt the differences were less about language and more related to development.

Additionally, data illuminated the fact that monolingual teachers were not sure of what manifested as cultural influences in student learning. When teachers were questioned about whether they noticed cultural patterns in students, ML1 said the only pattern she saw was among South Asian Indian children and the inclination of rote memorization versus understanding a concept due to their attending enrichment programs. ML7 noticed that students tend to get confused about the different tenses in English language and wondered if it was less about language and more about development. In response to whether teachers were confused by the questions posed by students, all teachers attributed the confusion to individual developmental factors and were unable to differentiate between ELLs and native English speakers.

**Monolingual Mainstream Teachers’ Perceptions About Parental Use of Native Language Were Negative**

Teachers seemed to believe that singular immersion of English language at home and school was the way to build oral English fluency. When teachers were asked, “Does parental language use influence oral proficiency of ELLs?” ML1 said she requests parents to speak
English at home if they want their children to become fluent readers. ML3 felt if parents were not fluent in English, it was evident from student work done at home with parent help, in contrast to what was taught at school. ML6 and ML7 believed parental language use had an influence on oral proficiency of ELLs. ML7 believed the key was to adapt and assimilate English to build oral language proficiency. The responses of the teachers show that some of them perceive knowing more than one language creates conflict. In contrast multilingual teachers seemed to understand ELL characteristics much better.

**Multilingual Teachers’ Beliefs and Language Learning Awareness Support English Language Learners**

The findings from the needs assessment study indicate that multilingual teacher’s beliefs and knowledge are based on their personal experiences as multilingual learners. Their beliefs and knowledge as a multilingual language learner inform and support their understanding of the characteristics of ELLs. This is evident in the responses of M1SA and M2HC to many of the interview questions regarding ELLs in the school. Though there were only two teachers with this background, their data shows a marked difference in understanding ELL learners and their needs from the monolingual teachers.

**Multilingual Teachers Understand That Learning an Additional Language is a Complex Process for English Language Learners**

Data from multilingual teachers clearly illustrate they recognize that language learning is more than speaking the language, it is also the thinking language. For example, in response to Int. Q3, “what knowledge and experience do you have that is representative of your ability to teach ELLs?” M1SA responded saying, “I speak three languages. I learnt to speak, write and
listen to all three languages simultaneously and can therefore understand how students might be
thinking, processing, and writing in two different languages.”

Multilingual teachers understand that learning a second language is a multi-step process
and fluency in each language is variable and dependent on many factors. For example, M1SA
explained, “For a child who speaks another language, it is a two or three step process because
they think in their language and need to translate in English before writing.” M2HC explained
that he understands language learning from the student perspective since he had firsthand
experience being an ESL student initially and then being transitioned to ELL before being
mainstreamed. He explained that we need to understand that “a person who knows more than one
language will be most fluent in only one language and speak the remaining with an accent.”

Multilingual teachers understand there are differences in oral expressive language
between students who speak the same language at home and school, and ELLs who speak a
different language in school and home, albeit with variable fluency. Data from teacher responses
about differences in fluency and oral expressive language between native English speakers and
ELLs indicate that both multilingual teachers are aware that fluency is influenced by many
factors. M1SA responded saying, parent fluency in English and parent beliefs about the
importance of native language versus English, influence ELL English proficiency. M1SA said
that hearing another language at home influences their spoken English by using elements of the
native language in spoken English including expression, accent, and animation.

**Multilingual Teachers Understand That Second Language Learning is a Social Experience**

Learning a second language is much more than language acquisition; it involves
understanding the social, cultural aspects of acculturation. Many questions in the interview
protocol addressed ELL language development and oral language proficiency. Both multilingual
teachers seem to believe that socialization, peer interactions, and conversation were integral to the language development of ELLs. For instance, in response to a question related to whether ELLs struggle more with reading and writing or oral language, M1SA responded saying without conversation students struggle with both oral and written fluency, and social conversation is important for language development. Another instance that was cited was in response to a question, whether there was visible academic growth in ELLs in terms of English fluency from the beginning of the year to the end, and M2HC responded saying he noticed a lot of progress in their vocabulary since the students learnt more vocabulary throughout the year and expressed them in different ways in sentences both verbal and written.

According to the two multilingual teachers, students engage in different socialization patterns to facilitate their connectedness to the community. For example, when asked if the teachers saw cultural patterns in their ELLs, M2HC remarked that students expressed themselves differently when they were interacting with students from the same culture, which he believed was because they felt socially connected. M1SA also believed that the need to be socially connected is also seen in the different communication patterns that students use when they engage parents and teachers.

The multilingual teachers believed that students with limited English fluency improved their oral language skills as they engaged with their peers. This was elicited with data pertaining to how students with limited English proficiency were supported in their fluency. M1SA recounted having a student 2 years back who came with limited English knowledge and whose parents were also limited in their English proficiency. The student was very artistic which provided a conduit to social conversations with her peers and supported her oral English skills
towards fluency. She believed that engaging in conversation with fluent peers helped the student’s English language development.

*Multilingual Teachers Understand That There are Cultural and Linguistic Aspects to Learning a Second Language*

Multilingual teachers believe that students and teachers can be fluent in English, but their pronunciation can be influenced by their cultures. Additionally, oral language nuances can affect teachers’ understanding of students and students’ understanding of multilingual teacher talk. For instance, in response to Int. Q7, “Have you observed any differences among the native English speakers and English language learners in their responses to your verbal instruction? M1SA responded saying that a student had difficulty understanding her enunciation of words since she spoke British English versus American English. It took the student a month to get used to M1SA’s accent and verbal language.

The two multilingual teachers could relate with ELLs experiences. They understood how and why ELLs get confused with English language and that processing two languages while learning can result in alternate meaning making, and therefore cause them to respond differently to teacher questions. M1SA says she sometimes rephrases ELLs answers in the form of questions, to provide opportunities for everyone in the class to understand. However, she does admit that math and science, being more concrete, provided less occasion for confusion in comprehending content. Additionally, both teachers shared that ELLs get confused with the figurative speech in English and academic vocabulary and its multiple meanings, since they process the words literally. According to M2HC, English words can be confusing for ELLs and he uses visual aids or alternative forms to ameliorate the confusion.
RQ3: What are the Pedagogical Practices of Mainstream Teachers of English Language Learners?

There were two different themes regarding pedagogical practices. One was based on whether the teachers were monolingual or multilingual while the other had to do with recognizing the language development needs of ELLs as being different from native English speakers.

**Pedagogical Practices Differ Between Monolingual and Multilingual Teachers**

Both monolingual and multilingual mainstream teachers seemed proficient in meeting the academic needs of students within their classroom in terms of pedagogical knowledge and differentiated instruction. However, there were clear differences between monolingual and multilingual teachers in addressing the needs of ELLs. Monolingual teachers seemed unaware of the specific needs of ELLs in terms of their academic vocabulary and language development needs and multilingual teacher’s instructional strategies were influenced by their own beliefs and understanding as multilingual learners.

**Monolingual Teachers are Unaware of the Specific Needs of English Language Learners**

Findings from both the survey instrument and semi-structured interview protocol regarding their classroom practices showed that while monolingual teachers had some awareness that ELL students needed differentiated support, they had little understanding of how to do this beyond general strategies. As shown in the table below, four out of six teachers believed that ELLs should be given more time to complete work, that demonstrated effort was more important than grades, and that ELLs should not be allowed to communicate in their native language in classrooms. Six out of seven teachers believed that ELLs require more assistance from teachers than native English speakers. Six out of seven teachers did not supply materials to ELLs in their
native language. Teachers’ responses indicate that they did not know how to service the needs of the ELL students beyond giving them additional time and some perceived them with a deficit perspective.

**Figure 4**

*Mainstream Teachers Classroom Practices With English Language Learners*

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**Monolingual Teacher Pedagogies are Proficient in General Instructional Practices**

All participant teachers were proficient with the standard instructional methods used to engage native English speakers in mainstream classrooms. Findings from the survey and interview questions indicates that teachers were well versed in instructional practices that differentiated for individual differences in a generalized native English-speaking population. In response to the question, “How do you help students experience success knowing there are individual differences and cultural differences within your classroom?,” teachers had varied responses that addressed individual differences more than cultural differences. Teachers responses included (encouraging conversation and teaching to the individual level, multiple
representations of concept (ML1, ML 2, and ML3), providing differentiated instruction based on individual student abilities and learning needs (ML1, ML2, and ML6), building the capacity of each student throughout the year (ML3 and ML7), using the guidelines provided in the curriculum guide to measure student learning (ML4), to incorporate students culture in their social studies lessons in conversations about similarities and differences and build student identity and tolerance (ML5). One teacher, ML7, elaborated on an instance where she engaged in a culturally responsive practice. She cited her experience with a Spanish student a few years back, who she noticed had a lower knowledge base, and so the teacher modified the assessments because the student was better at articulating the deeper meaning, rather than providing it in writing.

Monolingual teachers provided differentiated instruction for learners based on student abilities and did not seem to be aware of pedagogical practices related to ELLs’ language development needs, emotional needs, or culturally responsive pedagogy. Teachers were asked, “How would you challenge the slow learner and the advanced learner within the same class. There were clear themes in teacher responses, four teachers said they would use differentiated instruction with individualized goals (ML2, ML3, ML4, and ML6), they would pair high and low ability students to facilitate symbiotic growth which is culturally responsive (ML5 and ML7). Differentiation activities for the slow learner ranged from giving fewer questions, repetition of instruction, more nonverbal cues, accepting multiple forms of visible learning outcomes, giving extra time. Advanced learners were given more questions, problems to solve and more critical thinking activities. Most of the differentiation in instruction is based on an understanding of the general age-appropriate comprehension needs of all students.
**Multilingual Teachers’ Instruction is Based on Personal Learning Experiences**

While monolingual teacher pedagogies were strong in standard pedagogical practices that were correlated to individual abilities and teaching to the level of the student, they did not seem to have pedagogical knowledge about second language acquisition. On the other hand, while multilingual teachers also did not seem to have pedagogical knowledge about second language acquisition, they referred to their personal experiences and cultural knowledge to inform their instructional practices and curricular expectations. Multilingual teacher pedagogy was more a reflection of their personal experiences as multilingual learners than knowledge about second language acquisition or academic language development.

**Multilingual Teachers are Able to Describe the Needs of English Language Learners**

Teachers' experiential learning informs their pedagogical practices, and their cultural experiences influence their instructional styles. For example, both multilingual teachers, M1SA and M2HC emphasized the relevance of conversation, peer interaction, empathy, and modeling in response to Int. Q8, which asked, “Have you had students who came to your class with limited English proficiency? How did you help them become fluent?” M1SA mentioned the need to recognize effort, importance of academic rigor and using the same standards for all children to build capacity, encouraging read-aloud activities to build oral fluency, writing exercises with error correction to improve their skills, providing ample practice activities and the importance of listening to more fluent peers to facilitate modeling. M2HC emphasized that differentiation of instruction had to be based on comprehension levels, spending more time explaining to the struggling student and giving more challenging activities to the stronger student. The emphasis was on student abilities such that every student progressed in their learning while maintaining the same expectations and rigor for all students.
Multilingual Teachers are Unaware About Academic Language Development in Content Areas

Multilingual teachers recognized culturally responsive practices. However, their knowledge was based on their own beliefs and understanding. In response to Int. Q3., “What knowledge and experience do you have that is representative of your ability to teach ELLs,” both M1SA and M2HC credited their knowledge and experience to being ELLs and recognizing their own learning process among the students. However, according to Zwiers (2013), academic language varies across content areas, grade levels, textbooks and teachers, and instructional strategies for ELLs need to incorporate aspects of academic language development. Researchers believe that teachers need to engage in instructional strategies that provide explicit instruction based on the research underlying the general academic language of thinking and literacy that is used across all disciplines (Cheuk, 2016; Dutro & Moran, 2002; Zwiers, 2013). Multilingual teachers in the school are not aware of specific instructional strategies to teach the language of content. For example, in response to INT. Q7., “Have you observed any differences among the native English speakers and ELLs in their response to your verbal instruction and a probe asking if the teacher has been confused by ELL student responses?,” M1SA responded that she encouraged them to rephrase the sentence for all to understand and that since Math and Science are universal, lack of English proficiency is not a deterrent. Assessment of ELLs is more complex than with Native-English speakers because it involves documenting language proficiency and academic achievement.

Monolingual Teachers use Standard Assessment Tools Normed for Native English Speakers

Monolingual teachers used assessment practices that measured the standard literacy development in native English speakers. This was evident in the responses from Grades 2 and 3
teachers who were asked specific questions pertaining to early language development in ELLs. Four teachers from grades two and three were asked questions pertaining to assigning reading levels and doing reading assessments, specifically about ELLs. The responses ranged from formal tests, reading level assessment and informal assessments using homework and read-alouds without specific references to knowledge of meeting ELL language development needs (ML3 and ML5). In response to Int. Q11, “In what ways, both formal and informal, are you able to assess students who speak another native language to be sure the student is “truly learning” the content?,” ML4 described her strategies to include in math, watching how they solve the problem and depending on their language ability explain what they are doing. ML4 believed the reading level differences for math and science are not as obvious, but for math word problems showing them strategies to be a better reader, underlining key words, rephrasing, marking up word problems, and re reading are some of the strategies used in the classroom. Evidence-based practices cited by researchers (Baker et al., 2014; Gersten et al., 2010) have recognized these strategies as ideal for ELLs.

The assessment practices and instructional strategies used by monolingual teachers, were guided by general pedagogical practices for all students rather than guided by specific knowledge about English language development in ELLs but lent themselves to evidence-based practices suitable for ELLs.

**Multilingual Teachers use Standard Assessment Tools Normed for Native English Speakers**

Multilingual teachers engaged in the same assessment tools as monolingual teachers which are normed for native English speakers, even though they were culturally responsive in classrooms. While both multilingual teachers (M1SA and M2HC) recognized the importance of read-alouds, peer interaction, note taking, and responsive instructional practices, they did not
engage in specific pedagogies or assessments for ELL students. For example, in response to INT. Q11 and INT. Q12, M1SA said encouraging students to take notes provides insights on sentence structure and encouraging all students to read aloud, allows students to listen and observe peers and learn from them. M2HC responded to the questions saying quizzes on what students learned the previous day provided insights on student understanding, and by giving homework students get practice on what was learned and reviewing the homework in the classroom provides additional reinforcement.

**Summary**

The needs study provided valuable insights about mainstream teachers within the context of the school. All nine teachers who participated in the needs assessment study demonstrated general teacher expertise in understanding the developmental needs of students. Teachers were consistent in describing general pedagogical knowledge in differentiated instruction, awareness of learning needs, and recognizing the holistic needs of students.

There were many instances where both monolingual teachers and multilingual teachers did not exhibit knowledge of ELL language development characteristics including what constituted academic English and vocabulary use and comprehension as it relates to academic proficiency. For example, in response to questions related to exemplars that demonstrated ELLs academic growth in English language fluency, ML2 believed she could have answered better if they had been given an identified list of ELLs in her classroom. ML3 believed they practiced a lot of writing which helped with the academic growth, but this was a general statement. ML4 believed read-alouds built oral English fluency but did not seem to have any specific examples of ELL data, and ML6 felt there were many other developmental factors that influenced academic
growth that were unrelated to language. ML7 believed that since the vocabulary curriculum was strong, it was other developmental factors that influenced academic growth.

While multilingual teachers were aware of culturally responsive practices based on their own beliefs and experiences as multilingual learners, they did not correlate their instructional practices to a theoretical basis of second language acquisition or academic language development. Multilingual teachers were able to notice the errors and influence of native language on the basic inter-communicative skills (BICS) of ELLs. For example, multilingual teachers (M1SA and M2HC) recognized the interplay between two languages in the diction of ELLs, especially in their pronunciation, enunciation of syllables and the influence of culture and home in the overall language proficiency of ELLs. Multilingual teachers were able to enumerate the various culturally responsive pedagogical practices in their classrooms based on their own experiences as dual language learners. However, pedagogical practices to foster thinking and language abilities as it relates to academic language development were not mentioned.

There were differences between monolingual and multilingual teachers in teacher perception and instructional practice pertaining to the role of teacher in student learning. The monolingual teachers discussed providing content in multiple ways, teaching to a student’s individual abilities, learning needs, and helping with their developmental growth. They did not seem to focus on interactive pedagogical practices. On the other hand, multilingual teachers seemed to understand the importance of scaffolding and repetition of instructions in tandem with social engagement, peer interaction, rigor, practice, providing students opportunities to observe and emulate peers with better fluency in the literacy development of ELLs.

Cummins (2007) described second language acquisition as a two-part process—the first is basic interpersonal communicative skills (BICS), and the more advanced language acquisition
for schooling, namely, cognitive academic language proficiency (CALP). CALP is more complex and abstract, devoid of extra linguistic cues that are used in social language (BICS). Both monolingual and multilingual teachers benefit from understanding more about CALP, ways to support meaning making using oral and written language, and linguistic strategies to communicate, relate complex ideas and information, and recognize features of different genres. Mainstream teachers in the school, both monolingual and multilingual teachers did not seem to be aware of the language learning process.

In summary, several important findings from the needs assessment guided the choice of an intervention. The first was that many of the teachers, who are monolingual speakers, were challenged to identify the ELLs in their classrooms. The second finding was that multilingual teachers were aware of culturally responsive practices. The third finding was that both monolingual and multilingual teachers had a low awareness of second language acquisition and development and the language learning process and were unable to refer to specific pedagogical practices that would support the academic language acquisition of their ELL students or how to build the academic language of ELLs.

It is clear that all mainstream teachers in the school would benefit from knowledge related to second language acquisition. Additionally, they need opportunities to learn and practice instructional strategies specifically related to fostering an understanding of academic English and vocabulary in all content areas, and especially those approaches that include explicit teaching of academic language and opportunities to practice it in authentic contexts and engage with peers who are more fluent.
Chapter 3

Professional Development for Teachers of English Language Learners

This chapter explores literature on the methods and means of improving teachers’ abilities to support the academic language learning of English Language Learners (ELLs). It begins by summarizing findings from the needs assessment in Chapter 2 that explored the existing knowledge and practices of mainstream teachers in a preschool through Grade 8 school that serves mostly ELLs. It then describes the theoretical framework that will guide the selection of an intervention and the conceptual framework created through an exploration of literature and the needs assessment findings. Next, the literature on effective professional development (PD), in general, and PD on supporting ELLs, specifically, is explored. Practices and pedagogies that have been proven to support ELL academic language are then examined. Finally, the chapter concludes with an exploration of an intervention that will foster mainstream teachers’ ability to successfully support ELL academic language development.

Needs Assessment

The needs assessment in Chapter 2 made visible several important findings about mainstream teachers’ beliefs, knowledge, and pedagogical practices. Overall, teachers’ beliefs about ELLs in classrooms were favorable. However, there were important differences between monolingual and multilingual teachers in their knowledge and pedagogical practices. The multilingual teachers drew upon their own experiences in their work with ELLs in their understanding of the complexities of second language acquisition. On the other hand, teachers, who are monolingual speakers were challenged to identify the ELLs in their classrooms due to the students’ fluent oral skills and had little awareness of second language acquisition. Additionally, the majority of the teachers, both monolingual and multilingual, were unable to
refer to specific pedagogical practices that would support the academic language acquisition of their ELL students.

The needs assessment demonstrated that students’ oral language fluency can skew teachers’ assessments of student’s academic language proficiency. Further, teachers’ knowledge of second language development, their understanding of pedagogical practices that support ELLs’ language development, and their prior experience teaching ELLs influenced their instructional pedagogy. The needs assessment painted a clear picture that mainstream teachers need opportunities to shore up their knowledge around the pedagogies that support ELLs’ academic language development.

Conceptual Framework: Factors Influencing Mainstream Teachers’ Support of English Language Learners’ Academic Language Development

The literature review in Chapter 1 and the results of the needs assessment point to important factors that affect mainstream teachers’ ability to support ELLs’ academic language development. The conceptual framework (see Figure 5) below illustrates these factors and their relationship.
As indicated in the conceptual framework, several factors are influential in the effective teaching of ELLs. Of these factors, the three shaded factors are especially important to improving teachers’ ability to support ELLs’ language development and were the focus of the intervention. While literature indicates that teachers’ knowledge of second language acquisition is important to making decisions about the kinds of pedagogies they choose and the experiences they provide for students (Zwiers, 2013), the needs assessment highlighted the absence of this knowledge. The multilingual teachers in the school had a working knowledge of second language acquisition based on their own experience, but both multilingual and monolingual teachers had little specific understanding in this area which undermines their ability to employ effective instructional strategies. Second, while the literature also indicates that direct explicit instruction of academic vocabulary and opportunities for practice are important for all students,
but critical for ELLs (Ferlazzo & Sypniewski, 2018; Zwiers, 2013), data from the needs assessment indicated that teachers were not fully aware of the central role of these practices. Providing professional development around second language acquisition, explicit instruction in academic vocabulary, and dialogic pedagogies holds important implications for improving teachers’ ability to support ELLs’ academic language development.

Theoretical Framework: Teacher Self-Efficacy

Research and scholarship on teachers’ self-efficacy has emerged as an important construct given implications for supporting teacher learning, improving instructional practices and increasing student achievement (Barni et al., 2019; Caprara et al., 2006; Klassen et al., 2009; Klassen & Tze, 2014). Bandura (1977) defined the concept of self-efficacy as an assessment of one’s own capabilities to attain a desired level of performance in a given endeavor. According to Barni et al. (2019), teachers’ self-efficacy refers to “teachers’ beliefs in their ability to effectively handle the tasks, obligations, and challenges related to their professional activity, and plays a key role in influencing important academic outcomes” (p. 1). Teacher self-efficacy is one of the few individual teacher characteristics that reliably predicts teacher practice and student outcomes (Holzberger et al., 2013; Poulou et al., 2019; Tschannen-Moran & Johnson, 2011).

Bandura (1977) highlights four major influences on self-efficacy: vicarious experiences, verbal/social persuasion, physiological arousal, and mastery experiences (Tschannen-Moran & Johnson, 2011). Vicarious experiences provide information about models and what others have attained, including experts or knowledgeable others and provide a point of reference for social comparison. Verbal persuasion or social persuasion relates to coaching and evaluative feedback that, when coming from trusted sources, can convince people of their capabilities. Physiological arousal can be either a sense of anxiety or excitement about learning. When people are under
stress or overwhelmed, that impacts their belief in their ability, while strong supportive environments that allow for learning from practice foster efficacy. Finally, mastery experiences provide teachers with feedback on their attempts and provide information through success and failure. In general, success increases self-efficacy beliefs, while failure lowers them. Mastery experiences also provide opportunity for teachers to see visible outcomes in their students due to their direct efforts (Pfitzner-Eden, 2016; Tschannen-Moran & Johnson, 2011). Figure 6 demonstrates these factors in relationship to one another and performance.

**Figure 6**

*Teacher Perceived Self-Efficacy*

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**Professional Development and Teacher Self-Efficacy**

Professional development designed around the critical features of self-efficacy has shown positive outcomes. In a study of prospective teachers’ self-efficacy, Tschannen-Moran and Hoy (2007) found that their beliefs about their capability were influenced by the quality of supervision they received (verbal persuasion) as well as experiences during practice teaching.
(mastery experiences). In another study, Tschannen-Moran and McMaster (2009) tested four different models of professional development intended to teach a pedagogical strategy to assist beginning readers in bridging the gap between sounds and letter symbols using hand cues. The four models were (a) oral telling which is verbal persuasion, (b) oral telling and modeling which is verbal persuasion and vicarious experiences, (c) practicing with colleagues (limited mastery experiences), and (d) coaching in the teachers own classroom (full mastery experiences). The largest gains in self-efficacy beliefs were in the full mastery experience. Finally, a study by D. Johnson (2010) showed that vicarious experiences in the form of modeling by the teacher educator and master teachers positively influenced preservice teachers’ self-efficacy for effective literacy instruction.

Research on teacher self-efficacy indicates a number of helpful principles in designing professional development. First, teachers make judgments of their self-efficacy based on the feedback and verbal encouragement they receive from colleagues, supervisors, administrators (verbal/social persuasion), success and failures of other teachers and mentors (vicarious experiences), and perceptions from past teaching experiences (mastery experiences; Tschannen-Moran et al., 1998). Second, while verbal persuasion and vicarious experiences in the form of observations of master teachers are effective (Tschannen-Moran & McMaster, 2009), personal mastery experiences and cooperative learning are the most influential (Ross, 1994). Third, the emotional and physiological state of a person can serve as enabling or debilitating when learning new strategies. Initial training experiences may cause nervous anticipation for a teacher, especially if the teacher is to be observed and the performance critiqued but trying out a new strategy in a supportive workshop setting where encouragement and assistance are available can help reduce the fear of trying it while being observed (Tschannen-Moran & McMaster, 2009).
Lastly, teachers’ level of expertise and knowledge influences their self-efficacy beliefs and varies among teachers. According to Tschannen-Moran and Hoy (2007), contextual variables such as available resources, verbal persuasion in the form of collegial and community support, and mastery experiences contributed more to the self-efficacy beliefs of novice teachers than career teachers who had a wealth of mastery experiences on which to base their self-perceptions. This body of literature provides important implications for PD. It points to situating PD in a community of learners where teachers have an opportunity to learn new knowledge and skills through examples and modeling, engage with other professionals in a supportive, collaborative environment, and where they have opportunities for practice and supportive feedback (Baker et al., 2014; Hansen-Thomas et al., 2013; Khong & Saito, 2014; Peercy et al., 2015).

**Effective Professional Development: Review of the Literature**

The following section reviews literature on effective professional development keeping in mind the characteristics that improve teachers’ self-efficacy and with an eye toward the knowledge and skills that teachers need to develop related to academic vocabulary instruction for ELLs. The review first looks at professional development from a broad perspective, using a meta-analysis of professional development delivery models and the common features that support effective outcomes. This is followed by an exploration of the literature on different types of professional learning communities within schools. The review then focuses on an investigation of the knowledge and pedagogies proven to support ELLs’ academic language development.

**Meta-Analyses of Professional Development Models**

To understand PD outcomes and provide insights for the intervention, two meta-analysis studies were reviewed to determine the features of effective PD, what elements produced
positive outcomes in teacher growth, and whether the outcomes were sustained over time. This review provided information related to the methods of implementation and the common features of effective PD in fostering teacher change and student learning.

Meta-Analysis 1: Darling-Hammond et al. (2017)

The first meta-analysis, by Darling-Hammond et al. (2017), focused primarily on PD practices that have been effective for teacher learning in K–12 settings. Seven common design characteristics of effective PD for teacher learning were defined. Effective PD (a) is content-focused, (b) incorporates active learning, (c) supports collaboration, (d) uses models of effective practice, (e) provides coaching and expert support, (f) offers feedback and reflection, and (g) is of sustained duration.

Content-Focused. The first feature, content-focused PD, is about learning discipline-specific curricula such as mathematics, science, or literacy. It is most often job-embedded, meaning the PD is situated in teachers’ classrooms with their students. Typically, such PD involves teachers correlating elements of instructional strategy to student learning, while also testing out new curriculums. For example, studies by Roth et al. (2011) examined the effect of PD on teachers participating in the Science Teachers Learning from Lesson Analysis (STeLLA) program. Results of the study showed that teachers who participated in the STeLLA program had students who achieved greater learning gains than comparison students whose teachers did not receive this in-depth training. Another study by Buysse et al. (2010) involved PD for monolingual teachers to support their English instruction to dual language learners (DLLs). The PD involved teachers attending a 3-day institute with follow up sessions throughout the year to support instructional strategies focused on topics of literacy and DLLs. The results showed that the teachers’ general language and literacy practices related to DLLs improved.
Active Learning. The second feature of effective PD is active learning. Opportunities for sense-making activities are important (Darling-Hammond et al., 2017). Such activities often involve modeling the sought-after practices and constructing opportunities for teachers to analyze, try out, and reflect on the new strategies. One example is a study by Greenleaf and colleagues (2011), where California high school biology teachers participated in PD integrating academic literacy and biology instruction through a program called reading apprenticeship. This multimodal, active learning PD model resulted in student achievement equivalent to a year’s reading growth compared with students of teachers assigned to a control group. Another study by Buczynski and Hansen (2010) described how fourth- through sixth-grade teachers had the opportunity to participate in “constructivist, hands-on experiences” using science kits. These were the same science kits that teachers would then go on to use in their classrooms with their students. Similarly, teachers in a study by Heller et al. (2012) completed the same scientific investigations they analyzed in written teaching cases. Active learning engages educators using authentic artifacts, interactive activities, and other strategies to provide deeply embedded, highly contextualized professional learning. Active learning is also an “umbrella” element that often incorporates collaboration, coaching, feedback, reflection, and modeling (Darling-Hammond et al., 2017).

Collaboration. Collaboration in job-embedded contexts is an effective element of PD that resulted in better student outcomes. Thirty-two out of the 35 studies incorporated collaboration to support teacher learning and growth (Darling-Hammond et al., 2017). Many were also inquiry-based, subject-focused, and designed to address teachers’ conceptual understandings as well as pedagogical content knowledge (Buczynski & Hansen, 2010; Doppelt et al., 2009; Gersten et al., 2010). One study by Buczynski and Hansen (2010) focused on an
inquiry learning partnership (ILP) formed between two urban school districts, a science museum, and a university to develop PD for fourth- and sixth-grade teachers. The participants engaged in collaboration on an online forum that fostered the exchange of resources and ideas and was moderated by PD coaches. In another study, the teacher study group (TSG) model (Gersten et al., 2010) focused on first-grade teachers’ reading comprehension and vocabulary instruction. Teachers collaboratively planned lessons using strategies they read about and discussed, with positive effects on teacher knowledge and practices (Gersten et al., 2010).

**Modeling of Effective Practice.** The fourth feature of effective PD involves modeling effective practice. Curricular and instructional models and modeling of instruction help teachers to have a vision of practice on which to anchor their own learning and growth. The various kinds of modeling can include video or written cases of teaching, demonstration lessons, unit or lesson plans, observations of peers, and curriculum materials such as sample assessments or student work samples (Darling-Hammond et al., 2017). For example, the study by Heller et al. (2012) focused on deepening teacher understanding of core science concepts in national and state standards and prominent student curricula, such as Full Option Science for Students (Heller et al., 2012), Science and Technology for Children (Bossé et al., 2010), Benchmarks for Scientific Literacy (American Association for the Advancement of Science, 1993), and the 2009 National Assessment of Educational Progress (NAEP) Science Framework (Frantz et al., 2014). Sessions included both grade-level appropriate and more advanced content, such as the concept of resistance, to develop teacher knowledge beyond that of their students. While the approaches in the three courses differed, each was based on the premise that teachers must have opportunities to learn science content knowledge in combination with analysis of both learners thinking about that content as well as teaching strategies to help learners understand that content.
Teachers experienced carefully structured, collaborative analysis of their own students’ work. After teaching a unit, they were given discussion protocols for the analysis of student work that focused on teachers’ analysis of student understanding. Both quantitative and qualitative measures were used to investigate the impact of each intervention on teacher and student knowledge of the content, on teacher classroom practices, and on teacher pedagogical content knowledge and reasoning about teaching and learning of that content. Data collection included observational data that captured participant interactions and reflections both in professional development sessions and during classroom lessons. Results of this study provided strong evidence that all three PD courses produced significant increases in both teacher and student outcomes. All three courses produced large gains in teacher content knowledge in the study year, with effect sizes close to 2.0 and over 1.0 a year later, and there were no significant differences among the course effects on teacher test scores. Additionally, all three courses produced significant increases in content test scores compared to controls, both in the study year and for students in treatment teachers’ classes a year later with effect sizes ranging from 0.4 to 0.6 for students in the study year and were even stronger effect size (0.5–0.8) the following year.

Another study by Gallagher et al. (2017) examined the impact of the National Writing Project’s (NWP) College-Ready Writing Program (CRWP) in high-need rural districts. Teachers engaged in communities of practice, participated as learners, coplanned, cotaught NWP’s argument writing curriculum, observed lesson demonstrations, and engaged in reflection with teacher consultants. The professional development content focused on argument writing from non-fiction sources. Teachers were provided and supported to use (a) a wide range of curricular resources designed to support argument writing and (b) a formative assessment tool designed to evaluate students’ use of source material in their writing. Teacher outcome measures included a
daily instructional log and survey. The impact of the CRWP on teachers was estimated based on
the surveys and instructional logs. Treatment teachers reported receiving nearly ten times as
many hours of writing professional development as control teachers (63 hours compared to 6.4
hours). Treatment teachers spent slightly more instructional time on argument writing than
control teachers.

The work students were asked to do differed more dramatically, with treatment teachers
reporting a greater focus than control teachers on developing a claim, evaluating evidence that
could be used in support of this claim, developing an argument in support of this claim, and
practice writing the argument. Teacher participation in the program was associated with positive
outcomes in student writing (effect size = 0.22). This study provided rigorous experimental
evidence to a body of literature that indicates that professional development that focuses on more
than one aspect of instructional capacity, as shown by the CRWP which addressed both teacher
knowledge and instructional material, is more likely to lead to meaningful student learning
(Gallagher et al., 2017).

Coaching and Expert Support. The fifth feature of effective PD was the importance of
coaching and expert support. Thirty out of the thirty-five studies had coaching support for
educators. Coaching was targeted towards instructional practice and providing constructive
feedback (Darling-Hammond et al., 2017). For example, a 4-year longitudinal study by
Biancarosa et al. (2010) on the value-added effects of a literacy collaborative (LC) involved one-
on-one coaching of teachers for improving student literacy learning. Results indicated that well-
supported coaching initiatives can affect positive changes in student learning and demonstrated
significant gains in student literacy learning beginning in the first year of implementation. The
effect’s magnitude grew larger during each subsequent year of implementation.
Another study by Lara-Alecio et al. (2012) had teachers engage in on-site, small group PD to promote inquiry based, literacy-integrated instruction to improve ELLs’ science and reading achievement. Researchers provided teachers with lesson plans that incorporated strategies for effective ELL instruction. Students of teachers who participated in the PD achieved higher scores on district science and reading benchmarks than students whose teachers did not participate (Lara-Alecio et al., 2012).

Opportunities for Feedback and Reflection. Feedback and reflection are critical components of adult learning theory (Darling-Hammond et al., 2017). Feedback and reflection work together to help teachers move thoughtfully towards the expert visions of practice that they learned about or experienced through expert modeling. For example, in the study by Greenleaf and colleagues (2011), high school biology teachers engaged in collaborative inquiries over 10 days where they participated in literacy activities as learners, discussed and debriefed about what they learned, made connections, extended their literacy learning, and reflected on the implications to their pedagogical practices.

The PD curriculum involved teachers (a) using metacognitive routines, such as think-aloud protocols, and metacognitive logs for reading and for science investigations; (b) modeling reading and reasoning processes with think-aloud and text annotation; (c) using methods of orchestrating and conducting collaborative small-group work, such as think-pair-share, jigsaws, and other group protocols involving comprehension routines; and (d) engaging in reciprocal teaching and extended reading opportunities with varied sets of texts on particular topics. Analysis of pre- and postintervention surveys offered evidence that the intervention had produced increased teacher efficacy in integrating biology and literacy teaching (Greenleaf et al., 2011): Differences between intervention and control teachers based on surveys, interviews, and
assignment samples showed that the intervention teachers were (a) more knowledgeable about, and better able to integrate, the teaching of science reading with science content; (b) able to create classrooms characterized by collaborative inquiry and meaning-making with science texts; (c) able to engage students in the work of text inquiry; and (d) able to offer their students tools in the form of comprehension routines and strategies to support their work with science texts.

**Sustained Duration.** The seventh feature of effective PD is sustained duration. Meaningful professional learning requires time. According to Darling-Hammond and colleagues (2017), PD that offers multiple opportunities for teachers to engage in learning around a set of concepts or practices has a greater chance of transforming teaching practices and student learning. In one example of sustained duration, C. C. Johnson and Fargo (2014) conducted a 2-year program for elementary school science teachers aimed at improving science instruction and facilitating culturally responsive instruction. The PD started with a 2-week workshop for two summers, reinforced with monthly grade level workshops and professional learning communities, resulting in 224 total hours of PD. It was an intensive program, engaging participants in 80 hours of professional development during the first summer, followed by 36 hours across each of the 3 academic years, for a total of 198 hours. This study consisted of a comparison of students of teachers who had participated in the PD (intervention) versus students in a comparable school whose teachers had not participated (comparison). A series of three multiple regression analyses were conducted to examine the effect of study group (intervention/comparison), race/ethnic identity (white/minority), and gender (male/female) on test scores for each year of the study. Students attending schools where teachers participated in the PD demonstrated consistent improvements over the 3 years in science achievement over this time as measured by the Discovery Inquiry Test (DIT).
Likewise, Roth and colleagues (2011) examined the effect of PD on teachers participating in the STeLLA program, where teachers engaged in 58 hours of analysis throughout the school year and an additional 44 hours during a 3-week summer session, for a total of 102 hours. The goal of the PD was to deepen teachers’ science content knowledge and pedagogical content knowledge about student thinking and about science content storylines. A quasi-experimental two-group design which used pre- and postprogram lesson videos and student learning allowed for comparisons between teachers experiencing the STeLLA program and teachers who received only the science content instruction portion of the program. The STeLLA program significantly improved teachers’ science content knowledge and their ability to analyze science teaching. Notably, the STeLLA teachers further increased their classroom use of science teaching strategies associated with both lenses (student thinking and about science content storylines) while their students increased their science content knowledge.

Kim and colleagues (2011) studied secondary English teachers who participated in a Pathway project to improve their ability to use cognitive strategies to support ELLs’ interpretive reading and analytical writing skills. Teachers in the Pathway Project learn how to integrate cognitive strategy instruction and process writing to develop students’ text-based analytical writing abilities. Pathway teachers participated in a total of 46 total hours of intensive and sustained training for a full school year, including 6 full day sessions (6 hours each) and 5 after school sessions (2 hours each) distributed across the regular school year. Results for student outcomes on text-based analytical writing assessment measures were higher for participating teachers. The percentage of Pathway students who earned at least two scores of 4 or above on the Assessment of Literary Analysis (ALA) test was 21.93% for Pathway students compared to 14.25% for the control group students.
**Meta-Analysis 2: Desimone and Garet (2015)**

The second meta-analysis, by Desimone and Garet (2015), examined research in the United States for five features of effective PD. The five features were (a) content focus; (b) active learning; (c) coherence of content, goals, and activities; (d) sustained duration; and (e) collaboration. The meta-analysis involved examining cross-sectional studies (Garet et al., 2001), longitudinal studies (Desimone et al., 2002, 2013), and literature reviews of qualitative and quasi-experimental studies (Desimone, 2009). This meta-analysis described three major conclusions, detailed below.

The first was that changing procedural classroom behavior is easier than improving content knowledge or inquiry-oriented instruction techniques. For example, Piasta and colleagues (2010) and Sailors and Price (2010) found that PD designed to foster teacher use of straightforward, specific tasks, such as increased references to print while reading aloud or providing warm-up problems every day, was successful and required only a modest number of PD hours. In contrast, changing teachers’ subject-matter knowledge in meaningful ways was difficult, and more complicated behavior changes, such as conceptual teaching in mathematics, were less tractable, even with a substantial amount of PD that had the five core features (Garet et al., 2001).

A second finding was that the same PD can produce different responses and outcomes in teachers. Teachers come to PD with varying levels of experience and content knowledge, and from various classroom contexts—for example, some teachers have substantial numbers of ELLs while others have substantial numbers of students with behavior issues (Desimone et al., 2002). According to Roschelle and colleagues (2010), these factors may influence what teachers want and are able to learn from the PD activity. As a result, PD should be calibrated to individual
teacher needs. One of the results of this finding has been the trend to link PD with formal teacher evaluation and offer it in two forms (Lewis & Young, 2013): first, a catalog of PD opportunities (online experiences, workshops, readings, and other activities) that are linked to areas of teacher practice measured in teacher observations, and second, coaching and mentoring based on teacher evaluation data, which allows coaches and mentors to tailor their work (Allen et al., 2013).

Finally, Desimone and Garet (2015) concluded that PD is more successful when it is explicitly linked to classroom lessons. For instance, Santagata and colleagues (2010), in a randomized control trial of a math PD, aligned the training materials with the teachers’ curriculum, such that teachers received PD on a particular topic area immediately before they were to teach it to their students. Similarly, the PD that Penuel, Gallagher, et al. (2011) offered was completely and explicitly linked to the curriculum teachers were using to teach middle school earth science. Both studies showed positive gains in student outcomes.

Yoon et al. (2007) engaged in a meta-analysis focused on student outcomes related to teacher PD. The researchers reviewed empirical studies for evidence of how teacher PD affects student achievement (Yoon et al., 2007). However, only nine studies out of 1,350 research articles met the What Works Clearinghouse evidence standards. At the same time, these nine studies presented several important findings. The first was the duration of PD: Teachers who received an average of 49 hours of PD were able to boost their students’ achievement in standardized tests by about 21 percentile points. While studies that had more than 14 hours of PD also showed a positive and significant effect on student achievement, studies that had PD between 5 and 14 hours total had no statistically significant effects on student outcomes (Yoon et al., 2007).
Another finding highlighted delivery of instruction. All nine studies employed workshops or summer institutes. PD went directly to teachers rather than through a train-the-trainer approach and was delivered by the authors or their affiliated researchers (Yoon et al., 2007). Additionally, Yoon and colleagues (2007) found that PD should be intensive, sustained, content-focused, coherent, well defined, and implemented with fidelity (Garet et al., 2001; Guskey, 2003; Loucks-Horsley et al., 1998; Supovitz, 2001; Wilson & Berne, 1999). Finally, PD should promote and extend effective curricula and instructional models or materials (Cohen et al., 2002; Hiebert & Grouws, 2007; Rossi et al., 2004).

Summary

These meta-analyses identified key features of effective PD that are aligned with features that support self-efficacy. Effective PD provides vicarious experience in using examples, models of effective practice, and opportunities to engage with others to imagine new practice. It includes opportunities for reflection and feedback from trusted others and incorporates opportunities to practice and master new skills over time. These meta-analyses also indicate that PD that supports teacher collaboration and provides opportunities for dialogue around practice helps teachers delve deeply into issues of teaching and learning. Finally, PD must be sustained over time if it is to have an impact on teacher practice.

Professional Learning Communities

Professional learning communities (PLCs) are a form of PD in which small groups of educators with shared interests work together either formally or informally, with the goals of expanding their knowledge and improving their craft (Dimino et al., 2015; Joyce & Showers, 2002). Typically, a PLC consists of a team of teachers that meets regularly to learn new topics, share ideas, and problem solve (Dimino et al., 2015). PLC members share the goal of improving
student achievement by improving their own teaching practice, and their shared interest brings coherence and continuous learning to their PD (Dimino et al., 2015). PLCs are often used in PD because they share many of the important features shown to be supportive of teacher learning including active learning, collaboration, cooperative learning, content focused. The meta-analysis confirmed that (a) professional development in discipline specific areas that is connected to classroom lessons supported teacher pedagogical practice and knowledge and mastery experiences, and (b) modeling of proven practices and allowing teachers to implement, analyze and reflect on the new strategies in collaborative groups increased teacher motivation, vicarious experiences, promoted social/verbal persuasion and overall perceived self-efficacy in teachers. This section will examine the features common to professional learning communities, and different types of PLCs including cohort groups, virtual PLCs, and teacher study group models.

Features of Professional Learning Communities

As mentioned above, the features of the PLC format include providing support for subject matter learning and learning about student conceptions; using active learning strategies; encouraging collective participation; and assuring consistency among teachers’, schools’, and districts’ goals for teacher learning (Penuel, Fishman, et al., 2011). A PLC may be composed of teachers from the same grade level or from multiple grade levels or may be organized according to subject area; a PLC may include teachers from different schools within a district (Dimino et al., 2015; Gersten et al., 2010). Most PLCs engage in the five-step process for collaborative learning. The process was adapted from Wald and Castleberry’s (2000) five stages of work for teams engaging in a collaborative learning cycle. The five stages represent an inquiry-action cycle that encourages teams to debrief, define, explore, experiment, and reflect and plan (Dimino...
et al., 2015). *Debrief* is when team members share the instructional strategies and activities they implemented in their classrooms and explain how their students responded. It also involves members reflecting on how they might modify or adapt their lessons to improve student outcomes. *Define* refers to identifying the focus and specific goals of the session. *Explore* involves engaging in new practices and comparing the new concepts learned to current practices. *Experiment* with newly learned strategies is a collaborative activity with cohorts and involves coplanning lessons and new activities and then implementing the new strategies. *Reflect and plan* is when each member connects their new activities to prior knowledge and then as a group plan activities and strategies for member classrooms prior to the next PLC. The intent is to start the next PLC with reflections about the strategies (Dimino et al., 2015).

There are a number of identified strengths and challenges of the PLC model, according to Cuddapah and Clayton (2016). First, schools with learning communities facilitate professional support that includes discussion, and reflection or inservice teachers of varying experience levels. Secondly, PLCs foster teacher collaboration: sharing experiences within the community and engaging in critical inquiry to positively impact student achievement. One challenge of PLCs is teacher commitment to PD, especially if it involves travel or lengthens their school day (Cuddapah & Clayton, 2016). Another common issue is the cost to teachers, in both time and money, which deters participation in extended collaborative professional development. An administrative constraint in organizing PLCs relates to limited availability in school schedules for shared time for teacher collaboration (McConnell et al., 2013).

**Types of Professional Learning Communities**

While PLCs share several common elements such as active learning, collaboration, collective participation, and collegial support, these elements can be incorporated in different
formats. Three of the most common formats are described below. They are (a) the cohort model, (b) the virtual professional learning community (VPLC) model, and (c) the teacher study group (TSG).

**Cohort Model.** A cohort model involves teacher groups who teach either the same grade or the same content area collaborating to provide long-term, sustained classroom support (Hansen-Thomas et al., 2013). A study by Murphy and colleagues (2019) focused on the perceptions of inservice general education teachers who completed a cohort mentoring program in collaboration with a large, urban university to earn an ESL certification. Based on interviews with 19 members of a cohort of 28, participants valued both the support and augmented skills-development afforded by the mentoring element, as well as the supportive, collaborative environment the cohort model provided. Many also reported that the ESL-targeted strategies they learned were helpful in teaching all student populations and that program participation contributed to their increased involvement in leading PD and, for some, to their intention to seek administrative roles. In this study, participants moved through all components of the program as a group, which increased participants’ self-confidence while being responsive to teachers’ individual needs (Murphy et al., 2019).

In another study, Chen and colleagues (2008) designed the Sheltered Instruction and Family Involvement (SIFI) project, a cohort model to introduce K–12 teachers to effective strategies for enhancing ELLs’ learning such as placing a greater emphasis on family involvement. The project was conducted with two cohorts of teachers. Twenty classroom teachers and three district level administrators completed Cohort 1, and 15 teachers completed Cohort 2. The teachers taught across all grade levels from K to 12. SIFI introduced the teachers to research on the effects of family involvement on students’ academic achievement and asked
that participants develop plans for intentionally involving families (Chen et al., 2008). Data sources for the project included observations of teachers’ instruction based on the Sheltered Instruction Observation Protocol (SIOP) rubric (Echevarría et al., 2008), which were analyzed to determine the extent of the participants’ implementation of SIOP components for individuals. Next, the results of students’ achievement on a literacy assessment in SIFI teachers’ classrooms were matched with students in non-SIFI classrooms to analyze and determine differences in academic growth.

Additionally, the researchers analyzed teachers’ open-ended reflections from each PD session to determine views about the sessions and materials, thoughts about implementation of SIOP and family involvement strategies, and concerns (Chen et al., 2008). The data indicated that the PD experiences led to changes in teacher views and practices. At the beginning of the project, most of the Cohort 1 teachers saw family involvement in traditional ways (e.g., parent conferences, report cards, and so on). There were positive changes in the amount and quality of family involvement. Almost half of the 18 teachers surveyed pre- and postintervention made positive phone calls to over 50% of their students and reported that they had “asked parents to share positive information about their child.” Teachers also provided specific examples of strategies to involve more families, such as hosting a Latino College Night, preparing weekly newsletters translated for ELL students, planning a middle school preparation event, encouraging families to write journals, and conducting multicultural fairs. Participation in the SIFI project resulted in teachers developing more positive views about family involvement, expanding their strategies for reaching out to families, and developing a deeper knowledge of the students and families to inform their teaching.
The cohort model is beneficial in several ways: (a) It helps build a community of learners, promotes collaboration, and establishes networking connections that can persist after the program is completed; (b) it allows educators to learn together while providing them with pedagogical, emotional, and social support; and (c) it supports greater positive learning gains in cognitive and affective domains (Chen et al., 2008; Murphy et al., 2019). Additionally, in the cohort model, the groupings of teachers are flexible. Configurations can include pairs, mentor groups, homogeneous grade level groups, and random or cross-grade groups.

**Virtual Professional Learning Communities.** Virtual professional learning communities (VPLCs) are learning communities that are mostly online. VPLCs have been implemented in many different forms, including course management software (Blackboard, Canvas, Google Classroom), asynchronous text-based collaborations like wikis and blogs, and via videoconferencing software such as Skype (McConnell et al., 2013). VPLCs use technology to support collaborative learning among participants separated by geographic or temporal barriers (McConnell et al., 2013). VPLCs are increasingly becoming an efficient, effective, and supportive alternative for teacher learning. Additionally, VPLCs facilitate hybrid options by augmenting asynchronous virtual learning with face-to-face meetings or video conferences. Current virtual learning platforms like Zoom, Google Meet and Microsoft Teams have helped bridge the gap between face-to-face cohort meetings and asynchronous virtual learning. Teachers are able to engage in cohort discussions, group work, and collaborations in each of the virtual learning platforms, overcoming the hurdles associated with asynchronous learning management systems, daily time constraints and classroom schedules.

VPLCs have great potential for improving both teacher knowledge and instructional practices to improve student achievement (Masters et al., 2010). For example, Masters and
associates (2010) studied a PD effort that was part of a larger e-learning initiative for educators. The initiative included schools from eight states engaging in online PD. Using four randomized control trials with teachers from multiple states, this study evaluated the effects of online PD on teachers’ knowledge and instructional practices and ultimately on student outcomes. Each workshop was sustained over 7 weeks and required approximately 4 to 6 hours of participation per week from teachers in the treatment group. Therefore, teachers in the treatment group participated in approximately 100 hours of online PD related to best practices for vocabulary instruction, promoting reading comprehension skills, and methods for teaching writing in the elementary classroom. The study outcomes were measured using a survey designed to measure teachers’ knowledge and self-reported frequency of instructional practices, in relation to the goals of the workshop. The sustained VPLC models had positive effects on teacher knowledge and instructional practices. In vocabulary, there was a small effect on teachers’ knowledge and a large effect on practices. In reading comprehension, there was a large effect on knowledge and a medium effect on practices. In writing, there was a large effect on both knowledge and practices. When the knowledge scores from all three subjects were combined, there was a large effect.

Another study by Choi and Morrison (2014) at the Center for Language Minority Education and Research involved a unique hybrid program design, integrating characteristics of effective PD programs in innovative ways to create a basket-like net of support structures for positive changes in practice. In this study, Choi and Morrison studied participants’ practices after engaging in an 18-month initiative emphasizing differentiated instruction, language acquisition, critical thinking, and sociocultural issues. Thirty-three teachers participated in a variety of learning activities that provided “multi-layered scaffolding” (p. 418) through both online asynchronous discussions and regular face-to-face meetings. The teacher participants read
research and other assigned readings and posted at least twice per week in online discussions. Participants were also asked to try out, from their assigned readings, research-based strategies, lessons, and curriculum elements that embodied course concepts about best practices for teaching ELLs. This was followed by reflection and discussion between colleagues under the direction of a university facilitator. The program emphasized inclusive participation and collaborative professionalism.

The weekly discussions were completed in Blackboard, an online learning management system/portal for discussion board activities and uploading and downloading course assignments. At the beginning of the week, each teacher participant was asked to post a response to a prompt that linked readings and classroom practice including strategy implementation, student responses, or lesson design and implementation results. During the second half of the week, teachers responded to peers’ postings. In the process of integrating the classroom observation data with the discussion thread data, changes in observed classroom practice were linked to specific time- and-date-stamped postings on the discussion boards. The PD program was successful in identifying, describing, and studying collegial PD, with interactions captured both in classroom observations and online threaded discussions. In addition to documenting changes in classroom practices and teachers, the study explicated the teacher change process and linked it to features of PD. The results indicated that experienced teachers learned to adapt their practice for working more effectively with ELL students and laid the groundwork for similarly designed cost-effective, hybrid (online and face-to-face) PD models.

Many interventions have adopted a hybrid program, providing participants with online content and assignments that they could access and complete at their own pace within a given time frame before engaging in physical interactions that include facilitated face-to-face
discussions, coplanning lessons, and implementing instructional strategies (Choi & Morrison, 2014; Hutchinson & Hadjioannou, 2011).

One of the primary strengths of VPLCs is the flexibility it affords teachers in participating in PD. Additionally, VPLCs provide a more cost-effective PD format for schools with limited finances (Hutchinson & Hadjioannou, 2011) and provide a solution to problems related to the training needs of high-quality teachers—support, expenditure, and time (Masters et al., 2010; McConnell et al., 2013). There are also challenges with VLPCs. For example, participants who lack technology skills and/or access to adequate technology may not be able to participate effectively in the PD (McConnell et al., 2013). Participants logging in to virtual PD meetings from home may encounter distractions that are not present in a face-to-face meeting, such as distractions from pets or family member. Finally, researchers found that relationships and participation in fully-virtual VPLC environments are not as strong as in blended or offline communities (Macià & García, 2016). Teachers preferred face-to-face PLCs but admitted they like the combination of online and face-to-face activities (Macià & García, 2016).

**Teacher Study Group Model.** TSGs are composed of cohorts of teachers who meet regularly and engage in focused inquiry around how their instruction affects student learning and are based on instructional practices grounded in empirical research (Firestone et al., 2020; Gersten et al., 2010). Fundamental to the TSG model is the understanding that teachers’ professional growth is a multifaceted intellectual activity that depends on conceptual knowledge, content knowledge, and contextualized meta-cognitive abilities facilitated through participation in learning communities (Calderón, 1997; Firestone et al., 2020).

The goals of TSGs are to integrate conceptual understanding with practical applications. Typically, the TSG model concentrates on a single preselected topic over a span of time, such as
instructional practices for emergent literacy (Cunningham et al., 2015), practices to improve vocabulary and reading comprehension in first graders (Gersten et al., 2010; Jayanthi et al., 2018), or math instruction (Koellner et al., 2011). Additionally, TSGs typically involve a master teacher or a university faculty member to facilitate integration of new knowledge and skills into the inquiry process. Finally, the TSG model links training to job-specific challenges and is a more meaningful, useful, and motivating experience for teachers.

Gersten et al. (2010) conducted a study to evaluate the impact of the TSG model on first-grade teachers’ reading comprehension and vocabulary instruction and student achievement in those areas. The multi-site study was conducted in three large urban school districts from three states. The study included a total of 81 first grade teachers and their 468 students from 19 Reading First schools. The teacher participants met twice a month with a knowledgeable facilitator to discuss brief readings on relevant research and then applied this research to refine the lessons they were planning to teach the following week. Classroom observations of teaching practice showed significant improvements in vocabulary outcomes of students in TSG schools. TSG teachers also significantly outperformed control teachers on the teacher knowledge measure of vocabulary instruction. The cumulative review of the vocabulary concepts from one book, *Bringing Words to Life*, was a critical factor leading to these improvements in vocabulary (Beck et al., 2002). During each vocabulary session, teachers developed and practiced the research concepts that were discussed in previous study group sessions. For example, the first session addressed developing student-friendly definitions, examples, and contrasting examples. The second session focused on choosing words to teach before students read a selection, but also provided teachers the opportunity to continue developing student-friendly definitions, examples, and non-examples for the target words.
The vocabulary concepts from *Bringing Words to Life* (Beck et al., 2002) fostered greater understanding of vocabulary than the resources used to foster comprehension (Gersten et al., 2010). Additionally, even though participants completed the guiding questions for several reading comprehension strategies, the recursive activity did not seem to increase their knowledge of reading comprehension as much as their knowledge of vocabulary (Gersten et al., 2010). The results suggested that participants need to review and practice a strategy (e.g., main idea) several times to build a coherent understanding. Additionally, the researchers said one plausible explanation was that students’ vocabulary knowledge was influenced by changes in teaching practice in the areas of vocabulary and comprehension, but their limited reading proficiency may have dampened performance on understanding the true meaning and context of vocabulary items (Gersten et al., 2010).

Another study using the TSG model was done by Hung and Yeh (2013), who examined the change in EFL elementary school teachers’ knowledge development using readers theater (RT). All group members met biweekly for 3 hours after school throughout an 18-week semester. RT strategies were modeled by their professor/coach, including initial mini-lectures to explain the features of RT and its differences from traditional drama. Specifically, teachers learned that in RT students read scripts and did not memorize them. The emphasis was on writing RT scripts based on predictable and familiar stories in which sentence patterns and culturally responsive vocabulary could be easily integrated and reinforced using chants, rhymes, and repetition. The study illustrated the group's learning process by characterizing major patterns in the teachers' changes in beliefs and practices. The findings revealed three prominent patterns or paths of teacher change, from the readings and discussions to the designing of teaching activities, then in the implementation of teaching activity, and reinforcement and changing practice in response to
classroom teaching, based on their frequency of occurrence over the course of the intervention. This study concluded that forming a teacher study group with a focus on classroom-level curriculum development provided a promising context for teachers to develop practical knowledge that was relevant and applicable to their own classrooms (Hung & Yeh, 2013).

A third study, by Cunningham et al. (2015), examined the effectiveness of the TSG model on preschool teachers for their students’ emergent literacy development. Three sequential cohorts involving a total of 19 teachers serving a high-need, underresourced community participated in a year-long intervention. Each TSG session followed a four-step process based on principles of effective adult learning: (a) review, (b) content presentation, (c) practice, and (d) preparation. A major component of the TSG content was introducing teachers to methods by which they could engage in planned instruction in phonological awareness. During review, teachers discussed assigned homework, reflecting on what worked as well as challenges faced in implementing new strategies or activities in their classrooms. They also reviewed a two-page research-based article, written for teachers, as an introduction to new concepts. Next, the facilitator led an interactive content presentation (25–45 minutes), with slides designed to help build teachers’ knowledge. Each presentation began with guiding questions and included relevant research and introduced a visual organizer for teachers to scaffold PA activities for a given child, as well as the unit of language (word, onset-rime, syllable, phoneme) under consideration. The facilitator then modeled various PA activities using best practices. Throughout, connections were made with teachers’ own classroom experiences.

Pre- and post-test analyses revealed significant changes in teachers’ phonological awareness ability, content knowledge, and pedagogical knowledge. Increases were also seen in the quantity and quality of phonological awareness activities in the classroom. Finally, from
preintervention to postintervention, teachers showed significant gains in their knowledge of specific instructional strategies, their understanding of how phonological development unfolds in young children, and their recognition of the importance of their roles as teachers in designing developmentally appropriate experiences through which children receive explicit guidance in noticing and manipulating the sounds of language. The children in the sample demonstrated significant gains on a measure of their phonological awareness skills and made more progress in this area over the course of the study than would be expected based on national norms of same-aged children.

Jayanthi et al. (2018) conducted a large-scale replication study of earlier work by Gersten et al. (2010) designed to examine the impact of TSG PD in teacher change related to vocabulary instruction. The study took place in 16 districts in four states that included California, Ohio, Illinois, and Texas over the course of 3 years. The purpose of the study was to assess the TSG PD’s impact in vocabulary on (a) observed teaching practice, (b) teacher knowledge, and (c) student vocabulary knowledge when implemented by school literacy personnel with first-grade teachers in Title I schools. Two hundred and twenty-six teachers and 1,811 students participated in the study. There were 31 facilitators for 30 groups of teachers.

Results indicated that 89% of the teachers believed the TSG PD was more useful than other PD they have attended, and 85.71% of teachers felt the program helped them teach vocabulary. Close to 90% of the teachers indicated that the TSG sessions provided them with ideas that they had not learned in other vocabulary PD, and 99% of the teachers said the TSG PD increased their knowledge of teaching vocabulary; 91% said it improved their skill in teaching vocabulary. Additionally, 82.80% said they frequently use what they learned in the TSG program, and more than 97% of the teachers planned to use what they learned in the future. The
vast majority of the teachers (97%) felt what they learned was directly relevant to their teaching, and 85% felt it was easy to put into practice. (Jayanthi et al., 2018).

Another study by Gersten and colleagues (2010) involved teachers participating in a TSG by actively engaging in facilitator-guided problem-solving discussions and applied learning activities. TSG used a recursive process that included (a) debriefing on previous application of research, (b) reviewing research, (c) walking through the lesson, and (d) using collaborative planning. The TSG PD program was designed to enhance implementation of teachers’ reading curriculum using research-based instructional strategies for teaching comprehension and vocabulary. The PD involved 16 sessions that lasted 75 minutes each. Teachers practiced and reflected on their strategies in between the sessions. Teachers in the TSG schools outperformed teachers in the control schools on the teacher knowledge measure of vocabulary instruction. Additionally, participants felt positive about their participation in the TSG. Most (97%) felt that the TSG was much more useful and beneficial than other forms of PD they experienced; 72% of the teachers felt that TSG helped them teach reading (Gersten et al., 2010; Jayanthi et al., 2018).

Overall, teachers in the TSG studies felt what they learned was relevant to their teaching and the format was helpful (Cunningham et al., 2015; Gersten et al., 2010; Jayanthi et al., 2018). The TSG model is also cited as an effective approach to link research principles to issues that arise in the curriculum used at each school (Cunningham et al., 2015; Gersten et al., 2010; Gersten et al., 2019; Hung & Yeh, 2013) and is known to foster a learning community and improve the professional culture of a school (Dimino et al., 2015).

Challenges with implementing teacher study groups include the structure of the intervention design, for instance, ensuring that it provides adequate preparation and training, the need for facilitators, as well as allocating the time required to build teachers’ proficiencies in
order to apply knowledge learned in the PD. Additionally, the fidelity of implementation can be impacted by personal problems, scheduling conflicts, or teachers not coming prepared for the PD sessions. The efficacy of the intervention is also impacted by teacher efficacy and motivation, which includes their attitude towards learning new strategies (Dimino et al., 2015; Gersten et al., 2019). While teachers who took part in TSGs expressed positive attitudes toward such collaborative efforts, stating that they were able to address important classroom-based issues and meet their actual teaching needs, these teachers also recognized that it was difficult to form a teacher study group without institutional support or guidance from experts (Hung & Yeh, 2013).

**Summary**

The above review of the literature review indicated that PD is most productive when aligned with the factors that support teacher self-efficacy, verbal persuasion, vicarious experiences, physiological arousal, and mastery experiences. In research on PD, these factors are represented in opportunities to learn new content in a job-embedded, supportive, and collaborative learning environment where teachers dialogue and learn from one another, are provided with examples and models, practice their new learning, reflect, and receive support and feedback in ways that develop their capabilities.

The review indicated that PLCs are an effective approach to delivering these qualities and provide the vehicle for high quality, impactful PD. TSGs as a specific form of PLCs holds a great deal of promise in producing positive outcomes and are closely aligned with the four factors that enhance self-efficacy. First, TSGs focus on learning content in supportive, collaborative groups and on discussing and applying research-based concepts to classroom instruction in sustained active learning towards mastery experiences. Opportunities for dialogue, learning, feedback, and encouragement across time enhance the persuasive quality of the PD.
Teachers participate in multiple sessions and have on-going opportunities to discuss and apply research-based concepts to their classroom instruction and engaging in verbal persuasive activities in a group. Because teachers actively engage in problem-solving discussions and applied learning activities, they are better able to apply their learning to their classroom teaching (Gersten et al., 2010).

The second component of a TSG aligned with self-efficacy is establishing a productive state of learning, or arousal, through a collegial, collaborative, and well-supported approach (Cunningham et al., 2015; Dimino et al., 2015; Hung & Yeh, 2013) where teachers experience trust and are encouraged to practice new learning without penalty. Additionally, TSGs that are well connected to the purpose and vision of the school, district, or state initiatives reduce conflict and eliminate competing priorities. This supports teachers’ ability to see the way in which the purpose of the PD fits into their daily work (Cunningham et al., 2015; Dimino et al., 2015) and mediates negative perceptions that might be associated with the requirement to change.

TSGs also provide opportunities for vicarious learning. In these groups teachers have an opportunity to read and discuss various approaches to implementing new learning in the classroom, as well as opportunities to work with and observe peers. Additionally, TSGs that are facilitated allow for someone with more expertise to make connections, guide conversations, and provide meaningful models. Finally, TSGs include opportunities for practice and reflection. In this way, teachers begin to develop mastery over new instructional practices and can observe impact on student learning. Appendix D provides details about the types of PLCs that were studied for the intervention review.
Instructional Strategies to Support English Language Learner Second Language Development

In addition to examining effective formats for PD, this review also explores the knowledge and skills teachers must have to support the academic language learning of ELLs and explores interventions focused on building this knowledge and skills. It is guided by the factors presented in the conceptual framework and explores studies that examine academic language development in classroom settings, the impact of explicit academic vocabulary instruction and the pedagogies that best facilitate academic language development.

Academic language is the language of texts, of academic discussions, and of formal writing (Schleppegrell, 2012). Empirical studies have shown that rich, explicit vocabulary instruction is optimal for the academic vocabulary development of ELLs (Beck et al., 2002). This includes contextualized, repetitive, and meaningful introduction to unfamiliar words, along with examples and opportunities to apply the word within context and make connections to day-to-day lives (Anthony, 2008). Students achieve deep vocabulary learning when vocabulary instruction develops both definitional knowledge and understanding of a word’s broad range of semantic connections and related concepts, provides many exposures to target words in multiple contexts, and requires that students justify and explain their reasoning as they make associations among words (Ford-Connors & Paratore, 2015). Approaches to explicit vocabulary instruction and the oral language or dialogic pedagogies that provide opportunities to use and practice these words in authentic contexts are explored below.

Vocabulary Instruction

Students with large vocabularies demonstrate stronger reading comprehension and score higher on standardized achievement tests than their peers with smaller vocabularies, and
vocabulary knowledge is closely linked to students’ long-term academic achievement (National Reading Panel, 2000). Limited vocabulary has been linked to the achievement gap for ELLs, students of color, and students with learning disabilities (Biemiller & Slonim, 2001; Ford-Connors & Paratore, 2015; Proctor et al., 2005). As students advance, the texts they are expected to read increase in both concept density and linguistic complexity. As a result, both knowing words and how to derive meanings of unfamiliar words becomes more important in understanding text (Ford-Connors & Paratore, 2015).

**Explicit Instruction in Academic Language is Critical**

Because literacy development starts as early as preschool, teachers need knowledge about language development and explicit instructional strategies to foster language acquisition (Cunningham et al., 2015; Ford-Connors & Paratore, 2015; Gersten et al., 2010, 2019). Research indicates that to operationalize academic English development in schools, instructional goals need to focus on explicit instruction in vocabulary and language components. This includes (a) the phonological component in the early years of language development; (b) the lexical component, which requires learners to have knowledge of vocabulary used in academic contexts; (c) the grammatical component to facilitate understanding academic texts in content areas, especially to make meaning of complex sentence structures and passive voice; (d) the sociolinguistic component, such as signaling cause and effect, hypothesizing, generalizing, comparing, contrasting, explaining, and so on; and (e) the discourse component, which enables students to use linguistic forms and meanings to communicate coherently in an organized way (Canale & Swain, 1980).

In the National Literacy Panel report, Lesaux and Geva (2006) asserted that an instructional focus on academic vocabulary may enhance second-language learners’ reading...
comprehension. This finding is supported by Carlo and colleagues (2004), who found that intensive, theme-based word study and the explicit teaching of general academic vocabulary improve vocabulary knowledge and reading comprehension among fifth-grade ELL and monolingual English students. The results supported the direct instruction of vocabulary in context, the instruction of word-analysis strategies (such as using knowledge of morphology like affixes or root words), and the use of native-language texts to build background knowledge (as cited in Bowers et al., 2010).

Also, the National Literacy Panel concurs that instructional approaches in math, science and social studies should include explicit vocabulary instruction, explicit comprehension strategy instructions, and use of text based cooperative learning to allow for extended discussions and application of new vocabulary (Calderón et al., 2011). Researchers also emphasized the need for instructional practices to integrate oral language proficiency by engaging in read-alouds and academic discussions since they contribute to vocabulary growth (August & Shanahan, 2006).

Jayanthi and colleagues (2018) conducted a study on building the quality of teaching practices in vocabulary instruction. This was a multi-year project that was developed and refined over 10 years, using teacher study groups (Jayanthi et al., 2018). The TSG PD study was a multisite, randomized trial where schools were randomly assigned to treatment and control conditions. The study included 81 first-grade teachers, 468 students, and 19 Reading First schools in California, Virginia, and Pennsylvania (Gersten et al., 2010). The sessions’ scope and sequence were based on Learning How to Improve Vocabulary Instruction Through Teacher Study Groups (Dimino & Taylor, 2009). The vocabulary content for the PD sessions was drawn from prior research on rich, focused vocabulary instruction (e.g., Beck et al., 2002; Graves, 2016). Sessions addressed four key topics: (a) selecting words to teach in depth; (b) developing
student-friendly definitions for these words; (c) generating examples, contrasting examples, and concrete representations of word meanings; and (d) providing other activities to promote multiple meaningful exposures to new words. The final sessions discussed use of context clues to help determine word meaning and other activities that extended word learning beyond the reading lesson.

**Language Development and Dialogic Pedagogy.** For ELLs to develop oral language fluency, they need opportunities to practice and engage in dialogue with native English speakers (Cummins, 2012; de Jong, 2013). This requires teachers to provide ELLs opportunities to use academic vocabulary orally to build familiarity with the language. Gottlieb and Ernst-Slavit (2014) claimed that many ELLs have limited opportunities in the classroom to hear and practice using academic language. Teachers tend to rely heavily on everyday language, which leaves students lacking the skills necessary to understand and use academic language appropriately (Gottlieb & Ernst-Slavit, 2014). According to Gottlieb and Ernst-Slavit (2014), oral language development is crucial for student literacy development. Consequently, teachers who structure time for students to engage in meaningful conversations using academic language develop stronger literacy skills (Zwiers, 2013; Zwiers & Crawford, 2011).

Researchers describe dialogic pedagogy as an important teaching strategy that emphasizes language production in the form of collaborative conversations, vocabulary, writing, and reading (Anthony, 2008). According to Anthony (2008), there are five components of dialogic teaching: (a) exploratory talk, (b) argumentation, (c) effective questioning, (d) debate, and (e) dialogue. ELLs benefit from an abundance of opportunities for these kinds of interaction in both oral contexts and with reading and writing (Snow, 2014; Verplaetse, 2007) with other students, and with their teachers. According to Verplaetse (2007), these interactive opportunities
are essential for second language development. Students benefit from opportunities to practice and develop academic language communication skills, meaning mastery, and multiple ways of expressing ideas. Such experiences lead to the development of content learning, personal and social development, and the development of academic language proficiency (Verplaetse, 2007). While sheltered strategies such as read-alouds, think-alouds, the use of simple vocabulary, and graphic organizers make academic content comprehensible, they do not foster or develop expressive language (Umansky, 2016a). In summary, it is important to acknowledge that interaction opportunities are one of the essential ingredients for second language development (Snow, 2014; Verplaetse, 2007).

Based on the new requirements of the Common Core State Standards, Bunch (2013) and van Lier and Walqui (2012) argued for an approach to language instruction that frames language as action, in which students engage in the discourse practices of school and of specific academic disciplines and consequently learn the forms and functions of English in the context of meaningful school-oriented communicative activity, using grade-level material with appropriate scaffolding as needed. According to Walqui and Heritage (2018), for classroom discourse to be effective teachers need to (a) make sure students have a clear understanding of the content and discourse’s purpose, (b) have students generate starter ideas in advance, (c) give feedback on the students' organization and language patterns, and (d) use examples from the students’ own work to explain how they can be modified to produce more complex language.

In addition, Walqui and Heritage (2018) identified characteristics of productive talk, including (a) deep talk about a specific idea based on the lesson’s theme with clear connections that provide student’s opportunities to engage in analytical thinking; (b) sustained dialogue that has students respond to each other to extend, refute, or question the original response; and (c)
student-controlled conversation rather than teacher-directed. However, teachers set up parameters such as framing questions that start the conversation by communicating related ideas, presenting counterexamples, or more generally enhancing the theme that is under discussion (Walqui & Heritage, 2018).

Alexander (2018) studied the effect of dialogic teaching on student engagement and learning. The intervention focused on providing teachers with a range of talk-based pedagogical skills to improve and refine their students’ oral language abilities, while acknowledging the unique context of each classroom. Teachers were responsible for determining how to apply the strategies. The intervention had three stages: pilot (2014–2015), trial (2015–2016), and follow-up (2016–2017), in 72 schools in the cities of Birmingham, Bradford, and Leeds. The PD focused on seven strategies: (a) induction and training; (b) mentoring; (c) video/audio to capture classroom interactions; (d) guided planning, target-setting, and review; (e) whole school involvement; (f) materials and professional study; and (g) monitoring and support from the project team. The format for the PD was the same as in TSGs. Data collection included student progress tests, postal surveys (low yield rate), interviews which took place in the beginning of Phase 1 (autumn 2015) and end of Phase 2 (spring 2016). The focus of the interviews was to measure participants’ adherence to the intervention, challenges encountered during the intervention, perceived impact on teaching, learning, student engagement and classroom talk. Video data were used to assess the pedagogical impact of the intervention on both the intervention and control groups. Participating teachers claimed direct positive gains from the program for classroom talk, student engagement and student learning, and their own professional understanding and skill. There were also specific gains in content areas. In English, teachers reported improved student vocabulary, better discussion, and evidence of transfer of verbal gains.
from oral to written work. In mathematics, students improved on explaining their reasoning, which allowed teachers to provide targeted feedback and extension activities. In science, the democratization of questioning fed into a more genuinely scientific stance in students’ investigations and discussions. Children in dialogic teaching schools made 2 additional months’ progress in English and science and 1 additional month’s progress in mathematics, compared to children in control schools (Alexander, 2018).

Another study, part of an Institute of Educational Sciences (IES)-funded project called Catalyzing Comprehension through Discussion and Debate (CCDD), examined the impact of Word Generation (WG), a discussion-based instructional program for middle school students (LaRusso et al., 2016). The original WG program (WordGen Weekly) was a supplementary curricular resource offering a series of discussable dilemmas to promote students’ academic language and argumentation skills (Lawrence et al., 2015). In all, 1,554 middle grade students across 28 schools were randomly assigned to treatment or control conditions. The intervention was designed to build academic literacy (vocabulary knowledge, complex reasoning, and perspective-taking) by training teachers to facilitate classroom discussions in language arts, math, science, and social studies classrooms (Lawrence et al., 2015). The research design included two cohorts of schools randomized to treatment and control conditions. The researchers studied the first cohort for 3 years and the second cohort for 2 years.

The cross-disciplinary design of the program was unique, giving teachers of ELA, science, social studies, and math the chance to collaborate on the shared goal of helping students use academic language to articulate their thinking (Lawrence et al., 2015). Students in classrooms where teachers engaged in WG activities exhibited better content understanding, analysis, and inquiry, and instructional dialogue had carry-over effects in teacher practices and
classroom dynamics. A classroom observation rubric was developed to measure several dimensions of discussion quality. There were large effects on classroom discussion quality across all content areas, especially in math and science (Lawrence et al., 2015).

Additionally, researchers found that explicit instruction linking oral language skills to reading and writing were needed to foster academic language development (Uccelli & Galloway, 2016). The WG study also suggested that engaging in oral communication within classrooms and engaging in issue-focused discussions fostered and developed reading and writing skills for ELLs (Snow, 2014). Discussions create opportunities to speak in class, which promotes critical thinking skills and reading comprehension (Snow, 2014).

According to Snow (2014), features for dialogic pedagogy to support English language development in classrooms include (a) open-ended questions from the teacher (Alexander, 2018; Howe et al., 2019); (b) student contributions elaborate and build on the discussion; (c) acknowledging, probing, and critiquing differences of opinion; (d) integrating discussion by explicitly connecting it to content; and (e) developing students’ meta-cognitive skills while interacting verbally to promote reflective practices.

**Summary and Overview of Proposed Intervention**

This chapter brought together the theoretical framework of self-efficacy, a conceptual framework of factors critical to supporting teachers’ ability to promote academic language development in ELLs, and a review of literature that illustrated both the form and content of productive PD for teachers. The design of an intervention will take up insights from these three critical pieces. The literature on effective PD indicated that positive outcomes were related to the four influences on self-efficacy (Bandura, 1997) that include vicarious experiences, verbal persuasion, physiological arousal and mastery experiences. In the literature on PD influences are
demonstrated in (a) collaboration, (b) engagement in collective work in trusted and supportive environments, (c) teacher inquiry and reflection, (d) connection of new knowledge to classroom lessons, and (e) sustained delivery (Darling-Hammond et al., 2017; Desimone & Garet, 2015). Additional productive elements demonstrated in this review included, reading and studying evidence-based practices, and implementing new knowledge in iterative cycles of study, plan, practice, and reflect (Cunningham et al., 2015; Gersten et al., 2010; Jayanthi et al., 2018).

Appendix E provides details about the review of best practices for ELLs to arrive at the most suitable model for the intervention.

Out of all the approaches reviewed, the TSG intervention model seems most suitable for (a) the current context and (b) the goal of improving teacher knowledge and instructional practices to increase the academic English proficiency of ELLs. The study of evidence-based practices including examples and models, and opportunity to plan, implement, reflect and receive support and feedback inherent to TSGs have been shown to positively influence teacher knowledge and instructional practices (Cunningham et al., 2015; Firestone et al., 2020; Gersten et al., 2010; Hung & Yeh, 2013; Jayanthi et al., 2018). Regarding the content for the PD, the needs assessment and a review of the literature indicate that teachers would benefit from learning how to explicitly teach academic vocabulary across content areas as well as opportunities to learn about and practice dialogic pedagogies that promote oral use of vocabulary in authentic contexts. A more complete description of the intervention is described in Chapter 4.
Chapter 4

Intervention Procedure and Program Evaluation Methodology

A review of effective professional development (PD) approaches and the content that would benefit teachers’ practices with English language learners (ELLs) indicated that organizing a teacher study group (TSG) where teachers studied, planned, and implemented lessons that include explicit academic vocabulary instruction and dialogic teaching would support their overall pedagogical expertise with ELLs (see logic model in Appendix C). This chapter lays out the purpose and design of the study and the design of the intervention.

Purpose of the Study

The purpose of this study was to examine the effect of professional development using the TSG approach on mainstream teachers’ knowledge and instructional practices to meet the academic vocabulary development needs of ELLs.

The following research questions (RQs) guided the study:

RQ1: To what extent did the implementation of the TSG align with the intended intervention design?

RQ2: To what extent did teachers participate in PD as planned?

RQ2a: What elements of the TSG did participants identify as supports and barriers in developing knowledge of second language development, supporting academic vocabulary development in ELLs, and using dialogic pedagogical strategies?

RQ3: What did teachers learn about second language development, supporting academic vocabulary development in ELLs, and using dialogic pedagogical strategies?

RQ4: How do teachers integrate academic vocabulary instruction and dialogic pedagogical strategies in their teaching?
RQ5: How do teachers perceive their efficacy in supporting academic vocabulary development before and after participation in the TSG?

**Research Design**

To evaluate the implementation and impact of the TSG, the researcher used a mixed methods design combining qualitative and quantitative approaches. The advantages of using mixed methods for this study were that the knowledge gained was more than the sum of each form of data (Creswell & Creswell, 2017). The advantages of collecting qualitative data included that it was based on the context and the nature, and multiple data collected conveyed multiple perspectives of participants (Creswell & Creswell, 2017). The advantages of collecting quantitative data were that it helped the researcher understand the relationships of the variables (Creswell & Creswell, 2017). Using both qualitative and quantitative analysis and multiple forms of data provided additional insights, compared to engaging in only one of the methods (Creswell & Creswell, 2017; Lochmiller & Lester, 2015). For this study, the research questions guided the research design, data collection instruments, data analysis, and data interpretation.

This study used a convergent parallel design for data collection and analysis. This design approach involved collecting both quantitative and qualitative data in parallel and then analyzing independently (Creswell & Creswell, 2017). The two sets of independent results were then synthesized or compared during the interpretation phase. This allowed the researcher to determine if the participants responded in a similar way to quantitative predetermined scales in the survey instruments and to qualitative data in the form of reflection posts and discussions (Creswell & Creswell, 2017). The strength of the convergent parallel design was that both types of data were collected in one phase (Creswell & Creswell, 2017). The design facilitated direct
comparison of participants’ perspectives from different measures and gave voice to participants. Additionally, the measures used were suitable for both process and outcome evaluations.

**Process Evaluation**

The purpose of doing a process evaluation was to examine whether program activities were implemented as intended and to improve future iterations of the program (Rossi et al., 2019). Key elements of a typical process evaluation plan include (a) fidelity of implementation or adherence, (b) participant responsiveness, (c) context, (d) dose delivered, and (e) dose received (Rossi et al., 2019). The two elements of process evaluation that were examined were adherence and participant responsiveness. Adherence, or fidelity, is the extent to which implementation of specific activities and methods is consistent with the way the program is planned—in this case, examining whether the TSG was implemented as planned. For each week, the researcher used an adherence checklist to record whether the intervention activities took place as planned (see Appendix F).

Participant responsiveness measures the extent to which participants are engaged by and involved in the activities and content of the program (Dusenbury et al., 2003). This was assessed using the Responsiveness Checklist and the Elements of Intervention Questionnaire. All instruments are described more fully in the data collection instruments and procedures section.

**Outcome Evaluation**

The study also evaluated outcomes of teacher learning and practices. Outcomes were evaluated using both quantitative and qualitative data sources. Quantitative instruments included the Teacher’s Perceived Preparation and Self-Efficacy Scale to teach ELLs (TPPSE) and the Teacher Knowledge of Vocabulary Development and Instruction Survey (TKVS). Qualitative
data included reflection posts and researcher notes from face-to-face discussions, lesson plans, and observations.

**Methods**

This section lays out the methods. It includes a description of the researcher positionality, participants, the instruments used to collect data, a detailed description of the intervention, and the approach to data analysis.

**Researcher Positionality**

Before I describe the intervention, it is important to discuss my positionality within the context. I am the researcher and the founder and owner of the school. I am multilingual, orally fluent in English, Hindi, Malayalam, and Tamil, but with academic language fluency only in reading and writing English. I also teach debate to students from Grades 5 through 8, which involves teaching them speaking, listening, reading and writing, and the art of argumentation. My position (as a researcher) is that of an indigenous insider who endorses the unique values, perspectives, behaviors, beliefs and knowledge of the ELLs. There are strengths given an insider perspective, but there are power dynamics and potential researcher bias that must be mitigated to the degree possible. I describe my approach towards mitigation of the positionality below.

**Mitigating Power Dynamics**

My position as the owner/founder of the school creates an uneven power dynamic and has the potential to be seen as coercive by teachers. In order to mitigate coercion given these power dynamics, a couple of measures were taken to ensure voluntary participation.

1. Mrs. Karen Yurman, the vice principal of the school and Grade 4 teacher, who does not hold a supervisory role, sent out a recruitment email inviting people to participate in the study. This email made it clear that, while the TSG/PD is required, as is all
professional development in the school, participation in the study was not required. It also explained the ways that data was to be collected throughout the TSG and invited teachers to reach out to the nonconflicted designee (the PI and advisor) or the researcher if they had questions. This email was sent out twice.

2. Once teachers expressed interest, they were able to ask questions of the researcher or the nonconflicted designee.

3. Participants were asked to send their consent form to the nonconflicted designee directly, who then informed the researcher of those who had agreed to participate in the study.

*Researcher Bias*

There are challenges and strengths to being an insider in this research. To control for researcher bias, data collection instruments used in lesson plan analysis and classroom observations were based on a priori codes and protocol checklists. These checklists provided a stronger degree of objectivity while collecting and later interpreting these two data sets. The strengths of an insider with respect to being a multilingual learner is in recognizing the efforts and impact of teacher strategies in the academic vocabulary development of ELLs and the opportunities given to ELLs to use academic vocabulary and engage in dialog.

*Participants*

Participants for the intervention included 22 teachers from a private K–8 school (NJPS) who participated in a TSG. All teachers from kindergarten through Grade 8 who taught content signed the consent forms to participate in the intervention (100% of the teaching staff). Two participants dropped out from the study due to personal reasons, leaving a final count of 20. The sample was a convenience sample. The characteristics of the participants are described below.
Content Area Teachers

There were two teachers from each grade, K–4. Five of these teachers taught language arts and social studies, and five teachers taught math and science. From the middle school, there were four content area teachers who taught Grades 5 and 6 and four content area teachers who taught Grades 7 and 8, with each teacher representing language arts, math, science, and social studies. The participants also included the technology teacher, who teaches Grades 1 through 8 and two language teachers who taught Spanish and French for Grades 3 through 8.

Multilingual Teachers

Out of the 22 teachers, six teachers are multilingual: the Grade 1 and Grade 3 math/science teachers, Grades 7 and 8 math teacher, the technology teacher, the Spanish teacher, and the French teacher. The multilingual teachers speak five different languages: Arabic, French, Hindi, Marathi, Spanish, and Tamil.

Degrees and Teaching Experience

Of the 22 teachers, 11 hold advanced degrees and one has a doctorate degree; two of the teachers have a special education certification. A majority have been teaching in the school for more than 6 years. Four of the middle school teachers have fewer than 2 years at the school, and three of the elementary school teachers have fewer than 5 years at the school. Six of the teachers are veteran teachers with more than 20 years of teaching experience. The teachers range in age from 29 to 75 years, with two teachers in the 26–30 age range, five teachers in the 40–50 range, two teachers in the 50–60 range, and 12 teachers over 60 years old.

Participants were recruited by the vice principal/Grade 4 teacher, Karen Yurman, through an email that included a description of the purpose, procedures of the study, and a statement that the study was being conducted through the Johns Hopkins School of Education. Within the
school, leadership is distributive, and decisions are made collaboratively. Mrs. Yurman does not occupy a supervisory position with the teachers, and she is also the fourth-grade teacher. The invitation contained additional information about eligibility, a contact person, and the name and address of the principal investigator. Participants were provided with an informed consent form and were assured that there was no penalty for not being involved in the study or for withdrawing at any time.

**Data Collection Instruments and Procedure**

Several instruments, both qualitative and quantitative, were used to gather data to explore the implementation and impact of the TSG.

**Qualitative Data**

Reflection posts, discussion posts, researcher notes, lesson plans and classroom observations were used to collect qualitative data. Each instrument is described in detail below.

**Reflection Posts.** The TSG included two intervention cycles. The first intervention cycle included reading about second language acquisition and academic vocabulary development and implementing the six-step vocabulary instruction, and the second intervention cycle included reading about dialogic pedagogy and implementing one of the three dialogic strategies to examine change in vocabulary use. Teachers submitted reflection posts after (a) completing the readings and (b) after implementing a strategy. The reflection posts were based on three guiding questions: (a) What did I learn? (b) How did this impact my thinking about supporting ELLs? and (c) How might I refine my approach in future teaching? Teachers posted reflections in each intervention cycle for a total of four reflections in Google Classroom.
**Discussion Posts.** Teachers responded to other teachers’ reflection posts in Google Classroom. The discussion posts were in response to teachers’ reflections after (a) completing the readings and (b) implementing a strategy for a total of four discussion posts.

**Researcher Notes.** Field notes were taken by the researchers during observations of the face-to-face sessions as well as during observations of classroom teaching.

**Observations.** Each teacher was observed twice during the TSG. The first observation explored how teachers used the six-step vocabulary framework. The second observation explored how teachers implemented essential elements of the dialogic pedagogy (Alasmari & Ahmed, 2013; Ferlazzo & Sypniewski, 2018; Fisher & Frey, 2014; Marzano & Pickering, 2005; Shuster & Meany, 2005). A protocol organized around the six steps of the vocabulary teaching and the elements of dialogic pedagogy was used to frame the observations (Appendix H).

**Lesson Plans.** Teachers’ lesson plans were collected to assess how teachers incorporated the new strategies and planned their instructional pedagogy in ways that included the new strategies. The lesson plans were analyzed to examine evidence of integration of (a) ideas from the readings about second language acquisition and academic vocabulary development, (b) six-step vocabulary instruction (Marzano & Pickering, 2005), and (c) explicit components of dialogic instructional strategies.

**Quantitative Data**

An adherence checklist (see Appendix F), participant responsiveness checklist (see Appendix G), elements of intervention questionnaire (see Appendix H), and two surveys were used to collect data. The surveys included the Teachers Perceived Preparation and Self Efficacy to Teach ELL (see Appendix I) survey and The Teacher Knowledge of Vocabulary Instruction (see Appendix J) survey.
**Adherence Checklist.** The Adherence Checklist was used to measure the fidelity of implementation of the intervention as planned. The checklist was organized by the activities planned for each week per cycle and included whether the teachers engaged in the activities or not, for each of the 9 weeks. The activities for Cycle 1 included taking preintervention surveys, reading articles pertaining to second language acquisition and academic language development, participating in face to face discussions in cohort groups, posting reflections after reading and engaging in discussion posts after reading cohort’s reflections, coplanning lessons, teaching using the six-step vocabulary instruction method, reflection posts after teaching, and engaging in discussion posts after reading cohort’s posts. The activities for Cycle 2 of the intervention included reading articles about three dialogic instructional strategies and watching video demonstrations of the three strategies, participating in face-to-face discussions in cohort groups, posting reflections after reading and engaging in discussion posts after reading reflections posted by cohorts, coplanning lessons, teaching using both the six-step vocabulary instruction and dialogic instructional strategy, posting reflection posts after implementing the lesson and engaging in discussion posts with cohorts.

**Responsiveness Checklist.** The Responsiveness Checklist was used to collect the kinds and levels of participation in the intervention and included (a) session attendance, (b) number of reflection posts on assigned readings, (c) number of reflection posts after implementing strategies, (d) number of references to reading material in reflection posts, including exchanges between members of the cohort group, (e) number of discussion post exchanges with other teachers, and (f) number of references to new learning in discussion post exchanges (see Appendix G).
**Elements of Intervention Questionnaire.** In order to gauge the participants’ perspectives on the quality of the different elements of the intervention and identify those that were supports or barriers to engagement, the Elements of Intervention Questionnaire was used at the end of the TSG. Participants were asked to respond to a questionnaire that included rating the degree to which elements of the TSG (i.e., readings, videos, face to face discussions, coplanning with other teachers, reflection posts, discussion posts, developing lessons plans with new knowledge, teaching lessons, and debriefing with other teachers) supported their learning across four levels of high, moderate, low, and none. The questionnaire also included open-ended response questions on each element: (a) What elements best supported your learning, and why? (b) What elements were barriers to your learning, and why? (see Appendix H).

**Teacher Survey on Perceived Preparation and Self-Efficacy.** The Teacher Survey on Perceived Preparation and Self-Efficacy (TPSSE) is a tool that has been used for capturing teacher attitudes, beliefs, and knowledge of ELL issues (Durgunoglu & Hughes, 2010). This scale was initially created to measure preservice teacher self-efficacy and perceived preparation to teach ELLs. Participant responses are on a 5-point Likert scale with the following ratings: strongly disagree (1), agree (2), neutral (3), disagree (4), and strongly disagree (5). The survey was slightly modified for this study to focus more specifically on teachers’ perceived preparation (6 questions) and self-efficacy (9 questions) to teach ELLs and two sections from the original survey (attitude towards ELLs in the classroom and attitude towards parents of ELLs) were not included. The survey was administered pre- and postintervention.

**Teacher Knowledge of Vocabulary Development and Instruction Survey.** The Teacher Knowledge of Vocabulary Development and Instruction Survey (TKVS) is an instrument that measures teachers’ knowledge of vocabulary development and instruction. It was
developed by Duguay et al. (2016). There are six sections: (a) background information, (b) development of vocabulary knowledge (15 questions), (c) providing rich and varied language experiences (seven questions), (d) teaching individual words (nine questions), (e) teaching word-learning strategies (eight questions), (f) fostering word consciousness (six questions), and (g) vocabulary instruction for ELLs (seven questions). The survey was administered pre- and postintervention.

Below is the table that provides details regarding the data collection timeline, instruments, and the format for collecting data.

**Table 1**

*Data Collection Process and Timeline: Instrument, Timeline and Format*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data collection instrument</th>
<th>Timeline</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1. Fidelity of implementation</td>
<td>Adherence checklist</td>
<td>04/11/22– 04/25/22</td>
<td>Checklist</td>
</tr>
<tr>
<td>RQ2. Participant responsiveness</td>
<td>Participant Responsiveness Checklist</td>
<td>02/07/22– 04/25/22</td>
<td>Checklist</td>
</tr>
<tr>
<td>RQ3. Teacher knowledge of second language development, academic, vocabulary instruction and using dialogic pedagogical strategies</td>
<td>Reflection posts</td>
<td>02/09/22– 03/16/22</td>
<td>Google Classroom</td>
</tr>
<tr>
<td></td>
<td>Field notes</td>
<td></td>
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<td></td>
<td>Teacher knowledge</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Vocabulary survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ4. Implementing new instructional strategies</td>
<td>Lesson plan protocol</td>
<td>03/21/22– 04/14/22</td>
<td>Google Classroom.</td>
</tr>
<tr>
<td></td>
<td>Classroom observation protocol</td>
<td></td>
<td>Checklist</td>
</tr>
<tr>
<td></td>
<td>Field notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ5. Teacher perceived preparation and self-efficacy</td>
<td>Teacher Perceived Preparation and Self-Efficacy Survey</td>
<td>02/06/22– 04/14/22</td>
<td>Pre/post Google Forms</td>
</tr>
</tbody>
</table>
Data Analysis

This study used a convergent mixed methods design, where qualitative and quantitative data were collected in parallel but analyzed separately before being merged. Both quantitative and qualitative data were analyzed to address the research questions through distinct steps that helped represent, interpret, and validate the data and results (Creswell et al., 2011; Onwuegbuzie & Leech, 2006). This allowed for triangulation of quantitative and qualitative data (Creswell & Creswell, 2017) and for opportunities to pursue explanations or further probing of contradictions that may be uncovered.

The research questions operated as a framework to guide the analysis. The steps in the analysis included (a) data collection; (b) parallel analysis of quantitative and qualitative data; (c) identification of elements for associations, links, correlation, and comparison among all data; and (d) presentation of the combined analysis to create a coherent narrative (Creswell et al., 2011; Creswell & Creswell, 2017). The method of analysis for each data set is described below.

Quantitative Data Analysis

Quantitative data included the TPPSE and TKVS, Adherence Checklist, and the two measures for participant responsiveness (Responsiveness Checklist and Elements of Intervention Questionnaire). These data were analyzed using descriptive statistics. This primarily involved calculations of frequency (Creswell & Creswell, 2017).

Qualitative Data Analysis

Qualitative data analysis was conducted using both a priori and emergent coding. A priori coding involved developing codes ahead of data collection and in this case, guiding questions and protocol checklists was used to support deductive analysis. Emergent coding involved organizing the data collected into categories after it was collected and used inductive analysis.
This involved reading through the multiple data collected (reflection posts and discussions, lesson plans, and classroom observations) to develop a general understanding, recording initial thoughts, and reviewing the data. The data analysis process followed six steps as prescribed by Braun and Clarke (2006). The steps included (a) familiarizing oneself with the data, (b) generating initial codes, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes, and (f) producing the report. Reviewing themes included two levels of checking, (a) whether the themes capture the essence of the coded data in answering the research question and (b) whether the themes worked in the whole data set (Clarke & Braun, 2014). The data and themes derived were examined against literature to confirm as well as compare examined evidence in reporting the results (Xu & Zammit, 2020). By integrating inductive and deductive coding, the data provided a balanced, comprehensive view, instead of purely relying on the frequency of codes decontextualized from the context (Xu & Zammit, 2020).

After analyzing the quantitative and qualitative data separately, data were merged to facilitate further analysis and identify findings against the research questions.

**Data Interpretation**

Data interpretation included cross-referencing the findings from both quantitative and qualitative data. Interpretation was framed around the research questions and made connections to the literature (R. B. Johnson & Onwuegbuzie, 2004) to evaluate the implementation and impact of the TSG. A central goal of the interpretation was in creating an understanding of next steps in supporting these teachers in the development of their understanding of second language acquisition, academic language development, and instructional strategies related to vocabulary instruction and dialogic pedagogy.
**Intervention**

The intervention was a TSG that focused on supporting teachers’ (a) understanding of second language acquisition, (b) ability to provide explicit instruction in academic vocabulary development, and (c) use of dialogic pedagogies that encouraged both explicit teaching and student practice of new vocabulary. These three objectives work together and are necessary to build teacher understanding and pedagogical practices that support ELL language acquisition, academic vocabulary development, and academic vocabulary use in mainstream classrooms.

The TSG was organized around synchronous meetings and asynchronous participation for a duration of 3 months from February through April, 2022. Teachers read materials posted in a shared drive and then engaged in synchronous, face-to-face meetings to discuss readings and coplan instruction. This was followed with face-to-face sessions, and reflection posts and discussions in Google Classroom. The TSG included two cycles and each cycle followed a five-step process:

1. reading selected research-based articles about second language acquisition, building academic vocabulary, and instructional strategies for ELLs,
2. discussing the articles in face-to-face cohort groups (K-2, 3-5, 6-8),
3. coplanning instruction based on the reading,
4. implementing the new instructional strategy, and
5. writing reflection posts about new knowledge learned and new instructional strategy.

The design of the TSG focused on the features that influence self-efficacy (Bandura, 1997).

Teachers were provided with materials that helped build their knowledge around teaching and supporting ELLs and discussions with peers to process learning and add to the visual persuasion of the knowledge shared. They collaborated with other teachers and engaged in
collective processing and lesson planning, providing access to a wide range of vicarious experiences. The collaborative work normalized the practice of new pedagogies and provided opportunity for feedback and improvement creating a safe space in which to try out new ideas. Finally, teachers put their learning into practice in their own classrooms providing opportunities for mastery experience. Below is a description of the readings, face-to-face meetings, asynchronous participation and an outline of the sessions.

**Readings and Videos**

Each PD participant received a copy of the book *Building Academic Language* (Zwiers, 2013), copies of Chapter 3 from the *Teachers Manual for Building Academic Vocabulary* (Marzano & Pickering, 2005), and copies of articles for three instructional strategies (Al Alasmari & Ahmed, 2013; Ferlazzo & Sypniewski, 2018; Fisher & Frey, 2014). Teachers had access to all the readings in Google Classroom before the intervention study and for the entire duration of intervention and were expected to read the materials before attending sessions.

To acknowledge and address the time constraints teachers experience, the intervention provided opportunities and support for asynchronous participation and capacity development. These included providing teachers access to videos showcasing each of the instructional strategies and posting reflection and discussion posts asynchronously.

**Building Academic Language (Zwiers, 2013)**

Teachers read Chapters 3 and 4 of *Building Academic Language* (Zwiers, 2013), which provided an overview of language acquisition and teaching strategies for modeling and scaffolding academic language and described the variations of language that exist in math, language arts, science, and social studies.
Teachers Manual for Building Academic Vocabulary *(Marzano & Pickering, 2005)*

Marzano and Pickering’s research (2005) is focused on building academic vocabulary in a specific way with a systematic approach to teaching academic vocabulary, to increase student’s comprehension abilities. Chapter 3 provides detailed instructions on six steps teachers in all content areas can use for vocabulary instruction. This chapter provides important foundational knowledge for explicit teaching of vocabulary, which can be incorporated across many different active learning pedagogies. Teachers learned about the six-step vocabulary instruction model and implemented it within the context of their curriculum. The six steps are as follows:

1. Provide a description, explanation, or example of the vocabulary word.
2. Ask students to restate the description, explanation, or example in their own words.
3. Ask students to construct a picture, symbol, or graphically representing the vocabulary word.
4. Engage students periodically in activities that help them add to their knowledge of the vocabulary in their notebooks.
5. Periodically ask students to discuss the vocabulary with their peers.
6. Involve students periodically in games that allow them to play with the vocabulary words.

*“Content Area Vocabulary Learning” (Fisher & Frey, 2014, Reading Teacher, pp. 594–599)*

Teachers read Fisher and Frey’s (2014) article about developing literacies in students, which discusses different strategies to engage students in expressive language and specifically about using “opinion stations” in classrooms. According to Fisher and Frey (2014), reading, writing, speaking, and listening are fundamental in the formulation and understanding of written
and verbal messages. Providing students opportunities through collaborative conversations is critical for students to use their growing vocabularies.

“Jigsaw Strategy” (Ferlazzo & Sypniewski, 2018, ELL Teachers Toolbox, Chapter 3)

Teachers read Chapter 3, “Jigsaw Strategy,” from Ferlazzo and Sypniewski’s (2018) book The ELL Teacher’s Toolbox and also watched videos that demonstrated the implementation of jigsaw strategy in the classroom (teacher resources in Google Classroom). The jigsaw strategy consists of a cycle of instructional activities that include reading the assigned text, grouping, regrouping, expert group discussion, team reporting, and assessments. The steps of the jigsaw strategy are as follows:

1. Divide the class into expert groups and distribute the appropriate texts.
2. Expert groups practice reading the text together.
3. Groups are then formed with one person from each group represented.
4. Experts teach their text to the new group.
5. Students complete a follow-up task (which could be creating a poster summarizing the article, planning a role-play to perform, and so on).
6. The teacher reviews the follow-up task with the entire class.

Using Opinion Stations and Debate

Opinion stations provide a less formal engagement routine for students to improve their listening, speaking, critical thinking and reasoning skills (Anthony, 2008; Fisher & Frey, 2014). Opinion stations can be implemented in various formats to support grade level expectations: (a) students can agree or disagree with a statement; (b) students can agree, disagree or somewhat agree or disagree and then change their mind after listening to multiple viewpoints; (c) students can choose from multiple options to showcase their understanding of a given statement.
The teachers read about using debate and argumentation to teach content in classrooms (Alasmari & Ahmed, 2013). Teachers read about the step-by-step argumentation plan (Shuster & Meany, 2005), which can be incorporated into their curriculum goals. The readings describe

1. providing a topic for debate from the content area,
2. engaging students in reading texts about the topic and preparing arguments that have an assertion supported by reasoning and evidence (A-R-E method),
3. using the six-step method to provide explicit instruction about vocabulary words,
4. modeling and providing scaffolding to participate effectively in argumentation,
5. grouping students to prepare arguments representing either the proposition or opposition side,
6. reviewing student work, and
7. facilitating a student debate at the end of the week.

**Cohort Interactions and Meetings**

Discussions and coplanning lessons are two important activities in the TSG that took place within face-to-face cohort group meetings and facilitated teachers’ abilities to make connections between the readings, instructional strategies, and the context. They are described below.

**Discussions**

Participating in cohort groups within the TSG provided teachers the opportunity to discuss their thoughts about the articles and hear their cohorts' viewpoints. Learning took place as a result of interactions between individuals, co-constructing the knowledge within groups. The questions that guided discussions included (a) What did I learn? (b) How did this impact my thinking about supporting ELLs?, and (c) How might I refine my approach in future teaching?
These same guiding questions were used to guide the teachers’ private reflection posts after reading and implementation of strategies.

**Coplanning**

Teachers within the TSG teach grades range from kindergarten through Grade 8. They were placed in three cohort groups. Group 1 included kindergarten through Grade 2 teachers. Group 2 included teachers from Grades 3 through 5. Group 3 included teachers from Grades 6 through 8. After reading and discussing new ideas, teachers coplanned lessons to be taught in their own classrooms. Coplanning helped teachers discuss and learn from each other and reflect on their instructional practices. It supported the teachers in interpreting new knowledge and exploring and experimenting with the instructional strategies based on the discussions and reflection.

**Reflection Posts**

Teachers submitted reflection posts on the readings, and after implementation of the two instructional strategies (Cycle 1 and Cycle 2). Guiding questions allowed teachers to reflect on (a) What did I learn? (b) How did this impact my thinking about supporting ELLs? (c) How might I refine my approach in future teaching?

**Discussion Posts**

Participants in the TSG were encouraged to comment and discuss other’s reflections in discussion posts in Google Classroom and to exchange ideas and opinions asynchronously. The intent of the discussions was to promote more reflective thinking after reading others’ reflections on the same articles and classroom experiences based on the three guiding questions.
Teaching Lessons

Teachers taught two different lessons based on their new learning. In the first lesson, teachers focused on the six-step process of explicit instruction of vocabulary words. In the second lesson, teachers used the six-step process for academic vocabulary instruction and one of the three instructional approaches for dialogic pedagogy.

Sessions

The table below provides an outline of the intervention timeline, focus and activities.

Table 2

<table>
<thead>
<tr>
<th>Intervention Plan Weekly Schedule</th>
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<tbody>
<tr>
<td><strong>Cycle 1</strong></td>
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<tr>
<td><strong>Session</strong></td>
</tr>
<tr>
<td><strong>Session 1. Building academic language</strong></td>
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<tr>
<td><strong>Session 2. Research-based strategy for teaching academic vocabulary in mainstream classrooms</strong></td>
</tr>
<tr>
<td><strong>Sessions 3 and 4. Lesson implementation</strong></td>
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<tr>
<td>Session</td>
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<tr>
<td><strong>Session 5.</strong></td>
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<tr>
<td><strong>Session 6.</strong></td>
</tr>
<tr>
<td><strong>Session 9</strong></td>
</tr>
</tbody>
</table>

- Reading focus: Learning instructional strategies
  1. Fisher and Frey (2014)
     Focus: Using Opinion Stations
  2. Ferlazzo and Sypniewski (2018)
     Focus: Using Jigsaw Method
     Focus: Using debate

- Supplemental resources: Video demonstrations of each strategy

- Coplanning lessons using one of the three instructional strategies
- Coplan lessons
  - Identify content to be taught
  - Identify academic vocabulary to be taught prior to engaging in dialogic pedagogy
  - Pick one dialogic pedagogy option

- Teaching the lesson

- Teachers fill out surveys.
  1. Elements of Intervention Questionnaire
  2. Postintervention Surveys: Teacher perceived Self Efficacy Scale, Teacher Knowledge of Vocabulary Scale
Chapter 5

Findings and Discussions

In this chapter, I present the findings from an intervention study of a K–8 teacher study group (TSG) focused on supporting teachers in learning (a) the knowledge and skills to support second language learners’ acquisition of academic English and vocabulary and (b) new instructional pedagogies that support language development in multilingual learners.

The following research questions (RQs) guided the study:

RQ1: To what extent did the implementation of the Teacher Study Group (TSG) align with the intended intervention design?

RQ2: To what extent did teachers participate in professional development (PD) as planned?

RQ2a: What elements of the TSG did participants identify as supports or barriers in knowledge of second language development, academic vocabulary development in ELLs, and using dialogic pedagogical strategies?

RQ3: While participating in the TSG, what did teachers learn about second language development, supporting academic vocabulary development in ELLs, and using dialogic pedagogical strategies?

RQ4: While participating in the TSG, how do teachers integrate academic vocabulary instruction and dialogic pedagogical strategies in their teaching?

RQ5: How do teachers perceive their efficacy in supporting academic vocabulary development before and after participation in the TSG?
Process of Implementation

The purpose of the intervention was to increase the knowledge of mainstream teachers within the school about second language acquisition, academic vocabulary development and instructional strategies to support the English language development of a predominantly multilingual student population. The total duration for the intervention was planned for 9 weeks and ran from February 2, 2022, to April 14, 2022 (11 weeks). The additional 2 weeks was while teachers were administering trimester exams.

Twenty-two teachers signed the consent form to participate in the intervention. Out of the 22 teachers, one teacher (Teacher 5) dropped out of the intervention after the first week because she fractured her wrist and had to take a leave of absence. However, she posted one reflection post. Another teacher (Teacher 10) dropped out after Week 4 because she had to undergo an operation. Teacher 10 was able to participate in most of Cycle 1, including face-to-face discussions, coplanning and implementing the six-step vocabulary method and posting two reflections. Participants reflected a wide range of teachers as reflected in the table below.

Table 3
Participants

<table>
<thead>
<tr>
<th>Grade content</th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>ELA</th>
<th>WL</th>
<th>SS</th>
<th>Math</th>
<th>Science</th>
<th>Tech</th>
</tr>
</thead>
<tbody>
<tr>
<td># of teachers</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td># of multi-lingual teachers</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Teachers engaged over the intervention in a number of ways that kept them engaged in readings, discussions, collaborative planning opportunities, reflections, practice and reflective debriefs. Teachers met in-person on four occasions for 1 hour each, during the intervention including (a) two face-to-face discussions after reading the articles (Week 1 and Week 5) and (b) two sessions
for coplanning lessons (Week 2 and Week 6) to incorporate six-step vocabulary instruction and dialogic strategies.

Other activities included (a) reading of articles posted in Google Classroom and posting reflection posts and discussions posts about the readings (end of Session 1 and Session 5), and (b) implementing two instructional strategies and reflection posts and discussions after implementing the lessons (end of Week 4 and end of Week 8). The timeline of the intervention study and descriptions for each session were posted in Google Classroom on January 25, 2022, prior to the start of the intervention. Additionally, the teacher resources (see Appendix K) which included articles, videos to support knowledge construction and demonstration of instructional strategies, templates and graphic organizers to support classroom instruction were posted prior to the intervention date to facilitate teachers access to content.

To promote attendance in all face-to-face discussions and coplanning sessions, teachers were divided into cohort groups by grades and given flexibility to join another group if there were conflicts in the schedule. Group 1 consisted of kindergarten through Grade 2 teachers, content teachers and a Spanish teacher. Group 2 included Grades 3 through 5, content teachers, and a Spanish and French teacher. Group 3 included Grades 6 through 8, content teachers and the technology teacher.

**Process Evaluation**

For an intervention to achieve targeted outcomes, there has to be a reasonable level of fidelity (Dusenbury et al., 2003). Fidelity is the degree to which the enactment of professional learning and the program design are aligned. The two elements of fidelity that were most pertinent to this study were adherence and participant responsiveness. In this case, adherence relates to the content and dose of the intervention and poses the question, have the ingredients of
the implementation been delivered to the participants as planned (Carroll et al., 2007; Dusenbury et al., 2003). Participant responsiveness refers to the degree to which the participants were actively involved in the intervention and is critical to fidelity of implementation. When participants do not see an intervention relevant then they may not engage well (Carroll et al., 2007). While there is overlap in dosage and participant responsiveness, each will be examined in the research questions one and two below.

**RQ1: To What Extent did the Implementation of the Teacher Study Group Align With the Intended Intervention Design?**

For this intervention, fidelity was measured by the adherence to the planned program activities. Across the intervention, I used an adherence checklist (see Appendix F) to record seven key elements: (a) discussion of readings, (b) coplanning, (c) reflection posts, (d) discussion posts, (e) submission of lesson plans, (f) implementation of lessons, and (g) observation of lessons. Table 4 below captures adherence.

**Table 4**

*Adherence Checklist*

<table>
<thead>
<tr>
<th>Activities</th>
<th>Implemented as planned: Yes/No</th>
<th>Research notes: Dates, dosage</th>
</tr>
</thead>
</table>
| Week 1 – Face-to-face discussions on readings about building academic vocabulary (Chapters 2 and 3 from Zwiers, 2013) | Yes                            | ● Group 2 (Grades 3–5; 8 teachers) – February 9, 2022  
● Group 3 (Preschool–Grade 2; 7 teachers) – February 10, 2022  
● Group 1 (Grades 6–8; 7 teachers) – February 14, 2022  
● 100% participation (22/22)                                            |
| Week 2 – Discussing six-step vocabulary method and coplanning lessons around six-step vocabulary instruction | No—Shift in focus The focus shifted as teachers sought clarifications about implementing six-step vocabulary instruction. Lesson plans were created in private cohort meetings after the session.  
● Group 2 (Grades 3–5) – February 16, 2022 |
<table>
<thead>
<tr>
<th>Activities</th>
<th>Implemented as planned: Yes/No</th>
<th>Research notes: Dates, dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflection posts due</td>
<td>Yes</td>
<td>Reflection/discussion board was open, and participants were reminded to post; 100% (21/21) of participants completed reflection posts.</td>
</tr>
<tr>
<td>February 9–17, 2022</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussion posts due</td>
<td>No</td>
<td>Reflection/discussion board was open, and participants were reminded to post; 0% of teachers posted separate discussion posts, instead referencing the discussions in their reflection posts.</td>
</tr>
<tr>
<td>Lesson plans due</td>
<td>Yes</td>
<td>Teachers were reminded to turn in lesson plans. 100% (21/21) of teachers turned in lesson plans.</td>
</tr>
<tr>
<td>Weeks 3 and 4 – Implementing the six-step strategy in teachers’ classrooms.</td>
<td>Yes</td>
<td>100% (21/21) of participants taught lesson plans using six-step vocabulary instruction.</td>
</tr>
<tr>
<td>● Group 2 (Grades 3–5) – February 22–March 4, 2022</td>
<td></td>
<td>● Not all teachers executed the lesson in 2 weeks.</td>
</tr>
<tr>
<td>● Group 3 (Preschool–Grade 2) – February 22–March 11, 2022</td>
<td></td>
<td>● 76% (16/21) implemented within 3 weeks</td>
</tr>
<tr>
<td>● Group 1 (Grades 6–8) – February 22–March 16, 2022</td>
<td></td>
<td>● 15% (3/21) implemented within 4 weeks</td>
</tr>
<tr>
<td>Weeks 3 and 4 – Classroom observations of teachers implementing lesson</td>
<td>Yes</td>
<td>100% (21/21) of observations were held.</td>
</tr>
<tr>
<td>Reflection posts due after implementing six-step vocabulary instruction</td>
<td>Yes</td>
<td>● Group 2 (Grades 3–5) – February 21–March 4, 2022</td>
</tr>
<tr>
<td>March 1–31, 2022</td>
<td></td>
<td>● Group 3 (Preschool–Grade 2) – February 21–March 11, 2022</td>
</tr>
<tr>
<td>Discussion posts due</td>
<td>No</td>
<td>Reflection/discussion board was open, and participants were reminded to post. 100% (21/21) of participants posted reflections.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reflection/discussion board was open, and participants were reminded to post; 0% of teachers posted separate discussion posts, instead referencing the discussions in their reflection posts.</td>
</tr>
<tr>
<td>Activities</td>
<td>Implemented as planned: Yes/No</td>
<td>Research notes: Dates, dosage</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Week 5 – Face-to-face discussions about readings on dialogic pedagogy      | Yes                            | The sessions were held.  
- Group 2 (Grades 3–5; 7 teachers) – March 16, 2022  
- Group 3 (Preschool–Grade 2; 6 teachers) – March 17, 2022  
- Group 1 (Grades 6–8; 7 teachers) – March 14, 2022  
100% (21/21) of participants attended. |
| Reflection posts due March 14–29, 2022                                    | Yes                            | Reflection/discussion board was open, and participants were reminded to post.  
100% (20/20) of participants posted reflections. |
| Discussion posts due                                                      | Yes                            | Reflection/discussion board was open, and participants were reminded to post; 0% of teachers posted separate discussion posts, instead referencing the discussions in their reflection posts. |
| Week 6 – Coplanning lessons about dialogic pedagogy                       | No—Shift in focus             | Coplanning lessons did not take place in 1 week as planned. Week 6 was devoted to seeking clarifications about the implementation protocols. Lesson plans were created in cohort meetings after the session.  
- Group 2 (Grades 3–5) – March 16, 2022  
- Group 3 (Preschool–Grade 2) – March 17, 2022  
- Group 1 (Grades 6–8) - March 21, 2022 |
| Lesson plans due                                                          | Yes                            | Teachers were reminded to turn in lesson plans.  
100% (20/20) of participants turned in lesson plans. |
| Weeks 7, 8, and 9 – Implementing dialogic instruction in teachers’ classrooms. | Yes                            | Not all teachers implemented the lesson within 2 weeks.  
- 45% (9/20) implemented within 2 weeks  
- 50% (10/20) implemented in 3 weeks  
- 5% (1/20) implemented in 4 weeks |

As can be seen from the Adherence Checklist and notes, there was strong adherence to the activities as planned and all teachers received a high dosage of each element with several exceptions. While the original design was planned for 9 weeks, the intervention ran for 11 weeks. This was primarily due to the Presidents’ Day holiday delaying one group’s face-to-face discussions about readings on dialogic pedagogy.
session and the trimester exams. Overall, this had no discernible influence on the intervention itself. Another departure had to do with the coplanning session. During the coplanning sessions, teachers instead asked for an opportunity to clarify the new learning which served as a preparation activity. Teachers then did their coplanning lessons in smaller content-specific cohort groups.

Additionally, many teachers were unable to implement or be observed in the 2-week timeframe originally planned, but all teachers eventually implemented lessons on the six-step strategy and dialogic pedagogies. Likewise, the observations of classroom lessons took longer than planned. Again, this did not seem to have any negative impact on the learning and was, in fact, most likely true to how teachers differ in the timeline within which they can immediately implement new learning given different contexts. Finally, though the discussion board was open and available, and teachers were reminded to post, they took another tact by posting about their discussions in their reflection posts. More about this departure from the intervention as planned is described in the RQ2 section.

**RQ2: To What Extent did Teachers Participate in Professional Development as Planned?**

RQ2 has two parts. The first measures participant responsiveness through engagement with the new learning (articles and discussions) and the second explores aspects of the intervention that were supports or barriers to their engagement and learning. As could be seen in findings from RQ1, teachers received a high dosage of most elements, with 100% of teachers who remained in the intervention participating in the face-to-face discussion sessions, coplanning, submitting, and implementing lesson plans, being observed, and submitting reflection posts.
For this question, participant responsiveness measurement aimed to go beyond just attendance and engagement with the key activities to measuring the degree to which teachers were taking up readings and new learnings in this engagement. For each teacher, participant responsiveness was recorded using a checklist to record (a) session attendance; (b) submission of reflection posts on assigned readings and after implementing strategies; (c) the number of references made by teacher to reading material in the reflection posts; (d) the number of discussion post exchanges with other teachers; and (e) the number of references made to new learning in reflection posts. Quantitative data are tabulated and also described below. Quantitative and qualitative data from field notes indicate the high level of engagement and the way in which the teachers drew from readings and new learning in their discussions.

**Attendance at Face-to-Face Sessions**

Twenty-two participants (100%) attended the first face-to-face discussion about second language acquisition (SLA) and academic vocabulary development (AVD), and 20 participants (100%) attended the face-to-face discussions about dialogic strategies. Researcher notes from the first face-to-face discussions (RN: 02/22) showed how teachers were connecting their daily pedagogical practices to their new learning about SLA and AVD. For example, Teacher 5 emphasized the importance of providing background information while teaching vocabulary by showcasing the word “billboard" and how compound words have a different meaning from each individual word (ELL strategy).

A couple of teachers shared examples of modeling language. For example, Teacher 5 talked about describing urban and rural communities to second graders, by describing artifacts (ELL strategy) that are seen in urban and rural areas. Teacher 4 talked about comparing and contrasting (ELL strategy) “living and non-living things” and characteristics that differentiated
them. Teacher 3 shared with the group that she gave sentence starters to help with ELLs’ productive language development and also introduced words in the simplest form in playful ways to first build words and sentences. Teacher 21 shared that while teaching the periodic table, he showed the real application of each element and made an upcycle 3D element to promote understanding (ELL strategy: multiple representation).

The second face-to-face discussions (RN: 03/22) centered around receptive and productive language and dialogic pedagogies. Teachers shared some of their existing practices with their cohort groups. For example, Teacher 6 said she uses “’Would you rather?’ games” to stimulate productive language. In other sessions, the discussions focused on the differences seen in vocabulary application in receptive and productive language and the differences between reading for understanding and writing for understanding. For example, Teacher 11 said while the students understand some vocabulary words “intuitively,” they are not able to use it in production or oral language, especially multi meaning words and used the word “console” to drive her point. Console is a multi-meaning word and for her students to understand its correct application, and explain the connotations, it takes time and multiple exposures (ELL strategy). Teacher 8 responded to the teacher’s reflection and added that a lot depended on the ELLs’ “conversational experience” (ELL strategy: prior knowledge). She found that variations in the students' productive language depended on the ELLs’ proficiency in academic vocabulary and academic conversations. Additional insights were discussed about word connotations by Teacher 20 with two words—idealism and realism. Students were using connotations of value. So, Realism was being perceived as bad. The teacher shared with her cohorts that we needed to increase the awareness of multi meaning and multi connotations. All participants actively participated in the discussions.
**Number of Reflection Posts**

The intervention asked the participants to write four reflection posts (a) after reading and face-to-face discussions about second language acquisition and academic vocabulary development, (b) after executing the six-step vocabulary method, (c) after reading about dialogic strategies and engaging in face-to-face discussions, and (d) after executing the dialogic strategy. One hundred percent of the teachers participating in the intervention completed all four required reflection posts.

**References to Readings in Reflection Posts**

Analysis of reflections indicated that teachers were drawing from the reading in reflection posts. Twenty participants out of the remaining 20 (100%) made two references to the reading material in their reflection posts (a) after reading about second language acquisition and (b) after reading about dialogic strategies.

All 20 participants made four references to new learning in their reflection posts: (a) after reading about second language acquisition and academic vocabulary development, (b) after implementing the six-step vocabulary method, (c) after reading about dialogic strategies, and (d) after implementing dialogic strategies.

**Discussion Posts With Other Teachers**

Teachers were asked to engage in discussions with other teachers by posting comments, questions, affirmations on other teachers’ reflection posts. None of the teachers participated in this element of the intervention. However, while none of them participated in separate discussion posts, all participants made two references to their cohorts’ reflections in their own reflection posts: (a) after Week 1 face-to-face discussions and (b) after Week 5 face-to-face discussions. This shift may be due to a lack of understanding of the format and of the discussion posts and
how they differed from reflection posts. It is possible that the researcher should have provided more explicit directives to motivate teachers to comment on others reflection posts.

References to New Learning in Reflection and Discussion Posts

Teachers made four reflection posts: (a) after reading articles about second language acquisition and academic vocabulary development, (b) after implementation of six-step vocabulary method, (c) after reading about productive language and dialogic strategies, and (d) after implementation of dialogic strategy.

References to New Learning After Reading Articles

Many teachers reflected on their practices and their new consciousness about second language acquisition. For example, after reading Chapter 3, Teacher 3 said she realized she was overdoing the scaffolding, which could prevent students from reaching higher levels of learning. Teacher 8 reflected that she needed to be cognizant of word choice since that acts as a guide for the student. Sometimes the student may not be able to clearly express themselves, allowing a student to express themselves first and then to provide the right word/academic vocabulary is also another way to produce better academic language.

References to New Learning After Implementation of the Six-Step Vocabulary Method

Each teacher described how using the six-step vocabulary method showed them (a) the different ways students learn vocabulary and (b) increased their awareness to students’ meaning-making process. For example, Teacher 12, Grade 3 social studies teacher, called implementing the six-step vocabulary method an enlightening experience. She found it very interesting to see the difference in each student’s thought process for the picture as well as their sentence. It also showed how different students interpret the words into pictures differently. Teacher 17, the middle school science teacher, said by implementing this method she realized that ELLs need
multiple scaffolding activities for academic vocabulary development and that pictures are always a great springboard to deeper conversations with students. Additionally, she felt by asking students describe the words and draw pictures of the vocabulary word, the method was allowing ELLs to showcase their understanding.

References to New Learning After Reading About Productive Language and Dialogic Strategies

Teachers in all cohort groups posted many thought-provoking reflection posts after reading about productive language and dialogic strategies. For example, Teacher 21, the middle school science teacher, reflected that in science, academic language is used to describe complex relationships. Prior to reading these articles about productive language he was influenced by the higher-level thinking as proposed by Bloom’s taxonomy. In the future, he was going to shift his pedagogy to strive for synthesis and evaluation in his classroom activities, but only after he knew that each student has the knowledge and comprehension of each vocabulary word. Teacher 18, the middle school language arts teacher said her takeaway after reading about productive use of vocabulary was that for any student to truly learn a word there must be several "touch points" or opportunities to use the word. Most importantly, a student must be able to tell you in their own words what they have learned.

References to New Learning After Implementation of Dialogic Strategy

All teachers noticed the student participation increased whether they used opinion stations or the jigsaw strategy. Teacher 20, the middle school social studies teacher, reflected that he had previously run into problems when teaching abstract vocabulary words in terms of making sure that every student was on the same page as to what the meaning was. Applying the jigsaw method in order to complete an activity in which students sorted various statements under
the appropriate vocabulary word gave students the opportunity to combine their intellects and work together to solve the problem. Teacher 13, the middle school language arts teacher, noticed that by using the jigsaw method, the students took "ownership" of their teaching, which initiated the learning process as well and fostered creativity in showcasing vocabulary words. They introduced the words in a variety of ways, including pretests, discussions, and drawing pictures. The teacher plans to use opinion stations to help ELLs with interpretation and assessment of what they are reading which she believes will stimulate a habit of reading.

**RQ2a: What Elements of the Teacher Study Group did Participants Identify as Supports or Barriers in Developing Knowledge of Second Language Development, Learning How To Support English Language Learner Academic Vocabulary Development, And Using Dialogic Pedagogical Strategies?**

The Elements of Intervention Questionnaire (see Appendix H) was used to measure the elements that were supports or barriers to teacher engagement and learning. The questionnaire listed readings, media/videos, face-to-face discussions, coplanning, reflection and discussion posts, developing and teaching lessons, and debriefing and asked teachers to rate each element as providing a high, moderate, low, or no degree of support. The questionnaire also had two open-ended questions that asked teachers to identify elements of most support and why and elements that were barriers and why. Twenty-one teachers completed the survey, including one of the teachers who had to withdraw after finishing most of Cycle 1. Figure 7 below shows how teachers rated these different elements of the intervention.
**Figure 7**

*Elements of Intervention*

- To what degree did each of the elements of the intervention support your learning [Readings]?
  - High: 10
  - Low: 2
  - Moderate: 8
  - None: 0

- To what degree did each of the elements of the intervention support your learning [Media/Videos]?
  - High: 12
  - Low: 4
  - Moderate: 6
  - None: 0

- To what degree did each of the Elements of the Intervention Support your Learning [Face to face discussions]?
  - High: 12
  - Medium: 4
  - Low: 0

- To what degree did each of the elements of the intervention support your learning [discussion posts that responded to other teachers' reflections]?
  - High: 12
  - Low: 2
  - Moderate: 8

- To what degree did each of the elements of the intervention support your learning [reflection posts]?
  - High: 12
  - Low: 4
  - Moderate: 6

- To what degree did each of the elements of the intervention support your learning [co-planning with other teachers]?
  - High: 16
  - Low: 0
  - Moderate: 4

- To what degree did each of the elements of the intervention support your learning [developing lesson plans that incorporated new knowledge]?
  - High: 18
  - Moderate: 8
  - Low: 0
Note. X-axis represents the category of responses from teachers, and y-axis represents the number of teachers in each category.

All teachers agreed that face-to-face discussions supported their learning to the highest degree (21/21). The majority of the teachers believed that teaching lessons and debriefing with other teachers supported their learning to a high degree (17/21). Additionally, coplanning lessons was ranked highly (14/21). Resources in the form of readings or videos had less high support, but the majority of the teachers responded that articles (17/21) and videos (19/21) supported them either moderately or to a high degree. While reflection and discussion posts had lower rankings, they were still rated as moderate or high (reflection posts, 18/21; discussion posts 17/21).

Overall, it seems that the teachers valued and were supported by the different elements of the intervention. The open-ended question that asked what was most supportive and why provided a more nuanced look at different elements. While all teachers found the readings, face-to-face discussions, postreading reflection posts, coplanning lessons, and implementing the new strategies useful, some activities resonated more than others with them. For example, more than 70% of the teachers (15/21) indicated in the open-ended question that face-to-face discussions were most helpful for a variety of reasons. Some of them stated that face-to-face discussions were most helpful after the readings because the discussions clarified some of the content. One
teacher stated, “I respond better to one-on-one interaction.” One commented that face-to-face discussions provided collegial support and coaching on ways to implement strategy.

The majority of the teachers said the intervention supported their learning because of the multiple activities that involved discussions such as face-to-face discussions and coplanning. Other teachers stated that face-to-face discussions with other teachers were informative, especially when reflecting on the outcomes of lessons and strategies. Additionally, one teacher said, “Listening to how other colleagues teach, provided more insights.” Finally, another teacher commented that she learned from listening to her colleagues because it helped her learn about the different ways each teacher implemented the strategies.

Teachers also stated that the face-to-face meetings (after reading articles) were helpful because they provided an opportunity to exchange a lot of information, which reinforced their understanding of second language development and academic vocabulary development and provided insights on other perceptions and avenues for application of dialogic strategies. Teachers also commented that the meetings were motivating and helped reinforce their goals for supporting ELLs academic language development (Elements of Intervention Questionnaire open-ended question responses).

Teachers also wrote that they enjoyed working with their colleagues in developing lesson plans. In the open-ended question, more than 40% of the teachers (9/21) said they learned the most by developing lesson plans with other teachers because by working with subject cohorts, they were able to exchange ideas before designing their individual lessons. One teacher explained this further by saying that “While reading and engaging in face-to-face discussions helped explore and understand the material, it was the creating the lesson and delivering of the lesson that actually helped me internalize the different modalities of teaching.” Another teacher
stated that reading, discussions and developing lesson plans were the elements that helped her understand the articles about second language development and academic vocabulary development. More than one teacher stated that the reading and coplanning elements were very helpful since the activities helped them share ideas and work collaboratively to formulate plans to support the academic language development of ELLs.

Responses also indicated that many teachers embraced the new instructional strategies because they found students responded favorably to the collaborative and cooperative learning methods. For example, one teacher stated that developing lesson plans that incorporated new dialogic strategies and Marzano's six steps resulted in instantaneous and exponential vocabulary growth, usage, and retention among students. The teacher wrote, “I have now been empowered with these tools to restructure my lessons to my students’ advantage.” She found the videos, reflection posts and coplanning with other teachers improved her teaching. Finally, another teacher found that each intervention element gave her insight into (a) what affects students’ learning, (b) what strategies maximize their learning, and (3) what elements from other teachers’ lesson plans were applicable to her pedagogy. She found the intervention activities were valuable and there were no barriers to her learning in this study. Overall, the teachers’ feedback from survey responses indicate that each element of the intervention supported their learning and increased their knowledge of second language development, academic vocabulary development in ELLs and dialogic strategies.

**What Elements Were Barriers to Learning?**

While there were many supports for teacher learning, there were also barriers. The open-ended survey question in the Elements of Intervention Questionnaire asked teachers to identify barriers and their reasons on why these were perceived as barriers. In responses to this question,
only small percentages of the participants identified any one thing as a barrier. Twenty-five percent of the teachers (5/20) found the readings to be a barrier to their learning because they preferred visual images or discussions and found some of the content difficult to grasp. Twenty percent of the teachers (4/20) found time to be a constraint in terms of their not being able to implement all of the strategies in 1 day. Twenty percent of the teachers (4/20) had personal struggles with learning either due to the language or their learning needs and wrote that the discussions best supported their learning. Ten percent of the teachers (2/20) felt the dialogic strategies were not applicable to their students in the early elementary grades and saw this as a barrier to their pedagogical learning. However, 20% of the teachers (4/20) said they had no barriers to their learning.

**Summary**

Overall, the findings show a high level of teacher responsiveness. Engagement in all of the activities was very high and a deeper look at how the teachers were investing in the new learning showed that teachers were reflecting back to readings and new learnings in their reflection posts. While the lesson plans and observations of lessons were not considered in participant responsiveness, all teachers took up their new learning of the six-step strategy and different dialogic pedagogies in their lessons. Findings from the elements of the intervention that were the best supports indicated that teachers were most supported by opportunities for them to work and talk with other teachers to increase their learning and that actually implementing the lessons were an important form of practice.
RQ3: While Participating in the Teacher Study Group, What did Teachers Learn About Second Language Development, Supporting Academic Vocabulary Development in English Language Learners, and Using Dialogic Pedagogical Strategies?

RQ3 explored teachers’ learning while RQ4 explored how teachers enacted or integrated their learning in their planning and teaching. While there is expected overlap in these questions, both are worth teasing out. Because of this overlap, the data from RQ3 will come from what teachers reported they learned or did in their reflection posts and from researcher notes (from face-to-face discussions) as well as the TKVS, while data from lesson plans and actual observations of teaching will be used in exploring RQ4.

Overall, the findings revealed that mainstream teachers used and recognized many of the instructional practices that are necessary to promote second language development, support academic vocabulary development in ELLs and use dialogic strategies. The following section explores the findings with respect to what teachers learned during the intervention and what they reported they did with this learning in their reflection posts. It also includes data from the survey TKVS (pre- and postintervention). It breaks the research question into two parts. The first section explores what teachers learned about second language development and academic vocabulary instruction as these two elements were inextricably intertwined. The second section explores teachers’ learning around dialogical pedagogical strategies.

What did Teachers Learn About Second Language Development and Academic Vocabulary Instruction?

The intervention focused on second language development (SLD) as it relates to instruction that is focused on academic language development in ELL students. Quantitative data from the TVKS, qualitative data from researcher notes (RN: field notes from face-to-face
discussions), and teacher reflections revealed that mainstream teachers already recognized and used some of the instructional practices necessary for ELLs to increase second language and academic vocabulary development. For instance, on the TKVS all teachers agreed preintervention (22/22) and postintervention (21/21) to SQ51, that “good vocabulary instruction for English learners can produce gains in vocabulary and comprehension.” Teachers also recognized the connection between explicit instruction of words to support vocabulary development and the quality of student writing in subject area texts. In response to TKVS SQ24, “There is no relationship between instruction in individual words and the quality of students' writing,” most of the teachers both preintervention (17/22) and postintervention (18/22) disagreed with the statement. In addition, a majority of the teachers agreed preintervention (21/22) and postintervention (20/21) with TKVS SQ26: “Words that are important to understanding a particular reading passage are good candidates for direct instruction.”

Further analysis of the intervention data shows that participation in the intervention helped teachers acquire new knowledge as well as broaden and refine their knowledge about the role of explicit, intentional instruction in developing the academic vocabulary of ELLs. The findings in this section are broken into five teacher learnings or key themes. Teachers learned the value of (a) activating students’ background knowledge, (b) providing explicit instruction, (c) teaching morphology, (d) extending vocabulary instruction across content areas, and (e) using multidimensional instructional strategies. Each of the key learnings is further divided into strategies the teachers used that demonstrate their learning.

Theme 1: Teachers Learned That Activating Students’ Background Knowledge Increases Their Vocabulary Learning. According to research, for ELL students to learn academic vocabulary, teachers need to activate their prior knowledge (Cummins, 2001; Marzano...
& Pickering, 2005). Quantitative and qualitative data from the study indicated that teachers understood the importance of this pedagogy. For instance, in responses to the TKVS SQ29 on teaching individual words, both pre- and postintervention, all teachers (20/20) disagreed with the statement, “Students do not benefit from vocabulary instruction that activates their background knowledge.” While teachers indicated an understanding of the importance of this approach, the intervention expanded and deepened their understanding and pedagogies. Below are other strategies that teachers employed to activate and build upon students’ background knowledge and prior learning.

**Activating Students’ Background Knowledge When Preteaching Vocabulary.** Research indicates that a student's background knowledge influences his/her interpretation and comprehension of texts, and that preteaching vocabulary helps students understand the meaning of a word when they eventually encounter it in a textbook (Bowers et al., 2010; Beck et al., 2013). Teachers developed a good understanding from the intervention that while preteaching vocabulary, it was helpful to activate prior knowledge. This understanding was expressed in the reflection post of Teacher 3, the Grade 1 language arts and social studies teacher, who said that teaching vocabulary first is the most important step in helping students acquire understanding of the material (RP: 03/22). She described how, in her classes, she first introduced words in their simplest forms and in playful ways. She then elicited background knowledge of the words from the students by asking them to use them in sentences as a basis for her instruction. The effectiveness of activating background knowledge in preteaching vocabulary was also expressed by Grade 1 math and science Teacher 4, who stated that before introducing a new vocabulary word, she always conducts a class discussion to gauge student background knowledge about the
particular word. She explained that she builds on this knowledge with examples, pictures, books, and videos (RP: 03/22).

**Connecting and Contrasting New Vocabulary With Known Vocabulary.** Teachers in the intervention learned that ELLs more easily acquire new vocabulary when they can connect them with other familiar concepts or terms. For example, the multilingual middle school math teacher Teacher 19 explained the use of cross curricular subject connections to support ELLs’ language development in her reflection/discussion post (RN: 02/22; and RP: 03/22). The teacher noticed that many students in grades seven and eight could easily solve equations using mathematical formulas. In one specific case, students used the formula to prove the mathematical term “inequality” but could not verbally describe what the word “inequality” meant as a mathematical term. In order to improve ELL comprehension of the mathematical term, she used an example that they knew from social sciences where the word “inequality” means “unequal.” She proceeded to explain that, in contrast, the mathematical definition of inequality does not define “just one number,” instead represents “a range of numbers.” Evidence from research has shown that teachers need to provide multiple language scaffolds, whether they be comparing words, visual cues, or connections to prior knowledge, to help students learn the abstract vocabulary of academic English and correctly use academic English (Santos et al., 2012).

Teacher 8 also gave an example (RN: 02/22) connecting with prior learning around the contextual meanings related to the word “measurement” in Grade 3 math. She observed that because children rely on prior knowledge to understand the word “measurement,” when teaching it in a new context, she connects with their learning but requires them to explore its new meaning with physical activities. She provides instructional scaffolding in the form of questions and sentence stems for students to arrive at the correct meaning. Another insightful illustration was
provided by Teacher 17, who teaches middle school science. She learned that, to support ELL vocabulary development, teachers need to connect concepts to what ELLs are familiar with (RN: 02/22).

**Theme 2: Teachers Learned That the Use of Explicit Instruction Improves Academic Language Acquisition.** ELLs find learning academic language in mainstream classrooms presents several difficulties (Barrow & Markman-Pithers, 2016; Calderón et al., 2011). These difficulties include not only learning unfamiliar words, but also connecting them to specific academic content and identifying their exact meanings from academic texts. Results from the data show that teachers learned that in order to build basic ELL comprehension and communication skills, they need to use explicit instructional strategies. Two strategies that emerged are described below.

**Using Explicit Instruction in the Organizational Format of Academic English.** Because every language has distinct rules and features, for ELLs to build their English competencies, teachers learned that it was important to provide explicit instruction to develop knowledge of the organizational format of academic and conversational English. Academic English content and conversation use a linear organizational format that starts with a main point and then presents claims supported by evidence and followed by a conclusion. This distinguishing organizational pattern of specifically academic English is called a register (Halliday, 1978). The register of academic English is not observed in either oral or written communications of many other cultures.

During the intervention, teachers discussed the specific organizational features of academic English and discovered that ELLs benefit from explicit instruction in its organizational structures. One key revelation from teacher discussions and reflections on cultural differences
that influence ELLs academic English (RN: 02/22 and RP: 03/22) was that in many cultures, neither oral conversations nor written communication follows the sequential requirements of academic English, instead many ELLs narrate events episodically, not chronologically. After the discussions, multilingual math teacher Teacher 20 recognized that this difference in narrative structure can often lead to a disconnect between teacher expectations and student performance because the teacher assumes the ELL student knows and understands the language expectations of academic and conversational English (RP: 03/22). Because she is a multilingual herself, Teacher 20 realized that her own metacognitive practices fluctuate depending on the situation and, in fact, she does not practice academic English sequential thought in her own informal learning or communication; instead, she uses linear reasoning in only two disciplinary areas, math and science. This teacher’s restricted use of linear reasoning is supported by research that has found it is common practice for ELLs to use varied registers to adjust their thinking and talk based on a particular use or situation (Zwiers, 2013).

Using Explicit Instruction Requiring Intentional Instructional Scaffolding. Explicit instruction and scaffolding are interrelated in that explicit instruction is built on a series of pedagogical scaffolds (Archer & Hughes, 2011; Van Breukelan et al., 2016). Such scaffolding is critical to learning for ELLs (Lucero, 2013; Walqui, 2006) and as they acquire the functional elements of academic language (Irby et al., 2018; Kibler et al., 2019).

While there are a number of ways to define instructional scaffolding, in general, it refers to using diverse and intentional instructional moves to support students toward stronger understanding and skills as well as increased independence. In scaffolding, teachers design a series of experiences using verbal interaction (e.g., questioning) supportive teaching resources or tools (e.g., graphs, organizers, visuals), structure guided discussions, create opportunities for
practice, and provide targeted feedback (Archer & Hughes, 2011; E. M. Johnson, 2019; Lucero, 2013). These scaffolds build on students’ knowledge and experiences in the acquisition of academic language, specific content knowledge, or academic language skills. Teachers employed different approaches to scaffolding.

*Scaffolding Thinking and Language Through Comparison and Contrast.* Data from this study indicated that the participants learned that using this compare and contrast enables them to engage ELLs in discourse and gain insights on how ELLs are thinking and processing English. For example, third-grade language arts and social studies teacher, Teacher 9, shared an example of how she supported ELLs’ vocabulary development through comparison and contrast in her reflection post (RP: 03/22). To teach students to differentiate “malice” as a noun and “malicious” as an adjective version of the word “malice” she first had students first read a whole sentence that contained both noun and adjective versions.

Next, she gave them a sentence with blanks to fill in with the appropriate word; this was followed with a discussion about both the noun and adjective forms. She then modeled the language used by reading a paragraph that showed both versions. To assess for comprehension, all students were asked to write sentences using both the noun and verb version of the word. Teacher 9 further provided scaffolding of the vocabulary words by using personal stories to support student understanding of each word. The final activity in the classroom included having students work in pairs such that each student took turns listening to their partner’s sentence. She found that providing opportunities for comparison with other forms of the word and dialogue with peers was very effective in ELLs’ language and word acquisition (RP: 03/22). This teacher’s description of her pedagogy maps well unto other research findings that show that
ELLs’ academic language development must include scaffolding activities that include opportunities to compare words and clarify language differences (Zwiers, 2013).

**Scaffolding With Visual Tools.** During the intervention, teachers learned that scaffolding learning with visual tools facilitates academic language development in ELLs. Data indicate that most teachers in this intervention from K–8 used a variety of visual representations as well as graphic organizers to develop ELLs’ academic language (RN: 02/22 and RP: 03/22). Teachers stated both in the face-to-face discussions and reflection posts that using these aids helped ELLs understand the vocabulary and meaning of the words in sentence structures which enabled teachers in assessing ELLs for word comprehension and misconceptions. Many times, teachers used their hands and their bodies to help students visualize a concept. For example, the middle school math Teacher 16 used hand gestures to help students visualize abstract math terms and then followed up with descriptive language that defined the word (RP: 03/22). He first used hand gestures to show “diameter” as the line that goes through the center of a circle and then used the correct mathematical term to define the word. His two-part strategy of using hand gestures to depict the concept and then defining the word supported student learning.

Another example of visual representations was provided in a reflection post (RP: 03/22) by elementary math and science teacher, Teacher 8, to describe the word “transpiration,” a word her students were unfamiliar with and unable to describe. She showed the students a video in which the actors used hand movement and pictures to depict “transpiration” as “sweating” leaves. After this illustrative activity, her students easily understood the meaning of the abstract word “transcription.” The teachers' strategy to support academic language development in ELLs is validated by research that visual scaffolds including gestures, facial expressions, and other
nonverbal movements are communication strategies that help emphasize and clarify difficult language (Bunch, 2013; Echevarría, 2012; Ferlazzo & Sypniewski, 2018).

**Theme 3: Teachers Learned That Teaching the Morphology of Vocabulary**

**Supported Learning.** Instruction that focuses on the morphology of words has shown positive impact on ELL academic vocabulary learning (Davidson & O’Connor, 2019). Some teachers within the intervention study showed acute awareness of the fact that, in acquiring academic vocabulary, ELLs are challenged by the nuances of English language morphology. However, based on the survey responses, it was evident that some teachers knew more than others about the benefits of morphological instruction in English vocabulary. For example, preintervention, only 13/21 teachers agreed with TKVS SQ1 that “Inflection suffixes can change a word, but postintervention, 16/21 agreed. Teachers moreover showed increased knowledge about teaching prefixes after participating in the intervention. Seventy-one percent of the teachers agreed postintervention (15/21) with TKVS SQ10 that, “The best time to teach prefixes is when students first enter school (Grades K–2)” in comparison to a preintervention rate of 38% (8/21). The strategies that teachers used are described below.

**Teaching Roots and Affixes.** In teaching academic vocabulary, more than one teacher discussed how they broke down words to support their ELLs. For example, multilingual middle school math Teacher 16 said she found it helpful to ask students to dissect an unfamiliar word into its component parts: roots, prefixes, and suffixes. Because many languages have common grammatical roots, by connecting student knowledge of word roots from their native language with English word roots, many students are better able to acquire academic language vocabulary.

Another example was provided by the Grade 3 math and science teacher. In her reflection post, she discussed embedding the explicit teaching of the word “kilogram” while teaching math.
She first explained that kilogram is a unit of measurement of mass and is used to measure “weight.” Next, she deconstructed the word kilogram into two-word parts kilo and gram. The following step in her teaching included an explanation of the prefix “kilo” that it means 1,000 and then connecting kilo to the word gram as a representation of weight (RP: 03/22).

One understanding that teachers continued to struggle with was the influence of derivational suffixes, which change the meaning of a word entirely, for example, adding “ous,” as in the word “danger,” which then changes to “dangerous.” Only a few teachers knew about the role of derivational suffixes in the acquisition of academic language both pre- and postintervention, as evidenced by the response to TKVS SQ9, “Students' knowledge about derivational suffixes generally levels off after Grade 5.” The majority of teachers preintervention (18/21) and postintervention (14/21) said “I don’t know” or chose “True” as their response. These findings point to the need for additional professional learning in this area.

*Teaching Through Cognates to Support Students’ Learning of Academic Vocabulary.*

Another word learning strategy to increase ELL word acquisition was the use of cognates, which are words that are used in more than one language and share a similar meaning, spelling, and pronunciation. World language teachers in this study used cognates that capitalized on ELL cross-linguistic knowledge. French and Spanish teachers discussed how they often presented cognates in word study to draw attention to adjectives common to both languages (RN: 02/22). For example, in one lesson, upper elementary and middle school French Teacher 14 explicitly asked students to first discover the meaning of 36 adjectives by comparing cognates, noncognates and false cognates.

She then asked them to identify masculine and feminine adjectives by guessing their root word and, to end the lesson, she asked them to describe the applicable word formation rule (e.g.,
feminine adjectives are formed by adding a suffix to the masculine adjective). At the end of class, she found that all students remembered the meaning of at least 30 adjectives (RP:03/22).

The survey also indicated that most teachers increased their awareness of the benefits of cognate instruction after participating in the intervention. This increased awareness was demonstrated by survey responses. The preintervention survey indicated that only 12 of 21 teachers agreed with TKVS SQ48 statement, “Explicit instruction in the use of cognates is an effective strategy for developing English vocabulary in Spanish speakers,” while postintervention, 16 of 21 agreed with the statement. The learning represented here maps onto the benefits of cognate instruction supported by previous research demonstrating that ELLs’ language acquisition and development accelerates when instruction includes cross-linguistic comparisons highlighting common grammar components across different languages (Ipek, 2009).

Theme 4: Teachers Learned That Extending Vocabulary Instruction Across Content Areas Promotes Language Development in English Language Learners. The literacy demands of language arts, math, science, and social studies are different, and each disciplinary area uses specialized vocabulary, sentence structures, and their own respective organizational conventions. Researchers have shown that, in addition to the specialized language features of disciplines, they also have different ways of viewing the world, gathering information, interpreting data, and organizing knowledge (Zwiers, 2013). Three different findings emerged regarding language development across content areas: learning to use context clues, explicit instruction in discipline specific language, and instructional scaffolding to negotiate meaning in content areas.
**Teaching how to use Context Clues.** The use of context clues is an effective strategy that helps students infer word meanings in various content areas and support vocabulary development (Echevarria, 2012; Ferlazzo & Sypniewski, 2018). Context clues with respect to academic vocabulary development pertain to “hints” within a sentence or paragraph that a reader can look to in order to identify the meanings of unfamiliar words. Using context clues helped students learn vocabulary across subject areas.

In her reflection post (RP: 02/22), Teacher 5, the second-grade math and science teacher, reported that she encouraged students to re-read paragraphs or word problems to understand the vocabulary and its meaning within the text. She stated that having students explain their thinking in addition to providing a short answer helped ELLs to verbalize their understanding of a word and thus adopt new vocabulary. However, after discussions and readings, she said that in the future she would be more attuned to what words students were not understanding so that she could encourage them to ask for clarification when they were unsure of their meanings.

Another illustration of the importance of scaffolding the use of context clues was provided by Teacher 12 who taught middle school social studies. She realized while implementing a six-step vocabulary lesson that when students were asked to make sentences using the vocabulary word many students did not form original sentences with the new vocabulary word, instead they used the definition from the dictionary as their sentence. However, by introducing read-aloud activities and asking them to identify textual clues, the teacher improved student comprehension of each vocabulary word to facilitate original use of the vocabulary from ELLs.

**Using Explicit Instruction in Discipline Specific Vocabulary.** Researchers have shown that because discipline-specific texts use specialized vocabulary for encoding meaning, ELLs
need subject specific instruction in each of the disciplinary areas (Baker et al., 2014; Rose & Martin, 2012; Schleppegrell, 2012) and that content-enriched vocabulary instruction builds a strong foundation for text comprehension and academic success among ELLs (Cárdenas-Hagan, 2020). A majority of the teachers agreed preintervention (21/22) and postintervention (20/21) with TKVS SQ26: “Words that are important to understanding a particular reading passage are good candidates for direct instruction.” However, data indicates that the intervention deepened teachers’ understanding of the need to explicitly teach vocabulary in academically dense texts and that simply engaging in contextual reading was not sufficient to help them develop academic vocabulary and comprehend their reading. Examples of how teachers took up vocabulary instruction in each disciplinary area are presented below.

**Teaching Academic Vocabulary in English Language Arts.** In studying English language arts, ELLs face the challenges of comprehending new vocabulary, making inferences, predicting, figuring out unknown words, and interpreting literal and figurative language, including the use of symbols, similes, and metaphors (Barrow & Markman-Pithers, 2016). Data indicate that teachers in the intervention learned that ELLs benefit when instructional strategies focus on explicitly teaching vocabulary, inferential skills, reading, writing and literary analysis skills to support their comprehension.

The multilingual middle school language arts teacher, Teacher 18, explained that what she learned from the intervention was that in order for an ELL to learn a word, they need multiple activities to use the word until the student could express the meaning in their own words (RP: 03/22). She explains that using graphic models like the Frayer model are ideal tools for ELLs to learn new vocabulary and acquire academic language. The teacher provided an example of how she used the Frayer model to teach the meaning of the vocabulary word “emulate.” In
addition to having students work individually to complete the four steps in the Frayer model, when some students incorrectly defined “emulate,” she engaged the class in a discussion to refine the meaning of the word. After some discussion, the teacher and students collectively concluded that “emulate” means to imitate someone who you look up to or aspire to be like.

Teacher 4, the Grade 1 teacher also discussed how she explicitly taught the meanings of words, especially those with multiple meaning. She wrote,

The word “count” has multiple meanings: to count, as in the number of objects in math or in its usage as a title in European monarchies, which is a cultural characteristic. Another example is the word “count” which is used in phrases, such as phrasal verbs, where its use changes the meaning of the sentence, as in “to count on me,” which is an idiom. While students know the meaning of “count” in math, they need explicit instruction when the same word is used for other meanings in English, for instance by using connections with familiar themes, such as the movie The Count of Monte Cristo. Additional strategies] included playing the song “Count on Me” and then providing an interdisciplinary exercise by playing with the word “count.” (RP:03/22)

It is evident that Teacher 4 provided many examples to demonstrate that the word “count” has multiple meanings depending on its context as in situational use, disciplinary area, and placement in the structure of a sentence.

*Teaching Academic Vocabulary in Math.* Because the language of math has distinct vocabulary terms, teachers learned that ELLs benefit from explicit instruction that differentiate how terms are used in math from other disciplines. Another challenge is that math commonly uses dual-meaning expressions. In her discussion post, Teacher 10 discussed how she made cross curricular connections to showcase how words denote different concepts in math and science and
explained that it is important for teachers to explicitly teach the multiple meanings of words across content areas (RN: 02/22).

She illustrated the differences saying in geometry the term "reflex angle" is a noun and refers to an angle that is between 180 degrees and 360 degrees while in science the word “reflex” is an adjective and means a response to an action.

Data also showed that teachers learned that ELLs benefit when math teachers specifically teach students how to deconstruct abstract math terms. As discussed earlier, the Grade 3 math and science teacher, Teacher 8, described how she broke down the word kilogram into its parts to help students understand and learn the word. She strongly felt that this kind of direct instruction followed by teacher-led discussions facilitated meaning making with respect to math terms for example, measurement terms (RP: 03/22). Teacher 3 recognized that “kilogram” is an abstract word and ELLs need explicit step by step instruction to support their processing of abstract terms. These teacher reflections are supported by research findings that interpreting the academic English in math means, making meaning of abstract words, symbols, data or visuals and ELLs benefit from teachers explicitly explaining the abstract mathematical terms to support comprehension (Short et al., 2018; Wilsey, 2018).

**Teaching Academic Vocabulary in Science.** Because the language of science uses technical words to describe what happens in the physical and natural world, its academic vocabulary is complex. Students must construct hypotheses, compare, and contrast findings, and describe procedures using specific terms like measure, observe, and predict. Research shows that ELLs acquire scientific literacy when teachers model the organizational format of scientific inquiry and investigation in addition to explicitly teaching the scientific vocabulary (Greenleaf et al., 2011; Hoover et al., 2016; Zwiers, 2013).
Teacher 4, the multilingual elementary grade science teacher, described how she uses multiple instructional strategies and discussions over several days to help ELLs learn science terminology (RN: 02/22 and RP: 03/22). For example, while teaching about animal groups to Grade 1 the teacher discussed their characteristics, food, and habitats over multiple days. Teacher 4 taught this material by having students look at pictures and watch videos, engage in classroom discussions, read the textbook, books and poems and write out the vocabulary words in their notebooks. Other activities included physically sorting animal toys and comparing animals and groups of animals by using Venn diagrams. The teacher learned that using a variety of instructional strategies with repeated exposure to vocabulary and subject material over several days helped students better grasp and recall these concepts (RN: 02/22 and RP: 03/22).

Another example was provided by the middle school science teacher, Teacher 17, who realized that while a student may be familiar with one meaning of a vocabulary word, she/he may not know that a word has other meanings based on context and subject area:

A student of mine knew the meaning of the word "solution" as an answer to a question in math. But within the science lesson we were using the word to specifically explain a “mixture” that does not separate. By using the Frayer model which is a vocabulary graphic organizer and examining the student’s graphic representation, it was evident that the student did not know the multiple meanings of the word “solution.” It was through the student discussing her answers with other people in her group that I was able to explain the contextual meaning. (RP: 03/22)

Again, this type of teaching is reinforced in the literature that frames science language as technical and maintains that students must be explicitly taught and apprenticed into ways of using the language (Mercuri & Mercuri, 2019; Taboada & Rutherford, 2011; Zwiers, 2013).
Teaching Academic Vocabulary in History. The language of history discusses the past in relation to the present and future to showcase its relevance to daily life. The language of history allows students to understand and express facts, dates, and events, analyze cause and effect, and connect concrete realities to abstract ideas to build a historical narrative supported by reasoning and evidence. Students benefit from explicit instruction of vocabulary words in history because, unlike other content areas, the contextual meaning of a word can change based on the time period in history (de Oliveira et al., 2019; Zwiers, 2013). Teacher 20, the middle school history teacher, reflected in a discussion/reflection post (RN: 02/22 and RP: 03/22) that a common problem for history teachers is that students do not realize that the context of words and their meanings changes with the historical era.

In a reflection post, the teacher explained how he had students discuss liberal, radical and conservative using the Frayer model. Students discussed the ideological meaning of each word and then were given handouts such that students matched the three political ideologies with a quotation and policy statement. They were then asked to answer a question: “Which ideology would have been most effective in addressing the economic problems of the great depression?” While engaging in group discussions, one of the students correctly identified that the word "liberal" had different meanings across historical times. This example solidified the teacher’s understanding that explicit instruction of vocabulary in history should specify the historical period to support student understanding of comparative ideologies.

Scaffolding to Negotiate Meaning in Content Areas. The language features of academic English in content areas are often specific to the discipline, and learning academic vocabulary within the context of reading discipline-specific texts requires an active negotiation of meaning (Zwiers, 2013). Teachers learned that for ELLs to develop academic language in content area,
instruction should include both the explicit teaching of vocabulary as well as employ opportunities for students to negotiate meaning. Teachers in the intervention used various instructional strategies for ELLs to negotiate meaning. These strategies are further described by the subject area below.

**Negotiating Meaning in English Language Arts.** Academic English in literary texts is challenging for ELLs because the contextual meaning of words changes and are nuanced within literary texts (Echevarría, 2012; Fillmore & Snow, 2000; Hoover et al., 2016). Teachers learned that negotiating meaning in language arts includes understanding and interpreting the literary language in texts. For instance, multilingual middle school English language arts teacher, Teacher 18, said she could understand the difficulties ELLs have in negotiating the meaning of literary words because there is so much context and nuance to the meaning of words.

In order to help her students, understand the vocabulary in literary texts, she has students use reading and writing to negotiate the meaning of words. For example, to teach the word “despondent,” she first had her students pair off to discuss the meaning of the word. Next, she explicitly taught the meaning of the word “despondent,” and then had the students write a poem using the word. Her rationale was that to write the poem students had to first understand the meaning of the word without which they would be unable to convey the meaning of the word and emotionally connect the message of the poem to their audience (RP: 03/22). Her learning connects with other research that indicates that speaking and writing activities support ELL students’ learning of vocabulary as they also develop control over grammar and syntax (Echevarría, 2012; Hutchinson & Hadjioannou, 2017; Irby et al., 2018; Zwiers, 2013).

**Negotiation Meaning in Math.** Solving problems in math requires ELLs to understand the vocabulary words, interpret what is required to solve the problem, and provide reasoning to
support their solution. Teachers learned that in addition to the abstract math vocabulary that ELLs need to learn, they also must interpret symbols and visual data. Both middle school math teachers, Teacher 16 and Teacher 18 supported students’ negotiation of meaning through explicit discussions using the math vocabulary and the symbols, numbers, letters, and illustrations that are mixed together in math texts. Both of these teachers communicated that these discussions result in ELLs having a higher success rate at solving problems and retention of mathematical vocabulary terms (RN: 02/22 and RP: 03/22). Evidence from research also supports the idea that understanding math means making meaning from words, symbols, data or visuals and that students benefit when teachers explain the mathematical vocabulary to understand the concepts (Kludt, 2020; Valley, 2019).

**Negotiating Meaning in Science.** Science uses many specialized terms to explain relationships and processes. In order for ELLs to access and comprehend meaning in this area, they require explicit instruction in these terms (Gupta, 2019; Oliveira et al., 2019). For instance, according to researchers, science uses many general verbs that can be found in other disciplines that take up special significance in science like attribute, discharge, extract, or sequence and that can be either nouns or verbs. Science discourse also uses nominalizations frequently, or the conversion of an adjective to a noun, like condensation and radiation. Finally, scientific vocabulary often draws from Greek and Latin roots, which are unfamiliar. Such vocabulary allows complex ideas to be expressed (Halliday & Martin, 1993) but make it challenging for novices.

Teachers in the intervention shared how they used more than one strategy to engage students in learning the academic vocabulary of science to foster meaning. The middle school science Teacher 21 used opinion stations to discuss the two concepts of endothermic reaction and
exothermic reaction. Students participated in reading activities to become familiar with the vocabulary words. The class then had discussions that included multiple word learning strategies such as discussing roots, providing examples, and engaging in turn and talk sessions. Next, to further student understanding about the two scientific phenomena, students participated in opinion stations where they were given one statement, “Photosynthesis is an endothermic reaction,” and asked to provide evidence to support or reject the statement. When some students were still confused, the teacher used questions to help them delve deeper and reconnect with the meaning of this term, further negotiating meaning. Finally, the teacher then conducted an experiment to demonstrate thermal phenomena by pouring vinegar on baking soda to have students record the temperature of the liquid and comment on the phenomenon they were observing. Engaging in multiple activities supported the students in gaining clarity about endothermic and exothermic reactions. The teacher’s pedagogy confirmed research findings that many students find science texts difficult for conceptual and linguistic reasons and engaging students in a wide range of thinking skills and practices supports meaning making (Patterson et al., 2018).

**Negotiating Meaning in Social Studies.** In social studies, particularly, history, negotiating meaning includes interpreting ideas within their historical context. Engaging ELLs in activities that connect prior knowledge with historical meaning supports better historical assessments and perspective taking (Anstrom et al., 2010; August et al., 2014; Short et al., 2018). The Grade 7 history teacher, Teacher 20, provided a good example of this when he described implementing a combination of vocabulary and dialogic strategies that enabled ELLs to think aloud, clarify misconceptions and explain their viewpoints. He gave his Grade 7 students four events that were discussed in prior weeks: (a) the Dred Scott Decision, (b) Bleeding Kansas, (c)
John Brown's raid on Harper’s Ferry, and (d) the election of 1860. These four events were placed in opinion stations. The question they were given was “What was the most important cause of the Civil War?” Students chose one of the four events and reasoned as to why they chose the event. Students were then given a one-page abstract of the event and “jigsawed” into four random groups to discuss the abstract. Next, they were given a graphic organizer to fill in information for a chosen specific event that included a description of each event and results, effects, and impacts. Students were allowed to again choose to go to one of four events in an opinion station. While in the first station, students chose all events, this time students chose only two events: Bleeding Kansas and Election of 1860. Students were given an exit ticket to explain why their opinions changed. Overall, by engaging in a combination of vocabulary development and dialogic strategies, ELLs were able to negotiate increasingly sophisticated understanding of these historical events.

**Theme 5: Teachers Learned That Multi-Dimensional Instructional Strategies Supported English Language Learners’ Learning.** Previous research demonstrates that words will be meaningful for ELLs when teachers connect them to a range of language and literacy learning opportunities that are authentic and meaningful (Honigsfeld, 2018). Data indicated that teachers learned that this kind of multidimensional approach supported their ELL students understanding of vocabulary.

**Using More Than One Approach to Teaching a Word to Support Learning.** Researchers maintain that to promote vocabulary development, ELLs need vocabulary related activities that are multidimensional, using all four modalities of speaking, listening, reading, and writing (Beck et al., 2013; Cárdenas-Hagan, 2020; Rousseau et al., 1993; Samson & Collins, 2012; Saunders & Goldenberg, 1999). Teacher discussions, reflection posts, and surveys
demonstrated this learning throughout the intervention. For instance, after reading the articles and reflecting on current practices, Teacher 20 commented that he would refine his approach in the future by teaching a particular word or concept from a variety of different angles. “Because I teach a heterogenous group of students, more than one approach to teaching new vocabulary and concepts is important to reach as many students as possible” (RP: 02/22).

Teachers in the intervention used multiple strategies to support academic vocabulary development including the use of graphic representations that required student to demonstrate their understandings of various vocabulary words in different ways. For example, middle school language arts teacher Teacher 18 stated that the Frayer model (graphic chart) gave ELLs multiple opportunities to discuss the meaning of words (RP: 03/22). Teacher 11 reported how she used graphic organizers to scaffold learning and that, in doing so, she gained insights into the various levels of understanding and perceptions (RP: 03/22). Additionally, many teachers used graphic organization templates to measure student learning and review activities before summative assessment exams.

Teachers also learned that using graphic organizers were not always educational if not enough attention had been given to practice or if students had not been required to engage the word over time. For instance, middle school language arts teacher Teacher 13 used the Frayer model to examine student knowledge and retention of words they had learned over one trimester (RP: 03/22). Each student was given a word and asked what they could remember about the word. Their memories were sketchy and some of their answers were incorrect. Teacher 13 noted that the students had not incorporated any of these words into their bank of usable vocabulary. While the student-created Frayer models were imaginative, they were superficial, and the teacher
realized that "real learning" had not occurred. She came to understand that deeper and more prolonged work was needed to support student learning.

Allowing students to represent knowledge of words and meaning in linguistic and nonlinguistic ways also supported student thinking and vocabulary development. Sixth-grade Teacher 12 used a multistep vocabulary instructional approach in a social studies lesson where students had to draw a picture to depict the words “settlements,” “Roanoke,” “Jamestown,” “Plymouth,” “colonists,” “tobacco,” “House of Burgesses,” “separatists,” “Mayflower,” and “Common House.” Next students engaged in whole class activities to describe the pictured word. Teacher 12 said what she learned from this lesson plan was that engaging in activities that promoted linguistic and nonlinguistic representation of words demonstrated the range of student understanding of each word (RP: 03/22). Previous research has supported this practice, demonstrating that students benefit from actively processing the word through writing their own descriptions of the word or drawing an image (Ferlazzo & Sypniewski, 2018).

Using Repeated Exposure to Vocabulary Words Over Time to Increase Vocabulary Knowledge. Research has confirmed that ELLs come to understand the multiple meanings and uses of words through repeated encounters with them (Marzano & Pickering, 2005; Nagy & Scott, 2000). Another multidimensional approach that emerged from the data was that of teaching and practice over time. Teachers in the intervention recognized that ELLs benefit from opportunities to frequently hear and use vocabulary words in more than one context over several days in order to take ownership of them and use them (RN: 02/22). Teacher responses to TKVS SQ27 corroborated this understanding with all teachers agreeing both pre- and post-intervention with the statement “The more frequently a word appears in materials students read, the greater the likelihood that students will retain the word once it is taught.”
Teacher 4, who is multilingual and teaches Grade 1 math and science, emphasized that before introducing a new vocabulary word, she always has a discussion with her students to figure out their background knowledge of a word. In order to further support learning, she then facilitates more exposure to the word over multiple days by presenting examples, pictures, books, and videos related to the word(s) in question (RP: 03/22). By using multiple instructional approaches over extended time periods, she fostered repeated exposure to vocabulary words.

Another finding was that teachers learned that they could collaborate across subject areas to support repeated exposures to words in various disciplines so that students become more familiar with the words and the multiple meanings of many words. Grade 1 teachers discussed how they collaboratively taught multi-meaning words (RN: 02/22). One of these teachers, Teacher 3, described their strategy in her reflection post (RP: 03/22), explaining that in Grade 1, the two teachers chose five words each week from science and social studies to present to their respective classes. Both presented the new word each morning on a word wall and asked their students to identify the various meanings of each word.

Once they had completed instruction on all five words, both teachers engaged in multiple vocabulary activities that included word retention activities, writing sentences using the word, drawing a pictorial representation of the word and orally using the word in a sentence. Teacher 3 emphasized that practicing these five words across content areas was important to ensure that students retained their knowledge and understanding of the words. The instructional approaches taken by these teachers is consistent with research that confirms that effective vocabulary instruction includes multiple exposure to target words over several days and across reading, writing, and speaking (Gersten et al., 2007).
Using Games and Review Activities to Support Learning and Provide Insight on Learning. Teachers found it helpful to use games and other interactive activities as review, extra practice, and to provide insight on student learning. For instance, middle school science teacher Teacher 17 found that pictures were always a great springboard for deeper conversations with students about multi-meaning words (RP: 03/22). The majority of the teachers in intervention study used interactive games for unit- and chapter-level reviews of lessons and exercises. They found that interactive games foster student participation and peer-to-peer learning.

Many of the world language teachers concluded their daily lesson with interactive word review games to assess students for visible learning outcomes. Grade 3 Spanish teacher, Teacher 15, used games as an end-of-the-class review activity (RP: 03/22). For example, her third-grade class had just finished learning about wild animals and begun the unit on farm animals. After introducing the Spanish vocabulary words for farm animals using the six-step vocabulary method (Marzano & Pickering, 2005), the teacher followed up with an assessment in the form of individual student games using an online app called the Dominoes Game. In the Dominoes Game, the domino tiles were divided in half. One student had an image representing a vocabulary word and the other had a vocabulary word with no image. Students were given the task of matching the word to the correct picture or vice versa. She found this game to be a successful method to sort who "got it" from who did not "get it."

What did Teachers Learn About Using Dialogic Strategies?

According to research, unlike traditional teacher directed instruction, dialogic strategies facilitate (a) deep discussions about specific ideas related to lesson themes with opportunities to engage in analytical thinking; (b) sustained dialogue in which students extend, refute, or question their peers’ original response; and (c) student-controlled, as opposed to teacher-directed,
conversation (Walqui & Heritage, 2018). Research has found that dialogic pedagogies are important teaching strategies that increase opportunities for ELLs to authentically use language across speaking, reading, and writing (Anthony, 2008). In the intervention, teachers were introduced to specific dialogic pedagogies: the jigsaw strategy and opinion stations.

**The Jigsaw Strategy.** Evidence from research indicates that jigsaw strategy is the only dialogic strategy that accomplishes all levels of learning: acquiring surface learning, consolidating surface learning, acquiring deep learning, and consolidating deep learning (Ferlazzo & Sypniewski, 2018). In the jigsaw strategy, student groups are to become experts in one component or section of the material being taught. The students are then reassigned to new groups where each student is an expert teacher on a different component presenting one part of the jigsaw with the sole intent of imparting the knowledge they learned to others in the group. The end goal of the jigsaw strategy is for all members in the class to collaboratively learn the entire lesson from other members in the group.

The jigsaw strategy was successfully used by teachers across various subject areas to actively engage ELLs in both teaching and learning to acquire academic English. For example, language arts teachers used it to teach vocabulary words and figurative language, science teachers compared scientific phenomena, math teachers connected math concepts to real life application, and social studies teachers helped students recognize and understand abstract concepts concerning society and historical events.

**Opinion Stations.** Researchers maintain that engaging in opinion stations and debate improves students’ listening and speaking skills, increases content knowledge and promotes academic language use (Anthony, 2008; Fisher & Frey, 2014). Opinion stations offer specific options or choices in response to a statement given, to explain an event or solve a problem. This
dialogic pedagogy support ELLs to build their oral competence through presenting their viewpoint. Opinion stations can be organized with several options: (a) to agree or disagree with a statement; (b) to agree, somewhat agree, disagree, or somewhat disagree with a statement; or (c) choosing one option among however many are presented. For example, the math teacher used three stations to provide students three possible solutions to a problem, and the social studies teacher offered students five stations from which to choose one event they believed influenced an historical outcome. Students then had to support the claim, demonstrate accurate knowledge, a clear reason for their choice from the given options, and construct a logical argument with correct academic language to persuade the audience. Students in most grades were allowed to change their stance after hearing the opinions of their peers.

The analysis of data identified two themes in teacher learning about dialogic pedagogy. First, teachers learned that student participation and ownership of their learning increased with the use of dialogic pedagogies and second, teachers learned that dialogic pedagogies supported the critical literacy skills of ELLs.

Theme 1: Teachers Learned That Student Participation and Ownership of Their Learning Increased With the Use of Dialogic Pedagogies. Teachers in the intervention found that dialogic pedagogies motivated ELLs to actively participate in learning academic English. When teachers put students into small groups with clear roles and defined language objectives, they found increased student participation and collaboration in classroom activities as well as in self-learning practices.

Increased Language Use and Vocabulary Development. More than one researcher has stated that ELLs increase their proficiency in academic English vocabulary when teachers provide them opportunities to simultaneously practice the target language and co-construct
content knowledge through increased talk and interaction (Choi & Morrison, 2014; T. Johnson & Wells, 2017; Wilkinson et al., 2017). Teachers found that these dialogic pedagogies provided opportunities for increased talk and interaction which helped students more easily learn abstract concepts and express their thoughts in academic language (RP: 04/22).

Teachers also noticed that dialogic pedagogical strategies help students increase their productive vocabulary. For example, Teacher 15, who taught Spanish, found the jigsaw method superior to her regular instructional method in improving student use of vocabulary in the classroom as well as in promoting "ownership" of the lesson material among her students. She saw that before she used the jigsaw method, student vocabulary use, sentence structure, and conversation was confined to the simple language choices provided in the Spanish unit of study. She wrote:

What I observed with the specific lesson I planned with Jigsaw was that because each group had the opportunity to “dig in” on one question, more details emerged in the answers produced and this initiated student interest to use more vocabulary words. This behavior contrasted with my previous lessons, where the standard response would likely have been the given vocabulary: “doctors help the sick.” [instead of a more complex response]. (RP: 04/22)

The teacher noted that the jigsaw dialogic strategy created an explosion of vocabulary use. In using this strategy, the teacher observed that she elevated the students’ motivation to use academic vocabulary and increase their productive language (RP: 03/22).

Increased language use and vocabulary development was also illustrated by Grade 4 social studies teacher Teacher 11 in her reflection post (RP: 04/22), where she described using the jigsaw strategy to teach about the formation of government, which is an abstract concept that
also includes the teaching of abstract vocabulary terms. Most Grade 4 students, she observed, often confuse the Declaration of Independence with the Constitution, and find the terms independence, democracy, and republic difficult to comprehend. She noticed that when ELLs worked in their peer groups and engaged in jigsaw activities, they received multiple exposures to these abstract terms and developed a deeper understanding of them; at the same time, they had additional opportunities to develop and practice their oral and written communication skills. The teacher maintained that by participating in peer group discussions, the students were more inclined to use academic English (RP: 04/22).

Teachers in other grades also found that intentional academic conversations within these pedagogies increased student vocabulary comprehension, vocabulary use, and their ability to identify misconceptions about word meanings. For example, Teacher 17 (RP: 04/22) who taught middle school science, noticed that students were using the key vocabulary words more in their lab summaries as well as in conversations after she implemented the six-step vocabulary instruction and dialogic pedagogies (jigsaw and opinion stations). The teacher stated that students increased their content knowledge and awareness of vocabulary meaning, which also resulted in students using these words in informal conversations. Students also used the words more appropriately with respect to science instead of substituting other multiple-meaning academic English words for these terms.

**Increased Engagement, Motivation, and Creativity.** Several studies have found that the expectation to teach material has a positive impact on learning and engagement (Ferlazzo & Sypniewski, 2018), and this was evidenced in the data. Teachers discovered that in the Jigsaw method, every student is responsible for their learning and are also held accountable by their peers in explaining content (RP: 04/22). As is structured into the pedagogy itself, students play
the dual role of learner and teacher, making them responsible for their own individual learning if they are to effectively teach the content to other members of the group. The need to effectively teach to others provided increased motivation for students.

For example, middle school language arts teacher Teacher 13 said she noticed that when using the Jigsaw method, not only did the students take "ownership" of their teaching, but this responsibility also made them want to learn the content well. This teacher said she was amazed by the creativity the students exhibited in their approach to teaching (RP: 04/22). Not only did the student teachers introduce vocabulary words in a variety of ways that included pretests, discussions, and pictures, but most also used precreated Frayer models (graphic organizers), slide shows with definitions, or songs to engage their “students.” Student lesson plans concluded with assessment tools like Kahoots, Blook-it and paper tests to foster knowledge retention (RP: 04/22).

Many teachers in the intervention study found that the jigsaw method supported student motivation and creativity in language use. For example, the multilingual elementary school science teacher Teacher 8 said she used the jigsaw strategy for the first time and found many advantages in it for students, including that students loved to teach other students (RP: 04/22). She explained that the science textbook was the main source of information for her third-grade students and using the jigsaw strategy to study the academic text gave student teachers interactive opportunities to add their own ideas to enhance their learning.

Teacher 8 observed the students in her class while they engaged in the jigsaw strategy and also identified how this opportunity supported student creativity. She noticed that students exhibited different skills in presenting subject material; for example, some students pictorially represented a weather event, while others organized information into a poster; some were great
speakers and explained their components verbally. She also found that unlike the “one size fits all approach” of traditional teacher directed lessons, this cooperative method promoted peer-to-peer accommodation and support in the learning process. Furthermore, according to Teacher 8, these Grade 3 students said they liked learning science using the jigsaw strategy (RP: 04/22).

**Theme 2: Teachers Learned That the Critical Literacy Skills of English Language Learners Increased Through the Use of Dialogic Strategies.** Cummins (2001) maintained that for ELLs to master academic language, they need opportunities to interact with and critically examine concepts and ideas they have learned. Dialogic strategies afford ELLs multiple individual and group opportunities to critically examine concepts and ideas. Evidence from the data indicates that teachers found that by using dialogic strategies they were able to build and improve the critical literacy skills of ELLs in a number of ways.

**Supporting Higher Order Thinking.** Data indicated that teachers learned that dialogic pedagogical strategies provide ELLs the platform to think aloud, think with others, and help each other understand content expressed in academic language. One example of this was in a lesson that Teacher 19 taught in middle school algebra. This teacher presented students with a real-life problem where they had to first choose from three options to renting a bike for a day: The three options were (a) to rent with an initial $8 deposit and additional $2 per hour, (b) to rent at $4 per hour, or (c) to rent at a $16 flat fee for the day.

Students had to choose one of the three options using logic and explain their reasoning for choosing the option. Next, to deepen their learning and use their knowledge of algebraic equations, students were asked to reexamine their choice, and solve to determine “the correct option.” Finally, they used the “slope and intercept equation” to solve for the right answer and then went back to choosing one option from the three opinion stations. Based on the
mathematical solution, everyone finally chose option 2. This was a good example of how opportunities for disagreements and questioning and dialogue support ELLs to negotiate meaning and engage in higher order thinking.

**Supporting Deeper Learning.** Teachers also found that embedding dialogic pedagogies in their lessons supported deeper learning. For example, middle school science teacher Teacher 17 used opinion stations to introduce to her sixth-grade students the term *oobleck*, a non-Newtonian, fluid substance that is neither a solid nor liquid. The students were shown a sample and allowed to touch it. Next students were presented with the statement, “Oobleck is a solid” and then had to choose one opinion station about it from four options: *strongly agree, agree, disagree, and strongly disagree.* After reading their notes and thinking individually about oobleck, they returned to their groups to discuss their reasoning and then share that with the entire class. Based on the discussions, students were asked to reflect and think about their choice and given an opportunity to change their opinions. At the end of the discussions, the teacher explained the true definition of oobleck to fill in the information gaps and crystallize student comprehension of the substance.

**Theme 3. Teachers Learned That Dialogic Strategies Provided Insights Into English Language Learners’ Learning and Language Processing Skills.** Engaging students in dialogic pedagogies that require peer-to-peer teaching and learning, changed teachers’ role in the classroom from sole director to being an observer of the student learning process. This provided them with opportunities to learn about their students learning.

For instance, Teacher 18, who taught middle school language arts, said that after using six-step academic English language instruction, she learned that she needed to allow more time for student discussion of each academic English language term (RP: 04/22). She realized that the
more opportunities students get to discuss, the more students are connecting to and grasping the terms. Additionally, she talked about how embedding the jigsaw strategy in English language instruction allowed her to observe each group and listen and add to each groups’ discussions. In her reflection post, she wrote that she learned that students who struggled with figurative language were able to verbalize their confusion and seek clarification of figures of speech while in their group which led to improved understanding. In addition, the teacher noticed that when students interact with their peers, they are more inclined to talk without the stigma of making a wrong answer in front of the whole class. She said her biggest takeaway from this was that students learn better in a collaborative learning environment. She found that with each successive discussion, students were able to discuss figurative language terms and apply them to their knowledge in other subject areas (RP: 04/22).

Summary

The intervention facilitated teachers in learning about second language acquisition, academic vocabulary development and instructional strategies to support the ELLs at the school. Overall, teachers deepened their learning in substantial ways. While teachers felt they had been teaching academic vocabulary prior to the intervention, they were surprised at the depth of teaching that the six steps brought and how the explicitness in that approach supported increased learning. Intentional scaffolding of learning vocabulary through modeling, graphs, questioning and other tools helped all of the students learn. Using multiple approaches and providing for multiple opportunities to use vocabulary over time also increased student learning. Teachers became aware that one-time teaching didn’t produce the level of learning and retention of word knowledge they hoped for. Finally, teachers learned how critically engaging in dialogic strategies promoted ELL language use, increased classroom participation, and self-learning. Moreover, by
promoting intentional academic conversations in classrooms, and facilitating cooperative learning, teachers increased critical literacy skills, higher order thinking, meaning making, and deeper learning in ELLs.

**RQ4: While Participating in the TSG, how do Teachers Integrate Academic Vocabulary Instruction and Dialogic Pedagogical Strategies in Their Teaching?**

The intervention provided opportunities for teachers to learn about and practice three important pedagogical approaches that support ELLs academic vocabulary development. They were Marzano’s six-step vocabulary instruction (Marzano & Pickering, 2005) and two dialogic pedagogies that require vocabulary use in authentic and purposeful conversations, opinion stations and the jigsaw approach. While RQ3 examined what teachers learned during the intervention and how they took up this learning drawing from teachers’ self-reports and descriptions from their reflection and dialogue journals, RQ4 draws data from lesson plans and observations of teaching to assess how teachers were actually integrating academic vocabulary and dialogic pedagogies in their teaching.

Both quantitative and qualitative data were used to assess the integration of academic vocabulary instruction and dialogic strategies in teaching. The lesson plan and classroom observation protocol checklists (see Appendix I) for both the six-step vocabulary method and the two dialogic strategies (opinion stations and jigsaw method) provided quantitative data. A frequency tally was used (a) to assess fidelity in using the instructional steps and (b) to examine the instructional sequence. Teachers’ lesson plans and classroom observations were analyzed to understand how teachers incorporated the new strategies to support ELLs’ language development. The sections below first examine the quantitative data for each of the three pedagogies. Then, extended examples drawn from observations of teachers implementing these
pedagogies in their teaching are used to provide richer descriptions of the integration in their teaching.

**Six-Step Vocabulary Instruction**

All teachers in the intervention were asked to explicitly teach vocabulary using the six-step vocabulary method (Marzano & Pickering, 2005) in each content area. The six steps were to (a) explain, (b) restate, (c) show, (d) discuss, (e) refine and reflect, and (f) apply through games. The researcher collected 21 lesson plans and observed 21 lessons. A lesson plan and observation protocol framed around the six steps was used to analyze the lesson plans and collect data during the classroom observations. Each step was checked when seen in the lesson plans or observed during the lessons. Frequency logs from the lesson plans and classroom observations are presented below.

**Table 5**

*Frequency Tally From Lesson Plans*

<table>
<thead>
<tr>
<th>Teachers</th>
<th>1. Provide a description, explanation, or example of the vocabulary word</th>
<th>2. Ask students to restate the description, explanation, or example in their own words.</th>
<th>3. Ask students to construct a picture, symbol, or graphic representation of the vocabulary word.</th>
<th>4. Engage students periodically in activities that help them add to their knowledge of the vocabulary in their notebooks.</th>
<th>5. Periodically ask students to discuss the vocabulary with their peers.</th>
<th>6. Involve students periodically in games that allow them to play with the vocabulary words.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (21)</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>20</td>
<td>18</td>
</tr>
</tbody>
</table>

Based on the data collected from the lesson plan protocols, it is evident that a majority of the participants used most of the Six-Steps in their lesson plans. All 21 teachers included the first four steps and the majority (20/21) included Step 5 (discussing vocabulary words with student peers). Eighty-six percent of the teachers (18/21) included Step 6 in their lesson plans (students
periodically engaging in games which used the vocabulary words). The six-step vocabulary instruction approach is not meant to be used in a single lesson as Steps 5 and 6 indicate periodic practice with the vocabulary over time, so it makes sense that these steps would not be included in a single lesson.

**Table 6**

*Frequency Tally From Classroom Observation Log: Six-Step Vocabulary Method*

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Step 1. Provide description explanation, or example of the vocabulary word</th>
<th>Step 2. Ask students to restate the description, explanation, or example in their own words.</th>
<th>Step 3. Ask students to construct a picture, symbol, or graphic representation of the vocabulary word.</th>
<th>Step 4. Engage students periodically in activities that help them add to their knowledge of the vocabulary in their notebooks.</th>
<th>Step 5. Periodically ask students to discuss the vocabulary with their peers.</th>
<th>Step 6. Engage students periodically in games that allow them to play with the vocabulary words.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (20)</td>
<td>20</td>
<td>19</td>
<td>17</td>
<td>21</td>
<td>20</td>
<td>4</td>
</tr>
</tbody>
</table>

Because observations were a snapshot in time and teachers often taught the Six-Steps over multiple days, the observations did not always capture all of the steps. Classroom observations indicated that 95% of the teachers (20/21) demonstrated Step 1, where teachers provided students with a description and explanation of the vocabulary word. Ninety percent of the teachers (19/21) included Step 2, which required students to explain the vocabulary in their own words. Eighty-one percent (17/21) of the teachers made students use graphic representations to describe the vocabulary words (Step 3). All teachers (21/21) engaged students with activities to increase students’ knowledge of vocabulary in their notebooks (Step 4), and 20/21 or 95% engaged in Step 5, asking students to discuss the vocabulary words with their peers. Only 19% of the teachers (4/21) engaged students in games with the vocabulary words (Step 6).
Based on the analysis, there is a difference in the lesson plans and teaching of the lessons for the different steps. Teachers were more likely to include every step in lesson plans but did not always cover each step in the lesson observed. This may be due to teachers' early understanding of how to take up the six steps while they were planning, thinking that they could accomplish all within a single lesson. Their understanding evolved during the actual teaching when time was a constraint. Many teachers ended up spreading the instructional sequence over multiple days and the observations, which caught a single point in time, did not capture each step.

**Dialogic Strategies**

The second part of the intervention required participants to plan for and implement one of two dialogic strategies, either opinion stations or the jigsaw approach. The lesson plan and observation protocol was organized to capture the important steps and components of both of these dialogic pedagogies. Ten teachers implemented opinion stations and the researcher collected lesson plans and observed the lessons. Eleven teachers implemented the jigsaw strategy and the researcher collected lesson plans and observed their lessons.

**Opinion Stations.** Teachers crafted opinion stations that varied slightly based on grade level. Teachers used a number of different configurations for the opinion stations: (a) two opinion stations (agree or disagree; thumbs up or thumbs down); (b) three opinion stations (agree; not sure; disagree); (c) four opinion stations (agree, somewhat agree, disagree, somewhat disagreed); or (ds) problem-solving formats where students were given three to five choices to solve a problem, prove a cause and effect in a historic event, or define a scientific phenomenon.

Below are the frequency logs from the lesson plans from teachers planning to use the opinion stations.
### Table 7

*Frequency Tally of Lesson Plan Components for Opinion Stations*

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Total (10)</td>
<td>6</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>6</td>
</tr>
</tbody>
</table>

Data collected from the lesson plan protocols indicated that in executing opinion stations all 10 participants incorporated all five steps in varying formats. Sixty percent of the teachers (6/10) integrated the opinion station within the six-step vocabulary method where it was used as Step 5 with students using the content vocabulary to make their opinion. Another 60% added opportunities beyond the opinion station for students to use the new vocabulary in games. It is interesting to note that teachers were integrating both the six-steps vocabulary instruction and dialogic pedagogies flexibly in their planning to provide additional opportunities to engage new vocabulary.

Below is the frequency tally of the classroom observations for opinion stations.

### Table 8

*Frequency Tally of Classroom Observation Logs for Opinion Stations*

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Integrated within 6 step vocabulary instruction</th>
<th>1. Teach vocabulary</th>
<th>2. Divide the class into stations</th>
<th>3. Students express their opinions</th>
<th>4. Students given opportunity to engage in discussion</th>
<th>5. Students use the vocabulary in oral conversation</th>
<th>6. Play games (Six-Steps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (10)</td>
<td>6</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>6</td>
</tr>
</tbody>
</table>

The data from the classroom observation protocol indicated that the teachers executed the lesson plans as written and included all five steps of the opinion station pedagogy. Additionally,
60% of the teachers who indicated they would also play games to reinforce the vocabulary did so when being observed.

**Jigsaw Strategy.** The jigsaw strategy provides opportunities for students to become experts in a portion of content that includes the target vocabulary and then teach that content to others. Opportunities to engage in dialogue and synthesize new learning further promoted the learning of new vocabulary and content. The researcher collected 11 lesson plans and observed eleven lessons where the jigsaw strategy was used. Below are the frequency logs from the lesson plans.

**Table 9**

*Frequency Tally of Lesson Plans for Jigsaw Strategy*

<table>
<thead>
<tr>
<th>Teachers</th>
<th>1. Teach vocabulary</th>
<th>2. Divide the class into expert groups</th>
<th>3. Experts read the text together</th>
<th>4. Groups formed with one person from each group represented</th>
<th>5. Experts teach their text to new group</th>
<th>6. Students complete a follow-up task</th>
<th>7. Teacher reviews follow-up task with the entire class</th>
<th>8. Teacher monitors students for vocabulary use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (11)</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

Based on the data collected from the lesson plans, all eleven teachers incorporated the eight steps of the jigsaw strategy. Also, the majority of the lesson plans displayed the integration of six-step vocabulary method into the Jigsaw strategy. Sixty-four percent (7/11) of the teachers embedded the jigsaw method in Step 5 (periodically asking students to discuss vocabulary with their peers). One teacher combined the Frayer model (the graphic representation of a vocabulary word) into the jigsaw strategy to help students internalize the meaning of the vocabulary words. Twenty percent of the teachers (2/11) included games as a final activity in their lesson plans after implementing the jigsaw strategy.
Classroom observation data for the implementation of the jigsaw strategy is provided below.

**Table 10**

*Frequency Tally of Classroom Observations for Jigsaw Strategy*

<table>
<thead>
<tr>
<th>Teachers</th>
<th>1. Teach the vocabulary</th>
<th>2. Divide the class into expert groups</th>
<th>3. Experts practice reading text together</th>
<th>4. Groups formed with one person from each group represented</th>
<th>5. Experts teach text to the new group</th>
<th>6. Students complete a follow-up task</th>
<th>7. Teacher reviews follow-up task with the entire class</th>
<th>8. Teacher monitors students for vocabulary use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (11)</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Data from the classroom observations provided insights into how the teachers implemented the eight steps of the jigsaw method. As with other observations, the slice of time the researcher was able to observe did not always include the entire eight steps. Some teachers had completed a number of steps prior to the observation, while other teachers started with the first step but did not complete the final steps. Eighty percent of the teachers were observed completing Steps 1 through 5, and 20% of the teachers (2/11) completed all eight steps of the jigsaw method during their classroom observation.

Sixty percent of the teachers (6/11) were observed doing Step 6 (a follow-up task in the form of student presentations). Forty percent of the teachers (4/11) were observed doing Step 7 (review the lesson with the entire class) and Step 8 (monitor students for vocabulary use). One teacher showed all the steps in the lesson plan, but her pedagogy did not follow the jigsaw method; instead, it was teacher directed. Again, completing all of the elements in the jigsaw was not the goal as this teaching may take place over several days. What is powerful about the data is the high degree to which most teachers were using it in their instruction.
Expanded Examples of Teachers Integrating New Learning

Data from observations indicated that teachers integrated these new pedagogies in diverse and creative ways. Because these data were so rich, fuller examples of implementation are provided here as short vignettes. This was done to provide a thicker description of the implementation and to honor the work of the teachers.

Examples of Integrating the Six-Steps Approach

Following are examples of how teachers integrated vocabulary instruction across content areas.

Grade 1 Science Teacher, Prior to the Observation

Teacher 4 implemented the six-step vocabulary instruction as a review activity prior to the first-trimester exams that were scheduled for the following week. In the teacher's reflection post, she provided background information on all the activities students engaged in prior to this lesson (RP: 03/14/22). According to her, the class had been learning about animal groups with a focus on their physical characteristics, the food they ate, and habitats they lived in to understand their differences. The activities done in the classroom prior to the intervention session included (a) seeing pictures of animals to identify them, (b) engaging in classroom discussions, (c) reading the textbook and reference books and poems, (d) watching videos, and (e) learning the vocabulary words and writing the words in their notebooks.

The teacher stated that she also reinforced their knowledge with interactive activities like sorting animals (soft toys in the classroom) by animal groups and comparing and contrasting animals/groups of animals using Venn diagrams. To support the students’ mastery of the content, she encouraged students to take their vocabulary notebooks home to review over the weekend.
Observation

At the beginning of the observed lesson (March 9, 2022), Teacher 4 reviewed content about animals, their habitat, and food (Steps 1 and 2). Students were distributed around four tables. Each group was given an animal (stuffed toy: penguin, butterfly, frog, or whale). Each table had sticky notes that asked them to draw the animal, define what kind of animal it was, what group it belonged to, what the animal ate, and their habitats (Steps 2, 3 and 4). The students were encouraged to discuss their animals within the group. Teacher 4 walked around to each table to encourage and support student talk and provide clarification (Step 4 and Step 5).

Students were seen walking to the word wall in the classroom to make sure they spelled the word right (Step 1). Next, each group read out their description; shared their pictures and elaborated on each animal to the whole class (Steps 2, 3, 4 and 5). Each student was given the opportunity to use the correct words to answer the sticky note sentence starters. Students were descriptive in their oral speech and examples of student talk include “Mammals give birth to live young. Their habitat includes grasslands. They eat grass and leaves and are herbivores”; “Penguins live in the arctic. Penguins are flightless birds. They eat fish and are carnivores”; “Butterflies can be found in rainforests. They are insects and found in open meadows. They drink nectar”; and “Frogs are amphibians and have damp skin.” Students were then asked to collect their sticky notes to make a collage of their descriptions and pictures for each animal group at the end of the lesson.

Reflection

In her reflection, the teacher stated that she has been using five steps out of the six-step vocabulary instruction consistently in her lesson plans. She also said that she has been unable to
incorporate games in her daily lesson plan but based on the insights from the intervention, she will incorporate them in future lessons (RP: 03/22).

**Interpretation**

In the observation, it was clear that the level of recall of animal facts and details and choice of vocabulary words was very advanced. This is in keeping with the RQ3 findings and Theme 2, specifically Strategy 1, which states that multidimensional strategies like the six-step vocabulary instruction deepen word knowledge and meaning-making. This also connects to evidence from research that maintains in order to promote vocabulary development, ELLs need vocabulary-related activities that are multidimensional, promoting language production in the form of collaborative conversations, vocabulary, writing, and reading (Anthony, 2008; Beck et al., 2013; Cárdenas-Hagan, 2020; Snow, 2014; Verplaetse, 2007).

**Grade 4 Math Teacher, Prior to the Observation**

Teacher 10 introduced the concept of quadrilaterals and four related vocabulary words, trapezoid, rhombus, square, rectangle, and parallelogram a week prior to the observed lesson. The observed lesson focused on building a deeper understanding of quadrilaterals and teaching the students the differences between the five shapes. The teacher embedded the content (about quadrilaterals) within the six-step vocabulary instructional method.

**Observation**

During the observation lesson (February 23, 2022), Teacher 10 instructed her students on the "basics of classifying quadrilaterals" by using the six-step vocabulary method. The vocabulary words were quadrilateral, trapezoids, rhombus, square, rectangle, and parallelogram. She introduced the word quadrilateral by using a video from Math Antics. The video described and explained each quadrilateral shape (Step 1). For example, the actor in the video first
pictorially depicted what a polygon represented using a visual image and then proceeded to define a four-sided polygon as a quadrilateral. Next, each special quadrilateral (trapezoid, rhombus, square, rectangle, and parallelogram) was explained by the actor with visual examples highlighting the differences in their shapes and properties.

For Step 2, students were asked to take math notes in their blue notebook, to sound out the word, and describe it. This way they learned the correct pronunciation of the word and described each quadrilateral in their own words. Since all students also have their textbooks as a reference, students were most familiar with a square and rectangle and described it as “a square has equal sides,” and a rectangle has two equal sides. The teacher then further explained that shapes are defined by changing sides and angles. For Step 3, students were asked to draw a picture of each shape, label it, and mark up the picture with arrows to show the relationship of their specific quadrilateral to other quadrilateral shapes.

The teacher modeled each step by demonstrating the steps on the smart board in front of the classroom. For Steps 4 and 5, students were given additional activities (a) refer to their textbook to answer questions, (b) ask the teacher for clarifications, and (c) review their answers with the whole class. This activity took 10 minutes. The final activity, Step 6, involved students playing “charades” in groups of four. Four corners of the room were designated for each shape (square, rectangle, trapezoid and parallelogram corners). Each group spent 5 minutes in each corner and played charades to master the vocabulary and cement their understanding about the various shapes. In the classroom, I (the researcher) was able to learn along with the students because the teacher extended the knowledge with real-life examples (CO: 02/23/22). For example, I learned that (a) in England, a trapezoid is called trapezium and (b) all squares are rectangles, rhombuses, parallelograms, and quadrilaterals but not trapezoids.
Reflection

Teacher 10 stated in her reflection post (RP: 03/22) that the Math Antics video was a perfect introduction because these videos are always entertaining and well done and that teaching this lesson using the six-step method was her favorite lesson.

Interpretation

By engaging in all six steps of the vocabulary method the teacher showcased Theme 4 from RQ3, that “teachers can gain insights on student comprehension of words in many ways.” The teacher used all three strategies under Theme 5 where teachers learned that multidimensional instructional strategies supported ELLs’ learning, “Strategy 1. Using more than one approach to teaching a word supports learning,” “Strategy 2. Repeated exposure to vocabulary words over time increases vocabulary knowledge, and “Strategy 3. Games and review activities support learning and provide insight on learning.”

Additionally, incorporating the four-corner game using the shapes as the four corners and charades as the format, gave insights on student comprehension. This activity led to students pondering over complex shapes like the diamond and wondering about which quadrilateral shape defined a diamond. Teacher 10 said she had introduced the topic a week prior to this lesson to build familiarity with the topic. This was evident from the students' engagement, demonstrating critical thinking because Teacher 10 had discussed this topic before. Evidence from research findings show that students achieve deep vocabulary learning when classroom activities develop both definitional knowledge and foster a word’s broad range of connections and related concepts (Ford-Connors & Paratore, 2015).
Examples of Integrating Dialogic Pedagogies: Providing ELLs Opportunities for Meaningful Discourse

Teachers in the intervention were able to explore and practice two dialogic strategies. The jigsaw strategy allows students to be both teachers and learners in a cooperative learning environment and opinion stations required students to express their viewpoints and demonstrate their understanding of the content they have learned. Following are examples of how teachers integrated these two dialogic strategies.

Grade 6 Math Teacher, Prior to the Observation

Teacher 16 used opinion stations to assess student comprehension of angles in geometry as a summative assessment for the unit. The vocabulary words and math concepts were point, line, line segment, ray, angle, zero angle, acute angle, obtuse angle, straight angle, reflex angle, and complete angle. Prior to the observed lesson, the teacher had explicitly taught each term and physically demonstrated some of the concepts over 2 days.

Observation

During the observation (April 1, 2022), the teacher used the opinion station as a culminating activity to assess students' acquisition of the terms and their meanings. Students were given the statement, “The largest reflex angle can be formed with at most three obtuse angles and an acute angle that measures at most 89.9 degrees.” Students were allowed to calculate their answers on paper. Students were then asked to choose one option or corner in the opinion station—strongly agree, agree, disagree, or strongly disagree—and explain why they chose that corner.

Prior to choosing a specific corner, students were drawing angles and identifying the combinations of obtuse angles and acute angles. It was also clear that two students immediately
understood the statement, “The largest reflex angle can be formed with at most three obtuse angles and an acute angle that measures at most 89.9 degrees and went right to the strongly disagree corner. In their calculations, the two students demonstrated that if the acute angle measured 89.9 degrees, then the reflex angle would be 270.1 degrees. The three angles would have to be right angles and not obtuse angles (90 + 90 + 90). The teacher was able to observe and recognize that the majority of the students grappled with the meaning of reflex angle. The concept of reflex angle and calculating the combination of three obtuse angles and an acute angle seemed to divide the students into groups based on their knowledge and understanding.

Despite learning about angles for a week, it was clear students were not proficient enough to visualize the relationship. This activity took 30 minutes, and students were seen actively arguing among themselves about the solutions. Additionally, the students within the classroom were at varying proficiency levels, but the peer-to-peer interaction allowed them to partake in this highly engaging activity. The teacher had to reteach the concept and lesson after the first iteration of opinion stations because this exercise demonstrated to the teacher that many of the students had not fully understood the relationship between angles and the knowledge that the sum of the angle and its corresponding reflex angle is 360 degrees.

The second statement students were given was, “A zero angle equals a complete angle.” Again, students had to choose a corner (strongly agree, agree, disagree, strongly disagree) and provide a rationale for their choice. Students were first asked to use a paper to illustrate the difference between zero angle and complete angle, and also to discuss their answers with their peers. Students were seen arguing about what is a zero angle and complete angle, because while the students who grasped the concept realized that the two definitions were about dynamic angles
Given the earlier confusion, this time the teacher circulated between the different peer groups and listened to their interpretations. Finally, the teacher decided to demonstrate the difference between a zero angle and a complete angle by physically demonstrating it. He lay down on the floor depicting a straight line (which has zero angle) and then spun once full circle to show a complete angle (360 degrees). Using opinion stations and peer-to-peer discussions allowed the teacher to identify where students were in their learning, their confusions, and their current knowledge to provide the necessary scaffolding for students to support their learning. Students were allowed to then choose the corner that was appropriate, and the class ended with students completing a Frayer model showcasing their new knowledge.

**Reflection**

The teacher's reflection post (04/03/22) stated four takeaways: (a) He found opinion stations to be a useful teaching tool that gives the learner an opportunity to confidently organize and synthesize new information via everyday language; (b) engaging in opinion stations allowed his students to develop a more intuitive and logical way of thinking that lent itself to a relaxed and fluid approach to the problem-solving experience and also contributed to less math anxiety and more math propriety in his class; (c) deconstructing both complex concepts and words in whole class activities made it easier for the majority of students to follow along and stay engaged in class, and (d) this approached allowed for observing student thinking and focused his attention upon weak points and/or illogical statements that otherwise may have gone unnoticed.

The teacher summarized his experience by stating that using opinion stations as the culminating activity to understand the math vocabulary and mathematical concepts was an
excellent strategy since it challenged students to reconsider their beliefs and thoughts when presented with a statement. Additionally, the teacher learned that “designing the statement” was critical to measure visible learning, misconceptions and misunderstandings in the students. When the statement for the opinion station was broad yet specific, students were encouraged to think deeply, reflect on their understanding, and then choose one of the four stations. The teacher said it took him several days to plan the lesson, especially with respect to designing the statement, because his goal was to foster rich discussions.

For example, as one group would strongly gravitate towards their opinion, students in that group would do their best to prove their point. They would dig deeper to come up with ways to back up their claims while employing appropriate vocabulary words and demonstrating or not demonstrating an understanding of them. Using words orally made it easier for students to remember and properly use words as compared to instances when this was not the case.

In his reflection post (04/03/22) he recognized that encouraging students to use math terminology when explaining their rationale for solving problems assists learners in communicating with other students while simultaneously becoming familiar with vocabulary words. In this way, vocabulary instruction represents both an opportunity as well as a strategy for transforming challenging problems into a more manageable task. He also found that engaging in deep mathematical discussions, opinion stations, and Kahoots proved to be extremely effective in solidifying students’ understanding and mastery of the new mathematical concepts. He said,

My students have grown to be more confident and have begun to show an upward path toward independent learning. Additionally, tools such as Frayer models as well as confidently engaging in debate with peers has significantly enhanced their understanding of the subject as empirically evidenced in recent written and oral exams.
Interpretation

This teacher’s observations are supported by RQ3 findings about using dialogic strategies and Theme 3, that dialogic strategies provided insights into ELLs’ learning and language processing skills. The critical literacy skills of ELLs increased through the use of dialogic strategies, by engaging students in higher-order thinking, negotiating meaning, and deeper learning objectives. Furthermore, researchers agree that dialogic teaching techniques guide students in explaining, analyzing, exploring, evaluating, discussing, and justifying their thinking, a process that supports academic language use, higher-order thinking, and deeper learning (Gupta & Lee, 2015).

Grade 3 Science Teacher, Prior to the Observation

Teacher 8 used the Jigsaw method for students to learn about three weather phenomena: hurricanes, tornadoes, and thunderstorms. Prior to the jigsaw lesson, students were introduced to the topic and explicitly taught these three key vocabulary terms to support their content knowledge. Additional activities included engaging in reading activities to familiarize them about the weather events and watching a BrainPOP video for each of the weather events. Then students were asked to draw a picture representing each weather term and describe the weather event in their notebooks. The science textbook was the main source of information, but students also had access to their classroom science library as a resource for research topics. Students were given a science packet (by the teacher) in preparation for implementing the jigsaw strategy and training the students to become teachers to their peers.

Prior to the teaching of the observed lesson, the teacher prepared the student by dividing them into three groups (three students in each group), one for each weather phenomenon, and asked to collectively make a poster that showcased four aspects of the weather event: (a) a
picture of the event, (b) a written description of the weather event, (c) perils related to the event, and (d) an explanation of how to stay safe during the weather event. According to the teacher, students engaged in brainstorming sessions which included multiple drafts of their presentations until they were satisfied with their final version. Each group was given autonomy in terms of how they wanted to present the information (in terms of pictures, illustrations, poster board size). This was showcased during presentations in the actual observation.

**Observation**

Since the duration of the class was 45 minutes for the observation (March 29, 2022), each group was given 10 minutes to make their presentation to the other groups. The class started with students clustering in their groups and discussing the goals of their presentation. Each student in the group focused on one weather event (a) describing the picture, (b) explaining their description and characteristics of the weather event, (c) explaining the damages they cause, and (d) taking safety measures during the weather event. Each group had a distinct focus based on their individual strengths. One group had a very good illustrator and so the poster showed more images and the presentation focused on the pictorial representation of the event (hurricanes). Another group was more focused on organizing the information in their poster (tornadoes) and the third group seemed more focused on the presentation of facts (thunderstorms). After each presentation, students were asked to ask the presenters questions about their weather event. Students discussed the difference in safety measures for tornadoes and hurricanes.

The class ended with a final activity involving students distributing exit tickets to measure how much the groups learned from the presentation and tallying the responses. For example, the exit ticket for tornadoes asked (a) What is a tornado? (a. severe storm with rotating winds, b. the eye of a hurricane); (b) Tornadoes are (a. dangerous, b. destructive, c. all of the
above); (c) Tornadoes leave a lot of what (a. debris, b. lava). The exit ticket for thunderstorms asked (a) How do you stay safe from a thunderstorm (a. going to a park, b. go indoors, c. go to a pool); (b) How do thunderstorms form (a. thunderstorms form when clouds bump into each other, b. they form when a hurricane happens at the same time, c. they form when clouds come together), (c) What happens during a thunderstorm? (a. thunder and then lightning slams to the ground, b. makes a hole in the ground, c. houses fly in the air). The exit ticket for hurricanes included (a) What is a hurricane (a. a large storm with heavy winds and rain, b. small storm with fire, c. a large windstorm), (b) How to prepare for a hurricane? (a. don’t evacuate, b. get an umbrella, c. tape your windows or board them); and (c) What is the middle of the hurricane called? (a. eyelash, b. eyebrow, c. eye). Students enjoyed completing the exit tickets.

Reflection

The teacher's reflection post (RP: 03/29/22) stated that she was using the jigsaw strategy for the first time. What she observed from using the strategy was (a) students loved that they were going to teach the other students about a certain concept; (b) some students were great at drawing their weather event, while others were great at organizing the information in their poster and some were great speakers; (c) students were accommodating of each other's needs and supportive of each other’s learning needs. The teacher noticed that the students gained a lot from this instructional strategy including showing initiative to look for resources beyond their textbook to teach and increase their own understanding and knowledge of the topics. She also found them more engaged in their learning. Teacher 10 concluded her reflection by reiterating that she plans to use the jigsaw strategy for certain topics in the future.
Interpretation

The observations made by Teacher 10 are reinforced in the findings addressed in RQ3 about using dialogic strategies. Specifically, in Theme 3 which stated that engaging in dialogic strategies provided insights into ELLs’ learning and language processing skills. The jigsaw strategy used to learn about weather events showed increased ELL student participation. Additionally, student ownership of their learning increased with the use of dialogic strategies and also promoted self-learning in ELL students. Evidence from research supports the teachers’ understanding that dialogic strategies provide a more coherent learning experience for students in terms of student engagement, content knowledge, learning new vocabulary, and promoting language use (Cheuk, 2016).

Grade 2 Social Studies Teacher, Prior to the Observation

Teacher 6 stated in her reflection post (RP: 04/11/22) that she chose the opinion station as the lesson for second grade because (a) her students were familiar with “Would you rather?” questions during morning meetings and (b) the children have prior experience to use their oral language skills to express their opinions and give concrete reasons for their choices. Teacher 6 took a little more than a week to plan the lesson using the opinion stations dialogic strategy. This included choosing the “statement” such that it was neither too easy nor too complex for second-grade students.

Additionally, she was not sure if four stations were too many for second grade and therefore did a practice lesson to choose the final format for the “Opinion Stations.” Also, because they were young, she wanted to first teach the second graders the importance of using individual reasons for choosing a station and modeled how to use a “talking stick.” The students practiced using the statement “Chocolate is the best candy of all.” The children were given a few
minutes to think before moving and had to have two reasons to write down once they chose. They did a great job with the practice and therefore Teacher 6 felt they were ready to engage in opinion stations.

Prior to the opinion station, Teacher 6 taught a unit about “conservation” and “pollution.” Students read and discussed a reading passage about the importance of conserving natural resources and their textbook chapter about the topic. Students were also introduced to natural resources (water, air, soil, oil/gas) during classroom instruction and filled out a graphic organizer to showcase their understanding of how natural resources should be used/conserved.

**Observation**

As a culminating activity during the observation (April 7, 2022), Teacher 6 used opinion stations. Prior to using the opinion stations, students completed a vocabulary exercise to demonstrate their understanding of the vocabulary terms (natural resource, conserve, pollute, environment). Next, the teacher asked students to provide one of four opinions to the following statement: “Clean water is the most important resource that we should work to conserve for the future.” The four opinion stations were to agree, strongly agree, disagree, and strongly disagree. In order to facilitate discussions, the Grade 2 teacher provided a talking stick. Initially, seven students agreed with the statement, three students strongly agreed, two students disagreed, and one student strongly disagreed. Each student had to support their decision with reasons. Students had learned about air and water being natural resources, about conservation, and the environmental impact of pollution.

From the student discussions, it seemed that the three students who disagreed did so because they felt clean air was the most important resource. The student who strongly disagreed felt that the air we breathe is the most important resource for our health. However, when she
heard the reasons provided by all the students who agreed with the statement, which included (a) water is a natural resource that can be affected by pollution, (b) problems occur if we have no access to water, and (c) health issues result from polluted water. After listening to her peers, she decided to change her opinion. By listening to other students, the student was able to reflect on her opinion, consider what other students had to say, and then decide whether her stance was right or if she wanted to change her opinion. The teacher ended the class with an exit ticket where each student stated their opinion and if they would change it again and why.

**Reflection**

In her reflection post (RP: 04/11/22), Teacher 6 said that despite having done a practice run, she learned that teaching the vocabulary prior to engaging in dialogic strategy proved to be important. This was because prior knowledge of the vocabulary word supported the children in formulating an opinion based on what they had learned about the words (natural resource, conserve, pollute, environment). Also, using the six-step procedure in teaching the vocabulary and reading background knowledge for the topic supported comprehension. The teacher found that many children were using the vocabulary when discussing their reasons and although they needed prompting at times, the discussions were rich and the children were engaging with each other and eager to voice their opinions. The children showed understanding and some even changed their minds after hearing reasons from their peers. (Many thought Clean Air was more important.)

**Interpretation**

This teacher’s observations are reinforced in RQ3 findings about using dialogic strategies and specifically Theme 1, student participation and ownership of their learning increased with the use of dialogic pedagogies, and specifically Strategy 1, that dialogic ELLs demonstrated
“increased language use and vocabulary development.” ELL academic language use increased with the use of dialogic strategies especially with intentional academic conversations and by promoting cooperative learning. Researchers state that exchanging ideas through discourse gives students a means for combining their intellectual resources to collectively make sense of their experiences and increase their critical thinking (Wilkinson et al., 2017).

**Summary**

The analysis of data indicated that teachers were able to integrate their learning of the new strategies in their planning and in their teaching. The majority of the teachers demonstrated attention to each element in the six-step approach, in opinion stations, and in the jigsaw approach. Many teachers were using these strategies with flexibility, integrating the dialogic pedagogies within the six-step approach to support increased dialogue and practice with the new vocabulary. The reflections that teachers wrote after they were observed also indicated that they saw the benefit of their teaching and were able to identify ways they might revise or deepen the strategy in the future.

**RQ5: How do Teachers Perceive Their Efficacy in Supporting Academic Vocabulary Development Before and After Participation in the Teacher Study Group?**

Bandura (1977) defined the concept of self-efficacy as an assessment of one’s own capabilities to attain a desired level of performance in a given endeavor. According to Barni et al. (2019), teachers’ self-efficacy refers to “teachers’ beliefs in their ability to effectively handle the tasks, obligations, and challenges related to their professional activity, and plays a key role in influencing important academic outcomes” (p. 1). Teacher self-efficacy is one of the few individual teacher characteristics that reliably predicts teacher practice and student outcomes (Holzberger et al., 2013; Poulou et al., 2018; Tschannen-Moran & Johnson, 2011). The
intervention aimed at increasing teachers’ efficacy in supporting the academic vocabulary development of ELLs in their classrooms by introducing them to content on second language development, academic vocabulary development, and pedagogies that support this development.

The TPPSE (Durgunoglu & Hughes, 2010) in educating ELLs was used to measure self-efficacy. It was administered before and after the intervention to assess teacher perceptions of preparation and self-efficacy. The TPPSE is a tool that has been used for capturing teacher attitudes, beliefs, and knowledge of ELL issues, specifically to measure preservice teacher self-efficacy and perceived preparation to teach ELLs (Durgunoglu & Hughes, 2010). Two sections from the original survey (attitude towards ELLs in the classroom and attitude towards parents of ELLs) have not been included since it was not the focus of the intervention.

The TPPSE survey had seven questions on teachers’ perceived preparation and eight questions on self-efficacy to teach ELLs, and teachers were directed to choose from five possible responses on a Likert scale (strongly agree, agree, neutral, agree, and strongly disagree; see Appendix G for the full survey). The survey responses were generated, summarized, and stored in Google Drive. A frequency analysis was used to explore the data. Based on the survey results, it is evident that the activities in the intervention increased teachers' perceived preparation and self-efficacy to meet the needs of ELLs academic language development as shown below in the findings.

**Teachers’ Perceived Preparation to Teach English Language Learners**

Questions around perceived preparation range from perceptions of knowledge to ability to enact different instructional practices that support ELL development. Teachers responded to seven questions in the survey about their perceived preparation to teach ELLs. Figures 8–13, shown below, capture the difference in teachers’ perceptions of preparation before and after the
intervention. Overall, the findings from this instrument indicated an increase in perceived preparation across all of the questions. Results are described below.

**Instructional Strategies (SQ1, SQ3, SQ4, and SQ5).** Data on each question are described below. After the intervention, there was almost a 25% increase in teachers’ reports of agree or strongly agree to SQ1: “I am prepared to tailor instructional and other services to the needs of ELL students” (pre, 14/21 and post, 19/21).

**Figure 8**

*Teacher Responses to Survey Question 1*

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In response to SQ3, “I am knowledgeable of teaching strategies and instructional practices for ELL students that are developmentally appropriate,” at preintervention, only 43% of the teachers (9/21) agreed or strongly agreed. However, postintervention, 81% of the teachers (17/21) agreed or strongly agreed that they were confident about their preparation to teach ELLs.
An increased sense of preparation for providing feedback is also captured in teachers’ responses to SQ4, “I am knowledgeable of alternate ways of giving feedback.” While at preintervention, 86% percent of the teachers (18/21) agreed or strongly agreed with the statement, at postintervention, 100% of the teachers (21/21) agreed or strongly agreed that they were knowledgeable of alternate ways of giving feedback.

In response to SQ5, “I am knowledgeable of teaching practices that are attuned to students' language proficiencies and cognitive levels,” at preintervention, 70% of the teachers
agreed or strongly to the statement, but at postintervention, 95% of the teachers (20/21) agreed or strongly agreed.

**Figure 11**

*Teacher Responses to Survey Question 5*

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**Importance of Culture and Language (SQ6).** ELLs benefit when teachers are aware of their cultural and linguistic heritage (Hollie, 2017; Hoover et al., 2016; Lucas et al., 2008; Nelson et al., 2014), and information learned in the intervention bolstered teachers’ preparation in this area. In response to SQ6, “I am knowledgeable of teaching practices that are culturally supportive and relevant,” at preintervention, 70% of the teachers (15/21) agreed or strongly agreed to the statement, but postintervention, 90% of the teachers (19/21) agreed or strongly agreed, communicating heightened confidence in their ability to provide culturally supportive experiences to ELL students.
Understanding the importance of culturally and linguistically responsive teaching is critical as research indicates that recognizing and engaging in appropriate instructional strategies to support ELLs’ academic language development and second language acquisition is an important support in their learning (Frantz et al., 2014; Hollie, 2017; Ross & Ziemke, 2017).

**Second Language Learning and Vocabulary Development (SQ2).** The intervention was designed to support teachers in acquiring knowledge of second language learning and academic vocabulary development for ELLs. As shown in RQ3 and RQ4, teachers in the intervention gained in their knowledge of second language and vocabulary development and the instructional strategies that support learning. The survey data supports these findings. In response to SQ2, “I possess a clear understanding of the language demands of the content area that I will teach,” at preintervention, 85% of the teachers (18/21) agreed or strongly agreed with the statement. However nearly all teachers (95%) agreed or strongly agreed with the statement postintervention (20/21).
**Overall Efficacy (SQ7).** SQ7 measures overall efficacy in teaching ELLs. It is framed as, “If I try hard, I can get through to most of the ELL students.” While the majority of the responses already agreed or strongly agreed at preintervention (95%, 20/21), it is clear that teachers learned a great deal during the intervention. It is not uncommon for people to overestimate their abilities on preintervention instruments. As Allen and Nimon (2007) maintained, “In most cases when participants do not have sufficient knowledge to gauge their pre-intervention behavior, they tend to overestimate their level of functioning” (p. 30). Given teachers’ reflections during the interventions about how much they learned and the impact they saw on their students’ learning, it is possible that there was an overestimation in this case or that many teachers did not know what they did not know.

**Teacher Self-Efficacy in Teaching ELLs**

Researchers state that when teachers experience positive outcomes from implementing their new knowledge and instructional strategies, it increases their sense of self-efficacy (Tran, 2014; Tschannen-Moran et al., 2010). The intervention was structured to support new learning, collaborative opportunities to read, think and plan together as well as practice, and eventual mastery of new pedagogies as teachers took up their learning in their teaching. During this
practice, teachers were able to see the impact their teaching had on student learning. The TPPSE had eight statements about teacher self-efficacy in educating ELLs: five pertained to instruction and learning, one to discipline issues with ELLs, one to effective communication with parents and guardians, and one to making a difference in the life of the student (see Figures 14–16). Figures 14–16 lay out the results of these statements below. While all of the questions frame issues important to teaching ELLs, given the research questions, analysis will focus on the five statements pertaining to teacher instruction and learning in ELLs will be analyzed.

**Confidence in Teaching (SQ9, SQ11, and SQ12).** In response to SQ9, “I am confident in my ability to teach all ELL students to high levels,” there was almost a 20% increase in teachers who agreed or strongly agreed from preintervention (13/21) to postintervention (17/21).

Figure 14

*Teacher Responses for Confidence in Teaching*

![Confidence in Teaching Graph]

In response to SQ12, “I feel confident in providing a positive learning environment and create a climate characterized by high expectations,” a majority of the participants agreed or strongly agreed at preintervention (20/21), and all participants agreed or strongly agreed at postintervention (21/21). The responses of teachers to SQ11, “I am uncertain how to teach some of my ELL students,” were difficult to analyze because the results were mixed. Some teachers were neutral to this statement at both preintervention (5/21) and postintervention (4/21), and one
or two teachers strongly agreed with this statement at both preintervention (1/21) and postintervention (2/21). Some of the teachers disagreed or strongly disagreed (9/21) with the statement at preintervention, and 7/21 agreed or strongly agreed with the statement at postintervention. The scattered responses may be a result of the reversed wording on this question, the only reversed wording in the entire survey.

**Cultural Responsiveness and Differentiation.** Teacher self-efficacy increases when teachers have an opportunity to learn culturally effective strategies (Tran, 2014). In this case, the interventions showed a positive impact on providing knowledge that helped teachers better understand the strengths and needs of their children. In response to SQ15, “I feel confident in providing linguistically and culturally appropriate learning experience for ELL students,” at preintervention, 11 of 21 teachers agreed or strongly to the statement, 8 of 21 chose to be neutral, 1 of 21 disagreed, and 1 of 21 strongly disagreed with the statement. However, postintervention, all participants (21/21) showed an increase in their self-efficacy.

**Figure 15**

*Teacher Responses for Cultural Responsiveness*

SQ14 was, “I am confident of my skills to provide alternative performance assessments to ELL students.” While preintervention, 12 of 21 teachers agreed or strongly agreed with the
statement, postintervention, more teachers agreed or strongly agreed (18/21) while 2 of 21 chose to be neutral and 1 of 21 disagreed with the statement.

**Figure 16**

*Teacher Responses for Differentiation*

![Teacher Responses for Differentiation](image)

**Summary**

Results of the TKVS confirm results from RQ3 and RQ4, demonstrating an increase in teachers’ abilities to support the academic vocabulary learning of ELLs. There were several strengths in this area, but the largest was the growth in teachers’ knowledge and instructional practices to support ELLs’ academic vocabulary development. On the other hand, knowledge of linguistics, grammar, and morphology still showed opportunities for teachers to deepen their knowledge. Results from the TPPSE were also positive in that teachers showed increased self-efficacy and that teachers felt better prepared in both knowledge of language development and their ability to provide instruction to support learning.

**Conclusions**

The intervention provided an opportunity to examine the effectiveness and impact of a TSG focused on supporting teachers’ knowledge and ability to support the academic vocabulary learning of their ELL students. The TSG was designed around helping teachers understand second language acquisition, provide explicit instruction in academic vocabulary development,
and foster academic language use by engaging in dialogic strategies. Teachers learned about and implemented these new pedagogical strategies in their classrooms in their learning environment that supported reflection and collaboration. A mixed methods design was used to assess the implementation and impact of the intervention. The following sections discuss crucial learnings and implications for future interventions, explores the value of both the theory of change and the conceptual model in producing expected outcomes, and discusses future research.

**Summary of Findings and Implications for Future Intervention Design**

The study of the TSG included an evaluation of the implementation process and of the outcomes of the intervention. The findings from the process evaluation will be summarized first, followed by the findings from the outcomes’ evaluation.

**Process Evaluation Summary**

The process evaluation of the TSG included gathering and analyzing data about two elements, adherence, and participant responsiveness. Adherence, or fidelity, is the extent to which implementation of specific activities and methods is consistent with the way the program is planned—in this case, examining whether the TSG was implemented as planned. Participant responsiveness was measured through examining the extent to which participants engage in the planned activities.

Measures of adherence show that the implementation proceeded largely as planned with two exceptions: Teachers requested opportunities to continue discussing their learning in the coplanning sessions and shifted the coplanning to their regular cohort meetings. Teachers also did not fully engage in discussion posts with other teachers but instead commented on others' reflection posts in their own reflections rather than directly to other teachers. These results prompt several changes for future intervention design. First, future opportunities should include
increased time for participants to discuss and process new learning prior to coplanning—allowing for 2 weeks instead of 1 week. Second, in the current intervention, teachers did not separately communicate with cohort members using discussion posts to respond and engage in discussion with other participants. Three added elements would increase the opportunity for discussions: The first is increasing time as stated above. Providing a model of the discussion post and having a facilitator respond to teachers post through questions or requesting details or examples in order to scaffold the dialogue would also be helpful.

Participant involvement and responsiveness was also high. Of the 20 teachers who were able to remain in the intervention, 100% of them attended face-to-face sessions to discuss new learnings, coplanned and delivered lessons that included their new learning and engaged in expected reflections. Teachers also communicated a high level of responsiveness and exhibited a deep level of engagement as evidenced in the Elements of Intervention Questionnaire data where they indicated they found the face-to-face discussions and coplanning activities supported their learning the most. Qualitative data from their reflection posts also provided strong evidence of the level of their engagement in their descriptions of what they learned and their reflections on future practices. While the data provided evidence of strong engagement, extending the time of the intervention would also provide them more time for another cycle of teaching where they could make these modifications which would help them consolidate and extend on their learning.

Outcomes Evaluation Summary

The findings also provided evidence that participation in the intervention increased teachers’ knowledge and ability to engage pedagogies that supported ELLs’ academic language development as well as increased their perceived preparation and self-efficacy in these areas. Key learnings are summarized below.
First, teachers were able to express the importance of activating students’ background knowledge to support new vocabulary learning. Though they may have understood this to a certain extent prior to the intervention, they expressed an increased intentionality to ensure this through different strategies such as pre-teaching, intentional connections to known words, and through comparison and contrast. Second, teachers learned the importance of systematic and explicit instruction, especially as it related to scaffolding. They demonstrated scaffolding in a number of ways including providing visual tools and connecting the new vocabulary with familiar concepts.

With respect to development of vocabulary knowledge to support ELLs, teachers learned that explicit teaching of vocabulary increased ELLs’ academic vocabulary and supported increased overall understanding across content areas. Teachers commented that they saw increases in their students’ content knowledge, grammatical competence, and awareness of the different organizational features in academic and conversational English. Additionally, teachers became aware of the need to focus on supporting the students’ comprehension of the new academic language. Teachers learned that because ELLs’ native language morphology and syntax is different from English, explicit vocabulary instruction in the language features of English supports acquisition and vocabulary development.

Teachers learned that it was important to extend language development strategies across all content areas. For example, teachers learned that their instruction should explicitly focus on the language features of literacy, math, science, and history and provide scaffolding activities to increase vocabulary acquisition and comprehension of associated meaning by subject area. Additionally, teachers’ pre- and postintervention responses from both surveys (TKVS and TPPSE) validated that their knowledge of second language development increased after their
participation in the TSG. These findings are aligned with other research findings that high quality professional learning focused on pedagogical content knowledge, instructional strategies, and motivating students increases teachers’ perceived preparation and self-efficacy to teach ELLs (Achinstein & Davis, 2014; Durgunoglu & Hughes, 2010).

Teachers also learned that for ELLs to understand English vocabulary, instruction needs to be multidimensional, provide repetitive exposure to words, and offer tailored vocabulary instructional strategies across content areas. By using linguistic and non-linguistic tools like graphic organizers, movement strategies and gamification, teachers learned more about each student's comprehension, misunderstanding and misconceptions. These assessment tools guided their instructional plan in providing the right amount of scaffolding to promote ELLs academic vocabulary acquisition. Overall, teachers learned a great deal and implemented their learning in their classroom teaching.

**Strength of Teacher Efficacy as a Theory of Change**

The theory of change used in the intervention was teacher efficacy. Bandura’s (1977) model maintains that four critical components of learning must be in place to increase teacher efficacy. They are (a) verbal/social persuasion, (b) vicarious experiences by learning from an expert or watching experts in action, (c) physiological arousal that promotes motivation for new learning experiences and (d) mastery experiences (Bandura, 1997). These four elements were designed into the TSG. Verbal persuasion and vicarious experiences include learning and exposure to models, examples, and experts executing new strategies. In this intervention teachers were introduced to new pedagogies and provided resources around these pedagogies on Google classroom in the form of reading material and videos to showcase experts implementing the strategies (six-step method, opinion stations, jigsaw strategy). Researchers have stated that
vicarious persuasion in the form of coaching and evaluative feedback and modeling by the teacher expert increases teachers’ self-efficacy in literacy instruction (D. Johnson, 2010). Moreover, data indicated that incorporating face-to-face discussions about new learning and collaborative lesson planning activities supported teachers’ motivation and enthusiasm to practice what they were learning (physiological arousal). Physiological arousal enhanced by learning and practicing in strong supportive environments fosters positive self-efficacy (Tschannen-Moran & McMaster, 2009).

Finally, mastery experiences involve providing teachers with feedback on their attempts. By experimenting/Implementing two instructional strategies—the six-step vocabulary method and one dialogic strategy—teachers gained first-hand knowledge of the effectiveness of their pedagogy in increasing ELLs’ academic vocabulary development. By reflecting on the student outcomes in the form of written, and oral feedback, teachers felt empowered with the new knowledge and the positive outcome increased teacher self-efficacy (RP: 02/22 and 03/22). Evidence from research states that mastery experiences where the teachers use the new knowledge presented in a professional development workshop contributes to changes in teacher self-efficacy (Ross, 1994) and provides opportunity for teachers to see visible outcomes in their students due to their direct efforts (Pfitzner-Eden, 2016; Tschannen-Moran & Johnson, 2011).

Efficacy as a framework for supporting learning or change was very effective in this instance. For instance, teacher responses to the TPPSE survey about perceived preparation and self-efficacy to teach ELLs showed positive outcomes. Their individual appraisal (perceived preparation) showed that post-intervention, a majority of the teachers had grown more confident (a) in their teaching practice, (b) in their preparation to teach ELLs, (c) in tailoring instructional and other services to the needs of ELL students, and (d) in being culturally supportive and
relevant. Teacher self-efficacy (intrinsic belief) also increased postintervention. A majority of the teachers agreed that (a) they were knowledgeable of alternate ways of giving feedback and that (b) they were confident in providing linguistically and culturally appropriate learning experience for ELL students. By focusing on creating a persuasive environment where the teachers experienced a high level of motivation in a collaborative and supportive environment and where they had opportunities for vicarious and mastery experiences, the intervention succeeded in increasing the teachers overall self-efficacy to support the academic vocabulary learning of ELLs.

Qualitative data also illustrated an increase in teacher efficacy in supporting ELLs. Implementation of new pedagogies produced a positive impact on students learning creating mastery experience for teachers. For instance, Teacher 8, who teaches Grade 3 science, reflected (RP: 02/22) that after participating in the intervention and experiencing the successful implementation of these new pedagogies with children (mastery), her teaching will change to include the new pedagogies she has learned. Similarly, Teacher 6, who teaches Grade 2 language arts, stated that her confidence in teaching ELLs increased due to implementing the six-step vocabulary instruction and dialogic pedagogy. This collective consensus of positive student outcomes in face-to-face discussions (RN: 02/22 and 03/22) reinforced each teacher’s mastery experience and operated as a form of verbal persuasion in the group. These mastery experiences connected to visual persuasion as teachers discussed their teaching contributed to the increase in efficacy that is congruent with much research around teacher efficacy (Tschannen-Moran & Hoy, 2007).
Strength of the Conceptual Framework

The conceptual framework derived from the initial literature review and needs assessment demonstrated the relationship between teachers’ knowledge and experiences and effective instruction that leads to increased academic English proficiency among ELLs.

Figure 17
Conceptual Framework Process

While this conceptual framework provided important information in the design of the intervention, the findings from the study indicated that other aspects of teacher knowledge of language development in ELLs would be helpful. In particular, teacher responses from the TKVS and qualitative data indicated that teachers would benefit from opportunities to learn more about English grammar and linguistics and communicative patterns in other languages and cultures. Both of these play a key factor in the English language development of ELLs because they support a better understanding of how ELLs process the language mechanics of English
language relative to their native language (written and spoken) and predictable challenges students may have in taking up western academic communication or discourse patterns given their cultural communication or discourse patterns (written and spoken). Even though the multilingual teachers showed awareness of the cultural and first language influences in second language acquisition, their responses from the TKVS section on development of vocabulary knowledge showed that all teachers would benefit from additional workshops in English grammar, applied linguistics and communicative patterns in other languages.

**Limitations of the Study**

While this study demonstrated important outcomes and provides insights into the teaching of ELLs, there are limitations that must be considered. First the intervention was conducted in a very specific context where there were many resources available to students inside and outside of school. In this small private school, the majority of the students came from affluent families for whom education was a priority and where parents who were highly educated and invested in high academic achievement students. Most of the students were not new to English and spoke fluent conversational. English even though their native language was not English. Finally, many of the teachers were multilingual themselves. Given this context, the findings cannot easily be applied across diverse contexts or generalized for larger school populations. Second, all teachers participated in the intervention with a high-level motivation. This motivation can be attributed to the school culture of high expectations for teacher and student performance and, in some part, to their relationship with the researcher, whom they trusted and may have wanted to please.
Future Research

The academic vocabulary development of ELLs in mainstream classrooms is a very important consideration in public and private schools in the United States due to the increase in students of color and linguistic diversity in schools and in the country, in general. Moreover, there are limited studies that have explored the effect of teacher knowledge about vocabulary development and instruction on English language learners academic English proficiency. Additionally, there needs to be more studies to investigate the knowledge gaps in mainstream teachers to support ELLs’ academic vocabulary development.

While the intervention was conducted in a small private school, the instructional strategies and sequence are easy to implement with a high level of fidelity because the strategies are evidence based and the TSG design is well-documented. Moreover, this interactive pedagogical model can be used in mainstream classroom settings that include both ELLs and native English speakers in both elementary and middle school settings. Future research might include a replication of the intervention in local elementary and middle schools who have the same demographic population to further validate the design of the intervention. Similarly, other research around the intervention can be pursued in public schools with larger numbers of early emerging bilinguals and students of varying academic proficiency to examine student outcomes and differential variables to assess the impact of these pedagogies. Finally, teachers across contexts differ in their capacity and desire to take on new approaches to teaching. Future research might more explicitly target the elements and learning cycles within the TSG to assess what motivates and supports teachers in different environments.

Overall, there is a dearth of studies that exploit using a combination of strategies that include explicit vocabulary instruction and opportunities for ELLs to engage in oral language use
of academic vocabulary (Ford-Connors & Paratore, 2015). This intervention study provides a single curricular approach for schools that can be used for mixed language groups in mainstream classrooms and across elementary and secondary school settings. Further studies using this approach will provide insights on whether it can be applied in larger populations, with different contexts and demographical configurations. There are considerable financial benefits for school administrators in providing training to mainstream teachers in this combination strategy in terms of managing ELL populations, limiting pull out instruction using ESL teachers and building an inclusive school culture.
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Appendix A

Needs Study Survey

Online Survey

https://docs.google.com/forms/d/1-HP6TBAImKsKp-ixSTGqAekbFnBAYV/UWJb/prefill

English Language Learners in Mainstream Classrooms Survey

Thank you for signing the IRB form presented to you and accepting the invitation to partake in the survey. By completing this survey, you are consenting to be in the research study that examines teaching and learning English in mainstream classrooms. Your participation in this survey is voluntary. You may refuse to take part in the survey or exit the survey at any time without penalty. You are free to decline to answer any particular question you do not wish to answer for any reason.

Section A

Please read each statement and place a check in the box which best describes your opinion.

<table>
<thead>
<tr>
<th>TEACHER BELIEFS</th>
<th>Strongly agree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The inclusion of ELLs in subject area classes creates a positive educational atmosphere.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. The inclusion of ELLs in subject area classes benefits all students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>3.</td>
<td>ELLs should not be included in general education classes until they attain a minimum level of English proficiency.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>ELLs should avoid using their native language while at school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>ELLs should be able to acquire English within 2 years of enrolling in U.S. schools.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>6.</td>
<td>Subject area teachers do not have enough time to deal with the needs of ELLs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>It is good practice to simplify coursework for ELLs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>8.</td>
<td>It is a good practice to lessen the quantity of coursework for ELLs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>It is a good practice to allow ELLs more time to complete coursework.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>Teachers should not give ELLs a failing grade if the students display effort.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>Teachers should not modify assignments for the ELLs enrolled in subject area classes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Statement</td>
<td>1</td>
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<tr>
<td>12.</td>
<td>The modification of coursework for ELL students would be difficult to justify to other students.</td>
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<tr>
<td>13.</td>
<td>I have adequate training to work with ELLs.</td>
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<tr>
<td>14.</td>
<td>I am interested in receiving more training in working with ELLs.</td>
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<tr>
<td>15.</td>
<td>I would welcome the inclusion of ELLs in my class.</td>
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<tr>
<td>16.</td>
<td>I would support legislation making English the official language of the U.S.</td>
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</tbody>
</table>

**Classroom practices**

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I allow ELLs more time to complete their coursework.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>I give ELLs less coursework than other students.</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
3. I allow an ELL to use her/his naïve language in my class. | 1 | 2 | 3
4. I provide materials for ELLs in their native language | 1 | 2 | 3
5. Effort is more important to me than achievement when I grade ELLs. | 1 | 2 | 3

**Impact of Inclusion**

6. The inclusion of ELLs in my classes increases my workload. | 1 | 2 | 3
7. ELLs require more of my time than other students require. | 1 | 2 | 3
8. The inclusion of ELLs in my class slows the progress of the entire class. | 1 | 2 | 3

**Teacher Support**

9. I receive adequate support from school administration when ELLs are enrolled in my classes. | 1 | 2 | 3
10. I receive adequate support from ELL staff when ELLs are enrolled in my classes. | 1 | 2 | 3
11. I conference with the ELL teacher. | 1 | 2 | 3

**Section B**

Which, if any, of the following are descriptive of your classes when ELLs are enrolled?

Please indicate the extent to which each of the following apply in your classes.

**Section C**
Please answer the following questions. Your answers will assist in the categorization of responses.

1. What subject areas do you teach? __________________________________________

2. How many years have you been a teacher (including this year)?

3. Please indicate your gender.............................. □ MALE □ FEMALE

4. Is English your native language?............................................... □ YES □ NO

5. Do you speak a second language?............................................. □ YES □ NO

   If yes, please estimate your highest ability level:

   □Beginner □ Intermediate □ Advanced

6. Have you received training in teaching ELL students?......................... □ YES □ NO

   If yes, please describe the type of training (Inservice workshop, college coursework)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Comments: Please write any additional comments you have concerning the inclusion of ELLs in subject area classes.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Thank you for completing the survey.
Appendix B

Needs Study Interview

Interview Questions for Teachers

You have been selected to speak with me today, because you have been identified as someone who has a great deal to share about teaching, learning, and assessment with regards to English language learners. This school has a significant number of students who speak a second language and since you teach all content areas, you will be considered a mainstream teacher. This study is aimed at understanding more about teaching practices that support students who are multilingual in order to provide teachers with more support.

General Questions

1) How long have you been teaching?
2) How long have you been teaching at this institution?
3) What is your highest degree?
4) What is your field of study?

Interview Questions Related to Research Questions

1) How has your classroom practice changed over the last few years with respect to the student population?
   Probe: Tell me what aspects you enjoy and some of the challenges.
2) What do you consider to be your strengths and how do you use them in your teaching?
3) What knowledge and experience do you have that is representative of your ability to teach English language learners?
4) In early childhood classrooms, do you see a difference in the language development between native English speakers and ELLs?
Probe: How so? (Preschool – K)

5) Can you comment on the oral expressive language? What differences do you see between native English speakers and English language learners?

6) Can you comment on student academic growth as related to English fluency in the English language learners from the beginning of the year to the end of the academic year?

Probe: Does parental language use have an influence on this?

7) Have you observed any differences among the native English speakers and English language learners in their responses to your verbal instruction?

Probe: Do you see any cultural patterns?

Probe: Have you been confused by their responses?

Probe: Are you sometimes confused by the questions they pose after you have read a story? Can you elaborate?

8) Have you had students who came to your class with limited English proficiency? How did you help them become fluent?

How did you help them become fluent?

Probe: Was it mainly using conversation?

Probe: Did you see them struggle more with reading or writing rather than oral language? Your insights are appreciated.

9) How do you help students experience success knowing there are individual differences and cultural differences within your classroom?

10) How would you challenge the slow learner and the advanced learner within the same class?
11) In what ways, both formal and informal, are you able to assess students who speak another native language to be sure the student is “truly learning” the content (Grades two teachers /Grade three teachers).

12) How do you adjust for reading level differences within your classroom (Grades two teachers /Grade three teachers).
## Appendix C

### Logic Model

**Program:** Teacher Study Group (Professional Development Logic Model)

**Context:** Preschool – Grade 8 School in Suburban New Jersey where more than sixty-five percent of the students are English language learners (ELLs). The needs assessment study conducted in Spring 2019 revealed that 65% of the mainstream teachers were monolingual and were unaware that students in the school were multilingual since they spoke fluent English, and this confounded teachers when ELLs struggled with academic English vocabulary. Additionally, all mainstream teachers (65% monolingual and 35% multilingual) had not received any training to teach ELLs or meet their academic English development needs.

<table>
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<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Participation</th>
<th>Short-term</th>
<th>Medium-term</th>
<th>Distal</th>
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<tbody>
<tr>
<td>WHAT WE INVEST IN.</td>
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<tr>
<td>Time –</td>
<td>INTRODUCTION Plan: Teacher Study Group</td>
<td></td>
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<tr>
<td>Includes Reading time (6 hours), Face to face meetings (6 hours), and implementation of instructional strategies (4 hours); 1 hour of pre-intervention orientation – (January 2022 through April 2022)</td>
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<tr>
<td>Space: Virtual and Physical</td>
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<tr>
<td>Online Learning Platform: Googies Classroom</td>
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<tr>
<td>ACTIVITIES TEACHERS DO</td>
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<tr>
<td>Sessions: Cycle 1: 4 Sessions Goals: Increase Teacher knowledge about Second Language Acquisition and Academic Language Development. ACTIVITIES Readings on second language acquisition and direct explicit vocabulary instruction</td>
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<tr>
<td>Group discussions Lesson plans incorporating new knowledge and vocabulary instruction</td>
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<tr>
<td>Lesson Implementation Debriefing</td>
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<tr>
<td>Cycle 2 – 4 Sessions Goals: Learning about Dialogic Pedagogy to promote academic vocabulary development and use in classrooms. Readings and Videos on learning 3 Dialogic Instructional Strategies Group discussions Lesson plans incorporating new knowledge and vocabulary instruction</td>
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<tr>
<td>Lesson Implementation Debriefing</td>
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<tr>
<td>Grades K-4 (total 10 teachers) (5 teachers who teach both English Language Arts and Social Studies) Grades K-4 (5 teachers who teach both Math and Science)</td>
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<tr>
<td>Grades K-8 (total 8 teachers) Two English Language Arts teacher Two Math Teachers Two Social Studies Teachers Two Science Teachers</td>
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<tr>
<td>Specialist Teachers (Total 5 teachers) One Technology teacher One French Teacher Two Spanish Teachers One Drama Teacher</td>
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<tr>
<td>External Factors</td>
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</tr>
<tr>
<td>Teacher's coping abilities * Teachers competing responsibilities and needs, * Teacher mental stress due to Covid-19 pandemic</td>
<td></td>
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<tr>
<td>Teacher’s entrenched beliefs * Limited Time</td>
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<tr>
<td>Administrator - Teacher dynamics</td>
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<tr>
<td>Covid-19 Pandemic and its impact on school schedule</td>
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</tr>
</tbody>
</table>
## Appendix D

### Types of PLC Models

<table>
<thead>
<tr>
<th>Authors</th>
<th>Professional Learning Model</th>
<th>Type of PD Study Design</th>
<th>Participants &amp; Duration</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chen et al. (2008)</td>
<td><strong>Cohort Model</strong>: Mentoring program. Cohort mentoring program in collaboration with a large, urban university to earn an ESL certification.</td>
<td><strong>Mixed method study</strong></td>
<td>General education teachers were provided training as a group - 28</td>
<td>Teacher gained knowledge in ESL-targeted strategies and increased self-efficacy.</td>
</tr>
<tr>
<td>Hansen-Thomas et al. (2013)</td>
<td><strong>Cohort Model</strong>: Teacher PD Cohort Model to prepare teachers to support ELLs. Training to train model - Authentic and meaningful training of secondary content area teachers to improve the achievement of ELLs in secondary content classes</td>
<td><strong>Mixed method study</strong></td>
<td>Secondary teacher training to support peer in mainstream content area classrooms. - 9 Duration – One year</td>
<td>Positive results – site-based, contextual, peer-to-peer PD is effective to prepare secondary content teachers to train their colleagues to work with ELLs</td>
</tr>
<tr>
<td>Murphy et al. (2019)</td>
<td><strong>Cohort Model</strong> – SIFI training (Sheltered Instruction with Family Involvement). K-12 teachers to effective strategies for enhancing ELLs’ learning with a focus on family involvement.</td>
<td><strong>Mixed method study</strong></td>
<td>Two cohorts of teachers. Cohort 1 teachers – 20 District level administrators - 3 Cohort 2 teachers - 15</td>
<td>PD experiences led to changes in teacher views and practices.</td>
</tr>
<tr>
<td>Choi and Morrison (2014)</td>
<td><strong>VPLC - Online PD discussions</strong>. A five-year hybrid (online and face-to-face) program to assist experienced teachers to adapt their practice.</td>
<td><strong>Qualitative Study</strong></td>
<td>Inservice teachers elementary through high school) – 33 Duration: 18-month program</td>
<td>The CLMER PD program was successful in enabling experienced teachers to adapt their practice for working.</td>
</tr>
<tr>
<td>Study</td>
<td>Program Description</td>
<td>Methodology</td>
<td>Key Findings</td>
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<tr>
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</tr>
<tr>
<td>Hutchinson and Hadjioannou (2011)</td>
<td>VPLC - Online PD and PLC. ESL teacher training - Modell instructional program to support ELLs English language development. Two courses over two semesters.</td>
<td>Mixed method case study.</td>
<td>Inservice educators of various grade levels and subject specialties and student teachers (elementary level) – 25. Participants showed gains in teacher knowledge and ways to support the academic growth of ELL students.</td>
<td></td>
</tr>
<tr>
<td>Masters et al. (2010)</td>
<td>VPLC - Online PD - Learning community model. To support teacher knowledge and instructional practices to foster vocabulary development in students.</td>
<td>Quantitative Study</td>
<td>Fourth grade ELA, fifth grade Mathematics, seventh grade ELA, and eighth grade mathematics teachers - 110. Positive gains on changes in teachers’ knowledge and instructional practices to foster vocabulary development in students, reading comprehension, and writing instruction.</td>
<td></td>
</tr>
<tr>
<td>Cunningham et al. (2015)</td>
<td>Teacher Study group (TSG) to support teachers’ knowledge and practices to promote children’s emergent literacy in the preschool classroom. Each TSG session followed a four-step process based on principles of effective adult learning: (a) Review, (b) Content Presentation, (c) Practice, and (d) Preparation.</td>
<td>Mixed methods study</td>
<td>Lead teachers serving 3-5 year olds - 19. Positive gains in teacher knowledge of phonological awareness ability, phonological awareness pedagogical knowledge, phonological awareness content knowledge and classroom practices.</td>
<td></td>
</tr>
<tr>
<td>Gersten et al. (2010)</td>
<td>Teacher Study Group (TSG) with 1st grade teachers in training for reading comp and vocabulary instruction.</td>
<td>Mixed methods study.</td>
<td>First grade teachers - 84. TSG teachers significantly outperformed control teachers on the teacher knowledge measure of</td>
<td></td>
</tr>
</tbody>
</table>
Each TSG session followed a four-step process based on principles of effective adult learning: (a) Review, (b) Content Presentation, (c) Practice, and (d) Preparation.

<table>
<thead>
<tr>
<th>Hung and Yeh (2013)</th>
<th><strong>Teacher Study Group (TSG).</strong> This study was designed to examine how EFL teachers increased their knowledge and collaboratively designed a classroom-level English curriculum for their own students.</th>
<th><strong>Qualitative Case Study Design</strong></th>
<th>Professor – 1 Urban school EFL teachers – 5 Duration: 18-week semester (biweekly for 9 times for 3 hours each)</th>
<th>Positive gains changing EFL teachers’ beliefs and classroom practices.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jayanthi et al. (2018)</td>
<td><strong>Teacher Study Group (TSG).</strong> This study was designed to examine effects of TSG teachers’ vocabulary instruction on student outcomes.</td>
<td><strong>Mixed method study</strong></td>
<td>The study included First grade teachers and students from 19 Reading First schools in California, Virginia, and Pennsylvania - 226 teachers, 1680 students. Duration: 10 sessions, twice a month, (75 min) for 6 months,</td>
<td>TSG teachers significantly outperformed control teachers on the teacher knowledge measure of vocabulary instruction.</td>
</tr>
</tbody>
</table>
## Appendix E

### Best Practices for ELLs

<table>
<thead>
<tr>
<th>Authors</th>
<th>Purpose and Type of Prof. Learning</th>
<th>Type of PD Study Design</th>
<th>Participants &amp; Duration</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achugar et al. (2007)</td>
<td>Increase knowledge of SFL Instruction</td>
<td>Qualitative case study professional development</td>
<td>Middle School teachers - 79 Four full days, instructional coaching</td>
<td>Positive outcomes in teachers’ knowledge, practice using linguistic tools and strategies.</td>
</tr>
<tr>
<td></td>
<td>Summer training for teachers – included. Planning, linguistic analysis of texts, discussions, deconstruction, and reconstruction of texts.</td>
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<tr>
<td>Aguirre-Muñoz et al. (2009)</td>
<td>Coaching Four training modules to familiarize teachers with the genre-based approach to teaching response-to-literature writing.</td>
<td>Qualitative case study</td>
<td>Mainstream classroom teachers from 3 urban middle schools - 21 Duration: One week</td>
<td>Positive outcomes in teacher’s knowledge, practice using linguistic tools and strategies.</td>
</tr>
<tr>
<td></td>
<td>The PD focused on 5 strategies: (1) induction and training; (2) mentoring; (3) video/audio to capture classroom interactions; (4) guided planning, target-setting, and review; (5) whole school involvement.</td>
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<tr>
<td></td>
<td>In house PD for mainstream teachers within school.</td>
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</tr>
<tr>
<td>Study</td>
<td>Description</td>
<td>Methodology</td>
<td>Findings</td>
<td></td>
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<tr>
<td>Choi and Morrison (2014)</td>
<td>VPLC - Online PD discussions 5-hour college/class workshop once a month to support ELLs. Asynchronous activities, cohort meetings 3 times a month (face to face)</td>
<td>Qualitative Study was a five-year hybrid (online and face-to-face) program to assist experienced teachers to adapt their practice to meet the needs of ELLs.</td>
<td>The CLMER PD program was successful in enabling experienced teachers to adapt their practice for working more effectively with ELL students.</td>
<td></td>
</tr>
<tr>
<td>Chval et al. (2015)</td>
<td>Teacher coaching by researcher- Third Grade math teachers being coached for 8 months to teach language and math to support ELLs</td>
<td>Qualitative case study.</td>
<td>There was significant improvement in Teacher knowledge about the components of language of Math.</td>
<td></td>
</tr>
<tr>
<td>De Oliveira and Lan (2014)</td>
<td>Teacher preparation model - a language-based approach to content instruction (LACI). Coursework on SFL and reflective coaching Part of a 4-year project focused on teaching reading, writing, and talking about science for mainstreamed ELLs in fourth grade classroom.</td>
<td>Qualitative case study.</td>
<td>The outcomes were positive from explicit instruction in building academic language at the elementary level.</td>
<td></td>
</tr>
<tr>
<td>Gersten et al. (2010)</td>
<td>Teacher PD – Teacher Study Group (TSG) with 1st grade teachers in training for reading comp and vocabulary instruction. The four-step process included(a) debrief (b) discuss (c) walk through lesson, and (d) collaborative planning. School based PD program.</td>
<td>Mixed methods study.</td>
<td>TSG teachers significantly outperformed control teachers on the teacher knowledge measure of vocabulary instruction.</td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td>PD Model</td>
<td>Methodology</td>
<td>Duration</td>
<td>Findings</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td>Hansen-Thomas et al. (2013)</td>
<td>Teacher PD Cohort Model to prepare teachers to support ELLs. Training to train model - Authentic and meaningful training of secondary content area teachers to improve the achievement of ELLs in secondary content classes.</td>
<td>Mixed method study</td>
<td>Secondary teacher training to support peer in mainstream content area classrooms. - 9 Duration – One year</td>
<td>Positive results – site-based, contextual, peer-to peer PD is effective to prepare secondary content teachers to train their colleagues to work with ELLs.</td>
</tr>
<tr>
<td>Hutchinson and Hadjioannou (2011)</td>
<td>Online PD and PLC. ESL teacher training - Modell instructional program to support ELLs English language development. Two courses over two semesters.</td>
<td>Mixed method case study.</td>
<td>Inservice educators of various grade levels and subject specialties and student teachers (elementary level) – 25 Duration: Two semesters</td>
<td>Participants showed gains in teacher knowledge and ways to support the academic growth of ELL students.</td>
</tr>
<tr>
<td>Jayanthi et al. (2018)</td>
<td><strong>Teacher Study Group</strong> - This study was designed to examine effects of TSG teachers’ vocabulary instruction on student outcomes.</td>
<td>Mixed Methods Study</td>
<td>The study included First grade teachers and students from 19 Reading First schools in California, Virginia, and Pennsylvania - 226 teachers, 1680 students. Duration: 10 sessions, twice a month, (75 min) for 6 months,</td>
<td>TSG teachers significantly outperformed control teachers on the teacher knowledge measure of vocabulary instruction.</td>
</tr>
<tr>
<td>Masters et al. (2010)</td>
<td><strong>Online PD - Learning community model.</strong> To support teacher knowledge and instructional practices to foster vocabulary development in students. Activities - one orientation session and six sessions of content. Each of the six content sessions involved three components: readings, activities, and discussions. The</td>
<td>Quantitative Study</td>
<td>Fourth grade ELA, fifth grade Mathematics, seventh grade ELA, and eighth grade mathematics teachers - 110. Duration: 7 sessions (100 hours of Online PD)</td>
<td>Positive gains on changes in teachers’ knowledge and instructional practices to foster vocabulary development in students, reading comprehension, and writing instruction.</td>
</tr>
</tbody>
</table>
readings were drawn from articles, book chapters, or reports.

| Portes et al. (2018) | Teacher PD in training teachers in Instructional Conversations Trained coaches trained teachers in Instructional conversations, provided additional support and feedback, and collected monthly evaluations of teachers’ implementation of the pedagogy during a year of practice | Mixed methods Study | Third- and fifth-grade teachers (39 and 35, respectively) - 74 Duration: 1 year training (100 hours) of experimental group and 1 year of implementation. | Positive gains in ELA test scores for emergent bilingual students in mainstream classrooms. |
# Appendix F

## Adherence Checklist

<table>
<thead>
<tr>
<th>Activities</th>
<th>Session focus as planned</th>
<th>Attendance/Number of submission details</th>
<th>Researcher Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 – Teacher face to face discussions</td>
<td>Yes</td>
<td>22</td>
<td>Teachers were active participants and enjoyed the interaction with cohorts</td>
</tr>
<tr>
<td>Week 2 – Teacher coplanning lessons about six step vocabulary instruction</td>
<td>Yes</td>
<td>21</td>
<td>Teachers used this session to clarify the implementation details.</td>
</tr>
<tr>
<td>Teacher reflection Posts after discussions</td>
<td>Yes</td>
<td>22</td>
<td>Teachers posted reflections over the week.</td>
</tr>
<tr>
<td>Teacher discussion posts among cohorts</td>
<td>No</td>
<td></td>
<td>Teachers referred to face to face discussions in reflections.</td>
</tr>
<tr>
<td>Teacher lesson plans submitted as planned/Number of Lesson plans turned in</td>
<td>Yes</td>
<td>21</td>
<td>Lesson plans were submitted in google classroom and hard copies printed. One teacher left on disability leave</td>
</tr>
<tr>
<td>Researcher classroom observations as planned/Number of classroom observation for Six Step Vocabulary Instruction</td>
<td>Yes</td>
<td>21</td>
<td>Implementation took longer than scheduled due to conflict with trimester exams and time available. One teacher left on disability leave</td>
</tr>
<tr>
<td>Week 3 and Week 4 – teaching lessons</td>
<td>Yes</td>
<td>No</td>
<td>21</td>
</tr>
<tr>
<td>Teacher reflection posts after implementing six step vocabulary instruction</td>
<td>Yes</td>
<td>21</td>
<td>Teachers posted reflection posts over 2 weeks.</td>
</tr>
<tr>
<td>Teacher discussion posts among cohorts</td>
<td>No</td>
<td></td>
<td>Teachers referred to face to face discussions in reflections.</td>
</tr>
<tr>
<td>Week 5 – Teacher face to face discussions about dialogic pedagogy.</td>
<td>Yes</td>
<td>20</td>
<td>Teachers shared their classroom experiences and were actively engaged. One additional teacher left on disability leave</td>
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</tr>
<tr>
<td>Teacher reflection posts after discussions</td>
<td>Yes</td>
<td>20</td>
<td>Teachers posted their reflections over 2 weeks.</td>
</tr>
<tr>
<td>Teacher discussion posts among cohorts</td>
<td>No</td>
<td></td>
<td>Teachers referred to face to face discussions in reflections.</td>
</tr>
<tr>
<td>Week 6 – Teacher coplanning lessons about dialogic pedagogy</td>
<td>Yes</td>
<td>No</td>
<td>20</td>
</tr>
<tr>
<td>Lesson plans submitted as planned/Number of lesson plans submitted</td>
<td>Yes</td>
<td>20</td>
<td>Lesson plans were submitted on google classroom and hardcopies printed.</td>
</tr>
<tr>
<td>Week 7 and 8 - Implement Dialogic pedagogy</td>
<td>Yes</td>
<td>No</td>
<td>9/20 teachers implemented within 2 weeks; 10/20 teachers implemented in 3 weeks; 1/20 teachers took 4 weeks.</td>
</tr>
<tr>
<td>Researcher classroom observations as planned/Number of classroom observation for dialogic pedagogy</td>
<td>Yes</td>
<td>20</td>
<td>10/20 teachers taught using jigsaw; 10/20 teachers taught using opinion stations; 1/20 teachers used both strategies in lesson plan.</td>
</tr>
<tr>
<td>Teacher reflection posts after implementing dialogic pedagogy</td>
<td>Yes</td>
<td>20</td>
<td>Teachers posted their reflections over 2 weeks.</td>
</tr>
<tr>
<td>Teacher discussion posts among cohorts</td>
<td>No</td>
<td></td>
<td>Teachers referred to face to face discussions in reflections.</td>
</tr>
</tbody>
</table>
## Appendix G

### Intervention Study Participant Responsiveness Checklist

<table>
<thead>
<tr>
<th>Participant Responsiveness</th>
<th>22 participants signed the consent form. 20 participants attended all sessions. Two participants withdrew due to medical reasons.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sessions attended (total sessions 6)</td>
<td>20/20 (100%) attended the six sessions; Out of the 22 teachers who signed the consent form - Teacher 5 left after the face-to-face discussions. Teacher 1 left the intervention after the 1st three sessions (face to face discussion; coplanning and teaching six step method)</td>
</tr>
<tr>
<td>Number of reflection posts (4)</td>
<td>20/20 (100%) wrote all 4 reflection posts. Out of the 22 teachers who signed the consent form - Teacher 5 made 1 post after face to face discussions and Teacher 10 left two posts (week 1 reading and reflection post after teaching with the six step vocabulary method).</td>
</tr>
<tr>
<td>Number of references to reading material in reflection posts (2)</td>
<td>20/20 (100%) made two references in their reflection posts. Out of the 22 teachers who signed the consent form - Teacher 5 and 10 made references after reading about SLA, AVD.</td>
</tr>
<tr>
<td>Number of discussions with other teachers (2)</td>
<td>20/20 (100%) participated in the week 1 discussions about SLA and AVD and in week 5 discussions about academic vocabulary strategies.</td>
</tr>
<tr>
<td>Teacher 5 and 10, participated in week 1. session only</td>
<td></td>
</tr>
<tr>
<td>Number of references to new learning in reflection posts (4)</td>
<td>20/20 (100%) made references to new learning after (1) reading about SLA and AVD; (2) implementing the six step method; (3) after reading about dialogic strategies; (4) implementing dialogic strategy.</td>
</tr>
<tr>
<td>Teacher 5 (1/22) made 1 reference to new learning after week 1 face to face discussions. Teacher 10 (1/22)</td>
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</tr>
</tbody>
</table>
Appendix H

Elements of Intervention Questionnaire

1. To what degree did each of the elements of the intervention support your learning?

<table>
<thead>
<tr>
<th>Teacher Sessions</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readings</td>
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<tr>
<td>Media (Videos)</td>
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<tr>
<td>Face to face discussions</td>
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<tr>
<td>Coplanning with other teachers</td>
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<tr>
<td>Reflection posts</td>
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<tr>
<td>Discussion posts (responding to other teachers’ reflections)</td>
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<tr>
<td>Developing lesson plans that incorporated new knowledge</td>
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<tr>
<td>Teaching lessons</td>
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<tr>
<td>Debriefing with other teachers</td>
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</tr>
</tbody>
</table>

2. What elements best supported your learning? And why?

3. What elements were barriers to your learning? And why?
## Appendix I

### Teacher Survey on Perceived Preparation and Self-Efficacy

*(Durgunoglu & Hughes, 2010)*

**Directions**: Please indicate the extent to which you agree with each statement. Answer in relation to your current instructional practice. Survey scale: 1 = strongly agree; 2 = agree; 3 = neutral; 4 = disagree; 5 = strongly disagree

<table>
<thead>
<tr>
<th>Perceived Preparation</th>
<th>1 Strongly Disagree</th>
<th>2 Disagree</th>
<th>3 Neutral</th>
<th>4 Agree</th>
<th>5 Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am prepared to tailor instructional and other services to the needs of ELL students</td>
<td></td>
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<tr>
<td>2. I possess a clear understanding of the language demands of the content area that I will teach.</td>
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<tr>
<td>3. I am knowledgeable of teaching strategies and instructional practices for ELL students that are developmentally appropriate</td>
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<tr>
<td>4. I am knowledgeable of alternate ways of giving feedback</td>
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<tr>
<td>5. I am knowledgeable of teaching practices that are attuned to students’ language proficiencies and cognitive levels</td>
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<tr>
<td>6. I am knowledgeable of teaching practices that are culturally supportive and relevant</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Self-Efficacy</th>
<th>1 Strongly Disagree</th>
<th>2 Disagree</th>
<th>3 Neutral</th>
<th>4 Agree</th>
<th>5 Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If I try hard, I can get through to most of the ELL students</td>
<td></td>
<td></td>
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<tr>
<td>2. I am confident in my ability to handle most discipline problems with ELL students.</td>
<td></td>
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<tr>
<td>3. I am confident in my ability to teach all ELL students to high levels.</td>
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<tr>
<td>4. I am confident I am making a difference in the lives of my students. (REVERSE CODED)</td>
<td></td>
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<tr>
<td>5. I am uncertain how to teach some of my ELL students.</td>
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<tr>
<td>6. I feel confident in providing a positive learning environment and create a climate characterized by high expectations.</td>
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<tr>
<td>7. I am confident of my skills to effectively communicate with parents and guardians of ELL students.</td>
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<tr>
<td>8. I am confident of my skills to provide alternative performance assessments to ELL students.</td>
<td></td>
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</tr>
<tr>
<td>9. I feel confident in providing linguistically and culturally appropriate learning experiences for ELL students</td>
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</tr>
</tbody>
</table>
Appendix J

Teacher Knowledge of Vocabulary Development and Instruction Survey

(Duguay et al., 2016)

Directions: Read the following statements about vocabulary instruction. Then, using your classroom expertise and research-based knowledge, choose one of the following options: true, false, or “I don’t know”. See the accompanying memo for more information about these three response options.

<table>
<thead>
<tr>
<th>Section I</th>
<th>1 True</th>
<th>2 False</th>
<th>3 I don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of vocabulary knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Inflectional suffixes can change a word’s meaning.</td>
<td></td>
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<tr>
<td>(b) The English language includes more words that appear frequently than words that appear infrequently.</td>
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<tr>
<td>(c) Each person has a particular amount of knowledge about each word and a range of knowledge across words.</td>
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<tr>
<td>(d) Many words in English have multiple meanings.</td>
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<td></td>
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<tr>
<td>(e) Students generally have a larger productive vocabulary than receptive vocabulary.</td>
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<td></td>
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<tr>
<td>(f) College- and career-ready students have a reading vocabulary of approximately 5,000 words when they graduate from high school.</td>
<td></td>
<td></td>
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<tr>
<td>(g) Average students’ vocabulary knowledge is made up primarily of words they have been taught directly.</td>
<td></td>
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<tr>
<td>(h) Students with strong reading comprehension tend to be able to use context for learning vocabulary.</td>
<td></td>
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<tr>
<td>(i) Students’ knowledge about derivational suffixes generally levels off after Grade 5.</td>
<td></td>
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<tr>
<td>(j) The best time to teach prefixes is when students first enter school (Grades K-2).</td>
<td></td>
<td></td>
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<tr>
<td>(k) Having a larger vocabulary has little effect on reading comprehension.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(l) When teachers help students move words from their reading vocabulary to their writing vocabulary, students can become more precise communicators. Students generally understand more words than they use in their speech.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(n) Children with larger vocabularies tend to learn more vocabulary incidentally than children with smaller vocabularies.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(o) Research studies show that vocabulary knowledge is one factor that influences reading comprehension.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### Section II
**Instruction: Providing Rich and Varied Language Experiences**

<table>
<thead>
<tr>
<th></th>
<th>1 True</th>
<th>2 False</th>
<th>3 I don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Vocabulary can be acquired through incidental exposure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td>During the primary grades (K-2), most of the new words that native English speaking students learn come from independent reading.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td>Magazines, even if age-appropriate, are unsuitable for classroom libraries.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d)</td>
<td>Building a basic oral vocabulary of the most frequent English words is important for English learners.</td>
<td></td>
<td></td>
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<tr>
<td>(e)</td>
<td>Interactive shared reading actively involves students through questioning before, during, and after reading a passage.</td>
<td></td>
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<tr>
<td>(f)</td>
<td>In the primary grades, it is unnecessary to directly build English learners' oral vocabularies.</td>
<td></td>
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</tr>
<tr>
<td>(g)</td>
<td>Dialogic reading (or interactive shared reading) is a technique used to develop students' vocabulary and comprehension.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Section III
**Instruction: Teaching Individual Words**

<table>
<thead>
<tr>
<th></th>
<th>1 True</th>
<th>2 False</th>
<th>3 I don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Teaching individual words is ineffective for increasing students' comprehension of text selections containing those words.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td>There is no relationship between instruction in individual words and the quality of students' writing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td>Students can generally identify the words they do not know from a text that they are reading.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d)</td>
<td>Words that are important to understanding a particular reading passage are good candidates for direct instruction.</td>
<td></td>
<td></td>
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<tr>
<td>(e)</td>
<td>The more frequently a word appears in materials students read, the greater the likelihood that students will retain the word once it is taught.</td>
<td></td>
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<tr>
<td>(f)</td>
<td>Students benefit from vocabulary instruction that incorporates both definitional information and contextual information.</td>
<td></td>
<td></td>
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<tr>
<td>(g)</td>
<td>Students do not benefit from vocabulary instruction that activates their background knowledge.</td>
<td></td>
<td></td>
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<tr>
<td>(h)</td>
<td>Semantic mapping (e.g. word webs) refers to a technique that involves graphically showing how words are related to each other.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Venn diagrams are made up of two or more overlapping circles that illustrate how words or concepts are related.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Section IV

**Instruction: Teaching Word-Learning Strategies**

<table>
<thead>
<tr>
<th></th>
<th>1 True</th>
<th>2 False</th>
<th>3 I don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Upper elementary students can learn word-learning strategies through explicit instruction.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(b) Effective instruction in word-learning strategies should include ongoing classroom activities that incorporate the strategies.</td>
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<tr>
<td>(c) Teaching students to use context clues should not include independent practice.</td>
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<tr>
<td>(d) Using dictionaries and reference tools effectively helps students learn the meaning of words.</td>
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<tr>
<td>(e) When teaching dictionary skills, it is important to tell students that most words only have one meaning.</td>
<td></td>
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<tr>
<td>(f) Students need to be taught how to use computerized dictionaries.</td>
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<tr>
<td>(g) Students generally don’t need instruction in using a thesaurus.</td>
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<tr>
<td>(h) Using word parts is a useful strategy for students to figure out unknown words.</td>
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</tbody>
</table>

### Section V

**Instruction: Fostering Word Consciousness**

<table>
<thead>
<tr>
<th></th>
<th>1 True</th>
<th>2 False</th>
<th>3 I don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Word consciousness refers to metacognition about words, motivation to learn words, and deep and lasting interest in words.</td>
<td></td>
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<tr>
<td>(b) Motivation is an important component of learning vocabulary.</td>
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<tr>
<td>(c) Metalinguistic awareness is the ability to speak two or more languages.</td>
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<tr>
<td>(d) Word consciousness should only be fostered in students who are beyond elementary school age.</td>
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<tr>
<td>(e) Children’s literature that includes inventive uses of words should be reserved for strong readers.</td>
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<tr>
<td>(f) A single instance of a word in context is often sufficient to reveal its full meaning.</td>
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</tbody>
</table>
### Section VI

**Vocabulary Instruction for ELLs**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>(a) English idioms are generally easy for English learners to learn because they are composed of basic vocabulary.</td>
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<tr>
<td>(b) Explicit instruction in academic English benefits advanced English learners.</td>
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<tr>
<td>(c) Explicit instruction in the use of cognates is an effective strategy for developing English vocabulary in Spanish speakers.</td>
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<tr>
<td>(d) For English learners, strong literacy skills in one’s native language have little effect on reading in English.</td>
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<tr>
<td>(e) Many English learners develop English vocabulary at faster rates than native English speakers from the same backgrounds.</td>
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<tr>
<td>(f) Good vocabulary instruction for English learners can produce gains in both vocabulary and comprehension.</td>
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<tr>
<td>(g) The use of visuals in teaching vocabulary adds little to English learners’ understanding of the targeted words.</td>
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</tr>
</tbody>
</table>
## Appendix K

### Classroom Observation/Lesson Plan Analysis Protocol

<table>
<thead>
<tr>
<th>Teacher Name:</th>
<th>YES</th>
<th>NO</th>
<th>Researcher Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Six step vocabulary instruction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Provide a description, explanation, or example of the vocabulary word</td>
<td></td>
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<tr>
<td>2. Ask students to restate the description, explanation, or example in their own words.</td>
<td></td>
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<tr>
<td>3. Ask students to construct a picture, symbol, or graphic representation of the vocabulary word.</td>
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<tr>
<td>4. Engage students periodically in activities that help them add to their knowledge of the vocabulary in their notebooks.</td>
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<tr>
<td>5. Periodically ask students to discuss the vocabulary with their peers.</td>
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<tr>
<td>6. Involve students periodically in games that allow them to play with the vocabulary words.</td>
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</tbody>
</table>

| **Instructional Strategy** (Check 1) | | | |
| **o Opinion Station** | | | |
| 1) Teach the vocabulary needed for comprehension of the text. | | | |
| 2) Divide the class into four stations – Agree, Slightly Agree, Slightly disagree and Disagree. | | | |
| 3) Students express their opinions. | | | |
| 4) Students are given an opportunity to engage in discussion with members in other opinion stations | | | |
| 5) Students use the vocabulary they learnt in oral conversation. | | | |

<p>| <strong>2) Jigsaw</strong> | | | |
| <strong>Video demo – <a href="https://youtu.be/Kl-gpFt6SZ4">https://youtu.be/Kl-gpFt6SZ4</a></strong> | | | |
| 1) Teach the vocabulary needed for comprehension of the jigsawed text. | | | |
| 2) Divide the class into expert groups and distribute the appropriate texts. | | | |
| 3) Expert groups practice reading the text together. | | | |
| 4) Groups are then formed with one person from each group represented | | | |
| 5) Experts teach their text to the new group. | | | |
| 6) Students complete a follow-up task (which could be creating a poster summarizing the article, planning a role-play to perform etc.) | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>7) The teacher reviews the follow-up task with the entire class</td>
<td></td>
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<tr>
<td>8) Teacher monitors students for vocabulary use.</td>
<td></td>
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<tr>
<td>3)</td>
<td></td>
</tr>
<tr>
<td>o Debate</td>
<td></td>
</tr>
<tr>
<td>1) Teach the vocabulary needed for comprehension</td>
<td></td>
</tr>
<tr>
<td>2) Students write their assertions, reasoning and evidence.</td>
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</tr>
<tr>
<td>3) Students prepare for debate and refutations.</td>
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</tr>
<tr>
<td>4) Students debate in groups of three using notecards.</td>
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</tr>
<tr>
<td>5) Students use vocabulary in their arguments.</td>
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</tbody>
</table>
## Appendix L

### Research Summary Matrix

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Construct</th>
<th>Measures</th>
<th>Frequency</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1. To what extent did the implementation of the TSG align with the intended intervention design?</td>
<td>Adherence</td>
<td>Adherence checklist to include: Each Session (1-8) – Session focus as planned; participation in discussions; co-planning; lesson plans completed; lessons taught; Debrief after implementation of instructional strategy</td>
<td>Ongoing through both cycles</td>
<td>Descriptive Statistics Frequency Tally</td>
</tr>
<tr>
<td>RQ 2. To what extent did teachers participate in PD as planned?</td>
<td>Participant responsiveness</td>
<td>Qualitative method Participant Responsiveness Checklist</td>
<td>Ongoing through both cycles</td>
<td>Descriptive Statistics Frequency Tally</td>
</tr>
<tr>
<td>RQ2 a. What elements of the TSG did participants identify as supports and barriers in developing knowledge of second language development, supporting</td>
<td>Participant responsiveness</td>
<td>Elements of Intervention Questionnaire – To what degree did each of the elements of intervention support your learning? –</td>
<td>Once at end of intervention</td>
<td>Descriptive Statistics Frequency Tally Qualitative Guiding Questions: Emergent</td>
</tr>
<tr>
<td>RQ3. What did teachers learn about second language development, supporting academic vocabulary development in ELLs and using dialogic pedagogies that encourage both explicit teaching and student practice of new vocabulary while participating in the TSG</td>
<td>Teacher knowledge</td>
<td>Reflection posts</td>
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<tr>
<td></td>
<td>Cycle 1 – After reading about SLA and academic vocabulary development and implementing 6 step vocabulary instruction.</td>
<td>Inductive Analysis from reflection posts Qualitative Deductive analysis using a priori codes from guided question (a) What did I learn? (b) How did this impact my thinking about supporting ELLs? (c) How might I refine my approach in future teaching?</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Cycle 2 – After reading about dialogic strategies and implementing one of three dialogic strategies.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Discussion Posts</th>
<th>After completing the readings (Cycle 1 and Cycle 2) and teaching lessons (Cycle 1 and Cycle 2)</th>
<th>Qualitative Deductive analysis of using a priori codes from guided questions Inductive Analysis from reflection posts</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Lesson Plans</th>
<th>Two – Cycle 1 – Incorporating Six step</th>
<th>Qualitative Document Analysis using</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Teacher practices</td>
<td>Lesson Plans</td>
</tr>
<tr>
<td>----------</td>
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<td>-------------</td>
</tr>
<tr>
<td>RQ 4. How do teachers integrate academic vocabulary instruction and dialogic pedagogies that include both explicit teaching and student practice of new vocabulary while participating in the TSG?</td>
<td>Incorporating one of three dialogic instructional strategies.</td>
<td>Deductive analysis of using a priori codes</td>
</tr>
</tbody>
</table>

Classroom Observation/Lesson Analysis Protocol

Two – Cycle 1 – Implementing Six step vocabulary instruction
Cycle 1 – Implementing one of three dialogic instructional strategies.

Qualitative Document Analysis using Lesson plan/observation protocol

Deductive analysis of using a priori codes

Inductive Analysis

Analysis from reflection posts
| RQ 5. How do teachers perceive their efficacy in supporting academic language development before and after participation in the TSG? | Self-Efficacy in supporting ELLs | Teacher Self-efficacy and Perceived Perception (Durgunoglu & Hughes, 2010) | Twice – before and after TSG | Quantitative
Descriptive Statistics
Frequency Tally

Teacher Knowledge Vocabulary Instruction Survey (Duguay et al., 2016) | Inductive Analysis from reflection posts |
## Appendix M

### Teacher Resource List

*Resource list.*

<table>
<thead>
<tr>
<th></th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Institute of Education Services (IES) Practice Guides about evidence based practices for English Language Learners (ELLs) academic vocabulary development.</td>
</tr>
<tr>
<td>2</td>
<td>Four pillars of reading instruction.</td>
</tr>
<tr>
<td>3</td>
<td>Recommended books to read about teaching.</td>
</tr>
<tr>
<td>4</td>
<td>Templates to foster understanding and comprehension in all content areas.</td>
</tr>
<tr>
<td>5</td>
<td>Pronunciation, enunciation, syllables, and stress patterns in the English language.</td>
</tr>
<tr>
<td>6</td>
<td>Teaching vocabulary and embedding it in classroom instruction</td>
</tr>
<tr>
<td>7</td>
<td>Frayer template</td>
</tr>
<tr>
<td>8</td>
<td>English language resources and derivational suffix list.</td>
</tr>
<tr>
<td>9</td>
<td>Lesson plan guidelines for six step vocabulary instruction.</td>
</tr>
<tr>
<td>10</td>
<td>Lesson plan guidelines for dialogic pedagogies: Opinion stations, jigsaw strategy and debate.</td>
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<td>---</td>
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</tr>
<tr>
<td>11.</td>
<td>What tools to use for ELLs in classroom instruction.</td>
</tr>
<tr>
<td>12.</td>
<td>Debate graphic organizers for students.</td>
</tr>
<tr>
<td>13.</td>
<td>Language transfer chart</td>
</tr>
<tr>
<td>15.</td>
<td>Content area instruction: Language Arts and Social Studies for expressive language and output – templates and videos.</td>
</tr>
<tr>
<td>17.</td>
<td>Additional “how to” videos were provided before implementation of instructional strategy.</td>
</tr>
</tbody>
</table>
Curriculum Vitae

Dr. Nandini Menon

“CHIEF EDUCATION OFFICER”
Founder • School Administration • Student Success

PROFILE

Seasoned School Administrator with a Doctorate in Education and over 20 years of leadership experience in promoting student achievement and intercultural relations and competence in schools. An accomplished Education Leader who excels at developing and implementing innovative educational programs to issues most important in the communities, and building global networks to drive change in sustainable development and environmental stewardship that benefits all students. Proudly associated with the New Jersey Association for Gifted Children, and passionate about empowering educators and students to reach their full potential. Fosters a culture of shared best practices, and possess a strong background in Curriculum Development, Student Leadership & Research, Teacher Training, Critical Analysis/Debate, and Entrepreneurship.

AChIEVEMENTS

- Founded the New Jersey Institute of Nature which provides a strong foundation of scientific research for future scholars, supports the development of future entrepreneurs, and provides wellness resources for personal health and development.
- Received the NJSBDC Business Growth Success Award in 2021.
- Guided Institution to achieve several noteworthy accomplishments, such as obtaining International Baccalaureate candidacy in 2023, Middle States Accreditation in 2021, and receiving the National Blue-Ribbon Award for exceptional academic performance in 2017.
- Successfully led the Institution to become world champions in robotics for two consecutive years (2015 and 2016), champions of the Garden State Debate League since 2016 to the present day, 6 times National History Bee finalists, 3 times National Geography Bee finalists, top 30 schools in region in Math league, and the top 15% in National Placement tests.
- Built school physically and academically from Preschool through Grade 8 from a $200000 business model to $4-million-dollar budget. The school is on a 9-acre campus, with 40000 sq. ft, 4 buildings, a water park, 3 playgrounds and nature trail.

PROFESSIONAL EXPERIENCE

FOUNDER
New Jersey Institute of Nature, NJ || Apr 2022 to Present

- Founded the NJIN and developed a vision and mission for the institution: to provide a learning environment that connects classroom content to transferable real-life skills. [www.njin.us](http://www.njin.us)
- Build a strong foundation of scientific research for future scholars, supporting the development of future entrepreneurs, and providing wellness resources for personal health and development.
- Secure funding for developing and implementing educational and research programs that align with the mission of the institution.
- Hire and manage staff and faculty members who will be responsible for carrying out the mission of the institution.

FOUNDER/CHIEF EDUCATION OFFICER

Cedar Hill Prep School, Somerset, NJ || Aug 2003 to Present

- Provide leadership, fiscal management, and sales, public relations, facility management, government relations. [www.cedarhillprep.com](http://www.cedarhillprep.com)
- Responsible for hiring management and administrative staff and teachers, curriculum management, adoption of best practices in instruction, using latest research and methodology in education, and providing a framework that includes a socio-emotional environment to develop well rounded, articulate students.
- Analyze and understand the educational trends and position the school to provide programs that resonate with the community.
Previous Experience

Worked in the Textile/Apparel industry for 20 years in Management, developing product for Home Furnishings, Industrial Textiles and Apparel and marketing to retailers that included JC Penney, Bed, Bath and Beyond, Target and Walmart.

Core Competencies

- Curriculum Development & Implementation
- Budget Management & Resource Allocation
- Instructional Design & Delivery
- Stakeholder & Partnership Building
- Data Analysis & Performance Evaluation
- Strategic Planning & Goal Setting
- Education & School Management
- Student Leadership & Research
- Teacher Training & Coaching
- Program/Project Management
- Speech & Debate Coordination
- Team Management & Leadership
- Entrepreneurship
- Community Involvement
- Business Management
- Technology Integration
- Product Development
- Policy Implementation

Soft Skills: Communication • Design Thinking • Teamwork & Collaboration • Leadership & Management • Problem-Solving • Critical Analysis/Engineering

Education

Ed.D, Mind, Brain and Teaching
Johns Hopkins University || 2018-2023

Certificate in Youth Entrepreneurship Education, Entrepreneurship/Entrepreneurial Studies
Babson College || April 2022- May 2022

M.S, Textile Engineering
Philadelphia University || 1993-1995

Fashion Merchandising
University of Delaware || 1987 - 1988

B.Sc., Integrated Sciences
Mount Carmel College, Bengaluru || 1982-1985

Professional Affiliations

Board Member || Indian American Women Entrepreneur Association (IAWEA)
2022 - Present

Board of Directors || Asian Indian Chamber of Commerce
2012 – 2018
Member || Middle School Debate League
Member || NJ Association for Gifted Children
Member || American Society of Curriculum Development
2007 - Present
Vice President || Kerala Association of New Jersey
2015 - 2016
Coordinator || Charity Affairs
2016-2017
Member || National Business Owners Association (NBOA)
2017