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An Intrinsic Case Study on the Implementation of Project-Based Learning for Emergent Bilinguals and the Role of Teacher Self-Efficacy at a Dual Language Campus on the U.S.-Mexico Border

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AN INTRINSIC CASE STUDY ON THE IMPLEMENTATION OF PROJECT-BASED LEARNING FOR EMERGENT BILINGUALS AND THE ROLE OF TEACHER SELF-EFFICACY AT A DUAL LANGUAGE CAMPUS ON THE U.S.-MEXICO BORDER

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Dedication

I dedicate this work to the dual language educators and instructional leaders at the forefront of our emergent bilingual's education.

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Abstract

The purpose of this intrinsic case study was to understand the implementation of PBL at a dual language campus on the U.S.-Mexico border (Stake, 2000). Project-based learning in a dual-language setting can meet the demand for all students, especially emergent bilinguals, to receive equal and equitable learning opportunities that promote access to content knowledge regardless of student language proficiency (Howard et al., 2007; O'Brien et al., 2014). However, the success of implementing an innovation, such as PBL, is facilitated by the teacher's belief in the tools and ability to enact the approach (Bandura, 1977). Therefore, the study also considered how teacher self-efficacy supported the implementation of PBL in a dual language campus on the U.S.-Mexico Border. Semi-structured interviews were conducted with seven participants to understand their implementation practices and experiences with the student-centered learning approach. Teacher self-efficacy, a construct of self-efficacy, was used as the guiding Conceptual Framework. The data for this study was collected through multiple sources: formal and informal interviews, field observations, and district planning documents. Two of the Concerns-Based Adoption Model's (CBAM) dimensions, the Stages of Concern (SoC) diagnostic tool and the Levels of Use (LoU) diagnostic tools, were used to understand the participant's views and practices based on their self-efficacy implementing PBL in a dual language campus. The findings revealed the implementation of PBL was influenced by key factors, including guidance from the district's vision, high levels of support from the instructional leaders, and dual resources for their emergent bilinguals. PBL in a dual language setting provides emergent bilinguals with the opportunity to engage in relevant content that bridges their connections across the border, values and develops their content and linguistic understandings, and provides meaningful collaboration.

Keywords: project-based learning, emergent bilinguals, economically disadvantaged, U.S.-Mexico border, bilingual education, dual language education, teacher self-efficacy, self-efficacy, intrinsic case study, translanguaging, C6 Instructional Biliteracy Framework, culturally relevant pedagogy, culturally responsive teaching, deep learning, scaffolding, differentiation, bilingual education research, instructional leadership

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Chapter 1: Introduction

The Bilingual Education Act (BEA) was passed in 1968 to address emergent bilingual (EB) students and provide federal funding to establish bilingual programs in U.S. schools (Gándara & Escamilla, 2017). The BEA was the first time the U.S. government officially acknowledged the instructional needs of EB students but initially viewed the students' English proficiencies through a deficit ideology. The BEA of 1968 was unclear about the intent and design of the programs to support EB students (Glavin, 2016). Thereby, the Civil Rights activists argued the act did not respect the right of minority-language students (Gándara & Escamilla, 2017; Glavin, 2016). In 1974, the Lau V. Nichols case and the Equal Educational Opportunity Act of 1974 influenced several amendments that clarified whether the intent was to develop students in two languages or transition them into English instruction (Gándara & Escamilla, 2017; Glavin, 2016). Although the events affirmed steps to provide curriculum access to students who speak languages other than English, there was no clear directive on how schools should address the support. Consequently, the reauthorizations of BEA are continuously challenged by English-only instructional methods (Gándara & Escamilla, 2017; Glavin, 2016).

In 1994, the BEA was reauthorized and encouraged bilingualism instead of a simple transition to the English language (Glavin, 2016). The acknowledgment that language was a form of educational inequity was established within the Bilingual Education Act. Therefore, the law focused on creating opportunities for language learners that would result in an equitable education (Glavin, 2016). The BEA of 1994 focused on programs promoting bilingualism and became inclusive of indigenous languages. In 2001, George W. Bush passed the No Child Left Behind Act (NCLB), the next vital reauthorization of the Elementary and Secondary Education Act (ESEA). The law required all English Language Learners to be included in standardized

testing and to show measurable progress in testing and language acquisition (Glavin, 2016). However, the accountability requirements were problematic because the dependence on standardized testing in English to make yearly progress limited the opportunities for EBs to prepare and demonstrate their knowledge (Menken, 2013).

On December 10, 2015, President Obama signed The Every Student Succeeds Act (ESSA) into law (USDOE, n.d.b). The law reauthorized the Elementary and Secondary Education Act of 1965 and replaced its predecessor, the No Child Left Behind Act. According to the USDOE (n.d.b), the act protected ESEA's original intent to ensure equal access to high-quality education for all students in the United States. The Every Student Succeeds Act of 2015 advances equity and protects America's disadvantaged and high-need students to this day (USDOE, n.d.b). With the continued demand for equal education for all, bilingual education continues to shift so that both monolingual and EBs receive equal opportunities for language acquisition and academic success (USDOE, n.d.b).

Unfortunately, after five decades, the ideologies supporting bilingual education continue with a "one nation, one territory, one language nationalism" lens (Fránquiz et al., 2019, p. 134). Monolinguistic policies, subtractive educational programs, and instructional practices that ignore the linguistic and cultural assets and needs of EBs continue to occur across the nation (DeMatthews & Izquierdo, 2019). For example, in Arizona, Proposition 203, also known as the English Language Education for Children in Public Schools Act, was established in the year 2000 and continues to affect the opportunity for EBs to access bilingual education programs (Arizona Department of Education [ADOE], n.d.). The voter-approved law requires students with a home language other than English to enroll in sheltered English immersion programs with minimal home language support. The sheltered English immersion programs in Proposition 203

intend to transition students within a year to mainstream classrooms once they have gained enough English knowledge (ADOE, n.d.). However, Collier and Thomas (2017) and Thomas and Collier (1997, 2002, 2012) emphasized that it takes an average of six years for students to achieve grade level in their second language and remain at or above grade level. Beginning in kinder, students must have access to quality dual language schooling in their native language (L1) and second language (L2) for at least six years. On the other hand, it takes students seven to ten years or more if students do not have access to learn in their L1 for at least half of the instructional time (Collier & Thomas, 2017).

While Arizona pursues restrictive measures of bilingual program access, states such as Texas, Illinois, New Jersey, and New York have issued mandates to serve EB students in public schools through bilingual and English as Second language programs (Alvear, 2019). For example, the state of Texas implements four bilingual program models in public schools: transitional-early exit, transitional-late exit, and one- and two-way dual immersion models. According to Collier and Thomas (2017), dual language (DL) is the most promising bilingual model to support emergent bilinguals compared to other models. The DL Programs strive to develop students' bilingualism, biliteracy, academic achievement, and cross-curricular competence (Garcia, 2009a). The goal is for students to develop their ability to speak and write in two languages, attain comparable academic success to mainstream students, and keep their identities (Collier & Thomas, 2017). Nonetheless, teacher shortages (Cross, 2016; Sutcher et al., 2019) and inadequate teacher preparation programs are persistent challenges in meeting the needs of EBs within these program implementations (Gándara et al., 2003; Gándara et al., 2005; García, 2009b).

In addition, public schools in the United States continue to change in demographics as our nation becomes more diverse (DeMatthews & Izquierdo, 2019). For instance, EB public school students in the U.S. experienced an increase from 4.5 million in the fall of 2010 to 5.1 million in the fall of 2019 (National Center for Education Statistics [NCES], 2022). In 2019, Spanish, Arabic, English, and Chinese were the most common languages spoken at home in the U.S. (NCES, 2022). Furthermore, in 2019, the largest racial/ethnic group of EB student enrollment was Hispanic or Latino, at about 3.9 million students or 76.8 percent (NCES, 2022). The racial, cultural, and linguistic variations of student demographics in U.S. classrooms require teachers to be adequately prepared to meet the needs of students and avoid the devastating consequences, particularly for emergent bilinguals (Lopez & Santibañez, 2018).

Moreover, the pedagogical frameworks implemented in classrooms must provide EBs with opportunities to develop and apply the necessary bilingual abilities to become active citizens in our multilinguistic world (Lopez & Santibañez, 2018). Recent occurrences such as the COVID-19 Pandemic brought to light the inequities EBs experience in U.S. schools and the lack of preparation teachers had in using computer-based learning with EBs (Sugarman & Lazarín, 2020). Even though educators made substantial efforts, schools with high percentages of EBs had less than 50 percent of their students logging in to receive remote instruction (Sugarman & Lazarín, 2020). Consequently, EBs regressed in their English acquisitions because of the limited opportunity to practice their Speaking, Writing, Reading, and Listening domains (Sugarman & Lazarín, 2020). More than ever, instructional approaches such as project-based learning (PBL) are needed to provide students with ample opportunities to collaborate and engage in meaningful conversations to develop their language capabilities (Buck Institute for Education [BIE], n.d.).

PBL is a student-driven, teacher-facilitated learning approach that engages students in acquiring knowledge and skill through inquiry, problem-solving, and meaningful learning experiences (Wurdinger et al., 2007). In their PBL research review, Larmer et al. (2015) found that PBL motivates students and prepares them for college, careers, and citizenship. In addition, PBL helps learners meet grade-level standards and succeed on assessments that require critical thinking and deep knowledge (Larmer et al., 2015). Educational leaders also benefit from the approach as teacher satisfaction increases and new ways become available for communication with parents and community partners (Larmer et al., 2015). However, the positive outcomes are only satisfied if teachers are consistent with implementing PBL regardless of the pressures to maintain traditional, teacher-centered pedagogies (Larmer et al., 2015). PBL teachers are responsible for meeting the needs of student-centered environments (Larmer et al., 2015) and making essential shifts in their pedagogy to meet the needs of all students, specifically emergent bilinguals (O'Brien et al., 2014).

Instructional supports to meet EB's linguistic and academic needs within PBL include instructional supports such as scaffolding, sentence stems, and consistent vocabulary routines (O'Brien et al., 2014). In addition, strategies that increase students' use of languages are also needed, such as an explicit focus on language structures, awareness of their language requirements, and the use of EB's linguistic and cultural repertoires (O'Brien et al., 2014). PBL program designs omit how educators must explicitly meet the needs of EBs; therefore, teachers' self-efficacy or perceived competence in overcoming PBL implementation challenges is essential. Teachers with low teacher efficacy in meeting EB students' academic and social needs may hesitate to implement PBL with appropriate scaffolds to support content and linguistic access (Cho et al., 2020; Ertmer & Simons, 2005).

According to Bandura (1994), self-efficacy refers to people's beliefs about their capabilities that influence their actions. The amount of effort, persistence, and resiliency of an individual determines by a person's self-efficacy (Bandura, 1994). In addition, studies have found that the interest of an individual in an innovation determines the willingness and success of the implementation (Fullan, 2007). Thereby, PBL implementation requires teachers to have a sense of efficacy to successfully implement the PBL approach and consider the needs of EBs.

Moreover, PBL requires students to develop and apply high levels of thinking, which is a challenging task (Ertmer & Simons, 2005). Teachers experience frustration with the planning process of PBL, supporting students' voices and choices, and managing the classroom in a student-centered environment (Ertmer & Simons, 2005). A recent ethnographic study by Miller et al. (2021) focused on developing fundamental principles and designs of PBL to sustain and accomplish the intended goals of the student-centered approach in science. The 5-year design-based research study incorporated ten teachers in schools that were predominately African American or Latina/o/x and with 75% economically disadvantaged students. Data collection included semi-structured interviews, observational tools, field notes, and exit surveys used to develop essential principles that support the successful implementation of PBL. Miller et al. (2021) established Principle 1 (adaptive), Principle 2 (responsiveness), and Principle 3 (enjoyable and intellectually satisfying). The three principles addressed teacher challenges concerning implementation fidelity, adaptability to classroom needs, equitable student participation, inclusiveness of all student populations, and balance between rigor and enjoyable lessons. Findings concluded that sustainability and profound change transpire when teachers maintain interest, enjoy the approach, and are trusted to adapt lessons (Miller et al., 2021). Thus,

teachers must also encounter positive experiences with PBL to gain interest and sustain successful PBL implementation (Bandura, 1994).

School-wide reforms, such as the New Tech Network, have attempted for several decades to improve education by implementing innovations that go from teacher-centered to more creative student-centered approaches (New Tech Network [NTN], n.d.). The New Tech Network is a non-profit organization that works directly with schools and districts across the county to support comprehensive school change through project-based learning. Even though organizations such as NTN facilitate project-based learning implementations, students continue to drop out, graduate with gaps in their learning, and are ill-prepared to meet the workforce demands (NTN, n.d.). The NTN (n.d.) states more schools need to implement student-centered practices to increase positive student outcomes.

Project-based learning in a dual language setting can meet the demand for all students, especially emergent bilinguals, to receive equal and equitable learning opportunities that promote access to content knowledge regardless of student proficiency (Howard et al., 2007; O'Brien et al., 2014). The goal is to support emergent bilinguals for future success. Therefore, research on the implementation practices of PBL and experiences of PBL dual language teachers in areas with high levels of EBs, such as the U.S.-Mexico border, was fundamental. In addition, the success of PBL implementation is based on the teacher's belief in their capability to implement the program (Fullan, 2007). Therefore, research on how teacher self-efficacy supports PBL implementation in a dual language context on the U.S.-Mexico border was also essential.

Problem Statement

A one-size-fits-all pedagogic approach will not meet emergent bilinguals' different instructional needs (Bondie et al., 2019). Thus, student-centered approaches, such as project-

based learning, are necessary to support the diverse needs and outcomes of the most underserved student populations (NTN, n.d.). Research shows that PBL increases students' knowledge and application of student standards, knowledge retention and creation, collaboration, problem-solving, communication, and improves students' attitudes and motivation (BIE, n.d.; Larmer et al., 2015; NTN, n.d.). In addition, BIE (n.d.) states that PBL used with other individualized approaches supports campuses with behavioral problems, attendance, and higher graduation rates. There is extant literature on the effectiveness of PBL implementation practices (Condliffe, 2017; Thomas, 2000) but limited studies on the effectiveness of PBL for emergent bilinguals (Shafaei & Rahim, 2015). While quantitative studies can provide valuable information about the effectiveness of PBL with EBs, such as academic achievement, qualitative studies can highlight the experiences and perspectives that may have been disregarded or underrepresented in previous research. However, in the last decade, more attention has been given to PBL on how it can support the specific needs of emergent bilinguals. For instance, recent studies between 2010 and 2020 found that PBL supports EB's development in vocabulary (Shafaei & Rahim, 2015), language development (Syarifah & Emiliasari, 2018), speaking skills (Maulany, 2013), and listening domains (Bakar et al., 2019).

Moreover, a growing body of literature has explored how PBL supports teacher self-efficacy (Mahasneh & Alwan, 2018; Mirici & Uzel, 2019) and students' self-efficacy (Shin, 2018). However, there is a lack of studies on how teacher self-efficacy supports PBL implementation in a dual language setting on the U.S.-Mexico border. The context of the U.S.-Mexico border matters because the increase in diversity of EBs in U.S. schools requires teachers to support students in acquiring the English language, learning the academic content, and acknowledging their diverse cultural and linguistic backgrounds (Goldenberg & Coleman, 2010).

Unfortunately, DL teachers might not be prepared to meet the needs of EBs (Samson & Collings, 2012). They may also misunderstand the experiences and multilingual capabilities EBs bring to the classroom, leading them to limited educational opportunities (García, 2009b). If adapted appropriately by teachers, PBL can support the diverse needs of EBs on the U.S.-Mexico border (O'Brien et al., 2014).

For instance, in social studies, project-based learning can be designed to incorporate the region's cultural, historical, and geographic aspects, making the learning experiences for students on the U.S.-Mexico border relevant and community oriented. EBs attending U.S. public schools on the U.S.-Mexico border commonly speak Spanish (USDOE, n.d.d). Thereby, teachers in a dual language environment can design PBL tasks that include their native language and a partner language, English, to promote bilingualism and biliteracy (Howard et al., 2007). PBL teachers can also leverage their first language to support the second language through collaborative learning experiences. On the U.S.-Mexico border, PBL can engage students in problems or challenges that are faced by their community in real-world situations, such as border security. Lastly, emergent bilinguals are an asset in dual language settings. PBL provides the space for students to engage and collaborate, which can be an opportunity for them to develop *deeper learning* and language naturally (Collier & Thomas, 2017). Thereby, this study investigated implementation decisions and teacher experiences of PBL in areas with high EB student populations, such as the U.S.-Mexico border (USDOE, n.d.d).

However, implementing PBL in a dual language setting can be complex due to the pedagogical shifts in teacher learning perspectives and self-efficacy (Ertmer & Simons, 2005). Previous research shows that teacher efficacy, opportunities for professional development, planning time, and lack of teacher reflection impede PBL execution and sustainability

(Blumenfeld et al., 1991), and throughout the years, the challenges have persisted. According to Larmer et al. (2015), educators frequently report that PBL is challenging to implement in the classroom but argue teachers' implementation skills and confidence can improve with the support from other teachers, mentors, and administrators.

A mixed-method study by Mirici and Uzel (2019) recently focused on the shift of teachers' self-efficacy through project-based learning training and their views on the student-centered method. The participants included 47 teachers from the Ministry of National Education, and the study employed the self-efficacy theory to conduct the study. The findings aligned with Larmer et al. (2015) because teachers' self-efficacy, or belief in their competence, increased due to the support participants received. Teacher efficacy refers to the level of belief or capability the individual has to guide and successfully motivate student outcomes (Bandura, 2002). Therefore, high levels of teacher self-efficacy can result in successful dual language PBL implementations with the proper guidance and support.

Within the last two decades, teacher self-efficacy has been explored and has shown similar outcomes for high levels of teacher self-efficacy. For instance, Tschannen-Moran and Hoy (2001) examined the theoretical and pragmatic foundations of teacher efficacy. They found that teacher self-efficacy was low when the implementation change occurred, but as the teachers gained experience and skill, their teaching efficacy increased. In addition, teachers with low teacher efficacy showed managerial rather than student-centered approaches and needed help managing students in the classroom. On the other hand, teachers with high efficacy were student-oriented and offered more individualized instruction and communication (Tschannen-Moran & Hoy, 2001). Allinder (1994) also explored the relationship between efficacy and the instructional practices of Special Education teachers and consultants. Elementary teacher participants were

selected randomly from four Midwest states that taught students with specific learning disabilities. Allinder (1994) collected data for the 200 participants through mailed questionnaires and used the teacher efficacy scale to determine general and personal teaching efficacy. The teacher characteristics scale determined instructional implementations and strategies. Findings showed teachers with high self-efficacy were more likely to explore more alternative methods of instruction, seek improved teaching methods, and experiment with instructional materials (Allinder, 1994). Thus, teacher self-efficacy is significant to understand the implementation and success of PBL in a particular context.

Teacher self-efficacy refers to the belief that teachers have in their capabilities to plan, implement, and manage PBL in their dual language classrooms. Teachers' self-efficacy can inform how the implementation of PBL occurs in a dual language setting to support emergent bilinguals. This investigation also aimed to understand the role of teacher self-efficacy in PBL in a dual language campus on the U.S.-Mexico border. Even though project-based learning is not a new educational practice (Barron et al., 1998; Simpson, 2011), it continues to have the potential to benefit EBs' schooling experiences and influence outcomes such as real-world connections, engaging learning experiences, and bilingualism (Darling-Hammond et al., 2008; Howard et al., 2007).

Purpose Statement

The purpose of this intrinsic case study was to understand the implementation of PBL at a dual language campus on the U.S.-Mexico border (Stake, 2000). The existing research stated that teachers found the implementation process of PBL challenging because of the constructivist characteristics of the teaching method (Condliffe, 2017; Larmer et al., 2015; Simons et al., 2014) and recognized the importance of teacher beliefs in the application of PBL (Ertmer & Simmons,

2006; Tamim & Grand, 2013; Thomas, 2000). Even though theoretically, PBL is effective for low-achieving students and underserved student populations, there is a need for more studies to determine the effectiveness and challenges of PBL for specific student subgroups such as emergent bilinguals (Condliffe, 2017; O'Brien et al., 2014). Nonetheless, the effectiveness of PBL in student achievement reflects the instructional supports and implementation practices provided by teachers (Graham et al., 2005).

Therefore, I approached this study by acknowledging teachers' viewpoints, experiences, and implementation decisions of PBL that guide classroom practices to support the specific needs of emergent bilinguals. I considered the curricular needs or benefits teachers encountered because their experiences on the successes and challenges informed how implementing PBL in a dual language environment serves the needs of EBs on the U.S.-Mexico border. PBL research must be informed by practice "to be of the greatest use to practitioners" (Condliffe, 2017, p. 51). However, the success of implementing an innovation, such as PBL, is facilitated by the teacher's belief in the tools and ability to enact the approach (Bandura, 1977). Therefore, the study also considered how teacher self-efficacy supported the implementation of PBL in a dual language campus on the U.S.-Mexico border.

Research Questions

The research questions for this investigation focused on understanding the implementation of PBL at an elementary dual language campus on the U.S.-Mexico border. In addition, the self-efficacy and experiences of the participants also informed the implementation practices of PBL to support emergent bilinguals. The following research questions guided this qualitative study:

- How do teachers implement PBL at an elementary dual language campus on the U.S.-Mexico border?
- What are teachers' experiences implementing PBL at an elementary dual language campus on the U.S.-Mexico border?
- How does teacher self-efficacy support the implementation of PBL at an elementary dual language campus on the U.S.-Mexico border?

Significance

The significance of this study is its contribution to the ongoing concern regarding the emergent bilingual achievement gap (Sugarman & Geary, 2018; USDOE, n.d.a), their access to inclusive public-school experiences, and the opportunities to achieve academic and linguistic success (DeMatthews & Izquierdo, 2019). The achievement gap occurs when there is a variance in educational outcomes between two student groups based on race/ethnicity and gender (NCES, 2021). DeMatthews and Izquierdo (2019) argued that after more than five decades, the "racial, economic, and linguistic achievement remain" (p.vii).

Due to the No Child Left Behind Act of 2001, emergent bilinguals have been cited by quantifiable data as the cause of why schools and districts are failing (Koyama & Menken, 2013). As a result, EB children have often been labeled as "testing liabilities," "deficient," and "in need of intervention" (DeMatthews & Izquierdo, 2019, p. vii). Thus, dialogue to close the achievement gap for emergent bilinguals is often viewed as a deficit to address (Mudambi, 2021). Mudambi (2021) claims the gap is not caused by the characteristics of students but by the lack of opportunities. The term *opportunity gap* places the responsibility on the adults to provide emergent bilinguals with programs and pedagogies that help them access instructional content

regardless of language proficiency, as mentioned in the Equal Education Opportunities Act (Berenyi, 2008).

According to Collier and Thomas (2017), dual language is the most promising bilingual model to support emergent bilinguals compared to other models. In the late 1960s and 1970s, transitional bilingual education was established to provide EBs access to their Native language curriculum while learning English as a second language. However, researchers found a waste of instructional time due to the practices used within the model, including code-switching, repeated lessons per language, and translation (Collier & Thomas, 2017). Longitudinal studies also found the grade level achievement of EB students took six years, but unsuccessful closure of gaps occurred because students only received two to three years of support (Collier & Thomas, 2017).

Even though there needs to be more consistency in dual language programs in districts across the U.S., extant research by Collier and Thomas (2017) discovered vital findings. First, emergent bilinguals enrolled in dual language programs demonstrate increased cognitive development, engagement, school attendance, fewer behavioral problems, and students with high efficacy levels compared to their peers. Second, the two- and one-way dual language models are the most successful program compared to others (ESL and Transitional models), as affirmed by the recent 2015 State of Texas Assessments of Academic Readiness (STAAR) assessment in Math and Reading. Students in the Dual programs until 12 years old perform on grade level or above. Third, DL programs are the only bilingual program that closes the achievement gap for all students (Collier & Thomas, 2017). Lastly, starting in PreK to 12 grades, non-emergent and emergent bilingual students benefit from the opportunity to naturally develop their first and second language acquisition through meaningful cross-curricular tasks (Collier & Thomas,

2017). Mudambi (2001) and DeMatthews and Izquierdo (2019) argued that dual language is a civil right for all emergent bilinguals because it is the program identified to close the opportunity gap for emergent and monolingual students.

In a similar vein, the project-based learning approach has shown multiple benefits for students who speak a first language other than English (Thuan, 2018). PBL benefits for emergent bilinguals include content accessibility (Golden et al., 2014), opportunities to use the speaking domain during meaningful interaction (Campbell, 2012), and vocabulary learning supports (Shafaei & Rahim, 2015). In addition, implementation in a bilingual classroom helps students develop metacognitive skills through the project's creation, implementation, and presentation (Thuan, 2018). Finally, the learning approach promotes equity and inclusive learning environments because it allows all students to engage in critical thinking, collaboration, and knowledge creation (Larmer et al., 2015). However, the implementation can be complex due to the pedagogical shifts in teacher learning perspectives and self-efficacy (Ertmer & Simons, 2005). Thus, project-based learning implementation requires planning, training, and scaffolds specifically for emergent bilinguals (O'Brien et al., 2014).

According to Nieto (2009), politicians and education stakeholders should have access to research that brings to light strategies and programs that support students' English proficiency and academic development. My investigation provided further insight into the advantages and challenges elementary teachers face while implementing PBL in disadvantaged communities with high levels of emergent bilinguals on U.S.-Mexico border. This study's findings also contributed to the role of teacher efficacy in implementing PBL in a dual language campus.

Definition of Terms

The following terms were relevant to this study:

- ***Bilingual Education.*** "An instance in which children's and teachers' communicative practices in school normally include the use of multiple multilingual practices that maximize learning efficacy and communication; and that, in so doing, fosters and develop tolerance towards linguistic differences, as well as an appreciation of languages and bilingual proficiency" (García, 2011, p. 45).
- ***Deep Learning.*** Developing students' 21st-century skills include cognitive, interpersonal, and intrapersonal abilities such as critical thinking, communication and collaboration, metacognitive, and self-regulation skills (Pellegrino & Hilton, 2012).
- ***Dual Language Education***. "More than a program but instead a comprehensible school model that values families and communities and is focused on the development of students' unique cultural and linguistic assets" (DeMatthews & Izquierdo, 2019, p. x).
- ***Differentiation.*** The tailoring of instruction to meet the individual need of students can occur in three distinct ways. First, the teacher changes the way students get access to the content. Second, the teacher can alter the activities to ensure mastery of the content. Third, students can present the culminating product in multiple ways (Kwietniewski, 2017).
- ***Culturally Responsive Teaching (CRT).*** “Using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively” (Gay, 2002, p. 106).

- ***Emergent Bilingual*** (EB). "Students who are engaged in learning Spanish and English" (DeMatthews & Izquierdo, 2019, p. x). According to García (2009b), the term *emergent bilingual* acknowledges students' potential to develop their bilingualism.
- ***Project Based Learning (PBL).*** "A teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem or challenge" (BIE, n.d., para. 3).
- ***Scaffolding.*** Supports such as pre-teaching vocabulary, breaking down the content, using visual supports, gradual release techniques (I do, we do, you do), examples, and providing the concepts in comprehensible portions (Kwietniewski, 2017).
- ***Success skills.*** Success skills refer to critical thinking, collaboration, creativity, and project organization (Larmer et al., 2015).
- ***Translanguaging.*** An individual's ability to use features from their singular or multiple language banks to construct meaning and demonstrate knowledge (Vogel & García, 2017). Translanguaging is the observed practice of bilinguals, an approach to bilingualism (García, 2011).

Summary

After 50 years of the Bilingual Education Act, hostile dominant ideologies continue challenging the discourse around bilingual education (Alfaro, 2018). As a result, restrictive language policies such as Proposition 203 in Arizona and similar legislation in Massachusetts and California have eliminated Bilingual Education (Alfaro, 2018). Lopez and Santibañez (2018) argue that pedagogical frameworks implemented in classrooms must provide EBs with opportunities to develop and apply the necessary bilingual abilities to become active citizens in our multilinguistic world. Project-based learning research has shown multiple benefits for

emergent bilingual students, including content accessibility and meaningful speaking opportunities (Campbell, 2012; Golden et al., 2014). School leaders play a critical role in supporting PBL implementation (Ravitz, 2010). Thereby, educational stakeholders, school and district leaders, and politicians need to understand how implementing PBL in a dual language setting on the U.S.-Mexico border impacted EB students. Furthermore, it is also essential they understand the role of teacher self-efficacy in implementing PBL for EBs. The next chapter consists of a review of literature on the history of bilingual education, the academic and linguistic needs of emergent bilinguals, research on project-based learning, and how teacher self-efficacy may support dual language PBL implementation.

Chapter 2: Literature Review

I designed the review of the literature to establish knowledge of project-based learning (PBL) and the implementation challenges related to bilingual education. I examine the cultural and linguistic diversity of emergent bilinguals (EBs), the need for equitable learning opportunities in the classroom, the shift in bilingual education and policies, the framework and process design of PBL specific to EBs, and the factors that affect teachers to implement PBL to support their students in dual language settings. I also include an overview of the self-efficacy theory and the Concerns-Based Approach Model (CBAM), which are the frameworks guiding the study. The self-efficacy theory provided the lens to understand how teacher self-efficacy impacts the implementation of PBL. The Concerns Based Approach Model helped me to understand the role of teacher self-efficacy in implementing PBL in a dual language campus on the U.S-Mexico border. I used two of the three dimensions of the CBAM, the Stages of Concern (SoC) and Levels of Use (LoU) diagnostic tools. CBAM provides educational stakeholders such as instructional leaders with tools to support the implementation of innovative practices such as PBL. I will discuss the tools in the conceptual framework section.

Emergent Bilinguals in the United States

Cultural and Linguistic Diversity

Emergent bilinguals (EBs) also known as English language learners (ELLs) or English learners (ELs), are the fastest-growing student population throughout the United States and vary in cultural and linguistic backgrounds (Heineke & Giatsou, 2020; USDOE, n.d.b). The U.S. Department of Education [USDOE] (n.d.d) reported that between the 2009-10 and 2014-15 school years, over half of the states witnessed an increase of English learners (ELs) in their student populations. In accordance, the National Center for Education Statistics [NCES] (2022)

informed there was an increase of ELs public school students in the U.S. from 4.5 million in the fall of 2010 to 5.1 million in the fall of 2019. Moreover, the National Education Association [NEA] (2020) asserted that by 2025, English learners would account for 25 percent of the K-12 student enrollment in the United States.

In the years 2012-13, California had the highest population of EL enrollment (24 percent), followed by Texas (15.2 percent) and Florida (10.3 percent) (Migration Policy Institute [MIP], 2015). In the fall of 2019, the states with the highest percentage of EL enrollment were Texas (19.6 percent), California (18.6 percent), and New Mexico (16.5 percent) (NCES, 2022). California experienced a significant drop in EL enrollment from 2012-2013 to 2019. According to the California Department of Education (2022), the COVID-19 Pandemic caused declines in overall student enrollment and will continue to impact school attendance. California's student enrollment coincides with the nation's public-school enrollment which declined by three percent in the 2020-2021 school year (NCES, 2021). By location, in 2019, 14.8 percent of English learners attended public schools in cities, 10.0 percent in suburban areas, 7.0 percent in towns, and 4.4 percent in rural areas (NCES, 2022).

In fall 2019, the U.S.'s top four most common languages spoken at home were Spanish, Arabic, English, and Chinese. The NCES (2022) indicated that 75.7 percent of EL students and 7.9 percent of all public K-12 students spoke Spanish at home. The second common language for ELs was Arabic, spoken by 131,600 students. English was the third most common language spoken by 105,300 students, followed by Chinese, 100,100 students, Vietnamese, 75,500 students, and Portuguese, 44,800 students (NCES, 2022).

Furthermore, differences in race/ethnicity were also evident among EL students in public schools. According to the NCES (2022), as of 2019, the largest racial/ethnic group of the overall

EL student enrollment was Hispanic or Latino, at approximately 3.9 million (76.8 percent). Asian students constituted 523,400 of the overall EL students (10.2 percent), followed by 332,400 White EL students (6.5 percent) and 221,000 Black EL students (4.3 percent) of the total EL student enrollment (NCES, 2022).

In the U.S. Census Bureau's American Community Survey, the patterns in the data showed that the rise of immigrant people who spoke another language other than English at home occurred in the 1990s (Zong & Batalova, 2016). Zong and Batalova (2016) determined that between 1990 and 2013, the population of individuals with Limited English Proficiency (LEP) increased extensively by 80 percent (from 14 million to 25.1 million). However, the survey is subjective because the participants self-assess their English-speaking parameters' ("not at all," "not well," "well," "not well," and "very well") instead of taking reliable English language tests to determine their levels of English proficiency (Zong & Batalova, 2016).

The variety of languages and backgrounds of EL students have been one of the most significant challenges in U.S. public schools. Accordingly, under The Every Student Succeeds Act, districts across the country must assess the English language proficiency of ELs, accommodate their needs during state assessments, and create accountability systems that incorporate goals and progress measures every year (USOE, 2015). Nevertheless, the diversity of English Learners in school classrooms allows educators to view student differences through a bilingual lens that fosters their cultural and linguistic repertoires (García, 2009a). To begin to understand the evolution of ideologies within the education of ELs, I will discuss in the following section the terminology used to describe students who speak languages other than English.

Emergent Bilingual Terminology

According to DeMatthews and Izquierdo (2019), emergent bilinguals (EBs) are "students who are engaged in learning Spanish and English" (p. x). García (2009b) argued that the term *emergent bilingual* supports the bilingualism potential of students and serves as an asset-based view of the English language learner (ELL) capability. Garcia contended that English Language Learners (ELLs), Limited English Proficient (LEP), and other similar terms have a deficit-based lens on students due to the restricted interpretation of their linguistic abilities (García, 2009b). Similarly, Martínez (2018) explained the limiting view of emergent bilinguals when they are only considered English learners. He emphasized that the narrowing standpoint enforces the normalization of monolingualism by framing the student as at-risk and negating their abilities as readers or writers. Martínez (2018) further stated that labeling students are a problem of perspective and perception that does not value students' linguistic repertoires.

García (2009b) emphasized that students who speak, read, and write in two languages have flexible and active brains that allow them to switch between two language systems. Similarly, the USDOE (2017) stated bilingual individuals have less trouble, compared to their non-bilingual peers, understanding math concepts, solving problems, thinking about language, and developing strong thinking skills. In addition, bicultural individuals are respectful of other cultures and develop empathy toward the differences of others (USDOE, 2017). Emergent bilingual students should have the opportunity to have a strong self-identity, create strong relationships, and cultivate bicultural abilities. Hence, the term emergent bilingual acknowledges the fundamental knowledge and continuous linguistic ability students bring to schools and society (García et al., 2008).

The term English language learners are commonly used and accepted in policies, federal documents, and legislation, even though researchers have brought awareness to the labeling of emergent bilinguals (García et al., 2008). For instance, the U.S. Department of Education and the National Center for Education Statistics refer to emergent bilinguals as English learners (ELs). Other sources, such as the Migration Policy Institute, use the term Limited English Proficient (LEP) and define it as, "any person aged 5 and older who reported speaking English less than "very well" as classified by the US Census Bureau" (Zong & Batalova, 2015, para. 1). The characterization may be subjective by the beliefs and perceptions of individuals towards emergent bilinguals.

As García et al. (2008) discussed, some views and terminology of children learning English focus on their limitations instead of their potential. Thus, I will use the term *emergent bilingual* for this study. Individuals at all levels, including state, district, or anticipating educators, must be aware of the consequences of the limiting perceptions towards emergent bilinguals (García et al., 2008). In the following section, I will discuss the pressing challenge of closing the achievement gap by acknowledging the opportunity gap. Furthermore, I will also incorporate the complexity of the increasing EB demographic shifts in public schools.

Achievement and Opportunity Gap

According to Echevarria et al. (2008), educators may face variations of EBs experiences on "educational backgrounds, expectations of schooling, socioeconomic status, age of arrival, personal experiences while coming to and living in the United States, parents' education levels and proficiency in English" (p. 7). Children may also have different former schooling experiences and struggle to adjust to a new school setting. Others may have been born here in the United States but struggle to adapt to the culture and formalities of the White dominant culture

(Haneda & Wells, 2012). However, the lack of understanding of the abilities and experiences of emergent bilinguals can label students and lead them to pathways that often limit their access to equitable learning opportunities (García, 2009b). Fortunately, studies have shown that educational courses can influence individuals' limiting ideologies (Kolano & King, 2015).

For instance, a qualitative study by Kolano and King (2015) explored the potential impact of a multicultural course on the beliefs of 43 undergraduate students toward emergent bilinguals. The participants were Elementary Education or Special Education preservice teachers required to take the course as a state-wide mandate on how to serve diverse student populations. The study used a narrative tool to support the participants' expression and make sense of their experiences. The theoretical framework used in the study was Bakhtin's "contact zone," or a struggle against authority. The dominant culture accepted by the teachers would be, in this case, the authority (Kolano & King, 2015).

The study's findings indicated that the participants in the course could acquire a new understanding of emergent bilinguals and felt more confident in supporting diverse groups in their future classrooms. Some participants stated they gained a new understanding of the value of students' first language in reading and writing to support the second language. Others acknowledged their new confidence in teaching EBs through critical practices. One student admitted believing the misconception of EBs not having the capacity to learn. The student realized the lack of understanding of EBs might be due to other factors such as language, home support, differentiated instruction, and assessment support. While some shifted their knowledge positively, others "fossilized" (Kolano & King, 2015, p. 18) or maintained their deficit perceptions towards EBs. Low student expectations and "a lack of cultural competence on the

part of educators and school personnel" negatively affect the achievement of EB students (Kamm, 2018, p. 10).

The most recent data provided by the 2017 National Assessment of Education Progress (NAEP) for emergent bilinguals shows that the academic proficiency in reading of EB students in grades 3 and 8 had minor increases between 2009 and 2017 (USDOE, n.d.a). Grade 4 increased from 6 percent to 9 percent and grade 8 increased from 3 percent to 5 percent. In mathematics, the grade 4 percentage differed by two percentage points, 12 to 14 percent, and in 8th grade, by one percentage point, 5 to 6 percent (USDOE, n.d.a). To function well in modern society, schools must teach students how to read appropriately (Dolean, 2019). The U.S. Department of Education (2021) emphasized that even though there were gains in the emergent bilingual proficiencies at the national level, the achievement gaps are still evident compared to their non-emergent bilingual peers. According to NCES (2021), the achievement gap occurs when there is a variance in educational outcomes between two student groups based on race/ethnicity and gender (NCES, 2021).

In 2011, the achievement gap in the NAEP reading assessment between non-emergent bilinguals and emergent bilinguals was 36 points in 4th grade and 44 points in 8th grade. In Texas, for the 2016-17 school year, the achievement gaps on the STAAR reading assessment for grades 3 through 5 ranged from 8 to 13 points. The gap in writing in 4th grade for emergent bilinguals compared to non-emergent bilinguals was 10 points. In Math, grades 3 through 5 had a gap of 3 to 6 points, and in science, there was a gap of 16 points (Sugarman & Geary, 2018).

Unfortunately, consistent low achievement can result in students not completing their K-12 education. In addition, the long-term effects of students not attaining a high school diploma can result in lower earnings and higher unemployment rates, leading to poor health and increased

prison rates (Sugarman, 2019). Nationally, in the 2015-2016 academic school year, 67 percent of emergent bilinguals graduated within four years, while 84 percent of non-bilingual graduated within the same time frame (USDOE, n.d.a). In Texas, for the 2017 school year, 71 percent of emergent bilinguals graduated within four years compared to 89 percent of all students. Texas's 2017 high school graduation percentages are slightly above the 2015-16 national level rates, but the gap is still significant (USDOE, n.d.a).

While emergent bilingual proficiency in reading and math determines student learning at the grade level, high school diplomas indicate students' readiness to attend college and eventually lead to employment success (USDOE, n.d.a). Haneda and Wells (2012) asserted that students who do not graduate affect society because they do not contribute or compete in the international economy. In addition, Haneda and Wells (2012) stated that the underachievement of students from immigrant families directly affects them because they lack the White/dominant capital in knowledge, culture, and finance to support their families in the future. Hence, the cycle of unpreparedness continues (Haneda & Wells, 2012).

According to Kamm (2018), the differences in demographics and disparities, such as access to resources and home school support, have led educational researchers to focus on the achievement gap within the context of students' opportunity gap. The opportunity gap is evident for emergent bilinguals due to teacher shortages, poorly underprepared teachers, and variations in instructional programs. For example, in 2016, the USDOE reported teacher shortages from 1990-1991 through 2016-2017 and determined that 32 states in 2016 did not have enough teachers for emergent bilingual students (Sanchez, 2017). As a result, the hiring of ESL and bilingual teachers have not kept up with the increase of EB students, affecting student access to high-quality educators. For example, in Texas, there are over 10.0 percent of all students are in

ESL or bilingual programs (Sikes & Villanueva, 2021). However, only 2.3 percent of teachers are ESL or bilingually certified (Sikes & Villanueva, 2021).

Furthermore, according to Samson and Collings (2012), teacher preparation and certification are not specific to the needs of EBs. For instance, teacher preparation for a generalist teacher includes courses on core academic subject areas such as reading, math, science, and art. Still, none of the classes are specific to teaching EBs (Samson & Collings, 2012). In addition, the state teacher exams, upon completing the coursework, do not evaluate the knowledge and skill of EB pedagogy. Only five states, including Arizona, California, Florida, Pennsylvania, and New York, require EB knowledge and skill coursework for teachers as part of the certification (Samson & Collings, 2012). As a result, teachers are not adequately prepared in most states to support the unique needs of EBs in the classroom. In 2018, the Texas Education Agency increased the requirements for ESL certification. The requirements mandate teachers to be certified in ESL and the content areas taught. Teachers in ESL pull-out programs must also be certified in ESL and English language arts and reading (Sikes & Villanueva, 2021).

The instructional programs for EBs also vary depending on the state policies. For example, in Arizona, Proposition 203, also known as the English Language Education for Children in Public Schools Act, was established in the year 2000 and continues to affect the opportunity of EBs to access bilingual education programs (Arizona Department of Education [ADOE], n.d.). The voter-approved law requires students with a home language other than English to enroll in sheltered English immersion programs with minimal home language support. Students with native language education and at or above grade level language literacy take about 5-7 years to reach grade-level English (Collier & Thomas, 2017; Thomas & Collier, 1997, 2002, 2012). However, the sheltered English immersion programs in Proposition 203 intend to

transition students within a year to mainstream classrooms once they have gained enough English knowledge (ADOE, n.d.).

While some states pursue restrictive measures of bilingual program access, states such as Texas, Illinois, New Jersey, and New York have issued mandates to serve EB students in public schools through bilingual and English as Second language programs (Alvear, 2019). For example, the state of Texas implements four bilingual program models in public schools: transitional-early exit, transitional-late exit, and one- and two-way dual immersion models. According to Collier and Thomas (2017), dual language is the most promising bilingual model to support emergent bilinguals compared to other models. In addition, students' success has led to parent advocacy against English-only classrooms and supported an increase in dual language schools (Thomas & Collier, 2012). Nonetheless, teacher shortages (Sanchez, 2017) and teacher preparation programs are persistent challenges in meeting the needs of EBs within these program implementations (Alfaro, 2019).

The opportunity gaps are factors of a greater system, including monolinguistic policies, subtractive educational programs, and instructional considerations (DeMatthews & Izquierdo, 2019). We must address the systemic factors; if not, the achievement gap between EBs and non-EBs will continue to grow and expand. I will discuss in the following section the needs of EBs related to teacher knowledge, skill, and assessment.

Academic and Linguistic Needs

The increase in diversity of EBs in U.S. schools require teachers to support students in acquiring the English language, learning the academic content, and acknowledging their diverse cultural and linguistic backgrounds (Goldenberg & Coleman, 2010). Effective instructional teachings for emergent bilinguals includes vocabulary development within multiple contexts

(Short & Fitzsimmons, 2007), high-level thinking and language processing (Galguera & Hakuta, 1997), and explicit instruction that acknowledges students' language limitations and backgrounds (Freeman et al., 2003). In addition, teachers must view the native language of emergent bilinguals as a resource and use it as a leverage to help students learn a second language (DeMatthews & Izquierdo, 2019). These studies support that a one-size-fits-all pedagogic approach will not meet emergent bilinguals' different levels and needs (Bondie et al., 2019).

Much of the available literature on emergent bilinguals deals with the question of how to provide equitable learning opportunities given their variations in language proficiency, demographics, and life experiences (DeMatthews & Izquierdo, 2019; Freeman et al., 2018; Haneda & Wells, 2012; Kamm, 2018; Sikes & Villanueva, 2021; Thomas & Collier, 2012). Nevertheless, Haneda and Wells (2012) stated four principles to help EBs succeed in their education, and they continue to be relevant to the present day.

1. Frequent Opportunities to Talk and Write
    a. Emergent bilinguals must have the opportunity to develop and apply their language skills for different purposes using their speaking and writing domains.
2. Selecting an Engaging Topic
    a. Teachers must examine students’ interests, create collaborative spaces, engage students through investigations, and offer student voice, choice, and reflective opportunities.

3. Connecting Curriculum to Students' Lives
    a. Classroom environments should encourage EB students to engage in discourse and learning that connects to their fundamental knowledge and life experiences.
4. Working Toward a Tangible Outcome
    a. Setting feasible and obtainable goals to show evidence of learning, such as a product to be presented and justified.

In addition, Kamm (2018) stated student assessments must provide clear indicators of their progress, knowledge, and be culturally responsive. Recently, the Texas Education Agency [TEA] (2007-2022) reformed the State of Texas Assessments of Academic Readiness (STAAR) test to align instruction and assessment. The STAAR redesign included four main components that align with Kamm's (2018) and Haneda and Well's (2012) principles to support emergent bilingual education in the classrooms.

The alignment of the summative assessment to classroom practices involves building students' background knowledge and vocabulary, tasking students to write about the text using evidence, and several forms to respond to questions (e.g., text entry, graphing, number line, drag and drop, multi-select, etc.) and support all student needs through appropriate accommodations that ensure access to grade-level content (e.g., vocabulary visuals, pre-reading strategies, large print, read the test aloud, etc.) (TEA, 2007-2022). As stated by Haneda and Wells (2012), the new redesign of STAAR is grounded on the idea that students must read, write, and speak to gain a deeper understanding and mastery of the concepts.

This view was also supported by Recht and Leslie (1988), who explored the effect of prior knowledge on the retention of sixty-four high school students with high and low reading

comprehension abilities. The participants were randomly selected based on the parameters of reading ability and prior knowledge displayed during a baseball knowledge pretest in their English classes. The study incorporated qualitative (recall of information based on the text) and quantitative measures (amount of correct recollection).

As a result, the study concluded that the students with greater knowledge had higher scores of remembering than those with less knowledge about the subject. Interestingly, students with both high reading ability and knowledge did not significantly outperform those with low reading ability and increased knowledge. Recht and Leslie (1988) emphasized that knowledge is a vital indicator of the recall amount and accuracy. While Haneda and Wells (2012) brought forward ways in which EBs are supported in the general education classroom, Harper and De Jong (2004) cautioned to be aware of the misunderstanding on how to help and meet the needs of emergent bilinguals successfully.

Harper and De Jong (2004) argue efforts to support emergent bilinguals, often grounded on misconceptions, in the general education settings can limit the opportunities for students' academic and language learning. First, emergent bilinguals' exposure to a language-rich environment and creative, collaborative spaces for interactions with English speakers is vital. Second, teachers must go beyond providing interactions and expose students to the metalinguistic awareness of the English language's grammar, morphology, and phonology characteristics (Harper & De Jong, 2004). Third, teachers must help students acknowledge the similarities and differences between two languages. Educators cannot assume EBs have the tools to communicate and interact effectively. Harper and De Jong (2004) contended that teachers must explicitly teach communication tools so EBs can cooperate successfully (e.g., ask questions, agree, disagree, and share thoughts and ideas through thinking stems).

Moreover, teachers must value the students' cultural and linguistic abilities and acknowledge students' personalities, interests, and attitudes (Harper & De Jong, 2004). Teachers need to understand the complex process students experience while learning the second language and academic process and not mistake students' silence for lack of understanding or willingness. Teachers must also not assume all EBs know English the same way and at the same pace (Harper & De Jong, 2004). Furthermore, educators must focus on comprehensible input through visuals, hands-on activities, activating background knowledge, and appropriate scaffolds so that students can engage with high levels of understanding. Lastly, they should also set objectives that promote the academic and social language to support content learning in both languages (Harper & De Jong, 2004).

Harper and De Jong (2014) argued reforms help teachers educate emergent bilingual student populations and have emphasized the similarities between native and non-native speakers. However, they have failed to consider the apparent differences in second language acquisition and content accessibility to ensure appropriate learning for emergent bilinguals (Harper & De Jong, 2014). Hence, bilingual programs and instructional models should consider the specific needs of EB students so they can thrive in mainstream classrooms. The following section provides an overview of bilingual education and fundamental shifts that occurred so that inclusive strategies and pedagogies could surface and help support our most marginalized student populations.

History of Bilingual Education

Nieto (2009) considered the importance of the ideologies and political drive that occurred during the 20th century that influenced the implementation of bilingual education programs. Before the twentieth century, the federal government maintained the status quo, in the new

Southwest territories, by first establishing states that were compromised of English-speaking communities. States like New Mexico were granted by the federal government statehood 60 years later. Within the same time frame, enacted policies prohibited Native Americans from using their native language. Even though the repressing policies did not eliminate the use of their language, they felt a sense of humiliation that forced them to assimilate to the English language (Crawford, 1998, as cited in Nieto, 2009). At the time, bilingual education did not look promising due to the oppressive language ideology.

In 1906, the Nationality Act in Texas marked English as the official language in schools and required immigrants to speak English to apply for citizenship (Perez, 2004; as cited in Nieto, 2009). Nieto noted that until the 1960s, the idea that the United States must remain an English community remained consistent. Nieto explained that the first case against restrictive school practices occurred in 1923 (Nieto, 2009). The *Meyer vs. Nebraska* case ruled that a German instructor could teach using a foreign language because the Nebraska law of 1919 violated individual rights as stated by the Fourteenth Amendment of the US Constitution. According to Nieto (2009), the Nebraska law enacted in 1919 did not permit instruction in any foreign language. Over the years, political activism for teaching and learning in the language of desire soon led to other cases, such as *Brown vs. the Board of Education*, that paved the way to fight against segregation in public schools (Nieto, 2009).

The Civil Rights Act of 1964, which addressed discriminatory practices, stipulated that any entity receiving federal funding could not discriminate based on race, color, or national origin (Crawford, 2004; García et al., 2008). Regarding the educational system, the Civil Rights Act of 1964 provided any student who spoke a language other than English the same access to federally funded programs. In addition, the act allowed language programs to be protected

financially and paved the way for bilingual education as an educational necessity (Glavin, 2016).

The Elementary and Secondary Education Act (ESEA) of 1965 passed into law by President Lyndon B. Johnson provided funding to schools and school districts with a high percentage of students from low-income families to continue to expand educational equity. Since the act's focus was geared toward low-income families, it provided the means to support our most vulnerable student populations (Glavin, 2016). The ESEA 1965 act allocated federal funding to primary and secondary schools for professional learning opportunities, resources, and instructional materials. The goal of the act was to close the achievement gaps and provide equitable opportunities to economically disadvantaged families (Jeffrey, 1978). Unfortunately, although the ESEA of 1965 brought attention to the great need for education in reference to special populations in the educational system, it lacked the specifics to provide equal educational opportunities for all students, specifically students with limited English-speaking abilities.

The Bilingual Education Act (BEA) of 1968 addressed students considered Limited English Proficient, which enabled federal funding to establish bilingual programs to meet their needs (Crawford, 2004; Gándara & Escamilla, 2017). In addition, Title VII of the Bilingual Education Act recognized that ethnic minorities could seek differentiated services such as language accommodations (García et al., 2008). However, due to the generalizations of the act, many amendments followed (Glavin, 2016).

In 1974, two events produced significant changes (Glavin, 2016). The first event was the *Lau V. Nichols* case, which resulted in mandates regarding special programs for students of Limited English-Speaking Ability (LESA). The second significant event was the Equal Educational Opportunity Act of 1974. The act required school districts to promote and maintain

equal participation among various student groups. Both events resulted in programs supporting classroom instruction in English and students' native language (Glavin, 2016).

In 1978, another amendment to the Bilingual Education Act (BEA) was introduced supporting the idea that language instruction should have the goal of transitioning to English (Glavin, 2016). The same amendment initiated bilingual education for English-speaking students. In addition, there were amendments to the BEA in 1984, which included increased autonomy for districts to design and implement programs for Limited English Proficient (LEP) students and provided specific funding for those students to succeed in those programs. Accordingly, in 1987, the Texas state legislature passed House Bill 72 with the intent to increase funds and create equalized systems of distribution (Weiher, 1988). However, districts continued to encounter unequal funding. Nonetheless, House Bill 72 had significant impact on public schooling because it increased teacher pay, created a statewide assessment program to evaluate student performance, reduced class sizes in elementary schools, enacted prekindergarten programs, and required high school students to take a standardized test as part of the graduation requirement (Grubb & Others, 1985).

In 1987, the Edgewood ISD versus Kirby case on the discrimination of public-school finance against poor school districts was also a notable occurrence (Walker & Thompson, 1990). The method of funding public schools was based on property taxes which were providing inequities due to the variance in property values of each district. Consequently, the unequal allocation of funds limited some districts to hire teachers, maintain or build facilities, and provide the necessary equipment to support student learning. In 1989, the Texas Supreme Court required the state Legislature to enact a more equitable system (Walker & Thompson, 1990).

In 1994, the Bilingual Education Act was reauthorized, included various indigenous language programs, and encouraged bilingualism instead of a simple transition to the English language (Glavin, 2016). The act provided additional monies to institutions that promoted bilingual programs. In addition, the reauthorizations also provided additional funding to programs that developed improvements to the bilingual programs. Established within the Bilingual Education Act was the acknowledgment that language was a form of educational inequity. Therefore, the law focused on creating opportunities for language learners that would result in an equitable education (Glavin, 2016). As a result, in 2001, George W. Bush passed the No Child Left Behind Act (NCLB), which was the next vital reauthorization of the ESEA. The law required all English Language Learners to be included in standardized testing and to show measurable progress in testing and language acquisition (Glavin, 2016).

On December 10, 2015, President Obama signed The Every Student Succeeds Act (ESSA) into law (USDOE, n.d.c). The law reauthorized the Elementary and Secondary Education Act of 1965 and replaced its predecessor, the No Child Left Behind Act. The act protects ESEA's original intent to ensure equal access to high-quality education for all students in the United States. In addition, the purpose of ESSA was to protect America's most marginalized student populations by advancing equity, providing high-quality education, and closing the achievement gaps (USDOE, n.d.c). ESSA recognizes the increase and implication of emergent bilinguals. Furthermore, it provides authorization measures regarding EBs, such as the standardized criteria for identifying EB students, fair accountability, and a funding increase of Title III (USDOE, n.d.c). To this day, the Every Student Succeeds Act of 2015 continues to advance equity and protect America's disadvantaged and high-need students (USDOE, n.d.c). With the continued demand for equal education for all, bilingual education continues to shift so

that both monolinguals and EBs receive equal opportunities for language acquisition for academic success. However, policies enacted in the past and current assimilationist beliefs continue to influence the variations in program models for emergent bilinguals (Alfaro, 2018).

Consequently, bilingual programs range from subtractive to additive models implemented over the years, depending on the program goals (Freeman et al., 2018; Thomas & Collier, 2003, 2012). Subtractive models push for English Learners to learn a second language at the cost of their native language with the intent to attain proficiency in a second language (Freeman et al., 2018; Lambert & Tucker, 1972; Thomas & Collier, 2012). Additive models, such as dual language, ensure that students learn a second language while maintaining their innate language and attaining bilingual and biliteracy skills (Freeman et al., 2018; Lambert & Tucker, 1972; Thomas & Collier, 2012). Studies have shown dual language programs are promising in providing emergent bilinguals with the appropriate opportunities and educational support to achieve simultaneous language and knowledge development (Cummins, 1994; Thomas & Collier, 2012).

Dual Language Programs

According to the Center for Applied Linguistics (2022), dual-language (DL) is a program that develops high levels of biliteracy and bilingualism, academic achievement, and promotes cultural awareness for native and nonnative English-speaking students. In the United States, a curriculum taught through dual language occurs in two languages; one language must be English, and the other is chosen by the school based on the demographics and the community (DeMatthews & Izquierdo, 2019).

Across the United States, there are two main types of dual language programs: one-way and two-way immersion programs. The programs are accommodated in schools throughout the

U.S. for native English speakers and speakers of Spanish, Cantonese, Korean, French, Portuguese, Haitian–Creole, Tagalog, Arabic, and Japanese (Freeman et al., 2005). According to NCES (2022), 75.5 percent of emergent bilinguals identify Spanish as their home language. Thus, it is typical for areas close to the Mexico border to implement English-Spanish programs due to their significant number of Spanish-speaking student populations.

One-way dual language programs are implemented in schools when most of the student population are from different language proficiencies but speak the same language and are from the same ethnicity (Gómez et al., 2005). In some areas of the U.S., one-way programs are designed and implemented for EBs to continue to receive instruction in their first language, often Spanish, and simultaneously be taught the curriculum in English (Thomas & Collier, 2019). Thomas and Collier (2019) noted that one-way dual language is a type of program primarily implemented where small numbers of nonnative English speakers are in the schools. Nevertheless, the one-way immersion program permits areas where there are significant numbers of English native speakers to receive instruction in English and another partner language, such as Japanese.

Contrastingly, two-way dual-language programs merge two language groups. For instance, native Spanish speakers and native English speakers learn and work together in one classroom (Freeman & Freeman, 2005). Due to the ideal 50/50 balance in the school classrooms, student groups collaborate, socialize, and learn about each other's cultural variances (Rennie, 1993). As a result, both language groups attain language proficiency (Krashen, 1981) and mastery of the curriculum in two languages while keeping their identity (Collier & Thomas, 2017). Furthermore, student participants in two-way programs commonly reach grade-level achievement in English sooner than students who partake in one-way program models (Thomas

& Collier, 2012). Therefore, Thomas and Collier (1997) affirmed that two-way dual language is considered the most effective program in primary education. Nonetheless, both one- and two-way program models support students to reach grade level achievement and beyond in their second language (Thomas & Collier, 2012).

In addition, Thomas and Collier (2012) affirm that districts must decide the percentage of DL instructional time and the minutes in each language before the implementation of the program. Strong ideologies for the separation of program languages have occurred due to the research on transitional bilingual classes and their practices. In transitional bilingual classes, teachers switch from one language to the other or translate instruction, leading to gaps in students' language proficiency. The rationale maintained that adhering and keeping to the language of instruction enforced teachers to remain teaching in one language and use sheltered strategies to make content comprehensible to students versus translating the content (Thomas & Collier, 2012). The ideology that dual language education must employ a strict separation of languages has been long held in dual language education, but it has been challenged (Kennedy & Medina, 2017).

Researchers have resisted the separation of languages and have stated that the separation negates the opportunity for the natural development of bilingualism (García & Palmer, 2017; Reyes, 2001). However, separating languages does not negate for those students to use their full linguistic repertoires, also known as translanguaging, to develop linguistic proficiency (García & Wei, 2014). According to Vogel and García (2017), translanguaging refers to students' ability to use features from their singular or multiple language banks to construct meaning and demonstrate knowledge. Vogel and García (2017) recognized that the theory of translanguaging

challenged the traditional forms of bilingual instruction because it viewed language as one system of language versus separate language structures.

Moreover, flexible separation of program languages benefits students by allowing teachers and students to continually make cross-linguistic connections to support the transfer of skills in the partner language (Kennedy & Medina, 2017). Cross-linguistic connections refer to the students' ability to engage on identifying, analyzing, and manipulating language to make sense of the content in both languages, also known as metalinguistic awareness. Another approach in the cross-linguistic work includes a practice called bridging (Beeman & Urow, 2012). Bridging strategies provide opportunities for the students to connect their learning, make comparisons, and apply what they learned in two program languages. These approaches validate the student's language abilities and enhance the traditional practices of strict separation (Kennedy & Medina, 2017).

Regardless of the program implemented, dual language allows EBs to make faster-than-average progress on grade-level instruction that is not limited in rigor due to their language needs (Thomas & Collier, 2019). DL as an additive model helps narrow the academic gap of students and promotes students' cognitive, linguistic, social, and emotional development (Thomas & Collier, 2019). According to Thomas and Collier (2012), students also experience improved motivation, increased self-esteem, confidence, improved school attendance, and fewer behavioral problems by participating in DL programs. Dual language also supports strategies that promote "inquiry, collaboration, and project-based learning" (Thomas & Collier, 2012, p. 115). As a result, students' graduation rates and college access increase due to the developed abilities of students towards bilingualism, biliteracy, and biculturalism (DeMatthews & Izquierdo, 2019). However, the implementation of two-way bilingual education may be resisted because some

"language majority communities are not eager to have their children schooled with language minority students" (García et al., 2008, p. 31). The resistance may be due to their concerns about the impact of bilingual education on their children's academic achievement or loss of their cultural and linguistic identity. García et al. (2008) also emphasized that two-way dual language programs are not exceptional to other forms of bilingual education programs but provide evidence that using a student's native language supports long-standing academic achievement in English.

Emergent Bilingual Pedagogy

Teachers must be prepared to meet EB students' academic and language acquisitions within their bilingual education program models. However, teachers may not know how to implement strategies and techniques to support and monitor emergent bilingual students (Herrera & Murry, 2006).

According to Krashen (1981), educators must purposefully consider the stages of second language acquisition during their lesson planning to help emergent bilinguals reach high levels of language proficiency. The Second Language Acquisition Theory proposes two independent ways of developing language: language acquisition and language learning (Krashen, 1981). The theory involves five hypotheses for second language attainment that explain how acquisition differs from learning based on how the language is acquired. Language can be developed naturally or in an academic setting by teachers. The theory also claims that people learn a language in a predictable order. The order of language progressions proposed by Krashen (1981) are: (1) Silent/Receptive, (2) Early Production, (3) Speech Emergence, (4) Intermediate Fluency, and (5) Continued Language Development.

In addition, the Comprehensible Input Hypothesis within the theory states learners who receive substantial "comprehensible input" acquire more language (Krashen, 1981, p. 59). Krashen suggests if students are experiencing fear, anxiety, or low self-confidence toward language learning, they will not be receptive to the information and, as a result, affect their progression towards language fluency (Krashen, 1981). Escamilla and Grassi (2015) acknowledged that the Second Language Acquisition Theories have influenced how the second language is taught today in classrooms but argued that environmental factors affect second language acquisition. For instance, the social pressure that EBs face, such as feeling inferior, unmotivated to socialize with the dominant group, and desire to preserve their cultural identity, will prologue their second language development. On the other hand, if EBs feel equal to the dominant group, are optimistic about learning the second language, and want to assimilate or acculturate with the dominant group, they will acquire the second language receptively. Furthermore, psychological factors that affect the language acquisition of EBs include motivation, culture, and language shock due to the differences between their native and second language. Consequently, educators must consider how students learn a second language while considering social and psychological characteristics that impact their language acquisition (Escamilla & Grassi, 2015).

Dual language teachers work with emergent bilingual students from diverse and cultural linguistic backgrounds with various learning needs (Goldenberg & Coleman, 2010). As a result, emergent bilingual students require teaching that leverages their experiences, fundamental knowledge and provide a positive learning space. For instance, identifying student proficiency levels during the planning process acknowledges the type of support needed for EBs to understand the taught content. Supports such as prereading tasks, visuals, anticipation guides,

and pre-taught vocabulary are essential to narrow EB gaps in their learning (Echevarria & Short, 2008). However, Echevarria and Short (2008) emphasized that some educators do not differentiate student learning and consider students' proficiency levels. Educators seeking to meet the needs of EB students must create inclusive, equitable, and responsive learning environments that consider various aspects critical to their learning success (Gay, 2018).

According to Gay (2018), developing a teacher's understanding of culture and self-reflection includes being aware of their cultural biases to engage with diverse learners effectively. The concept of culturally responsive teaching recognizes the need for dual language teachers to incorporate students' cultural backgrounds, use their experiences, and bring their viewpoints into their instructional practices (Gay, 2018). According to Gay (2002), culturally responsive teaching (CRT) supports the success of students with diverse backgrounds, including emergent bilinguals. Gay (2002) acknowledges that the components of CRT are based on theoretical, practical, and personal findings from researchers and educators. The five essential elements of culturally responsive teaching include:

1. Developing positive attitudes towards cultural differences and diversity by understanding the characteristics, cultural values, and contributions of diverse groups.
2. Responsive curriculum designs and instructional strategies that are supportive of students' cultural experiences and learning needs.
3. Conducive learning environments that value students' cultural backgrounds, scaffold instruction, and view students through an asset-based lens.
4. Communication opportunities for students to develop skills so that they can adapt to academic or social settings for distinct purposes.

5. Incorporation of multicultural content and resources in the delivery of instruction to reflect the diversity of student population and bridge their prior schemas to current learning.

These elements support academic success, develop positive relationships between students and teachers, and prepare students for their future (Gay, 2002; Oberg De La Garza, 2020). In addition, instruction should incorporate lessons that support students' language growth, interaction, and engagement through projects that help them understand the taught content (Echevarria & Short, 2008). Thereby, teaching methods, such as project-based learning, appear to support all students' academic and language needs. Previous studies have shown that PBL engages students in interdisciplinary projects focusing on content learning, collaboration, authentic language integration, presentations, and real-life contexts (Fried-Booth, 1997; Simpson, 2011). In addition, students in PBL settings use skills (e.g., problem-solving, creativity, teamwork, and language) to develop their academic and language skills simultaneously. The following section will begin with an overview of project-based learning to describe the characteristics of the teaching model and how it may support all student populations, including emergent bilinguals.

Project-Based Learning

When discussing the origin of project-based learning, several studies connect the student-centered approach to progressive education, John Dewey, and Heard Kilpatrick (Barron et al., 1998; Condliffe, 2017). However, the origin of projects transpired at the art school Accademia di San Luca in Rome in 1577 (Larmer et al., 2015). The educational institution taught lecture-based courses to architects and sculptors and required them to design scale models of churches,

monuments, or palaces. The professors referred to the assignments given to the architects and sculptors as *progetti* or projects (Larmer et al., 2015).

Approximately 20 years later, five key elements, part of the Gold Standard PBL (see Buck Institute Education [BIE], n.d.), surfaced as the projects or models held specific criteria to compete with others. The criteria incorporated a challenging problem, connections to the architectural labor (authenticity), voice and choice, a public product, and deeper learning through reflection, feedback, and improvement (Knoll, 1997; as cited in Larmer et al., 2015).

Although William Heard Kilpatrick, a student of John Dewey, was given much credit for "the Project Method," John Dewey was not in total favor of his beliefs and believed teachers were essential in the process of learning to help students with "design, planning, management, coaching, assessment, and reflection" (Larmer, 2015, p. 28). He trusted that student voice, choice, and engagement were not the only learning factors. In the 1970s, project-based learning was implemented by educators but often misunderstood the method of teaching rather than engaging (Larmer et al., 2015).

Definitions of Project-Based Learning

Project-based learning consists of various definitions, design principles, and practices (Tamim & Grant, 2013; Thomas, 2000). However, some scholars (e.g., BIE, n.d.; Darling-Hammond et al., 2008; Ravitz, 2010; Thomas, 2000) have attempted to define project-based learning regardless of the variations. The Buck Institute for Education [BIE] (n.d.) defines project-based learning as a "teaching method in which students gain knowledge and skills by working for an extended time to investigate and respond to an authentic, engaging, and complex question, problem or challenge" (para. 3). Similarly, Thomas (2000) explains that PBL involves "complex tasks, based on challenging questions or problems, that involve students in design,

problem-solving, decision making, or investigative activities; allow students to work relatively autonomously over extended periods, and culminate in realistic products or presentations" (p. 1).

Meanwhile, Ravitz (2010) defines PBL generally as "(a) in-depth inquiry, (b) over extended, (c) that is student self-directed to some extent, and (d) that requires a formal presentation of results." He suggests additional characteristics of PBL, including scaffolding and technology support. Further, Darling-Hammond et al. (2008) describes project-based learning as student engagement in real-world problems and challenges while working in small collaborative groups that support cross-curriculum skills.

Consistencies in the definitions encompass students solving thought-provoking questions, working for prolonged times, engaging in investigations, and final product presentations. In practice, project-based learning terms are often used interchangeably and may be referred to as other pedagogical methods, such as problem-based learning (Ravitz, 2010).

Many educators incorporate projects into their instructional practices. However, project-based learning is not simply completing a project (Larmer et al., 2015). There are critical differences between projects and project-based learning. In traditional projects, students create a model or presentation, usually at the end of the unit. Students create dioramas, models, or visual exhibits after their lectures, worksheets, or readings for a topic. Projects are teacher-centered and may not align with student academic standards or skills. The final product does not involve an audience beyond the classroom. Projects are done independently or at home (BIE, n.d.; Larmer et al., 2015).

In contrast, project-based learning incorporates instruction into the project, driven by student inquiry. PBL is aligned to academic standards and engages students to collaborate with the teacher as the facilitator. PBL projects incorporate real-world connections that challenge

students to think critically, reflect, and apply their learning. Conversely, projects focus on the process of learning rather than the culminating activity. PBL projects involve student voice and choice and are facilitated by the teacher during school hours (BIE, n.d.; Larmer et al., 2015).

Project-based learning is a student-driven, teacher-facilitated learning approach that engages students in acquiring knowledge and skill through inquiry, problem-solving, and meaningful learning experiences (Wurdinger et al., 2007). The projects provide opportunities for students to collaborate, investigate, answer authentic questions, problems, or challenges (BIE, n.d.). PBL is grounded in constructivism, providing opportunities for students to develop their understanding of the issue at task (Grant, 2002). Project-based learning is grounded on Piaget's theory of Constructivism (Kamii & Ewing, 1996), Vygotsky's Theory of Social Constructivism (Amineh & Asl, 2015), and Jhon Dewey's Pedagogical Creed (Talebi, 2015). Piaget's theory explains how students gain knowledge through experiences, Vygotsky's theory introduces the social aspect of learning, and John Dewey's Pedagogical Creed emphasizes the need for students to experience, be productive, and be social citizens. All critical aspects of student learning.

Project-based learning has increased in popularity among education reformers and policymakers because of the theorized view that PBL has the potential to support and enhance students' conceptual knowledge and deeper learning skills (Barron et al., 1998; BIE n.d.; Larmer et al., 2015; NTN, n.d.). School-wide reforms, such as the New Tech Network, have attempted for several decades to improve education by implementing innovations that go from traditional teaching practices or teacher-centered to more creative student-centered approaches (New Tech Network [NTN], n.d.). The New Tech Network is a non-profit organization that works directly with schools and districts across the county to support comprehensive school change through project-based learning. The NTN (n.d.) disclosed more schools need to implement student-

centered practices to increase positive student outcomes. The following section entails the differences between project and problem-based learning.

Problem-Based Learning vs. Project-Based Learning

Literature associated with project-based learning demonstrates that other instructional practices, such as problem-based and inquiry learning, are closely related but have some distinctions (Kokotsaki et al., 2016; Savery, 2015; Thomas, 2000). The acronym PBL for problem-based learning and project-based learning is used in literature to describe both. The two models involve projects or problems that are fundamental to the curriculum, have authentic, real-world connections, provide teachers as facilitators, and give students substantial independence (Gallagher, 1997).

However, Savery (2015) argues project-based learning differs from problem-based learning in terms of student responsibility. In project-based learning, teachers are considered facilitators that guide learners through feedback and suggestions to complete the culminating project, lessening the student's opportunity for autonomy in the outcomes. Alternatively, when students are given an expected result, students have a limited choice in the conclusive artifact. In a greater context, the capacity for students to identify a problem and solution is a valuable and needed skill. Similarly, Kokotsaki et al. (2016) declared problem-based learning focuses on the learning process, and project-based learning emphasizes the learning needs of students to develop an outcome. A quasi-experiment study conducted by Anazifa and Djukri (2017) of 102 students in the eleventh grade demonstrated project-based learning had greater effects on students' creativity than problem-based learning because of the learning activities in the model. The data was collected using two instruments that measured students' creativity and critical

thinking. While the findings demonstrated project-based learning had a more significant effect on students' creativity, there was no significant difference in the impact on critical thinking.

Others (Barron et al., 1998) have highlighted the relevance of combining project-based learning and problem-based learning for both students and teachers by beginning with a problem that prepares students for the upcoming project. For example, Barron et al. (1998) argued that a significant way to scaffold projects is to have students continuously reflect on their learning and processes and connect them to the project's goals. Teachers can activate students' knowledge and develop students' understanding of vocabulary and concepts by beginning a project with a problem (Barron et al., 1998). Even though there are distinctions between problem- and project-based learning, the following section discusses how project-based learning lacks clear descriptions within its design.

Project-Based Learning Design

Much of the available literature on the characteristics and features of PBL showed a lack of consensus on what constitutes a PBL classroom (Condliffe, 2017; Thomas, 2000). For example, some design models highlight assessment (Krajcik & Shin, 2014), scaffolding (Darling-Hammond et al., 2008; Grant, 2002; Krajcik & Shin (2014), and student collaboration (Grant, 2002; Krajcik & Shin, 2014) as key components of PBL, others require more details or specifics on those same areas (Condliffe, 2017). Thomas (2000) recognized the vagueness of PBL definitions and offered a set of key criteria focusing on the essential practices of PBL to narrow the understanding of project-based learning. The five criteria are as follows:

1. Centrality
    a. Projects in PBL are considered the curriculum. The students engage and learn via the project. Traditional projects are supplemental to the curriculum.

2. Driving question
    a. The driving question (Barron et al.,1998; Blumenfeld et al., 1991) leads students to activities that support their understanding of a concept, intended knowledge, and purpose.
3. Constructive investigations
    a. The investigations in PBL must be challenging and promote new understanding and skills. Student activities must be thought-provoking and elicit student problem-solving and discovery.
4. Autonomy
    a. Teachers are the facilitators in PBL projects. As a result, the projects provide students with more responsibility and choice.
5. Realism
    a. PBL projects incorporate feasible challenges and tasks that connect to the real world.

Over the past two decades, the features of PBL have evolved, and critical practices have been developed to help students attain deeper learning (Darling-Hammond et al., 2008; Larmer et al., 2015). *Deeper learning* involves developing students' 21st-century skills, including cognitive, interpersonal, and intrapersonal abilities (Pellegrino & Hilton, 2012). To date, nonprofit organizations such as the Buck Institute have continued to clarify the features of PBL (Larmer et al., 2015).

According to the BIE (n.d.), there are seven fundamental elements of project design: a challenging problem or question, ongoing investigation, real-world connection, student voice and choice, reflection, student critique and revision, and public product (Larmer et al., 2015). Figure

2.1 below shows a visual representation of the design elements. The Seven Essential Project Design Elements, also known as the Gold Standards of PBL, frame projects through a question that is open-ended and aligned to academic learning goals and *success skills.* Success skills refer to critical thinking, collaboration, creativity, and project organization (Larmer et al., 2015). Students maintain project engagement through questioning and relevant connections to the real world. The project design provides opportunities for students to take responsibility and choose how to apply or investigate the topic of study. Reflection and feedback are also noted as essential components throughout the project. Lastly, students are tasked to present their findings, thinking, and learning processes to an intended audience (Larmer et al., 2015).

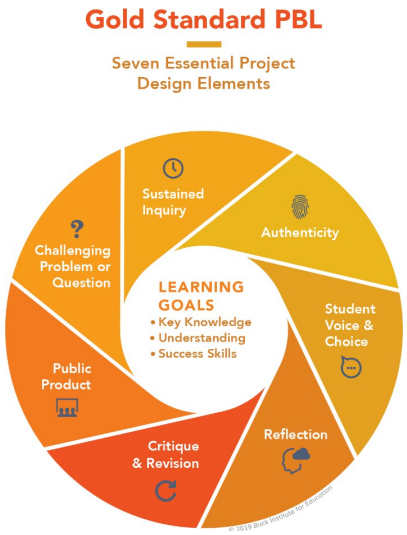

Figure 2.1 *Note: Seven Essential Project Design Elements.* Reprinted from https://www.pblworks.org/what-is-pbl/gold-standard-project-design. Copyright 2019 by Buck Institute for Education.

On the other hand, Barron et al. (1998) project design incorporates four principles: deep understanding through appropriate goals, scaffolding instruction, self-assessment and revision, and ownership of student learning through social opportunities. The four principles are grounded in the idea of "learning by doing" not only for the means of completing the project but with a complete deep understanding of the project (Barron et al., 1998, p. 272). Students must understand the how and the what of the project design and learn valuable skills that build their ownership of learning. Furthermore, Barron et al. (1998) determined vocabulary and concepts can be developed through video-based and defined problems.

Unlike Larmer et al. (2015), Barron et al. (1998) explicitly explained scaffolding practices that support student and teacher learning. Barron et al. (1998) stated that projects should be scaffolded by supporting students and teachers to reflect on the bigger picture of the projects by beginning with problem-based learning and then continuing to engage in the project. There are differences between scaffolding and differentiation. For instance, *differentiation* can

occur in three distinct ways. First, content can be changed in how it is presented to students. Second, the activities to master the content can be altered. Lastly, the product that students develop can be demonstrated in diverse ways (Kwietniewski, 2017). On the contrary, *scaffolding* includes supports such as pre-teaching vocabulary, breaking down the content, visual supports, gradual release techniques (I do, we do, you do), examples, and providing the concepts in comprehensible portions. *Scaffolding* is different from *differentiation*; however, they can be combined to help support student needs. While differentiation occurs at an independent level, scaffolding occurs through a whole class approach (Kwietniewski, 2017).

Nevertheless, both Larmer et al.'s (2015) and Barron et al.'s (1998) project designs ground their work in *deep learning* where students can explain and connect their knowledge to the overarching problem or question as opposed to only describing the project activities. According to Helle and Olkinuora (2006), project-based learning, ultimately, can be adopted and used for different reasons, including "pedagogical, political or ethical reasons" (p. 288). However, neither of the program designs explicitly identifies how emergent bilingual academic and linguistic needs should be supported within the program models.

Project-Based Learning Outcomes

PBL is a student-driven, teacher-facilitated learning approach that engages students in acquiring knowledge and skill through inquiry, problem-solving, and meaningful learning experiences (Wurdinger et al., 2007). In their PBL research review, Larmer et al. (2015) found that PBL motivates students and prepares them for college, careers, and citizenship. In addition, PBL helps learners meet the grade-level standards and succeed on assessments that require critical thinking and deep knowledge (Larmer et al., 2015). Educational leaders also benefit from the approach as teacher satisfaction increases and new ways become available for

communication with parents and community partners (Larmer et al., 2015). However, the positive outcomes are only satisfied if teachers are consistent with implementing PBL regardless of the pressures to maintain traditional, teacher-centered pedagogies (Larmer et al., 2015). PBL teachers are responsible for meeting the needs of student-centered environments (Larmer et al., 2015) and making essential shifts in their pedagogy to meet the needs of all students, specifically emergent bilinguals. Previous research has shown that students who learn through authentic projects have positive attitudes towards learning (Simons et al., 2004), identify and solve authentic problems (Levin, 2001), and learn academic concepts deeper (Hernandez-Ramos & De La Paz, 2009). Depth of learning, intrinsic motivation, student-centered, and systematic inquiry are also considered benefits of the instructional method (Thomas, 2000).

Project-based learning has also shown to improve knowledge retention and academic achievement for primary grades in science (Karaçalli & Korur, 2014). A recent randomized study by Krajcik et al. (2019) involved 23 intervention schools and 23 comparison schools in determining the effects of Project Based Learning on science achievement and social and emotional development related to science learning at an elementary school. The interdisciplinary study involving science, mathematics, and literacy took place in the 2018-19 school year with 2,371 third-grade students. The schools in the study were in different areas of Michigan to represent a range of student demographics, including economic and racial variety.

The results showed that, on average, third graders who engaged in PBL achieved eight percentage points higher on the science assessment than the control group. Krajcik et al. (2019) emphasized that "when schools and systems link high-quality Project Based Learning instructional materials, assessments, and sustained professional learning," there is growth among various racial, ethnic, and household incomes (Krajcik et at., 2019, p. 4). Collaboration and

reflection, considered social-emotional learning (SEL) components, were also identified as positive effects on the study (Krajcik et at., 2019).

Similarly, Duke et al. (2021) focused on the impact of project-based learning on social studies and literacy achievement, and student motivation in "high-poverty, low-performing schools, and underrepresented racial and ethnic groups" (p. 3). They wanted to explore how PBL impacted social studies performance, informational reading and writing, and student motivation. The study incorporated teachers randomly assigned to teach four PBL social studies and literacy units or be part of the comparison group. Over the year, the PBL teacher group conducted between 48 and 86 sessions within a year. The PBL project incorporated explicit instruction and student autonomy.

According to Duke et al. (2021), 20 elementary schools in 11 districts were participants. At least 65 percent of students in the study received free or reduced-price lunch. The teachers who taught in the PBL group were given professional development, webinars, and coaching. Detailed lesson plans were provided, which connected to the community and incorporated reflection, voice and choice, and review. Students' learning growth was conducted through assessments in social studies, informational reading, and writing throughout the year. A survey was also given to students to determine their motivation in learning social studies and literacy.

The results showed a 63 percent or five to six months of learning increase for the PBL group on the social studies assessment. The PBL group also scored 23 percent in informational reading or two additional months in learning. However, there was no statistically significant effect on students' informative writing or motivation. Consistent use of lesson plans demonstrated more considerable growth across the measures (Duke et al., 2021).

Gültekin (2005) also conducted a quasi-experimental, qualitative study in Turkey on the effects of project-based learning on the learning outcomes of fifth grade students in social studies classes. The PBL intervention included a student-centered social studies program focusing on student knowledge and skill. The program considered students' experiences, diversity, and interactions with the environment. The participants incorporated 20 students in the experimental group and 20 in the control group. The students were balanced based on personal characteristics and scores from the achievement tests. The finding showed that students in the PBL class showed greater knowledge gains than those who remained to teach traditionally. In addition, there were noticeable gains in higher-order thinking and research skills. The results also showed students had optimistic views toward the social studies content through the PBL (Gültekin, 2005).

Halvorsen et al. (2012) and Guven and Duman (2007) also examined the effects of PBL in social studies for students of low socioeconomic backgrounds and students with special needs in the elementary grades. Both studies found that students' social studies content knowledge improved. In the Halvorsen et al. (2012) study, students in low-SES schools in the United States obtained comparable post scores on economics and civics and government to students in high-SES schools who did not participate in the PBL units. Halvorsen et al. (2012) suggested the achievement gap in social studies for students of disadvantaged populations could be minimized through the PBL method (Duke et al., 2021; Kokotsaki, 2016; Larmer et al., 2015).

The quantitative studies presented thus far on PBL provide evidence that Project Based Learning supports student achievement in science (Karaçalli & Korur, 2014), social studies (Gültekin, 2005), and among underserved student populations (Duke et al., 2021; Miller & Krajcik, 2019). However, the outcomes of PBL are "promising, but not proven" because of the

implementation variations found within the studies (Condliffe, 2017, p. iii). The following section discusses how project-based learning may be adjusted to meet the needs of emergent bilinguals.

Project-Based Learning and Emergent Bilinguals

Augmentation of Design Criteria

O'Brien et al., (2014) proposed an extension to the Thomas (2000) design criteria to accommodate emergent bilinguals' linguistic and cultural needs in PBL. In addition, O'Brien et al., (2014) stated the 2010 California state standards and the English Language Development Standards required four domains, Speaking, Writing, Reading, and Listening, to be integrated into the content through collaboration and a cross-curricular approach to literacy. The enhancements that consider the four language domains include:

1. Explicit Goals and Guiding Activities to Clarify Purpose and Ensure Mastery
    a. Clear goals, purpose, and outcomes focused on a "big idea" to create an environment for students to develop understanding, content knowledge, and knowledge acquisition.
2. Expanded Instructional Supports that Integrate the Modes of communication.
    a. Additional instruction supports linguistic and academic needs (e.g., scaffolding, sentence stems during collaboration, choice of grammatical structures, consistent vocabulary routines, chunking oral and written text, and visual information support).

3. Purposeful Integration of Metacognitive and Metalinguistic
    a. Strategies to increase academic language output include an explicit focus on authentic language structures, awareness of their language requirements, and the use of students' linguistic and cultural repertoires.
4. Varied Participation Structures to Maximize Construction of Knowledge
    a. Strategic collaborative grouping techniques consider emergent bilingual proficiency levels effective and productive.
5. Multidimensional Formative and Summative Assessments for EBs
    a. Ongoing assessments of emergent bilinguals should include monitoring content, oral and written, and language development (e.g., presentations and student learning logs).

The enhancements of PBL geared toward supporting emergent bilinguals focus not only on student achievement and content knowledge (Duke et al., 2021; Gültekin, 2005; Guven and Duman, 2017; Halvorsen et al., 2012) but recognize the importance of facilitating language development for students while monitoring their academic and language attainment (O'Brien et al., 2014)

PBL Outcomes for Emergent Bilinguals

Golden et al. (2014) focused on eleven Turnaround Schools that received School Improvement Grants (SIG) to determine the improvement process over three years. The purposive sample study included an inner-city high school with high numbers of emergent bilinguals that intended to implement sheltered instructional strategies to improve student outcomes. Data sources included interviews with district administrators, school administrators, teachers, coaches, and parent liaisons. Teacher, student, and parent focus groups were also

conducted. Findings determined that Sheltered Instruction and other instructional strategies like project-based learning helped make content accessible for emergent bilinguals. However, during the initial phase of the SIG program, teachers paid moderate or limited attention to the specific needs of emergent bilinguals (Golden et al., 2014).

While Golden et al. (2014) found that PBL supports content accessibility, Campbell (2012) determined the support of PBL in students Speaking skills. The qualitative study determined the strengths and weaknesses of the content delivery methods in a classroom that implemented project-based learning through the New Tech Network. The phenomenological research considered how the instructional method affected emergent bilingual students. Student experiences were collected through in-depth interviews. Findings showed that emergent bilinguals that participated in PBL environments were given plenty of opportunities to speak and interact with native English speakers but limited time to focus on content and language objectives.

Furthermore, Shafaei and Rahim (2015) conducted a semi-experimental study in Rasht, Iran, with 40 English as a Foreign Language students ages 16 to 18 that attended a private English language institute. In the study, there were two random participant groups, one that was taught using PBL and the other using traditional methods. The focus of the study was to determine the effect of project-based learning on vocabulary retention and recall. Shafaei and Rahim (2015) found that students who participated in the PBL method significantly improved their vocabulary knowledge. Students worked collaboratively and presented their findings orally and in writing. Student autonomy was given to give the final product through journals, PowerPoint presentations, or poster presentations. Shafaei and Rahim supported O'Brien et al.

(2014) claims in their study by focusing on emergent bilingual's modes of communication through consistent vocabulary instruction.

Other researchers (Vicheanpant & Ruenglertpanyakul, 2012) affirmed that project-based learning supports language and application of skills through purposeful and meaningful communication. Vicheanpant and Ruenglertpanyakul (2012) explored students' and teachers' opinions on PBL, supporting their English communication and positive attitudes. Data collection occurred through teacher and student reflections and semi-structured interviews. The participants included high school students at Darunsikkhalai High School. Findings showed both male and female participants believed that PBL helped their English communication and content accessibility and motivated them to learn.

A quasi-experimental study by Bakar et al. (2019) focused on determining the effectiveness of PBL in improving the listening competency of ESL learners. The study was included 44 students in a Communicative English course at Malaysian TVET college. The 16-week study incorporated a control and experimental group. The control group included students who were taught through traditional teaching strategies prescribed by the teacher and the experimental group included students who were taught via PBL teaching modules that incorporated listening activities. Both groups were tested using a pre- and post- competency test. The T-test, ANOVA, and Tukey post hoc test were used to analyze the data. At the end of the study the EBs taught through PBL outperformed those who were taught conventionally in the Listening Competency Test. In addition, they also improved in their listening competency at the end of the study.

Similarly, Maulany (2013) conducted a two-cycle action research at a primary school in Bandung to determine if PBL could improve the speaking skills of students. The study also

focused on identifying what activities in PBL improved students' speaking skills. Participatory observations, speaking assessments, and qualitative analysis was used in the design of the study. The findings of the study concluded that PBL improves students' speaking skill including comprehension, vocabulary, grammar, fluency, and pronunciation. Syarifah and Emiliasari (2018) also focused on how PBL can optimize the language skills of emergent bilinguals, including critical and creative thinking. Their study focused on investigating how PBL could develop students' creativity in writing narrative text and their perception on using PBL in the course. The qualitative study took place in a private University in Majalengka, West Java. The participants included students in the English Language study program enrolled in a writing course. Field notes, final products, and interviews were used to gather data. The results of the study showed students developed their skill and creativity in writing narrative texts and showed creativity through the story line of the story. The students had a positive perception of PBL and shared they learned through other individuals, collaboration, and team effort.

Hence, there seems to be a general acceptance of the benefits of project-based learning for developing language for emergent bilinguals (Thuan, 2018). The following section includes research on challenges encountered by teachers with PBL implementation.

Implementation Challenges

Previous research shows teacher efficacy, opportunities for professional development, planning time, and lack of teacher reflection impede PBL execution and sustainability (Blumenfeld et al., 1991), and throughout the years, the challenges have persisted. According to Larmer et al. (2015), educators frequently report that PBL is challenging to implement in the classroom but argued teachers' implementation skills and confidence can improve with the support from other teachers, mentors, and administrators. Recently, a mixed-method study by

Mirici and Uzel (2019) focused on the shift of teachers' self-efficacy through project-based learning training and their views on the student-centered method. The participants included 47 teachers from the Ministry of National Education, and the study employed the self-efficacy theory to conduct the study. The findings aligned with Larmer et al. (2015) because teachers' self-efficacy, or belief in their competence, increased due to the support participants received. Teacher efficacy refers to the level of belief or capability the individual has to guide and successfully motivate student outcomes (Bandura, 2002). Therefore, high levels of teacher self-efficacy can result in successful dual language PBL implementations with the proper guidance and support.

In addition, researchers found that teachers experience frustration with planning, fostering student agency, and facilitating student-centered approaches (Simons et al., 2014). When planning for PBL, teachers must plan strategically for student autonomy and choice, which may seem too complex (Larmer et al., 2015). Moreover, teachers struggle with the quality of the PBL lesson design, scaffolding, modeling, and feedback (Kolodner et al., 2003). Hence, teachers are resistant to meeting the needs of student-centered environments (Larmer et al., 2015). Miller and Krajcik (2021) emphasized that teachers must make fundamental shifts in their pedagogy to implement project-based learning in their classrooms successfully. Consequently, the success of the implementation is determined by the motivation of the teacher to adopt the innovation (Fullan, 2007). Therefore, teachers must believe they can encounter and endure the challenges of PBL implementation in their classrooms.

Lam et al. (2010) found teachers revert to their traditional practices when they realize they lack the knowledge and skills to implement the PBL practice. Utilizing Ryan Y Deci's (2000) self-determination theory, the study aimed to investigate how school support relates to

teachers' motivation and willingness to sustain project-based learning. The study took place at eight secondary Hong Kong schools from different districts. The districts varied in socioeconomic backgrounds and academic standards. Participants included 182 Hong Kong secondary teachers (107 female and 75 male). Teachers' age ranged from 23 to 55 years with different specialties. Five to six students in each of the eight campuses were selected to participate in the study. The author's employed a quantitative structural equation modeling approach to investigate the correlation between school support and teachers' motivation to sustain project-based learning in their classrooms. Data was collected via questionnaires. Questionnaires were anonymous to protect their privacy. In addition, a Perceived School inventory was created to measure teachers' perceptions of the school support they receive. Findings showed teachers who perceive their schools to be supportive of competence and autonomy have a higher degree of self-determination to implement and sustain project-based Learning (Lam et al., 2010). The study findings are relevant because dual language PBL teachers are tasked with knowing how to implement PBL and meet the needs of EBs (O'Brien et al., 2014). Unfortunately, studies show that teachers generally lack self-efficacy, or belief in their competence, to support EBs (Cho et al., 2020).

Cho et al. (2020) found an inconsistency in preservice teachers' understanding of how to serve diverse learners best, a lack of knowledge of the differences between mainstream and emergent cultures, and the importance of culture students' success. The multimethod design utilized the self-efficacy theory. The self-efficacy theory was used to examine the factors contributing to preserving teachers' efficacy towards working and supporting EB's linguistic and cultural needs. Findings showed that preservice teachers did not have a strong sense of self-efficacy in communicating with emergent bilinguals but firmly believed in applying different

learning methods (Cho et al., 2020). Furthermore, the findings showed experiences and exposure to the curriculum increased their self-efficacy. The following section will describe the frameworks used in the study to explore the role of teacher self-efficacy on PBL implementation and student outcomes in a dual language setting.

Conceptual Framework

Self-Efficacy

Self-efficacy, explained by Bandura (1994), refers to the belief's individuals have about their capabilities, which influence their emotions, thoughts, and motivations to act in a given context. The determination of the amount of effort, duration of persistence, resiliency, and the adverse effects that the experience can cause an individual can be determined through self-efficacy (Bandura, 1994). In addition, Bandura (1994) affirms that self-efficacy permits an individual to persevere towards a goal regardless of the challenges presented in the process. Consequently, if a teacher does not believe they can successfully impact emergent bilingual students' learning irrespective of the challenges posed by PBL, then the expectation of a low outcome can negatively impact the implementation process of the instructional method.

People with low efficacy will attempt to do things only when they believe they can and will avoid things when they believe they will not be successful (Bandura, 1994). On the contrary, people with high self-efficacy will view challenges as something to confront rather than evade. Self-efficacy is gained through previous performance, observations of others' success, positive feedback, and the individual's well-being (Bandura, 1994). According to Bandura (1994), the theoretical constructs of self-efficacy are as follows:

1. Mastery Experience
    a. Providing individuals with similar opportunities and tasks can improve their proficiency and increase their self-efficacy. However, the difficult task must also be provided to ensure high attainments of self-efficacy.
2. Vicarious Experience
    a. Self-efficacy levels rise when individuals can observe others completing the task successfully. Conversely, self-efficacy levels decline when they observe others fail.
3. Verbal Persuasion
    a. Individuals will complete a task and develop self-efficacy if others influence them. On the other hand, when individuals are impacted negatively, they will fail.
4. Somantic and Emotional States
    a. Stressful situations negatively affect the emotion and self-efficacy of a person, which leads to failure or not being able to attempt the task. When individuals doubt their abilities to accomplish a task and fail to confront them, their stress levels increase and can lead to depression (Bandura, 1994).

Bandura (1997) argues the construct of mastery experience is the most influential in determining the efficacy of an individual. Teachers' self-efficacy is affected by their experiences and can be vital when implementing project-based learning methods in their classrooms. Teachers implementing project-based learning must frame projects through questions that are aligned to academic goals that promote critical thinking and collaboration, engage students through real-world connections, develop student responsibility, provide choice, and reflection

opportunities, provide feedback, and expect students to present their findings (Larmer et al., 2015). In accordance, the motivation of teachers to adopt a new practice is highly personal and based on factors such as the success of students, the cost and value of the innovation, and their self-efficacy (Hall & Hord, 2001).

Teacher Self-Efficacy

Teacher efficacy, grounded in the theory of self-efficacy, refers to the belief in the capacity that the teachers hold to impact their students' performance (Guskey & Passaro, 1994; as cited by Tschannen-Moran et al., 1998). Teacher efficacy emerged from Rotter's (1966) social learning theory when two researchers from the RAND organization 1976 incorporated two questions in their studies on efficacy (Tschannen-Moran et al., 1998). Teachers were asked to select their level of agreement with the two statements. The first statement dealt with being able to influence their students regardless of environmental factors. The second statement questioned teachers about their beliefs in overcoming factors that challenge diverse students learning (Tschannen-Moran et al., 1998).

The combination of the two statements became the construct of teacher efficacy that indicated a strong connection between teachers' beliefs on their ability to impact the most challenging students and their performance regardless of student background (Tschannen-Moran, et al., 1998). Tschannen-Moran et al. (1998) state that teachers can positively impact students' learning, irrespective of their diverse backgrounds if they have high levels of self-efficacy. Thus, the construct of teacher-self efficacy can be a factor in implementing project-based learning instruction in a dual language setting.

Bandura (1977) defines self-efficacy as the ability "to exercise control over one's own thought processes and affective states, and to the self-regulation of goal-directed pursuits and

impulsive and addictive behaviors, to the exercise of control over social environments" (p. 3). Teachers with a high level of self-efficacy would increase students learning through actions that support meaningful interactions or by planning purposefully to meet the needs of their emergent bilinguals. As a result, teachers would find the energy to ensure the students' success and act to overcome the challenges that impede emergent bilingual achievement (Bandura, 1977). Self-efficacy is an individual's perception of competence, not the actual competence (Tschannen-Moran et al., 1998). Thereby, teachers that believe they can improve their emergent bilinguals' performance will embody the belief that they can teach students and affect them positively.

A study by Mirici and Uzel (2019) focused on the shift teachers' self-efficacy through project-based learning training and their views towards the teaching method. The participants consisted of 47 teachers from the Ministry of National Education. The study utilized a mixed quantitative (semi-experimental design) and qualitative approach (case study). The theoretical framework used was the self-efficacy theory. The finding showed that teacher self-efficacy increased due to the training they received based on teachers' perceptions. According to Mirici and Uzel (2019), the most challenging area in planning for PBL was finding the subject of a project.

Mahasneh and Alwan (2018) also investigated the effect of PBL on student-teacher self-efficacy and achievement. The quasi-experimental study focused on 79 student teachers, and the findings showed there were statistically significant differences between the pre-and post-test of the control and experimental groups using Project Based Learning methods. The differences between both groups, in favor of the experimental groups, were 22% in self-efficacy, 22% in classroom management, student engagement 25%, and 15% in teacher self-efficacy. As a result, project-based learning significantly impacted student teachers in several areas, including a 24

percent variance in achievement. Similarly, Hazelton (2017) conducted a study to evaluate teacher self-efficacy, student engagement, and motivation through implementing PBL in a high-need district. The qualitative research considered teachers' experiences with the implementation of PBL in their district. Findings showed that PBL increased teacher self-efficacy and, as a result, increased student motivation and engagement.

Studies have also focused on the effect of project-based learning on student self-efficacy. Shin (2018) investigated PBL's impact on students' motivation and self-efficacy. The quantitative study showed project-based learning positively influences students' motivation, enhances their cooperation skills, and improves their perception of the learning through project-based learning. The 79 students who participated in the study were enrolled in an English course meant to improve students' English proficiency in speaking and listening. Samsudin et al. (2020) also focused on the effect of project-based learning but honed in on STEM PBL and its effect on the efficacy of students in solving physics problems. Positive self-efficacy results of Hiin-School physic students were also found.

The evidence presented in this section suggests that several studies have been conducted on the impact of project-based learning on teachers' self-efficacy (Hazelton, 2017; Mirici & Uzel, 2019) and preservice teachers (Mahasneh & Alwan, 2018). The results have shown project-based learning positively increases teacher self-efficacy in implementing PBL, which is intended to support the needs of our most marginalized student populations. In addition, other self-efficacy studies (Samsudin, 2020; Shin, 2018), primarily in the secondary grades, have focused on the effect of project-based learning on student self-efficacy and have determined similar results. However, no studies focus on the role of teacher efficacy in implementing project-based learning in dual language campuses on the U.S.-Mexico border. While many of the

studies selected in this Literature Review were grounded in the self-efficacy of teachers or students, they lacked the context in the dual language environment. The new perspective offered a deeper insight into the current literature on PBL to support emergent bilinguals (Campbell, 2012; Golden et al., 2014; Maulany, 2013; Shafaei & Rahim, 2015; Syarifah & Emiliasari, 2018; Vicheanpant & Ruenglertpanyakul, 2012) and the opportunity to naturally develop their first and second language acquisition through meaningful cross-curricular tasks, such as project-based learning (Collier & Thomas, 2017; Howard et al., 2007).

Moreover, the self-efficacy theory provided a lens to understand the participants' confidence in their abilities on implementing PBL in a dual language setting on the U.S-Mexico border (Bandura, 1977). The study was guided through the Concerns-Based Adoption Model (CBAM), which enabled an understanding of the participant's concerns in implementing PBL in a dual language setting (Hall & Hord, 2001). The two dimensions of CBAM supported the understanding of the participants' beliefs, views, attitudes, and behaviors towards the innovation, in this case, PBL in a dual language campus on the U.S.-Mexico border. The intent of the study was not to evaluate the PBL implementation. In the next section, I discuss the CBAM model.

Concerns-Based Adoption Model

In the 1970s and 1980s, the Concerns-Based Adoption Model (CBAM) was created by a group of researchers at the Research and Development Center for Teacher Education at the University of Texas at Austin (Hall & Hord, 2001). The model's intent was to provide leaders, evaluators, and researchers with tools that can support the implementation of an innovative practice or change, such as PBL. Implementing a new program is viewed through various positionalities and beliefs that can facilitate or hinder the success of a new program, reform, or initiative. Thus, the CBAM provides insight into the concerns of individuals so that each person

can receive individualized support (Hall & Hord, 2001). The CBAM, as shown in Figure 2.2, was used in the study to understand how the participants made sense of implementing the PBL approach in a dual language setting.

There are three dimensions of the CBAM model 1) Innovation Configurations, 2) Stages of Concern, and 3) Levels of Use (Hall & Hord, 2001). The first component, Innovation Configurations, supports leaders in providing a clear indicator or success criteria for the implementation. The second component, Stages of Concern, helps understand the attitudes and beliefs of individuals towards a new program via questionnaires, interviews, and open-ended assertions. The last component, Levels of Use, identifies the level of use of the individuals or group members (Hall & Hord, 2001). However, only two of the components, the Stages of Concern (SoC) and the Levels of Use (LoU), were used in this study to facilitate my understanding of the participants' teacher self-efficacy in implementing PBL in a dual language setting.

The CBAM provides the flexibility to use one or all the components in the model according to the need. In addition, the data collection can also be selective. Thereby, I only used the formal and informal interviews of the CBAM model to gather insight on the beliefs and practices of the participants in the study.

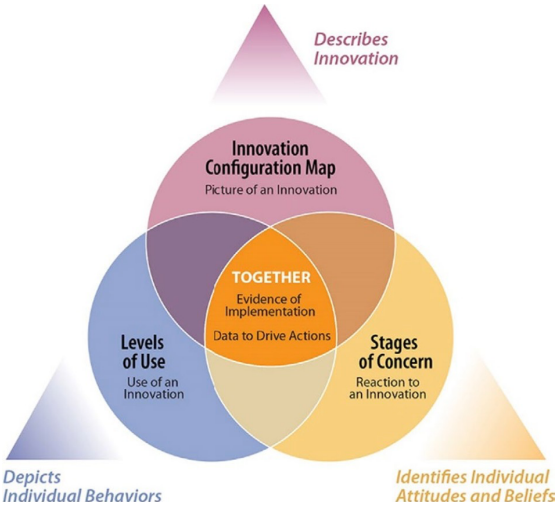

Figure 2.2 *Note: The Three Diagnostic Dimensions of CBAM.* Reprinted from https://www.air.org/resource/cbam-concerns-based-adoption-model. Copyright 2023 by American Institutes for Research.

Stages of Concern

The Stages of Concern (SoC) is one of the components of the CBAM and focuses on the key understandings that give insight for a new program to be successful (Hall & Hord, 1987). The SoC helps leaders understand and address the concerns of those implementing an innovation. SoC is a dimension that provides insight of the feelings, emotions, and attitudes of the participants. The seven stages provide the intensity of the concern based on the participant's responses (Hall & Hord, 1987). At Stage 0, Awareness, the participant has a minimal concern or interest in the change. In Stage 1, Informational, the participant shows more interest in the innovation and pays attention to more detail. In Stage 2, Personal, the participant is concerned about the demands required of them in their classrooms. In Stage 3, Management, the concern is towards the tasks and processes of the implementation. In Stage 4, Consequence, the participants are more aware of how the implementation is impacting their students. While at Stage 5, Collaboration, the participant is focused on how they will align and collaborate with others to be

successful. State 6, Refocusing, the participants are concerned about enhancing the innovation to positively impact their students (Hall & Hord, 1987). Teachers who are in the earlier stages of the model, as shown in Table 2.1, focus more on their concerns and beliefs about their abilities to implement the innovation. On the other hand, individuals who are more confident in their abilities with the initiative or program focus more on the big picture, such as how the change will affect their students and impact their collaborations with their grade levels.

Table 2.1

Stages of Concern

Stage of Concern	Typical Statement
0: Unconcerned	"I think I heard something about it, but I'm too busy right now with other priorities to be concerned about it."
1: Informational	"This seems interesting, and I would like to know more about it."
2: Personal	"I'm concerned about the changes I'll need to make in my routines."
3: Management	"I'm concerned about how much time it takes to get ready to teach with this new approach."
4: Consequence	"How will this new approach affect my students?"
5: Collaboration	"I'm looking forward to sharing some ideas about it with other teachers."
6: Refocusing	"I have some ideas about something that would work even better."

Note: Reprinted from https://www.air.org/resource/stages-concern-concerns-based-adoption-model. Copyright 2023 by American Institutes for Research.

Levels of Use

The Level of Use, shown in Table 2.2, is another of the three components of the Concerns-Based Adoption Model (CBAM). The LoU dimension provides insight of the actions or behaviors of participants in the classroom (Hall & Hord, 2001). The participants that are considered nonusers of the innovation place under Levels 0-2. At Level 0, Nonuse, the participant takes no action towards the implementation. At Level 1, Orientation, the participant begins to inquire about the practice or program. At Level 2, Preparation, the participant has chosen to adopt the approach and is planning to implement it. CBAM research has revealed that additional levels are required after training and personal choice to implement the program. As a result, Levels 3-8 provide leaders with levels of mastery for those identified as users (Hall & Hord, 2001).

At Level 3, Mechanical refers to participants that are attempting to implement the technique or strategy with guidance and support. In Level 4, Routine, there is a solid pattern of implementation behaviors; in Level 5, Refinement, participants assess their impact and make modifications as needed. At Level 6, Integration, participants work together with others to use the innovation. Finally, at Level 7, Renewal, the participants look for ways on how to implement the innovation and learn more about it (Hall & Hord, 2001).

The Stages of Concern focuses on the affective component of change, their feelings, and concerns about implementing a new program or practice. On the other hand, the Levels of Use describe changes in behaviors. The Concerns-Based Adoption Model can guide the implementation supports based on the participants' level of placement and their behaviors related to their self-efficacy. The diagnostic tools can be used to support the level of PBL application.

Table 2.2

Levels of Use

Level	Typical Statement
Nonuse	"I've heard about it but, honestly, I have too many other things to do right now."
Orientation	"I'm looking at materials pertaining to the innovation and considering using it sometime in the future."
Preparation	"I've attended the workshop and I've set aside time every week for studying the materials."
Mechanical Use	"Most of my time is spent organizing materials and keeping things going as smoothly as possible every day."
Routine Use	"This year it has worked out beautifully. I'm sure there will be a few changes next year, but basically I will use it the same way I did this year."
Refinement	"I recently developed a more detailed assessment instrument to gain more specific information from students to see where I need to change my use of the innovation."
Integration	"Not everyone has all the skills needed to use the program so that it has the greatest impact on student learning. I've been working with another teacher for 2 years, and recently a third teacher began working with us."
Renewal	"I am still interested in the program and using it with modifications. Frankly, I'm reading, talking, and even doing a little research to see whether some other approach might be better for the students."

Note: Reprinted from https://www.air.org/resource/levels-use-concerns-based-adoption-model

According to Hall and Hord (2015), CBAM continues to support schools, organizations, and researchers to help leaders understand and guide the implementation process of an innovation or practice. Self-efficacy is a key factor in the CBAM model, as it affects a teacher's level of engagement and commitment to implementing PBL (Hall & Hord, 1987). CBAM is not a one-size-fits-all model. The recurring process can be adapted to the unique needs and context of each school or district so that instructional leaders can support the concerns and needs of teachers as they implement a new instructional practice such as PBL (Hall & Hord, 1987). My use of the SoC and LoU dimension tools were not evaluative. The Stages of Concern (SoC) and

Levels of Use (LoU) dimension tools helped me understand the participant's self-efficacy and how it supports the implementation of PBL in a dual language to support EBs campus at a deeper level. Furthermore, the CBAM provided an understanding of the attitudes, beliefs, and practices of how each participant implemented PBL in a dual language setting on the U.S.-Mexico border.

Summary

As the diversity of students in U.S. schools increase, bilingual education must continue to strive to meet the needs of the most underserved student populations (Goldenberg & Coleman, 2010). The abilities and experiences of emergent bilinguals must be considered; otherwise, labels and categorizations of these students can further limit them from receiving an equitable education (García, 2009).

In an effort to support emergent bilingual needs, teachers must know how to implement dual language methods and strategies to support their academic and linguistic developments (Echevarria & Short, 2008; Krashen, 1981; Thomas & Collier, 2019). Project-based learning (PBL) is an instructional approach that supports these efforts through engaging cross-curricular projects that focus on content learning, meaningful interactions, integration of language, and presentations that incorporate real-life scenarios (Fried-booth, 1997; Simpson, 2011). In addition, PBL facilitates using soft skills to develop students' content and language skills simultaneously (Larmer et al., 2015).

The student-centered constructivist pedagogy requires significant paradigm shifts in teaching and learning, which affect practices at the school and classroom levels (Miller & Krajcik, 2021; Ravitz, 2010). Teacher motivation to adopt and adjust to the instructional method is a factor for successful PBL implementation (Fullan, 2007). The self-efficacy of teachers in their ability to implement PBL impacts the opportunity for students to develop their content and

language knowledge simultaneously, which is needed to bring equity to their learning processes. The achievement and opportunity gap will not decrease if we continue to ignore the emergent bilingual needs in the classroom (USDOE, n.d.a).

Chapter 3: Methodology

In this chapter, I outline the research design and methodology. The main components of the chapter include a purpose statement, research questions, research design and methodology, data collection method, participant selection, data analysis, trustworthiness, research as instrument statement, limitations, and a chapter summary.

Purpose Statement

The purpose of this intrinsic case study was to understand the implementation of PBL at a dual language campus on the U.S.-Mexico border (Stake, 2000). The existing research stated that teachers found the implementation process of PBL challenging because of the constructivist characteristics of the teaching method (Condliffe, 2017; Larmer et al., 2015; Simons et al., 2014) and recognized the importance of teacher beliefs in the application of PBL (Ertmer & Simmons, 2005; Tamim & Grand, 2013; Thomas, 2000). Even though theoretically, PBL is effective for low-achieving students and underserved student populations, there is a need for more studies to determine the effectiveness and challenges of PBL for specific student subgroups such as emergent bilinguals (Condliffe, 2017; O'Brien et al., 2014). Nonetheless, the effectiveness of PBL in student achievement reflects the instructional supports and implementation practices provided by teachers (Graham et al., 2005).

Therefore, I approached this study by acknowledging teachers' viewpoints, experiences, and implementation decisions of PBL that guide classroom practices to support the specific needs of emergent bilinguals. I considered the curricular needs or benefits teachers encountered because their experiences on the advantages and challenges informed how implementing PBL in a dual language environment serves the needs of EBs on the U.S.-Mexico border. PBL research must be informed by practice "to be of the greatest use to practitioners" (Condliffe, 2017, p. 51).

However, the success of implementing an innovation, such as PBL, is facilitated by the teacher's belief in the tools and ability to enact the approach (Bandura, 1977). Therefore, the study also considered how teacher self-efficacy supported the implementation of PBL in a dual language campus on the U.S.-Mexico border.

Research Questions

The research questions for this investigation focused on understanding the implementation of PBL at an elementary dual language campus on the U.S.-Mexico border. In addition, the self-efficacy and experiences of the participants also informed the implementation practices of PBL to support emergent bilinguals. The following research questions guided this qualitative study:

- How do teachers implement PBL at an elementary dual language campus on the U.S.-Mexico border?
- What are teachers' experiences implementing PBL at an elementary dual language campus on the U.S.-Mexico border?
- How does teacher self-efficacy support the implementation of PBL at an elementary dual language campus on the U.S.-Mexico border?

Research Design and Methodology

This study is grounded in the constructivist paradigm. According to Bhattacharya (2017), constructivism is the form of epistemology that informs most qualitative research. Constructivism is the understanding that researchers construct meaning based on their interactions with the participant and other outside influences (Bhattacharya, 2017). The history, beliefs, and assumptions inform the meanings created between the researcher and the subject. I adopted a qualitative research design to understand the implementation of PBL in a dual

language campus on the U.S.-Mexico border (Maxwell, 2013). The research also aimed to understand how teacher self-efficacy in implementing PBL can support emergent Bilinguals' academic and linguistic learning. The findings shed light on the challenges and successes experienced by the participants when implementing PBL in a one- or two-teacher dual language model.

According to Stake (2000), case studies are highly used in qualitative inquiry and provide a choice of a study within a single case. I conducted a case study investigation because of my interest in the individual case, project-based learning in a dual language campus (Stake, 2000). More specifically, I employed an intrinsic case study design to focus on the implementation and experiences of elementary PBL teachers at Barros Elementary, a dual language campus located at the U.S.-Mexico border. Stake (2000) states a single point is used because the researcher has an "intrinsic interest" in the case and aims to get a deeper understanding of a unique phenomenon (p. 437).

I employed an intrinsic case study because I was intrinsically interested in Barros Elementary because 1) nearly 50% of the student population were emergent bilinguals; 2) its location on the U.S.-Mexico border; and 3) the project-based learning implementation in a dual language setting. Barros Elementary implemented the one-way dual language model for grades Prek-5 and served predominantly Hispanic (93.8%), economically disadvantaged (93.6%), and emergent bilingual (45.2%) student populations on the U.S.-Mexico Border. In addition, the elementary campus was on year three of the district-wide implementation of project-based learning for grades K-2 and first year implementation for grades 3-5. I elaborated on my case setting later in the chapter.

Data Collection Methods

I collected data via semi-structured interviews, observations, and documents. On January 2023, I attained the appropriate Institutional Review Board (IRB) permission to conduct my study. To receive formal approval, I was required to explain the purpose of my research and get written permission from the Superintendent and campus site administrator to conduct my study. The Informed Consent Form and flyers for the participant recruitment were also submitted to the IRB. I discussed each method in the following subsections.

Semi-structured Interviews

I conducted semi-structured interviews because of the open-ended nature of the questions, which provided opportunities for the interviewer and interviewee to discuss topics in detail (Burgess, 1984). The interviews consisted of descriptive questions to understand the participants' views, implementation practices, and experiences with the student-centered learning approach. I asked the participants to respond to descriptive questions about their beliefs on their capabilities to engage emergent bilinguals in PBL in a dual language setting on the U.S-Mexico border. The participants responded to questions related to their experiences when implementing PBL such as how the implementation occurs at their campus and how their self-efficacy supports the implementation of PBL in a dual language setting. The interviews took approximately 90 minutes. I provided participants with the choice to interview at their campus or off-site location to build trust and make them feel comfortable. However, all the participants chose to interview on school grounds. I transcribed the interviews using a transcribing software named Otter and provided a paper copy of the transcribed interviews to each of the participants. Then, I followed up with the participants to provide the opportunity to ask any clarifying questions or explain any part of the transcript content. The Interview Protocol is found on Appendix A.

Observations

Teachers at Barros Elementary engaged students in content knowledge during the week and worked on their district-directed tasks on PBL Fridays. I conducted the observations during the core academic instructional blocks where the campus implemented PBL. Grades K-2 implemented PBL in social studies and science, while Grades 3-5 in social studies. According to Maxwell (2013), interviewing is an efficient and valid way of understanding someone's perspectives. However, observations provide an opportunity to draw inferences about the views not obtained in the interview data (Glesne, 2016). Furthermore, the observation continuum ranges from "mostly observation to mostly participation" (Glesne, 2016, p.65). Thus, I employed the observation as a participant where some interaction with the study participants occurred, but my participation was primarily as an observer (Glesne, 2016).

I conducted two observations for each of the participants in the study during different stages of their PBL projects. There were seven participants: four lower-grade teachers, K-2, and three upper grade teachers, 3-5. The number of participants adheres to Patton's (2002) sample size explained in the participant section. The language of instruction on PBL Fridays at Barros Elementary adhered to the 50/50 dual language model, where students engaged in the PBL in English and Spanish. In a two-teacher model, one teacher facilitated the English and the other teacher in the partner language, Spanish. Every Friday they alternate student groups. Moreover, each participant that taught in a two-teacher model facilitated their targeted language for two groups of students: their homeroom and co-teacher homeroom. However, in a one-teacher model, one teacher facilitated for the same group of students each Friday.

I used the Levels of Use (LoU) tool of the Concerns-Based Adoption Model as the observation protocol to understand how teachers implement the innovation and practices related

to project-based learning in dual language. The Levels of Use tool contains various stages informing teachers' implementation behaviors ranging from understanding, managing, and applying PBL (Hall & Hord, 1987). During my observations, I maintained a researcher journal to write notes, thoughts, and ideas (Hayes et al., 2012). According to Glesne (2016), field notes can include descriptions of individuals, settings, activities, conversations, ideas, reflections, and patterns that develop during an observation. The field notes were taken immediately after the site observation and were "descriptive and analytic" (Glesne, 2016, p.74). Descriptive notes enable clear visualization of the moment, the person, or the day and are not judgmental (Glesne, 2016). In contrast, analytical notes go further than descriptive notes. They make comparisons between observations and lead to questions, identification of patterns, and themes (Glesne, 2016).

I also conducted informal interviews that provided additional data on teachers' behaviors during their implementation processes (Hall & Hord, 1987). According to Hall and Hord (1987), a "one-legged conference" or one-to-one conversations can be conducted within a one to two-minute exchange between the researcher and the participant to ask questions about the innovation, PBL (p. 81). The informal interviews occurred anywhere in the building to further understand their implementation practices, experiences, and beliefs on PBL. I asked the participants several questions 1) how they feel about the PBL implementation, 2) their thoughts about PBL, and 3) if they are experiencing any challenges. I recorded the participants' responses on the field notes immediately after the discussions.

Documents

I collected documents from the research site to help me understand PBL implementation decisions and practices at the campus. According to Glesne (2016) and Stake (1995), documents and artifacts are helpful to inform the researcher, produce questions, or find themes. In addition,

documents are essential because they provide records of activity not collected through observation (Stake, 1995). The documents provided me with a wealth of data to generate categories and themes based on patterns found within the documents, implementation practices, and the responses from the participants in their interviews. While the documents provided me with an understanding of the implementation expectations and supports offered by the district, the interviews and observations allowed me to connect the expectation of the implementation to the actual practice at the campus. The documents I collected included 1) Academic Calendars, 2) PBL Pacing Guides, 3) Social Studies Pacing Tools, and 4) PBL rubrics.

The Academic Calendar provided me with information on the Fridays allocated for PBL implementation and the PBL topics the teachers would be covering. In addition, the PBL Pacing Guides, provided by the district, identified specific District PBL Essential Elements, including Knows/Need to Know, Entry Event, Problem or Challenge, Driving Question, Social Studies/Science Connection, Public Product, and Public Presentation. Voice and choice were encouraged for students and teachers for the Public Product and Public Presentation. However, for grades 3-5, the district required students to complete a written component or Extended Constructive Response (ECR) as their final product.

The following document I collected was the Social Studies Pacing Tools to understand in more detail the implementation and the pacing of PBL at the campus. The pacing tools included performance assessments, standard-driven learning objectives, vocabulary, specific resource links, writing connections, and instructional strategies to use within the projects. Finally, I collected the Success Criteria Rubrics, content-based rubrics for science and social studies, that track students' performance and mastery of the standards covered in the 9 Weeks project. The

rubrics gave me an understanding of how the campus monitored the implementation for emergent bilinguals.

Site Selection

I conducted my study at Barros Elementary, a school located in a suburb city on the U.S.-Mexico border because 1) nearly 50% of the student population were emergent bilinguals; 2) its location on the U.S. Mexico border; and 3) the project-based learning implementation in a dual language setting. The elementary serves a student population of approximately 500 Pre-kindergarten to 5th-grade students. The race/ethnicity enrollment at the campus is Hispanic at 93.8%, African American at 2.1%, White at 4.2%, and American Indian at 1.2%. In addition, enrollment by Student Group consists of 93.6% Economically Disadvantaged, 14.6% Special Education, and 45.2% emergent bilingual. I provided pseudonyms to protect the confidentiality of the campus, district, and participants.

In 2019, Ardo ISD began its journey to implement project-based learning for grades K-2 in social studies. In 2021, science K-2 became part of the PBL initiative with a continuation of professional development to support its implementation. The professional development included PBL 101 and PBL for dual language information sessions. The PBL 101 professional development covered the District's Essential Elements while incorporating the dual language framework. In 2022, grades 3-5 became part of the PBL implementation in monolingual and dual language classrooms for social studies. In addition, Barros Elementary followed the district's 50/50 one-way dual language model, which promotes a vision to develop bilingual, biliterate, and bicultural student thinkers. Furthermore, the campus implemented the C6 Biliteracy Framework PreK-5. According to Medina (2019), the C6 Framework facilitates the

dual language teachers' lesson planning process and supports content accessibility to students regardless of language proficiency.

The site selection process followed the AISD district guidelines and approval protocols. First, I contacted the Ardo Independent School District to access permission to the elementary school site. Once the district provided access, I presented the site administrator with a document that entailed the information about the research study, including the recruitment process. Finally, a letter of collaboration was signed by the school principal and approved by the district.

Participant Selection

I used purposive sampling to select the participants at Barros Elementary School (Patton, 2002). Purposive sampling supported the participant selection based on the teacher characteristics, campus student population, and program implementation. The participants for the proposed study included dual language teachers at Barros Elementary who instruct through project-based learning at least once a week and at a campus with nearly 50% of EBs. In addition, the teachers were bilingual certified at a public elementary school teaching in a one- or two-teacher dual language model. The one-teacher model consisted of a teacher facilitating instruction half of the day in English and the other in Spanish. On the other hand, the two-teacher dual language model entailed a dyad of teachers where one teacher instructed in English and the other in Spanish. The one-teacher model remained with their students the entire day, while the two-teacher model teachers switched students half the day. In other words, students received 50% of their instruction in English, and in 50% Spanish daily.

The sample size of the investigation was seven respondents, four teachers from K-2 grades and three from 3-5 grades. According to Patton (2002), a small sample with diversity is sufficient to generate an excellent quality of descriptions and patterns. The participants

represented upper and lower grade implementation levels. K-2 levels implemented PBL in science and social studies, and grades 3-5 integrated PBL only in social studies. However, all grades K-5 implemented PBL in both English and Spanish. The student language proficiencies varied, providing insight into the needed support for emergent bilinguals and campuses with high EB student concentrations. In addition, the variation in grade-level content implementation offered a practical understanding of the support teachers may require specific to the content areas they teach.

The participant selection process followed the Internal Review Board (IRB) protocol and AISD district recruitment and data collection guidelines. Upon receiving permission from the site administrator, I began the identification process by sending out a recruitment document to the campus principal to obtain potential participants with a basic overview of the study, contact information, approximate length of the interview, and observations. Finally, participants were required to sign a consent form indicating their participation in the study.

Data Analysis

According to Saldaña (2016), interviews, documents, and observations must be available to read, edited for accuracy, and ready to be commented on before they are coded and analyzed. Thereby, I transcribed the audiotape recordings of participant interviews using OTTER, a speech-to-text application used to transcribe voice conversations. Next, participants received a printout of the interview transcript to clarify any information on the transcribed document. I then employed Saldaña's (2016) methods for qualitative data analysis, including the First Cycle coding, Second Cycle coding, and the development of general themes from the data collection. Finally, I manually coded to interpret and summarize my findings, including the "one-legged

conferences" I had with the participants. I also created a data analysis matrix to visually organize my analysis and provide transparency (Miles et al., 2020).

I used three types of codes: Values Coding, In Vivo, and Deductive Coding. The First Cycle code I used was Values Coding (Saldaña, 2016). Saldaña (2016) describes Values Coding as "qualitative data that reflect a participant's values, attitudes, and beliefs, representing his or her perspectives or world view" (p.67). Miles et al. (2020) stated a value is the importance we give to ourselves, an attitude is a way we think and feel, and a belief in how we perceive the world based on our values and attitudes. The second code I used was In Vivo Coding, which uses the "participants' own language as codes" (Saldaña, 2016, p.65). I also used Deductive Coding in this investigation. According to Bingham and Witkowsky (2021), the researcher creates deductive codes before data analysis. I used pre-established codes based on the Concerns-Based Adoption Model (CBAM) protocol. For instance, some existing codes were informational, management, and collaboration based on the participants statements.

The CBAM is a model used to understand a new program or practice implementation in schools (Hall & Hord, 1987). The process may involve one or several methods, quantitative or qualitative, to collect data from teachers and staff about their implementation perspectives and practices. The methods include questionnaires, formal and informal interviews, and open-ended written statements (Hall & Hord, 1987). However, for this qualitative study, I focused on using formal and informal interviews to understand better the respondent's views and practices toward implementing PBL in a dual language campus on the U.S.-Mexico border. More specifically, I used two of the model's dimensions, the Stages of Concern (SoC) diagnostic tool and the Levels of Use (LoU) diagnostic tool.

The intent of SoC and LoU is not to evaluate the participant. Instead, the SoC and LoU diagnostic tools inform school and district leaders and instructional coaches to what extent PBL is being used in the classroom to support EBs and the concerns the individuals, in this case the participants, had with the student-centered approach. In addition, both tools provided insight into the individualized training and learning participants needed to support the PBL implementation.

The Stages of Concern tool consists of seven levels where teacher responses could be placed depending on their thoughts, feelings, and emotions about implementing PBL in a dual language classroom. In stage 0, the teachers are not concerned about PBL. In stage 1, the teacher requests more information about PBL, and in stage 2, the concern is personal. The teacher wonders how PBL will change the routine. In stage 3, the teacher focuses on getting ready for the project. In stage 4, the teacher focuses on how PBL impacts the students, and in stage 5, the teacher communicates with her colleagues to make the project work. In stage 6, the teacher is interested in enhancing the project to make it better. Based on the stages, teachers who focus more on themselves are categorized in the earlier stages. When teachers feel more confident in their abilities to implement the approach, a shift occurs from concerns of self to concerns of student impact (Hall & Hord, 1987).

The second component of CBAM I used was the Levels of Use (LoU) diagnostic tool to understand better the observation actions viewed in the classrooms (Hall & Hord, 2001). During the observations, I was able to view the actions, procedures of PBL implementation, and their teacher self-efficacy. In Level 0, Non-use, the teacher is considered a non-use and shows no interest in the approach. In Level 1, Orientation, the teacher seeks information; in Level 2, Preparation, the teacher prepares to use the innovation. Level 3, Mechanical, focuses on changing the organization of the implementation. In Level 4, Routine, the teacher makes minimal

or no changes to the use of the approach. There is an established pattern of use observed. Level 5, Refinement, makes changes to target outcomes based on assessments, and Level 6, Integration, makes the changes to improve the impact of the approach. Finally, in Level 7, Renewal, the teacher changes the innovation significantly (Hall & Hord, 2001).

While the Stages of Concerns tool gave insight into the participants' beliefs, thoughts, and emotions, the Levels of Use provided me with the actions performed during the PBL implementation. By analyzing both, I was able to understand their self-efficacy and how it supported their PBL implementation in dual language to support emergent bilinguals. Although I have not utilized the mentioned tools, other PBL studies have used the CBAM in their investigations (Cyprian, 2014; Fry, 2017; Harris, 2014).

I also analyzed the documents I collected to understand the instructional practices employed by the teachers during the implementation of project-based learning at Barros Elementary. The documents I collected included the elementary Academic Calendar, PBL Pacing Guides, Social Studies Pacing Tools, and the PBL rubrics. Each document details how the district guides teachers to implement PBL at their campus.

For instance, the Academic Calendar is a document that provided participants with the science and social studies scope and sequence of the unit topics and the designated PBL Fridays. The Social Studies Pacing Tools also given by the district offered more detail to meet the daily needs of the PBL implementation such as the objectives, exit tickets, and tasks. Supports for EBs were also embedded in the social studies pacing tools although the participants did not mention them. The Success Criteria Rubrics, which are content based for science and social studies, provided level descriptors for teachers to assess student understanding and presentation skills. The participants briefly mentioned them but were not highly emphasized as a tool that drove

their PBL implementation. Lastly, PBL pacing guides were the most influential for their PBL implementation because they provided the Districts Essential PBL Elements with the tasks that the participants had to complete on PBL Fridays.

Trustworthiness

I established trustworthiness in the study by addressing the constructs of credibility, confirmability, and ethical validation.

According to Hayes et al. (2012), credibility engages the researcher in determining if the conclusion of their qualitative study makes sense. Therefore, I maintained an audit trail of tangible evidence of my data collection and analysis procedures to address the construct. For example, I kept a binder of the collection of participant contracts, informed consent forms, data collections, interview protocols, field notes, and transcriptions. I also used triangulation to support the findings from different data sources, such as formal/informal interviews, documents, and observations (Hayes et al., 2012).

The confirmability construct strives to accurately represent participants' perspectives (Hayes et al., 2012). My simultaneous data collection and analysis achieved confirmability. I analyzed the data promptly and ensured the interview questions aligned with my data collection. I also provided thick descriptions of the respondent’s experiences and PBL implementation observations. In addition, I continuously monitored my subjectivities to understand my participant's experiences with an open mind.

The third construct of my study was ethical validation. To address this construct, I confirmed the participant’s consent was used appropriately and engaged in meaningful and practical research. I also conducted a member checking strategy (Hayes et al., 2012). I provided

participants with their interview transcripts and completed a brief follow-up meeting to expand or clarify their thoughts on the interview responses.

Researcher as Instrument Statement

My interest in project-based learning and English Language acquisition research starts with a story about my identity. My mother decided to live in the U.S. permanently after many years of crossing the U.S.-Mexico border to give my two brothers and me stability and a quality education. My mother's highest level of education was at the middle school level. However, her most significant obstacle in the U.S. was learning English and adapting to a new culture. Career opportunities and job advancements were not promising because of her language barriers. Eventually, she earned her GED and graduated from community college with a Certified Nursing Assistant Degree. Professors who took the time to scaffold and make the content understandable for my mother are the reason why she excelled. Unfortunately, she continues to encounter individuals who discriminate against her because of her accent and lack of English proficiency. Experiencing her struggles has interested me in language acquisition for English language learners and the dual language program.

I completed my elementary school years under a transitional model in bilingual education. The transitional model is subtractive, promoting assimilation into mainstream culture and language (Palmer, 2011). I grew up lacking the confidence and motivation to participate in many school activities because of my limited ability to speak English. I was self-conscious about my pronunciation and lack of vocabulary in English. My *Abuelita* used to say I was "Lupita la de Mexico" when I would visit my family members in Juarez. I remember denying it because my perception of speaking Spanish as my first language was why I was called "the Spanish kid" in school. My negative connection to those experiences has motivated me to learn more about the

benefits of the dual language program and other cross-curricular programs that support the natural development of a student's second language. I can relate to students who are not given the opportunity to develop English proficiency and gain the confidence to be proud of their native language while learning English.

My educational philosophy supports constructivist pedagogies. Constructivist pedagogies allow students and teachers to develop knowledge and inquiry through classroom engagements (Hein, 1991; Honebein, 1996). My interest began when I was able to serve a campus that transitioned from a teacher-led to a student-led instructional model. Teachers shifted from teaching directly from a book to engaging students to learn about their communities, identify problems, and find solutions.

During that time, I did not have the experience or knowledge to teach students through projects with the intent to develop their language and 21st-century skills. Much less to lead teachers to create cross-curricular lessons that guide students to think critically and solve problems. However, through the grant given through the New Tech Network, I received training that helped me understand how to apply the instructional practice successfully. The New Tech Network is a non-profit organization that partners with districts to innovate and support school teaching and learning (New Tech Network, n.d.).

The student and teacher outcomes were evident on campus within the first year of implementation. I observed an increase in students' motivation and oracy development. Students who lacked confidence transitioned to becoming classroom ambassadors and owners of their knowledge. Students engaged in authentic, real-world projects in both languages, and most importantly, students wanted to come to school. However, the pedagogical shift that teachers experienced varied. Some opposed the program, and others embraced the learning. I believe the

most significant obstacle was understanding the "how" and "why" of the PBL approach. I believe that would have helped with teacher turnover the campus experienced within the first year of the PBL implementation. During the first year of implementation, the campus lost about 65% of the teachers and staff. I always wondered if the campus could have taken preventative measures. My main concern was understanding how inquiry-based models could be implemented in dual language environments and sustained in schools.

The New Tech Program also granted my former campus funds so that we could visit campuses in other states that had successfully implemented PBL. For example, the leadership team and I observed a California school in year five of implementation. Principal Aaron Brengard at Katherine R. Smith Elementary School opened his doors to his campus so we could view the practice in action. The campus, located in San Jose, California, serves K-6 students from low-income backgrounds at the Evergreen Independent School District. Before implementing PBL at his campus, the principal ensured his team was on board and willing to engage in the work (Getting Smart, 2015). In addition, the principal was transparent to the teachers and staff about his PBL implementation plan; 75% of his teachers chose a different path.

However, there were many successes at Katherine R. Smith Elementary School in San Jose, California, with implementing project-based learning. Teachers at the campus integrated technology in their instruction to promote voice and choice focused on high-quality, rigorous project-based curriculum and instruction, and students became campus leaders by becoming student ambassadors (Getting Smart, 2018, 2022). My interest in PBL deepened when panels of students and teachers shared their success stories. They expressed students' interest in learning and teachers as facilitators of student learning. Furthermore, they described how they had students with high populations of Hispanic, 68%, and Asian, 26% so they had to be purposeful

with the support given to meet the needs of their students. That is when my attention toward PBL for emergent bilinguals emerged.

I have been in education for ten years and have served as an instructional coach for Prek-5th grades for seven years. I recently received a promotion as a Bilingual/ESL Coordinator and oversee bilingual education at various elementary campuses for science and social studies. I have engaged proudly in leadership roles that have helped me advocate for the needs of emergent bilinguals. I use the term emergent bilinguals because it is inclusive and acknowledges the variety of cultural and linguistic backgrounds that our students bring to our classrooms (Garcia, 2009b).

I sought this topic to expand the knowledge base on project-based learning in a dual language setting. Dual language values the "unique cultural and linguistic assets" of our students and provides social justice outcomes in schools (DeMatthews & Izquierdo, 2019, p. x). Project-based learning is an opportunity for students from disadvantaged communities to learn through authentic, innovative, and real-world experiences (New Tech Network, n.d.). My study brought insight into how the PBL approach in a dual language setting can provide opportunity and equity in schools.

Limitations

A limitation of the study was the time allocated for the participants to implement PBL at their campus. External factors such as fire drills, school events, and professional learning communities (PLCs) on Thursdays lessened the time for PBL implementation at the campus. In addition, formal and informal assessments for grade levels 3-5 also took priority over PBL implementation, which made it challenging to observe upper-grade teachers for the study.

In addition, I am a proud leader and advocate within the district of the study. Therefore, the power dynamic of my role could have influenced the responses from the participants to some extent and limited the insight into other challenges the implementation of PBL can pose to DL teachers, such as the collaboration of teacher dyads to support student learning. DL teachers must have trust, respect, and open communication to coordinate PBL efforts and collaborate with their partner teachers successfully (Van den Bossche et al., 2006). Furthermore, DL teachers' different backgrounds, beliefs, and teaching styles influence their shared understanding to collaborate effectively (Van den Bossche et al., 2006). Tensions and conflicts related to DL teacher team collaboration were not observed in the study but could possibly influence the implementation of the student-centered practice.

Summary

In this chapter, I provided details about the study's research design and methodology. I also discussed the purpose statement, research questions, data collection method, participant and site selection, data analysis, trustworthiness, research as instrument statement, and the study's limitations. I also discussed the Concerns-Based Adoption Model (CBAM), including the two components that guided the collection and analysis of data to understand teacher self-efficacy in implementing PBL in a dual language setting on the U.S.-Mexico border.

Chapter 4: Findings

This chapter provides the Barros Elementary School case study's findings on implementing project-based learning (PBL) for emergent bilinguals (EBs) and the role of teacher self-efficacy at a dual language campus on the U.S.-Mexico Border. All seven participants implemented PBL within a one- or two-teacher model at Barros Elementary School. The research questions that guided the study were: 1) How do teachers implement PBL at an elementary dual language campus on the U.S.-Mexico border? 2) What are teachers' experiences implementing PBL at an elementary dual language campus on the U.S.-Mexico border? and 3) How does teacher self-efficacy support the implementation of PBL at an elementary campus on the U.S.-Mexico border? I structured the findings around six common themes and subthemes based on the participants' interviews, documents, and my observations. The six themes were: *District's Commitments and Expectations, Emergent Bilingual Supports*, *Commitment versus Compliance, Successes and Challenges, Confidence, and Teacher Self-efficacy*.

District Commitment and Expectations

Barros Elementary is a school in the Ardo Independent School District (AISD) located on the U.S.-Mexico border. The school-wide implementation of PBL at Barros Elementary was guided by AISD's instructional vision, which held the campus to specific expectations. The *District Commitment and Expectations* theme and subthemes informed the implementation at Barros Elementary. In 2019, the district provided the directive for Barros Elementary to implement project-based learning gradually. The initial implementation included grades K-2 in the subject area of social studies. Then two years later science became part of the K-2 PBL initiative, making cross-curricular connections possible. In 2022, grades 3-5 began their application of PBL in social studies. In addition, the district provided initial professional

development, such as PBL 101 and PBL for dual language. The PBL 101 professional development covered the District's Essential Elements while incorporating the dual language framework. The subthemes included: *Ardo ISD Instructional Vision, District PBL Essential Elements, and Resources and Documents*. I will elaborate them below.

Ardo ISD Instructional Vision

The instructional vision of AISD guided the implementation of PBL at Barros Elementary. I obtained the district's vision from the district's website to understand the commitment of AISD with project-based learning. A district's vision and support for PBL is essential because it sets the tone and expectation for how PBL will be implemented and supported in schools. Moreover, a clear vision and support for PBL from the district signals teachers and administrators that PBL is a priority.

AISD's vision centers on high standards for student academic excellence. The vision focuses on empowering students through education to overcome the barriers that can prevent them from having the opportunity to continue higher education. The vision also mentions that students will value their academic experiences and interactions with their school community while developing citizenship skills. Moreover, the district's vision emphasizes that students will develop their reading, writing, and speaking skills to become creative thinkers and problem solvers. AISD acknowledges that the skills mentioned are needed to compete and be part of this multifaceted world. Also, the core values of AISD incorporate essential elements that are part of the PBL Gold Standard Model to include instruction centered on student learning, engagement, and quality (Larmer et al., 2015).

The district also applied the 50/50 one-way dual language model and promoted a vision to develop bilingual, biliterate, and bicultural student thinkers (Howard et al., 2007). The

Bilingual/ESL Program's Vision supported the district's goals with the Three Pillars of Dual Language Education as expressed in the Guiding Principles for Dual Language Education, 3rd edition (Howard et al., 2007). The first pillar strives for students to become bilingual and biliterate. Bilingual means for students to listen, speak and understand in two languages. Biliterate means students can speak, write, read, and listen in two languages while bridging their understanding to support each language. The second pillar is for students to attain high levels of academic achievement in two languages. Finally, the third pillar is for students to develop sociocultural competence or identify their similarities or differences while accepting and embracing the differences. I found Barros Elementary reflected the district's program implementations and expectations through my formal and informal interviews, observations, and documents.

For instance, during my observations, I noticed that every participant displayed the Three Goals of DL on their walls and made it visible to the students and their learning community. The poster of the Three Goals of Dual Language Education displayed three students in each pillar from different ethnicities and provided the goals in English and Spanish. The goals in Spanish read, bilingüismo y lectoescritura en dos idiomas, éxito académico, and competencia sociocultural. According to Escamilla and Grassi (2015), students' second language development is impacted positively when they feel their cultural identity is preserved and valued. Thus, participants displaying the Three Goals of DL indicates alignment to the district's vision to foster bilingual and biliterate learners. The following subtheme informed how the implementation of Barros Elementary adapted specific elements to guide their PBL instruction.

Districts PBL Essential Elements

Although many frameworks are available, AISD adopted the Gold Standard for PBL Model to support the vision and core values intended for their students. The Seven Essential Project Design Elements, also known as the Gold Standards of PBL, frame projects through a question that is open-ended and aligned to academic learning goals and *success skills.* Success skills include critical thinking, collaboration, creativity, and project organization (Larmer et al., 2015). The AISD uses these essential elements as a guide to create projects that capitalize on student learning and interaction. Accordingly, Barros Elementary receives documents and planning guides from the district with the specific District PBL Essential Elements, including Knows/Need to Know, Entry Event, Problem or Challenge, Driving Question, Social Studies/Science Connection, Public Product, and Public Presentation.

All the participants identified some of the essential elements while explaining their planning or process for PBL Fridays. On PBL Friday, teachers are tasked by the district to implement PBL, while teaching content background or concepts excluded from the PBLs on Mondays through Thursdays. Accordingly, the first essential element of AISD is the "Knows and Need to Know," where students can voice what they know about the topic of study and what they need to research or learn. The second essential element is the "Driving Question" that leads the PBL and anchors the project to answer the open-ended question. Olivia indicated both in her response, "When we start the PBL, we start off with reading our driving question and seeing what we have to do." She continued explaining that there were many tasks and that she had to narrow down her day's focus. Olivia explained,

> I tend to like pick, okay, we will work on this part today. Today we are going to work on the weather. What kind of weather do we see in [said city]? How does that affect what

> you wear and stuff? So, we ask them why it is important that we know the weather. We discuss that, and then sometimes they write it on sticky notes and put it on what we know and then what we want to know kind of anchor chart.

Olivia described her implementation process by acknowledging the "Driving Question" as the guide to what they would anchor their learning for the day. Then, she valued students' prior knowledge by asking them what they "Know and Need to Know" about the concept. Olivia's acknowledgment of the "Driving Question" element indicated she understood the importance of valuing and connecting the students learning to the overarching question. Moreover, engaging the students in using post-its to determine what they "Know and Need to Know" created content accessibility for her EBs by connecting new learning to their schemas, as stated by the C6 Connect in the Biliteracy Instructional Framework (Medina, 2019).

The "Entry Event" is the third essential element, allowing teachers to engage the student's interest in the topic. Iris explained that she connects students' prior knowledge to their motherland to capture their attention and make them feel included.

> Si hablamos del zoológico, aquí en [said city] tenemos un zoológico. En [city across border] hay zoológico porque tenemos niños que vienen de allá. A ver, ¿en [city across border] hay zoológico? Sí, maestra, hay un parque que hay algunos animales. Okay, aquí también tenemos un zoológico, pero este zoológico es más diferente, es más grande para poder atraer la atención de los niños y que se sientan integrados.

Iris felt the "Entry Event" provided the opportunity to hook her student's attention to the topic of study. She offered the example of the zoo on how it was like the zoo across the border. Iris believed it was significant to have engaging discussions that valued students' experiences and knowledge to bridge their understandings. Moreover, her response recognized the need for dual

language teachers to know their students' demographics to make the PBL projects relevant and culturally inclusive, as stated by the C6 Commit in the Biliteracy Framework (Medina, 2019).

The fourth essential element is the "Engage," delivered through a video, a book, or interactive activity to pique students' interest. The fifth essential component is the "Problem or Challenge," posing a significant problem to solve or a question to answer. Like Olivia, Sara stated the weekly planning of her PBL implementation and identified the problem or the challenge,

> Of course, looking at what is needed, like the problem or the challenge of the PBL. Then looking at the [said state standards] that are aligned with the PBL's problem or challenge, and of course, every day, we go into whatever the science [said state standards] and social studies [said state standards] is. On Fridays, we have our PBL Fridays, where we get to work a little bit more on a project in a way that the kids want to present.

In the implementation process, Sara details the importance of aligning the "Problem or Challenge" with the State Essential Knowledge skills required for students to master. Like Olivia, Sara uses the district-provided pacing tools to determine what needs to be taught. In addition, she confirmed that PBL Fridays allow students to show their learning in various ways while enabling student autonomy to solve or answer a "Problem or Challenge."

The district's sixth essential element is providing a cross-curricular "Social Studies and Science Connection." Iris began her preparation by building content knowledge in social studies with the support of her grade level. She explained,

> Empieza desde la mañana, cuando estamos haciendo la preparación durante nuestro tiempo de *prep*. Nos preparamos, digamos que como por ejemplo ahorita que estamos enseñando estudios de [said state], vamos a hacer nuestro proyecto en [said state].

> Empezamos haciendo lo que es el mapa de [said state], nos preparamos las cuatro maestras y discutimos acerca de lo que vamos a hacer ese día. Por ejemplo, hoy vamos a introducir lo que es el contorno de [said state] que los niños se ubiquen a [said state] en el mapa de [said country] y les vamos a introducir las cinco ciudades importantes, por qué son las cinco ciudades importantes, por qué se escogieron esas cinco ciudades. Les damos a ellos también un mapa para que ellos lo visualicen de todo lo que son [said country] y luego ya un mapa de [said state], que eso fue lo que hicimos esta semana.

The social studies connection Iris conducted covered the state's five most important cities. She explained her collaboration with her team to build her student's understanding of state's location within the country and the cities of focus. Iris stated that planning was a team effort, and visuals are purposefully planned to support student understanding during their social studies connection.

The last two elements include the "Public Product" and "Presentation," where students demonstrate and verbalize their learning. Ana emphasized the final product and presentation of their students in either language,

> So, our students really go out for their PBL projects, and they love to share what they know. When we do, we do in both languages. So sometimes we get students that speak Spanish, and then we get students who speak English since we are so close to the border. Our campus has embraced it, you know, our administrators. Sometimes we bring over admin, I mean from a central office, or we bring whoever wants to come to see us and join us.

Ana expressed joy towards her students' engagement and willingness when presenting their PBL projects. She reflected that her students' demographics consist of English and Spanish-speaking students due to the campus's proximity to the U.S.-Mexico border. Ana affirmed that

her campus welcomed and recognized the students' native languages. Moreover, teachers allowed students to present to others within and outside their learning community. The C6 Consider emphasizes that teachers must foster EB student ownership to facilitate learning (Medina, 2019). Thus, students were empowered with the "Presentation" essential component to show their accomplishments to their peers and others.

For grades 3-5, the district requires students to complete a written component or Extended Constructive Response (ECR) as their final product. Then, students present their final written artifacts to their audience of choice. Lucia used the "Driving Question" and "Problem or Challenge" to prepare her students to complete the writing component of their PBL projects. Lucia stated,

> I have my students working with their partners or as a group on whatever the question, the challenge that they have to do for PBL in order for them to be ready. I always have them talking to each other, and then we go into the writing, where they either take their notes or put something together. Then from there, they can go independent.

She maintained the focus of the PBL is driven by the "Driving Question" and "Problem of Challenge." In addition, Lucia believed student oral interaction and collaboration are essential for facilitating her student's writing.

In the same way, Elena prepared her students for PBL Friday or ECR Friday to complete their public product by building background knowledge and having students identify what they need to know to answer their prompt or challenge. Elena provided the following explanation,

> We expose them to the content, but as I introduce them to the content, they also get to explore. We want them to have ownership. So, they read, they have their exit tickets that are specific to what they have to find out on that particular day. It helps them to use their

> writing skills, and then they get to share with a partner. Once we go to our ECR Friday, then we will go through the writing process. Now I'm still modeling for them because, like I told you, there is growth in their writing, but some of them still need a lot of support.

Elena declared her belief in developing student ownership by having her students identify the "Know and Need to Know" of the day. In addition, the exit tickets provided within the district tools for social studies support students writing abilities throughout the week. However, even though the intent of PBL was to be student-centered on Fridays, Elena asserted her students continue to need the modeling during the writing process. Unlike the rest, Arely stated dual language PBL is not a new practice because, in the past, she has implemented many of the components that are required present day. Arely shared,

> Well, actually, we have been doing it all the time. But now it has a fancy name to it because we do have to have a word wall, of course, and we used to have that, and we used to have it in English and Spanish for them to be able to understand. So, we have to connect it to life experiences with that so that we can connect to something like that. We also had an open-ended question for them to be able to understand. If they were able to explain it to me, they understood the question, but if they were not able to explain it to me, you know, that is that. So, we have been doing it for many years, but I think every year, something new comes up, and then they change it to a different name, a different tag.

Arely claimed the PBL components and requirements existed before the implementation occurred at Barros Elementary. She claimed the open-question, or "Driving Question" was used

in the past along with the embedded supports to aid dual language students during the process. Her response indicated the campus culture had considered students' linguistic needs in the past.

In addition to the District's Essential Elements, the PBL Wall is also an expectation for AISD. Iris explained the components displayed on the PBL Wall, which must be completed and shown throughout the completion of the project. Iris explained,

> Teníamos que escoger un lugar específico para poderlo tener visual y los niños también a la misma vez ir viendo lo que íbamos haciendo para el producto final, que este tenía que tener el título, la pregunta, the driving question, los [said state standards], cómo estaban los [said state standards] de ciencias con los estudios sociales, cómo estaban incorporados y qué es lo que sabes, qué es lo que estás aprendiendo. Todo tenia que ser visual.

Iris described the components of the PBL Wall, a visual in the classroom for the students and teachers to keep track of their progress and learning. It had to include the PBL project title, the students' state standards, objectives, the "Driving Question," the "Social Studies and Science Connection," "Know and Need to Know," "Problem and Challenge," brainstorming solutions, and students' products. The PBL Wall provided an at-a-glance view of the grade levels PBL project.

Like Iris, Ana affirmed the PBL Wall expectation and the importance of having it in two languages to bridge the students understanding. Ana responded,

> Whether it's her room or my classroom, we both have the PBL wall. Our PBL wall encompasses both languages so that we can do those bridging opportunities for our children, for our students.

In the two observations I conducted for Iris and Ana, they both had PBL Walls. However, Iris had the PBL Wall components in Spanish, and Ana had them in English accordingly to their

language of instruction. The PBL Walls indicate that the participants are implementing project-based learning and that the essential elements adopted by the district are utilized in the planning and practice of the innovation. Therefore, the District PBL Essential Elements, including the PBL Wall, provided insight into the implementation of PBL at Barros Elementary.

In addition, the participants used the essential elements to guide their lessons and provide opportunities for EBs to have a clear goal in their learning, make cross-curricular connections, and present their understandings with the support of their first language. The implementation of PBL at Barros Elementary considers the student's demographics based on their proximity to the border. Moreover, the district also provided support through resources and documents that further facilitated the PBL dual language implementation.

Resources and Documents

AISD provided planning documents for teachers to plan and deliver their projects, including the Academic Calendar, Social Studies Pacing Tools, PBL guides, and the Success Criteria Rubrics. However, the participants did not use all the documents based on their responses and observations. The Academic Calendar is a document that provides teachers with the science and social studies scope and sequence of the unit topics and the designated PBL Fridays. PBL Fridays provide the allocated social studies and science time for K-2 students to work on their projects. According to the teachers, grades 3-5 also received a PBL Academic Calendar for Social Studies, created based on the units of study per grade level. As required by AISD, all the participants had implemented two of the four required PBLs for the year and were currently on their third project. The participants implemented one every nine weeks following the district's pacing tools and state-mandated student standards.

The PBL pacing guide provided PBL participants with the "Knows and Need to Know" to activate students' knowledge and an Entry event video to stimulate students' interest. The "Problem and Challenge" is also given to the teachers to ground and drive their student's PBL. Furthermore, standards are listed next to the "Science and Social Studies Connection" labeled must include. These are district-provided activities for teachers to engage their students in cross-curricular work. The alongside are also listed with student standards that may be taught in conjunction with the project. Lastly, the document states the "Public Product" and "Presentation" with student voice and choice. Student voice and choice meant teachers could collaborate with students to determine their form of presentation and audience.

A shared commonality among all the participants was the use of the PBL pacing guide and the value of the document. Ana stated the pacing guide kept her on target and focused, "We have our pacing guide, and our pacing guide is week by week. Of course, it doesn't tell you exactly to the tee what we are supposed to be doing, but it is an awesome guide because we can always refer back." In the same manner, Iris maintained the district provided teachers with the student standards that need to be covered and incorporated, "Ellos nos dicen cuáles son los [said state standards] que tenemos que cubrir y cómo los vamos a incorporar." Iris declared the district provided the "what" and the "how" of the PBL project. However, according to the PBL pacing document, there was a choice on how the students presented their knowledge to a desired audience and took charge of their learning. The autonomy and application in PBL matter because EB students' language acquisition is affected by emotional factors such as motivation (Escamilla & Grassi, 2015).

Like Iris, Sara affirmed the resources and objectives are provided for them daily. Sara stated, "Well, we are given the third weeks, you know, the, whatever nine weeks, what the

problem the challenge is, and then, of course, it has the [said state standards] that we have to address and what that project needs to have and then it's divided already." Olivia further explained the pacing guides are in Spanish, which supports her language of facilitation, "Yeah, there is a document. There is a PBL guide that tells you exactly what the driving question is, and then it gives you the must-do and must-include. It is like those are what have to be in there. Then, it also has that in Spanish. So for me, I have to print it in Spanish. I have to have my stuff in Spanish." Sara and Olivia showed a deep understanding of the intent of the PBL pacing document and expressed confidence in their use of the document for their implementation. The participant's knowledge of the usefulness of these documents provides insight into how it supports and influences their implementation.

Arely confirmed the pacing guides were helpful due to the time limits, "As teachers, we are overwhelmed with everything we have, and sometimes we don't have time to go and look for different things. So, all we have to do is go to the pacing guide, and it's right there, and I love it because it's in English and Spanish." Arely was an upper-grade teacher that openly expressed the many commitments teachers had due to state testing in reading, math, and science. The pacing guide eliminated the time teachers would need to take to develop their projects. Hence, implementing PBL at Barros Elementary does not require teachers to develop their projects.

Furthermore, the social studies pacing tools provided by the district offered more detail to meet the needs of the PBL implementation. According to the document, Monday through Thursday is intended to build background knowledge and work towards the PBL product(s), while Fridays are blocked out to ensure students work on their projects. The pacing tools include performance assessments, standard-driven learning objectives, vocabulary, specific resource links, writing connections, and instructional strategies to use within the projects. The social

studies pacing tools also provided information in Spanish to support the teachers implementing the projects in Spanish, including sentence frames and cross-linguistic connections to help emergent bilinguals bridge their academic understandings. However, not all participants mentioned the Social Studies Pacing Tool to describe their planning and PBL process. Therefore, the primary tool to guide the PBL implementation at Barros Elementary was the PBL pacing guide.

The PBL rubrics are intended to track students' performance and mastery of the standards covered in the 9 Week project. Sara was the only participant that mentioned the rubrics. "Usually, we show them, okay, this is what you need to have at the end of their project. Despite this day, you need to have this." She explains that there are other rubrics provided but that she has the choice to choose the one that fits her needs, "There are different kinds of checklists and rubrics that we get, but then whatever works for us." The minimal reference by the participants toward the rubrics indicated the implementation of PBL at Barros did not consider the rubrics when monitoring student progress.

In summary, the theme and subthemes of District Commitments and Expectations provided valuable insight on how PBL was implemented at Barros Elementary. First, the implementation of PBL at Barros Elementary was a directive from the district. Second, the participants used the District PBL Essential Elements as a guide in their implementation process. Third, although many resources and documents were provided to the teachers, the PBL pacing guides were the most influential for their PBL implementation. The dual language teachers at the campus implement PBL to support EBs by recognizing how the location of the campus within the U.S.-Mexico border diversifies the learning spaces of students from English and Spanish-speaking backgrounds. The alignment of the district expectation with the supports provided in

both languages supported teachers' confidence in implementing PBL in a dual language setting. The next theme entails the EB bilingual supports teachers implemented during their PBLs to create student opportunities and access.

Emergent Bilingual Supports

A second common central theme was the instructional support provided within their PBL implementation to support emergent bilingual students in their classrooms. The instructional supports included leveraging students understanding using their native language, providing various visuals, activating students' background knowledge, and pairing students to support each other. The responses from the participants were indicative of asset-based perspectives, which promote inclusiveness, value students' backgrounds, and provide academic and linguistic support to increase students learning.

Translanguaging

The participants commonly expressed how they valued the opportunity to use their student's linguistic toolbox to collaborate or share what they were learning. The incorporation of translanguaging is notable because teachers use their understanding of the EB bilingual supports to maximize their learning through the PBL implementation. Translanguaging is an individual's ability to use features from their singular or multiple language banks to construct meaning and demonstrate knowledge (Vogel & García, 2017).

For instance, Sara believed PBL in dual language provided a safe space for students to demonstrate their learning. She implied students understanding may be misinterpreted and believed PBL provided the platform for her emergent bilinguals to express themselves in the language of their choice.

> Sometimes there are teams that do not work well, or they do not want to share, or you realize that just because they are quiet, it does not mean that they do not understand; maybe they are just not comfortable in their language. Then, the PBL. What is perfect is that, as I said before, they are able to show what they know in their language, whatever they feel the most comfortable.

Her response reflected an asset-based view of students' resistance to participate. Instead of viewing their participation through a deficit lens, Sara leveraged her student's potential by engaging them in PBL with the EB support of translanguaging.

Similarly, Iris explained her student's silence and how she believed translanguaging could grow students' linguistic development in both languages.

> Muchos de estos niños vienen bien seriesitos, ¿verdad? Bien calladitos. Y si yo le doy la oportunidad de que este niño, por ejemplo, viene y él habla más inglés, pero yo sé que no me lo puede expresar en español, yo lo dejo que me lo expresen en inglés y luego le digo, Tú me estás diciendo que sí conoces [local city]. A ver, dime, Yo conozco [local city], yo ya fui a [local city]. O sea, lo dejo que se exprese en su idioma, pero a la vez le digo cómo se dice en español, ¿verdad? O cómo se escribe, porque es la manera de cómo ellos van a poder empezar a desarrollar los dos idiomas.

Iris expressed confidence in supporting students' various linguistic abilities. She explained how she would permit students to share their knowledge on what the student knew about [local city], and she took the opportunity to let the students know how it is said in Spanish. While translanguaging calls for students to feel safe in their learning environment by speaking in their native language, Iris stated teachers need to connect their understandings to learn a second language.

Ana also indicated she co-teaches with her partner, Iris, on PBL Fridays and combines both classes. Thereby, she felt it was fundamental to allow the students to choose their language of participation so that they could support each other. Ana provided the following insight,

> We start off with either English or Spanish, and all the kids know it. If they want to say it in Spanish, we are okay with that. You do not want to say it in English; we are okay with that. The thing is that pretty soon, you start to notice that those kids start helping each other out.

Ana seemed confident and adamant about allowing students to use their language of strength. She claimed that, eventually, students would help each other to understand the content. Iris and Ana collaborated during the PBL Fridays, and both shared a mutual understanding of the benefit of translanguaging. During my two observations with Ana and Iris, I noticed both teachers remained in their language of instruction and permitted students to voice their ideas and connections in either language. The mixing of their English or Spanish linguistic abilities allows students to participate and express their understandings without the limitation of remaining in the language of instruction (Oberg De La Garza, 2020). Often one teacher would reiterate what the other would say in the opposite language or, one would encourage the other to describe the concept in Spanish. Their similar perspectives in supporting EBs through PBL were evident and responsive to the student's needs.

For the teachers in upper grades the view of translanguaging was the same as the teachers in lower grades. Elena stated she was more focused on knowing what the students understood. She expressed it was comforting to know they were allowed and encouraged for their students to translanguage.

> Then, always knowing that they can use their first language, even if the language of the day is English because a lot of our kids that we have in fourth grade did not go through the dual language the way it is being implemented now. It is also making them feel that yes, it is okay if they want to use English to say what they want to say. It is because it is content. We want them to know that it is okay to share what they know in the language that they feel more comfortable.

Elena provided valuable insight by acknowledging her student's language proficiencies due to external factors such as shifts in the district's bilingual program implementation throughout the years. Implementing PBL at Barro's Elementary was also a shift for the teachers and students. However, through the EB supports incorporated in the implementation of PBL, students could use their abilities to gain content knowledge. At the same time, learn a second language in a natural environment.

Like Elena, Olivia explained she facilitates the Spanish component of dual language, and because she has four students who are predominantly English speaking, she must connect their linguistic abilities to determine their understanding. Olivia replied,

> Once they tell me in English, then we discuss it in Spanish. So, they can make that connection because they know the content, but they just don't know the vocabulary for Spanish. They have the option of doing it in English or Spanish. It is their choice because we want to know that they know it, not if they know the language.

Olivia creates a safe learning environment and provides choices within her PBL tasks. She emphasizes the teacher's desire to seek student understanding and not their language attainment. However, EB supports should be utilized to develop student content and linguistic skills. Teachers are encouraged to allow students to translanguage while connecting what they

understand in one language to learn in the other. Olivia provides insight into how she engages her students by letting them know how it is pronounced in English and Spanish. Olivia explained,

> I might ask a question in Spanish, and they might tell me in English. So now I will tell them, let's make that connection. So, en ingles it goes like this, but in español *se dice asi. Esto es lo que están hablando*. I will even have them repeat it.

Due to the proximity of the border, Barros Elementary implemented PBL in a one-way dual language program where most of the students in the dual language classrooms were native to one language (Thomas & Collier, 2019). The implementation of PBL at Barros Elementary established a learning environment suitable for emergent bilinguals by understanding the continuous use of student's linguistic repertoire to make meaning of their learning and communication in the second language.

Classroom Visuals

The participants also commonly experienced visuals as valuable support for emergent bilinguals. Arely specified she used cognate words as visuals and anchor charts to reinforce her student learning. Arely stated,

> We do a lot of cognate words for them to be able to understand. Everything is in English and Spanish. As you can see, I have many, many anchor charts, both in English and in Spanish.

Arely utilizes cognate words to bridge her student's understanding of either language. She expressed confidence that her classroom reflects the support she provided students, including the chart tablets with vocabulary words in both languages. Her classroom generated a print-rich environment conducive for emergent bilinguals to feel embraced and valued. Emergent bilingual

students require educational approaches that meet their individualized instructional needs (Bondie et al., 2019). While some students benefit from words in both English and Spanish, others may find an illustration in English and Spanish beneficial to make the connection in the second language. Thus, implementing PBL in a dual language campus should reflect an environment of the student's language and proficiency needs.

Iris also indicated her use of anchor charts but emphasized color coding the Spanish words in green and the English words in blue.

> Y lo que hacemos ahorita ya en muchos de nuestros carteles didácticos es ponerlo, por ejemplo, yo que soy la maestra de español, yo lo pongo en español y a un lado en inglés, en español verde y en azul en inglés. Y la maestra de inglés también usa el mismo, le llaman "color code". Que usan los dos colores porque lo hacemos hasta en los cognados y es visual. Y es visual para que los niños identifiquen el verde es español y el azul es en inglés.

Given that most of the students are native to one language, color coding supports the side-by-side context of the learning topic. The implementation of PBL for EBs on the U.S.-Mexico border requires teachers, like Iris, to make explicit connections between the languages and the content.

Lucia also detailed other visuals she considered valuable to support her emergent bilingual's knowledge and writing abilities.

> We use a lot of graphic organizers. We use a lot of pictures, a lot of even videos. Videos because they watch videos and vocabulary to develop that understanding. Also, sentence stems because we have to use a lot of sentence stems in order for them to begin their writing.

Multiple classroom visuals make a difference because EB students have various linguistic and content needs. Students with beginner and proficiency levels require visuals, graphic organizers, and sentence starters to support their learning. Students in advanced or advanced high levels also require supports but with less frequency. The goal is for teachers to gradually remove the supports as they develop the language and content understanding.

Like Lucia, Elena affirmed she needed sentence stems to initiate her student's ECR or final written product. Elena explained, “Sentence starters for the Short Constructive Response (SCR) and the ECR. So, I give them something that already says how they can begin writing, and then I give them other options.” Lucia’s response indicated her understanding of providing scaffolds through sentence stems to support her student’s writing. O’Brien et al. (2014) stated that teacher planning for PBL instruction required scaffolding and sentence stems focused explicitly on students’ language structures and language understandings. Thereby, Lucia demonstrated confidence in providing support for her students and awareness of their instructional needs in writing by chunking their written text.

PBL teachers who are not confident or with low teacher-efficacy in their ability to support EBs may be hesitant to scaffold their instruction (Cho et al., 2020; Ertmer & Simons, 2005). However, during my observations with Elena, I observed her modeling how to approach the PBL or ECR prompt while providing graphic organizers for her students to arrange their writing. Lucia demonstrated scaffolding supports through gradual release techniques (I do, we do, you do) and visual graphic organizers. In addition, she conferenced with each student and commented on their progress. Elena's practices reflected differentiated instruction tailored and responsive to her emergent bilingual student needs (Oberg De La Garza, 2020). In her classroom, anchor charts reflected her students' cross-linguistic connections using cognates. For example,

English academic words were in blue, and Spanish academic words were in green to differentiate between the languages.

Another participant, Sara, also perceived visuals as practical support for her students. She acknowledged students might have already learned the content with her dual language partner but continued to need various visual aids to understand the concepts. Sara responded,

> Well, a lot of the visuals, they, of course, need a lot of visuals. There are different ways. I could also tell them, okay, we have learned this; you learned it in Spanish class. We have learned it here. But we could also put it all together and show them different kinds of books, different visuals, you know, videos.

Teachers must assume all EBs know English differently and learn it at a different pace (Harper & De Jong, 2004). Thus, comprehensible input through visuals supports students at all proficiency levels. For example, during one of the two observations I conducted for Sara, I noted she displayed vocabulary cards of environments for her students to review as a class. Then, when students presented their final products, she also provided them with printed pictures of animals and environments to show energy transfer and orally discuss their findings. Sara's classroom had a designated area next to her PBL Wall where social studies and science vocabulary were displayed for students to reference. The words were in English to Spanish and provided a visual of the academic language. Realia, or real-life objects, were also available next to the vocabulary so that students could make the connection between the word and the object. For instance, the word thermometer showed the definition, a tool used to measure how hot or cold something is, and a real-life thermometer hung beside it.

Sara's co-teacher, Olivia, also demonstrated vocabulary pictures for her students in Spanish and asked students during one of the observations, "que tipos de animales vemos en este

medio ambiente?" as she continued to show different environments. During the interview, Olivia affirmed she believed building vocabulary knowledge was a beneficial support previously used with her students, "When they had to do a rock garden, I actually pulled up pictures of rock gardens, different rock gardens, so they could see what a rock garden is." Sara and Olivia both displayed confidence in using vocabulary with images to support their student knowledge. They believed, based on their experience, that providing students with images prompted their presentations and understandings. Supports such as prereading tasks, visuals, anticipation guides, and pre-taught vocabulary are essential to narrow EB gaps in their learning (Echevarria & Short, 2008).

Furthermore, both teacher dyads, Olivia, and Sara, also had the PBL Wall with the respective topic information and designated language to reference visually. Sara's PBL Wall was in English, and Olivia's PBL Wall was in Spanish. However, they also displayed their partner language below each information as a support and bridge to their student linguistic understanding. In both classrooms, the problem/challenge in English stated, your second-grade class has been asked to record a morning segment for the campus broadcast. The topic of your segment will cover information of the environment in [said city]. In Spanish the problem/challenge stated, le han pedido a tu clase de segundo grado que grabe un segmento para la transmisión para la escuela. El tema de su segmento cubrirá información del medio ambiente en [said city]. Students were tasked to research their city environment to include the weather, plants, and animals in the region. For EBs to succeed in education, they must work towards an attainable goal that can be presented and justified (Haneda & Wells, 2012). The PBL wall provided students with a vision of their PBL tasks.

Background Knowledge

Another typical response of the seven participants was their belief in building students' background knowledge to bridge their current and new understandings. Olivia expressed,

> Sometimes there is a lot of explaining and giving examples. I do a lot of scenarios like for them to understand what I am trying to get them to do. You know, to the point that I even showed him like a newscast or weather report about [local news anchor] because they were like, what's a news segment?

Olivia believed student understanding necessitated various explanations, including real-life examples. Although not explicitly stated in the PBL guides, Olivia took the initiative to show her students newscasts or weather reports from a local news anchor to familiarize them with their tasks. She believed that by building their student's background knowledge, she would achieve *deeper learning* and understanding. PBL and Dual Language Education support all students to reach grade-level achievement (Larmer et al., 2015; Thomas & Collier, 2012). However, a fundamental principle to providing equitable learning opportunities for EBs is connecting the curriculum to their lives and experiences (Haneda & Wells, 2012).

While Olivia developed her student's background knowledge through scenarios and examples, Lucia emphasized that students must acquire vocabulary to begin their writing prompts, "Once they are going to go and write their ECR, they need to know the vocabulary. So they have to be strong in their vocabulary and build their background knowledge." Meanwhile, Elena perceived students had background knowledge teachers could access to connect with the new learning. Elena stated, "Also, their metalinguistic connections because they have a lot of them, they also have connections with something that we are doing in history." Teachers must guide students to make explicit connections to the language structures in each language and

develop the vocabulary to write successfully. Lucia's and Elena's practice reflects O'Brien et al. (2014) research on needed enhancements in PBL to provide consistent vocabulary routines and purposeful use of students' metalinguistic awareness.

On the other hand, Iris maintained her belief that dual language PBL teachers needed to allow time for students to express themselves and build each other's understanding of the concepts. Iris stated,

> Darles ese tiempo para que ellos expresen entre ellos mismos, para que entre ellos mismos puedan compartir lo que ya conocen. Si este niño ya viajó a SeaWorld, ya fue a SeaWorld, y este niño no le va a decir, Mira, ya, yo cuando fuimos, mis papás me llevaron, vimos esto y vimos esto. Entonces ahí ya estás dando algo de ganancia a este niño que no ha ido. Entonces, sí consideramos un tiempo específico donde los niños comparten.

Haneda and Wells (2012) also considered for EBs to speak and write to develop their language skills. Iris provided the opportunity for students to speak to share their experiences to build each other's understanding. Not only does she believe building background knowledge is imperative, but for her to also facilitate and provide a space where her students can build it together through PBL.

Arely brought forward the building of student understanding through hand gestures and repetition. Arely explained,

> I do a lot of hand gestures, I guess because of my culture. I also try to have repetition, especially in English. I say okay, the earth is rotating on its axis. What is it called? Axis. Say it again, axis. I have a lot of repetition, especially in English, because they need to hear it here and constantly.

She continues to explain she also values what her students already know about the concept and makes it relevant. Arely claimed,

> When I do science, I bring it all; I tell them when your mom makes *sopita,* you see the evaporation. I always try to make it to what they know and what we're learning. I synthesize everything, so we put it together.

Arely discussed two crucial aspects of emergent bilingual supports. First, she acknowledged students' need for non-verbal communication to understand the concepts: two, the importance of linking their science concepts to their fundamental knowledge. The implementation of PBL at Barros Elementary on the U.S.-Mexico border provides unique classroom dynamics requiring teachers to acknowledge students' capabilities and understandings. Arely stated she needed frequent repetition in English because she recognized her students were emerging and developing their second language. Teachers at Barros Elementary acknowledged that for students to have academic success in both languages, their previous experiences and knowledge had to be applied to influence their second language attainment and content mastery.

Peer Support

Another common response was peer support. Lucia declared she wanted students to feel successful and acknowledged pairing the students was helpful.

> So, I always put them with another student or a peer student. We are peer tutoring so they can help each other because I do not want to make them feel that they are not at the level they need to be to answer an ECR or PBL question. So, it is a challenge for them, but put them with another student to help each other.

Lucia believed pairing her students supported each other's writing during their PBL with ECR. However, strategic grouping techniques must be considered coupled with students' proficiency

levels to maximize students' knowledge. Although Lucia mentioned she would pair up students, she did not explicitly state she would use their English proficiency levels.

Elena also believed pairing students helped by boosting her EB's self-confidence. She explained, "The students who have more experience or are more likely to share are not shy. They help their peers, give them confidence; they model for them." Elena also believed by pairing her students she provided opportunity for them to take ownership and facilitate the process as they became the models for her EB students.

Like Elena, Sara agreed and encouraged students to pair up, mainly to support the students new to this country. Sara advised, "Have someone else that is very good at that language, like a newcomer, and pair him up with someone that you know is fluent in both languages and can help them." Sara indicated she identified her student's linguistic strengths to pair up her students. Sara paired students with higher levels of English proficiency to help others with beginning levels of English proficiency. Her pairing practice incorporated the inclusiveness of students' linguistic variations.

Iris also explained combining students supported the student's different linguistic understandings. Iris responded,

> Entre ellos mismos, si por ejemplo, tengo este niño que habla más inglés y este niño que habla español, pero tengo otros niños que también hablan más inglés, a veces la pregunta o el comentario que me haga este niño en inglés le va a ayudar a este otro niño que a lo mejor también tenía la duda. Y lo mismo pasa con los niños que hablan nada más español.

The proximity to the U.S.-Mexico border provided the classroom environment accessibility from students of different linguistic backgrounds. However, Iris's response also included the students

who were moved from monolingual classrooms to the dual language program. While some students who came from the neighboring city across the border and spoke minimal English, students that were previously taught in all English were also part of their classrooms. That variation is significant because Iris considered both occurrences when pairing her students. Another participant, Ana, felt her students build trust and make each other confident when paired. Ana declared,

> So what we usually do is pair them up. We pair a child that only speaks Spanish with a child that speaks English, and they translate for each other. If two children are really good in both languages and one wants to do it in Spanish, one does it in English, perfect. They complement each other because they can translate what one is saying and what the other is saying. I think that that builds their relationship too, and that builds their confidence.

Ana expressed confidence in paring her students to balance their understandings. She commented that they would translate to each other and create a relationship that supported their confidence. Ana facilitated a space for students to support each other and choose the language to demonstrate their learning. Haneda and Wells (2012) affirmed teachers must create collaborative environments and offer student voice and choice to support EB scholarship.

In summary, the Emergent Bilingual Support theme contributed to U.S. public schools' concern about EB's access to inclusive public-school experiences and opportunities to achieve academic and linguistic success (DeMatthews & Izquierdo, 2019). The emergent bilingual supports stated by the participants focused on the student's strengths to support each other and value students' background knowledge. Furthermore, the participants were committed to bridging their student's understandings through visuals and providing opportunities for them to

participate during PBL in their native language. I realized the participants at Barros Elementary, within their PBL implementation, value their students' ability to translanguage or use their entire linguistic abilities to produce and communicate language (Vogel & García, 2017).

Compliance versus Commitment

A third common central theme was Compliance versus Commitment. Through my classroom observations and the interviews, I found the participants' beliefs, values, and attitudes reflected commitment toward dual language PBL. Teachers were complying with the district's initiatives and expectations of PBL. However, they also took pride in their work, supported their students' learning needs in various ways, and had a growth mindset toward the learning approach. Moreover, they went above and beyond to expose their students to new learning experiences. The subthemes under Compliance versus Commitment included *Roles and Responsibilities* and *Beyond Compliance*.

Roles and responsibilities

A common subtheme was the participant's perspectives on the roles and responsibilities of a dual language PBL teacher. Instead of the teacher directing student learning constantly, the participants believed they had to provide a learning space where students could generate and communicate ideas to solve the problem or challenge of the project. For example, Ana said,

> I think our roles and responsibilities are more of a facilitator. I think we lead. We describe the project to our students. We tell them what is expected of them, and we roll with their ideas. We support them, but we also try to step back and let them do their thinking. We let them communicate. We let them work on this together and come up with their ideas or brainstorm.

Ana believed her role was facilitating and leading when introducing the project and the expectations. However, she maintained that she listened to her student's ideas and allowed their thinking to drive the projects. Ana incorporated communication and collaboration among her students to brainstorm and choose how they would show their learning. Larmer et al. (2019) claimed PBL promoted equity and inclusive learning environments by allowing students to engage in critical thinking, collaboration, and knowledge creation. Evidently, participants at Barros Elementary provided ample opportunities to provide access and comprehensive learning environments.

Likewise, Sara acknowledged she supported students by providing resources and giving them a voice and choice. Sara explained,

> My role is just a facilitator, of course, teaching the [said state standards] during the week, and then on the PBL Fridays, I am just really a facilitator. I am the one that provides whatever materials they may need and then give them the choice.

Although teachers experience frustration with supporting students' voice and choice (Ertmer & Simons, 2005), Sara seemed confident and committed to engaging students to choose the method of how they would present their findings.

Iris brought forward that she believed the role and responsibilities of a bilingual teacher are to facilitate through photographs, gestures, videos, and many anchor charts to provide comprehensible input to students. Iris responded,

> Pues como maestra bilingüe, tengo que exponer a los niños y con muchas fotografías, con gestos, con videos, con muchos carteles didácticos para que ellos puedan internalizar el concepto que estamos enseñando en el día.

Iris strongly believed her role and responsibility as a dual language PBL teacher was to support students understanding to acquire more language and internalize the day's concepts. Her response aligns with Krashen's (1981) on eliminating students' anxiety or fear towards language learning because EB students will not be receptive to the information if they are not supported appropriately. Hence, Iris felt her responsibility was to establish a safe and supportive environment to support her student development.

Similarly, Olivia stated she believed in enabling students by connecting their Spanish and English understanding and engaging them in constant inquiry.

> So that is one of my responsibilities is to facilitate for them the understanding in Spanish to make that bridging connection. I facilitate by asking a lot of questions and discussing it and a lot of what do you think? Well, if you wanted to know this, well, what would you do? It's a lot of questioning and having them discuss it.

Olivia also believed her role was facilitating her student's understanding of Spanish using the bridging strategy. Bridging strategies provide opportunities for the students to connect their learning, make comparisons, and apply what they learned in two program languages (Beeman & Urow, 2013). Furthermore, the model that guides Barros Elementary PBL implementation is the Gold Standards of PBL, which incorporate sustained inquiry. The essential project design element of sustained inquiry declare that students must pose rigorous questions. Even though Olivia mentioned she facilitated by asking the questions, the students were still engaged in thinking at a higher level.

Arely also revealed her role in achieving and facilitating academic understanding in two languages. "Our responsibility is actually to be teaching in both languages; that's why it is called dual language." Arely's assertive response indicated she was firm in her belief in teaching the

content within PBL in English and Spanish to meet the needs of her EBs. Her response also indicated she honored her role as a dual language teacher to meet the goal of academic achievement in both languages, as Howard et al. (2007) stated in the Three Goals of Dual Language Education. Moreover, the increase in the diversity of EBs in U.S. schools requires teachers to support students in acquiring the English language, learning the academic content, and acknowledging their diverse cultural and linguistic backgrounds (Goldenberg & Coleman, 2010). Thus, Arely's belief in supporting students in both languages affirmed that she acknowledged her EB's linguistic needs within an inclusive program implementation.

Campbell (2012) and Golden et al. (2014) declared PBL supported EB students to speak during meaningful interactions. Another participant, Elena, indicated the importance of facilitating speaking opportunities and learning from their classmates. She affirmed,

> To support the students for them to acquire, to develop both languages. But also to give them the tools to know how to express themselves in all domains, lots of modeling from their peers and us, and opportunities for them to talk, explore, and share what they bring with them.

Elena's role and responsibility as a PBL dual language teacher focused on helping students learn two languages, providing support on using their four language domains, modeling with the support of their peers, and providing opportunities to speak and share their learning. Elena generated commitment by acknowledging her role was to use various methods to support her EB's instructional and linguistic needs, including speaking opportunities.

Similarly, Lucia stated she believed the role of a PBL dual language teacher is to support student understanding through modeling and to help students understand the content while considering their language proficiencies.

> I always model to them. I always since we do it in the Spanish language. I have a lot of students that are having difficulties with the language in Spanish, and so some are having difficulties with the language in English. But modeling is the most important thing. Once they are working in groups, I facilitate.

Lucia values her ability to model and facilitate in either language to support her student's needs. Participants at Barros Elementary encountered different language proficiencies but embraced the need and were committed to supporting the students regardless of the language they are developing towards proficiency. In the following subtheme, I explain how the dual language teachers at Barros Elementary went above and beyond the PBL implementation requirements.

Beyond Compliance

Another common subtheme was Beyond Compliance. The participants demonstrated a positive frame of mind, extended beyond the expectation of the support needed for students to be motivated and engaged in their projects. According to the participants they strived to create unforgettable experiences for their students. Iris explained how she and her partner loved the last project they completed because they could involve the entire school and the parents. Iris provided the following insight,

> El último proyecto que hacemos de PBL es el Safari y ese también, o ese nos encantó. El año pasado lo pudimos hacer a nivel de escuela. Hicimos todos los dibujitos del Safari, trajimos animalitos, le dijimos a los niños que trajeran animalitos de peluche, pero en pequeños, pequeñitos, y los pusimos en los árboles y les compramos una máscara, que ellos eran un animalito específico y tenían que decir sus características, cómo vivían, sus medidas, cómo se apareaban. Y luego los otros niños iban y los visitaban y nosotros invitamos a toda la escuela, dimos un horario específico para que toda la escuela pasara y

viera el trabajo de los niños. Y tuvimos padres envueltos en este programa, que fue algo que también nos gustó porque el director nos apoya con estas locuras que hacemos.

She explained how they bought masks for the students to impersonate animals, and they had to present their characteristics, their habitats, and their way of life. They also created a schedule and had visitors. She said she felt glad the principal supported them in their wild adventures. She also proudly explained that the district recognized her campus as PBL Influencers for their school efforts. PBL Influencers are designated this award by the district according to their level of student engagement, learning, community involvement, and final exhibition. During the second observation for Iris, she was practicing at the school gym with the entire grade level a song they would perform for the final product, "Deep in the Heart of Texas." Students followed along as the participants guided them to take steps toward all four cardinal directions while creating a heart with their hands to align with the song lyrics. In addition, the participants collaborated to review the symbols of Texas, cardinal directions, and the five cities they would research in each class.

With a similar mindset, Ana explained the following about dual language PBL,

> Keep believing, and I think that's the main part of it, believing that everybody can do it. And you know, you have your heart in them, and we go all out. We love it. We have our passion there, and we do it for the children. I think that if you have your heart like that, it is going to work.

Ana positively explained she believed the main goal for PBL implementation was to believe that students and teachers could accomplish the tasks. She explained there must be passion and willingness to engage in PBL to make it successful for students. Her response indicated she is

confident in her ability to impact her student learning and meet the needs of her students regardless of the challenges faced by implementing PBL in a dual setting.

Like Ana, Sara explained,

> So it is okay, like yes, it might be a lot. It might not be easy for us, but it will be okay. What is most important is that they are learning, they are taking something from it, and they get to do it in whatever language they feel most comfortable.

Sara shared the same sentiment as Ana. She acknowledged PBL had challenges but maintained her goals was for students to learn through the PBL approach and use their language of strength in the process. Sara also expressed confidence in her capability to implement PBL to support her EB's needs. The higher the self-efficacy or confidence in the teacher's ability to implement PBL to support EB's, the likelier it is for teachers to confront and manage the challenges that come with the learning method (Bandura, 1977). Furthermore, Elena also expressed her belief in dual language PBL by stating, "I believe in it. I know that its purpose is to help our emergent bilinguals." Elena's response is also an indication of her confidence to support EB's through PBL.

In addition to the growth mindset responses, Arely described her efforts in providing tutoring for her students who spoke Spanish and explained she could relate to their struggles. Arely declared,

> I am working from six to six every single day. Why? To accommodate the students that are struggling, I know for a fact because I was in their place when I first came to the United States with not one word of English, so I know what they're going through.

Although Arely did not specify her commitment directly to the PBL approach, she did express her devotion to her students because she could relate to them. Additionally, she worked extra

hours to ensure her students would receive additional support on complex concepts. On the other hand, Olivia reflected on the student's engagement with the learning approach.

> I've never taught like this per se, but I like it because it gives them a different way to express their work, and I think it is a little bit more engaging because they're able to choose. The work is engaging because they have a choice of how to present their work on what they learn, making it more engaging to them than just sitting and answering questions.

Olivia's response indicated her reflection on her previous learning approaches, acknowledged that PBL was more engaging, and provided more choices for the students. She explained previous learning models are sit and get and are not collaborative for the students. Her view of PBL was positive and insightful because she seemed assertive in the requirement of PBL to provide students with voice and choice. Her confidence is significant because teachers revert to traditional practices when they realize they lack the knowledge and skills to implement the PBL practice (Lam et al., 2010).

In summary, the participants perceived themselves as facilitators supporting students' understandings, language proficiencies, access to resources, and their need to model. They commonly believed in PBL to help their EBs and showed efforts beyond compliance to engage their students in their learning. Some participants stated they could relate to the students and extended their day to support their needs.

Successes and Challenges

The fourth common central theme, Successes and Challenges provided insight into the campus support they received from their instructional team and the influence their implementation had on their students. The subthemes for the Successful experiences included

Campus Support, Real-World Connections, and *Student Collaboration*. However, challenges were also present. Subthemes for the Challenges included *Time, Language Proficiencies,* and the *COVID-19 Pandemic*.

Campus Support

Campus Support was a common subtheme reflected in the participant's responses from the Successes they shared of their experiences with PBL in a dual language campus. Arely compared her past experiences to the present day. "I love this school because they actually give us a lot of support. I mean, they do not have it; they go and look for it. I love that because they did not in the olden days." She continued to explain they would tell her, "I am sorry, we do not have the materials; you are just going to have to deal the best way that you can." Lucia also explained she felt supported by the social studies instructional coach and that she would also receive modeling. Lucia stated,

> She even went into our classrooms to model the writing and everything so we can observe her, and then they came in and observed us. So, we have that support from her and the support with a Study Weekly that we are using. She helps us pull out information to help the students develop their ECRs and writings.

Lucia explained that the instructional coach supported her PBL implementation by modeling and planning the lessons together. The instructional coach supported the teacher's self-efficacy or confidence in her ability to implement PBL by providing similar opportunities and tasks Lucia will encounter during her implementation. This was essential because teachers' self-efficacy is affected by their experiences, negatively or positively, and can be vital when implementing project-based learning methods in their classrooms. The mastery of experience is the most influential in determining the efficacy of an individual (Bandura, 1994).

Sara and Elena stated they received training from their campus to inform them of the expectations. Sara indicated, “We did have training on PBL. We also had a committee to prepare us and let us know what the PBL looks like and the different areas of a PBL.” Elena affirmed, “We have had some trainings during our collaboratives. Our curriculum coach was in charge of social studies and shared presentations with us and shared the expectations.” The participants in the study were supported and claimed they experienced campus support as a success in their PBL implementation. Teachers’ self-efficacy through PBL training increases due to the support participants receive (Mirici & Uzel, 2019).

Olivia affirmed the support she received from the campus and others outside of the campus who were familiar with the PBL implementation,

> I've also reached out to other teachers. For example, last year, my aunt worked at [school in local city] but she's coming from [local city], where she taught and [local city] for like 15 years and did a PBL. So, she explained to me a lot of what it entails.

Olivia and the other seven participants acknowledged they received support from their campus through training, modeling, and planning. Teachers with high efficacy are student-oriented and offer more individualized instruction and communication (Tschannen-Moran and Hoy, 2001). Thus, high levels of teacher self-efficacy can result in successful dual language PBL implementations with the proper guidance and support.

Real-World Connections

Another shared subtheme of Successes in the study was the teacher’s experiences providing real-world connections to their students via the PBL projects. Lucia declared,

> They are implementing it in real-world, real-life situations. Like for example, right now that we're talking about the government. They are learning about the government in the

different states, the local, national, and state government, and they are implementing it in their community.

Lucia's response indicated her experience with PBL in a dual language setting was successful due to her student's engagement in real-world connections. She explained her students were learning about the government at different levels relating them to their community. Teachers' motivation to adopt a new practice is highly personal and based on factors such as students' success and self-efficacy (Hall & Hord, 2001). Lucia's response revealed that she was motivated by her student's practical applications within PBL.

Another participant, Iris, explained how some of her projects resulted in the parents calling and wondering if they are going to visit the caves in person. Iris states,

> Bueno, ahora para lo de las cavernas, algunas mamás me hablaron, maestra, que van a ir a las cavernas, porque nosotros les dijimos que iban a ir a las cavernas y que íbamos a visitar y que íbamos a ver qué había y cómo eran y que teníamos que llevar algo para estar calientitos, porque adentro estaba muy frío y tuve varios papás que me hablaban, porque lo hacemos creer como que es de verdad y los niños llevan eso a sus casas.

Even though the students did not physically visit the caverns, Iris and her grade level created a cave-like entrance in their hallway with construction paper rolls so that their students could experience how it would look and feel to be there physically.

Olivia also felt PBL was an "eye-opening experience" for her students. In one of the PBLs, students had to choose from six Disneyland Parks and plan a made-believe vacation. The teachers had to provide them with a budget and facilitate their students in determining the expenses. Olivia felt the experience made them more conscious of the reality of vacationing at Disneyland. She stated,

> I think it was an eye-opening experience to say, man; it really costs a lot of money to go on vacation. It literally stressed some kids out like one student couldn't sleep because he was just thinking about that, and it wasn't a real thing, but it kind of made it real for them to understand why parents say, we just don't have the money, you know, because they didn't realize that it takes money to get there. It takes money to pay on time and buy food, and I think it made them more aware that things are not so easy. So, in that sense, I think it just opened their eyes a little bit. But it was also fun for them to imagine they were going to go, you know, it's just different.

Olivia expressed her students lost sleep at night because the PBL impacted their understanding at a deeper level. They realized the amount of money it took for their parents to take them to Disneyland and how much work it took to plan the trip. Project-based learning is an opportunity for students from disadvantaged communities to learn through authentic, innovative, and real-world experiences (NTN, n.d.). Olivia provided students with the opportunity to be engaged in relevant, creative, and authentic experiences.

Student Collaboration

Another shared experience of the participants regarding their success in PBL was Student Collaboration. Lucia felt students were motivated because they worked together. Lucia declared,

> The successes that I have had, as I told you, my students loved it. This week, we have been doing it, and they loved it. And I think that it motivates them and encourages them to work. What encourages them is that they are working together. They first talk about it; they talk about different activities with the local, state, and national governments. They work together and then feel comfortable and confident to do it on their own.

Lucia felt her experience with PBL was successful because of the influence she had on their motivation. She explained providing a collaborative space for her students encouraged them to work together and share their learning. As a result, her students would gain the confidence to complete independent work. Teachers experience frustration with fostering student agency (Simons et al., 2014), however, Lucia specified that the learning space she had created for her EB students was a successful experience as she could encourage, motivate, and develop ownership in her students.

Like Lucia, Sara felt her students were motivated because they could collaborate and demonstrate their learning differently. Sara stated,

> The students get motivated, and I feel they get better at presenting and working as a team. I also see a difference from last year; some kids were not used to working in teams. I see that there is more teamwork this year, and they get excited over it because they get to present it in different ways and choose their language of strength. For example, some might work on Google Slides, and others might create a poster or artwork.

Sara shared a similar experience as Lucia. However, she reflected on her previous experience by stating her students needed to be more team-oriented compared to her current students. She noticed her students for the current year were enthusiastic because of the choice and voice she provides within her PBL implementation. Students were also provided with the opportunity to choose the language to present their project, which values her student's linguistic abilities.

Another participant, Elena, also indicated students collaborated more instead of listening to the teacher speak. "The kids were exploring. I mean, they were finding information on their own. It was more student-centered instead of the teacher giving them all the information and talking to them. They got to do it with a partner, in groups, and then by themselves."

The participants also shared the experience that students had the opportunity to practice their four domains during their group projects. Elena explained, “They have different opportunities because they get to use all domains and incorporate them into all their learning.” Lucia affirmed, “I think there is a connection of the PBL because they must implement the oral, reading, listening, and speaking in all of them, academically and linguistically. So, they are talking a lot; it is a lot of oral and written communication.” Ana also stated,

> I think project-based learning is very important in a dual language setting because it allows the students to interact with each other. It allows them to interact with themselves and with us. It gives us opportunities for them to practice their repertoire, to practice their oral language.

Ana experienced PBL in a dual language setting provided the space for her students to collaborate and practice their oral development, while Elena believed all the domains (speaking, writing, reading, and listening) were applied during the group projects. On the other hand, Lucia emphasized oral and written communication because of the ECR final product requirements. Their responses are significant because PBL geared towards supporting EBs should focus not only on student achievement and content knowledge (Duke et al., 2021) but recognize the importance of facilitating language development for students while monitoring their academic and language attainment (O’Brien et al., 2014).

The participant’s experiences were constructive because they often claimed they were learning alongside their students and determining how their implementation influenced their academic and linguistic development. Teachers felt the campus support was part of their success because that supported their confidence in their abilities to implement PBL in their dual language campus. The teachers also expressed that they could create collaborative spaces for their students

and engage them in real-world contexts while valuing their cultural and linguistic backgrounds. The following subthemes present the participant's experiences concerning their Challenges.

Time

Another common subtheme from the participants was time. The participants experienced time as a challenge because of the 50/50 one-way dual language model, where teachers must facilitate students to learn academic content for half of the time in English and the other in Spanish. Time was also a challenge because of the collaborative meetings the teachers had to attend on Thursdays, and for others it was the number of tasks provided from the district to complete on PBL Fridays. Arely asserted,

> It was very hard for me to be implementing English one day and Spanish the other day. My challenge is trying to accommodate those students that are struggling a lot. Especially if they cannot get English or anything. I must make time for them during the day because we teachers do not have time; we run out of time.

Arely had trouble supporting academically and linguistically struggling students within the dual language model. She explained she had to extend her day to accommodate the student's needs because, during the instructional day, there was not enough time. Arely's response indicated she was responsive to her students' academic and linguistic needs and that time was a challenging factor in her PBL implementation for her EBs.

Like Arely, Elena identified time as a challenge because of the collaborative meetings embedded in their schedules on Thursdays and testing. Elena stated,

> We do not have social studies on that day. I also think because we are a testing grade and our students have more open-ended questions, more writing on their part. It takes them longer on a testing day. So, we have to give them the time they need, and it is several of

them. So, we fall behind, and monolinguals are ahead of us in the lessons because our students require more time to complete a task.

The participants, including Elena, all stated that collaborative meetings or professional learning communities for their campus occurred Thursdays, which adjusted their social studies time. They expressed that it was a stressful experience because it would require them to make up the tasks on Thursday's pacing guide. Elena also claimed grades 3-5 were testing grades requiring students to write extensively. She felt her students needed additional time to complete their assignments because her students would take longer than their monolingual peers.

Sara shared a similar perspective with Arely and Elena and contemplated how a PBL teacher could finish all the student tasks. Sara responded, "I think that is the hardest, time. We do teach it every day, science, and social studies, but sometimes on Fridays, I'm like, how do you? How does someone get to finish everything?" Ana also affirmed there were instances where she fell behind schedule due to time. However, Ana assured, "I mean, life happens sometimes, and yes, sometimes we fall behind, but as long as we go back and track." Like Ana, Iris felt that time was a challenge in engaging the students through PBL and that teachers needed to consider and be faithful to it. Iris affirmed,

> Creo que para que realmente funcione el proyecto, necesitas que ser fiel al tiempo. Ser al fiel al tiempo, llevar tu organización de lo que vas a ir enseñando cada semana, ir incorporando poco a poco, cada semana, lo que necesitas para tu proyecto y dejar las dos últimas semanas para que practiques con los niños. Inclusive, a lo mejor, como muchas de las de los [said state standards] que debemos de cubrir los hacemos en el tiempo de estudios sociales o ciencias. Si es necesario practicar en ese tiempo, en algún día de la

> semana, lo debes hacer. Si quieres realmente obtener un buen producto al final de las nueve semanas. Al fin y al cabo, sigue siendo ciencia y sigue siendo estudios sociales.

Iris suggested that teachers implementing PBL had to be faithful to the time. She stated they had to be organized and planned accordingly to what the project required to teach. Iris affirmed that she would teach the content during the week and would practice the final product during the week if needed. She finalized by stating if teachers wanted an excellent final product, they had to find the time because either way, the PBL incorporated science and social studies.

Olivia shares that time is a challenge but also includes the rigor of the projects. Olivia states,

> Sometimes I think it's a little bit too advanced for them because they are second graders. I feel like sometimes they require too much of them, too many things, and we don't have the time. So sometimes, the time crunch is a challenge.

Olivia shared her experience with PBL implementation in a dual setting was challenging because the number of tasks they had to incorporate into their projects were too many compared to the time they had to apply them. She also felt some of the PBLs were too rigorous for her students. Time was a challenge for the participants for various reasons; scheduled PLCs, dual language model requirements, PBL time on schedule, and assignments allotted for projects by the district.

Language Proficiencies

The participants commonly shared that student understandings were challenging because of their language proficiencies in reading, writing, listening, and speaking. Their classroom dynamics included students new to the country or integrated from monolingual classrooms; in some cases, both. Ana responded,

> It comes with the challenges of, you know, having students who can carry out the language, but you also have that barrier where the English language is not part of their

> everyday language. I believe that it is very important to be able to support both, whether they know English or whether they do not, and vice versa. Sometimes we can have students in our grade level who they call Code 3, which means that the child is here, but they don't necessarily know Spanish. The parent wanted to place them in the dual language setting so the child could learn the Spanish language.

Olivia shared a similar perspective as Ana and expressed she needed to teach students the basics of reading and writing in both languages. Olivia states,

> Because some still struggle with the language, I have one that came in July, like from [said country], from [said city], and one that came in December. So, they must learn the English language. One of the students is a Spanish reader, so it's easier for him, but the other is not a Spanish speaker either. So, he is not only trying to learn English, but he is also trying to read, work, and write in Spanish. So, having all of that, you need to be able to teach them the basics, reading and writing.

In addition, she acknowledged it was something she had to consider while planning. Olivia declared,

> You have to consider the students' language proficiency because you are doing it in two languages. You have to see if they are not proficient in one language and how you need to support them. Then, sometimes it is a little bit more harder, I want to say harder, but it is different in Spanish. They will more likely recognize it in English but in español, *no*. So, you just have to take their language proficiency into effect and how they will understand it.

The PBL implementation in a dual language setting requires teachers to facilitate in two languages, or in one with cross-linguistic connections depending on the one- or two-teacher

model implementation. Olivia shared she experienced the challenge of supporting her students based on their language proficiency levels. However, she admitted it was a practice she engaged in to ensure her students learning was comprehensible. Her response was meaningful because some educators fail to differentiate student learning and consider students' proficiency levels (Echevarria & Short, 2008).

Like Olivia, Sara responded she had students with different levels of support. She facilitates the English language and explains how she has Newcomers in her class that are beginning readers. Sara declared,

> Well, the different levels of support, there are some kids that are really good at stuff, and they need very minimal support. Then there are Newcomers or those beginning readers, so just the support, the different levels of support for our dual language students.

Sara explained that her classroom's makeup incorporates students who do not require much support and others who require linguistic and academic support. Her response indicated that her experience as a PBL dual language teacher necessitated to identifying her students' abilities to support them accordingly, regardless of her language of facilitation.

Lucia facilitates instruction half a day in English and the other in Spanish. Lucia provided the insight that during PBL Friday's she experienced her students were able to complete their final products or ECRs in their language of strength, but some struggled once the instruction shifted to English. Lucia said,

> When they do it in their language of strength, some want to do it in English, and others want to do it in Spanish. So then he is one of the ones that feel more comfortable in Spanish. So how can I say, linguistically, it is challenging for him to do it in English, but

> I mean, I'm doing Spanish, so in Spanish, he is good, so when he goes to the English, that is where he has that challenge.

Lucia did not experience challenges with students during her PBL with ECR Fridays because the students could choose the language to complete their final written products. The challenge occurred when the student encountered the instruction in English for social studies due to the 50/50 English and Spanish model allotment. Lucia's experience indicated that the challenge is to accommodate the needs of students based on their language proficiency levels according to the language of instruction and facilitation.

Arely brought forward the difference in academic and social language proficiency. Arely stated,

> I get on them because sometimes they try to speak slang Spanish when they are supposed to be doing the correct Spanish. We have many problems with that at this grade level because they are like on a bridge, the Spanish and the English, and they meet halfway. So, they get confused, which is when this language starts coming out. So, my job as a teacher is to be able to teach them this is the correct way of saying it. You say the correct way in Spanish, and then you say the correct way in English. So, our job is really hard.

Arely explained her student's use of social language was problematic at the 5th-grade level because students needed help differentiating between the language used in an academic setting versus language used with their families or friends. She experienced the need and responsibility to guide her students in the correct way of using either language. I found Arely's response aligned with the C6 Instructional Framework implemented at Barros Elementary (Medina, 2019). The C6 Create supports teachers in expanding students' social and academic language so that students can differentiate between them. However, teachers must consider that students do not

observe that one is better than the other or feel their linguistic knowledge is oppressed (Medina, 2019).

Meanwhile, Elena declared that the previous bilingual models the district implemented influenced the language proficiencies of some of her students. Elena stated, “Some of them struggle in Spanish because they had a lot of English in their previous years.” Elena referred to her experience concerning the district recently adopting the one-way dual language model as the cause to why some of her students were more proficient in English. The participants experienced the challenge of the various student’s proficiency levels due to the campus being on the U.S.-Mexico border, the transition of students from monolingual to dual language program, and the recent shift of the bilingual program model of the district.

COVID-19 Pandemic

The COVID-19 Pandemic was an additional theme in the responses of grades 3-5. Participants declared the pandemic also contributed to the students struggling with their linguistic and academic understandings. Elena explained students also struggled to express themselves academically.

> A lot of our emerging bilinguals did not come in with a lot of writing skills in either language. So that has been a challenge, you know, our conventions, grammar, just expressing themselves because of how they have heard maybe their families talk. That's the only way they know how to express themselves.

Elena further explained,

> As a fourth-grade teacher, this is the first-year upper grades have PBL for social studies. We started project-based, where we would have kids engage more in their learning with us but still guiding them through it. That is because we have some students that are

Newcomers. Then, some had not been in school because of the pandemic, which was also challenging.

Elena experienced the consequences of the Covid-19 Pandemic on her students. She explained her students needed more basic writing skills and struggled to communicate academically. Moreover, she recognized that some of her students had not received consistent schooling due to the pandemic. Therefore, she expressed she facilitated and engaged students through PBL but continued to guide her students to close their learning gaps from the Covid-19 Pandemic or support their arrival from another country.

Like Elena, Lucia also asserted that students struggled with writing: "I think the challenges are with those students whose reading and writing skills are not there. The students want to give you one, two, or three sentences, and I'm finished, I'm done." Lucia expressed her students did not have the basic reading and writing abilities. During the pandemic, students were learning remotely. Even though educators made substantial efforts, schools with high percentages of EBs had less than 50 percent of their students logging in to receive remote instruction (Sugarman & Lazarín, 2020). Consequently, EBs regressed in their English acquisitions because of the limited opportunity to practice their speaking, writing, reading, and listening domains (Sugarman & Lazarín, 2020).

In summary, the theme of Successes and Challenges informed on the experiences of teachers implementing PBL in a dual language setting on the U.S.-Mexico border. The experiences the participants encountered in their successes incorporated the support that they had received from their instructional coach and campus administrator. Also, the participants identified they had successfully provided real-world connections for their students. Student collaboration was also part of the success and the opportunity for students to practice their

Speaking, Reading, Writing, and Speaking domains. However, experiences of challenges also emerged from the responses. The participants stated time and the variations in their student's proficiency levels were challenging when implementing PBL in a dual language setting. Lastly, the participants also experienced challenges related to the Covid-19 Pandemic, which resulted in student learning gaps in their academic and linguistic abilities.

Confidence

The fifth central theme of the study was the participant's Confidence in implementing PBL in a dual language setting and supporting EBs through PBL successfully. Teachers with a high level of self-efficacy, or confidence in their abilities, could increase students learning through actions that support meaningful interactions or by planning purposefully to meet the needs of their emergent bilinguals. Self-efficacy is an individual's perception of competence, not the actual competence (Tschannen-Moran et al., 1998). Thereby, teachers that believe they can improve their emergent bilinguals' learning will embody the belief that they can teach students and affect them positively.

Sara explained, "I am not a pro, but I feel like I am here. I will be willing to facilitate as best as I can and to my knowledge." Then, she clarified how she modified her implementation from last year to this year. Sara stated,

> I still feel like I am pretty new at this because it just started last year. So, I would say I am learning. I am not a newbie, but I am still learning as I go along. I see what works and what does not. Even last year, we were like, okay, this is not going to work, or we need to make sure that they are working in groups before because they have to know how to work in groups.

Sara expressed her confidence as not knowing everything but is open to implementing to the best of her ability. She explained she was still making sense of her understanding of how PBL works for her emergent bilingual students. One insight she provided was the skill to work in groups. She reflected that students must be explicitly taught how to collaborate and work together. Teachers with low teacher efficacy showed managerial approaches rather than student-centered approaches and struggled to manage students in the classroom (Tschannen-Moran & Hoy, 2001). I found Sara did not display a low teacher self-efficacy or struggled with classroom management but reflected her implementation focus on managing her students working together.

Like Sara, Ana also revealed the prior year, they were not sure how to approach the PBL, but this year she felt more confident and explained how she paid closer attention to the student's abilities. Ana responded,

> The first year, I believe, I was like, oh my God, what are we going to do? Because we did not know. It will be all in one language, but they said, no, we are going to do it in both languages. So, we took it upon ourselves. We said we would do it in both languages because we are a team.

Ana's confidence or self-efficacy had increased from one year to the next because PBL was no longer an unfamiliar approach. She and her partner worked together to implement the PBL as intended for their EB students. Ana further explained the shift she made from last year to this year,

> This year, we know our students, what they are capable of, and what they cannot do. It is important to also look at all of their abilities, what they can do, and what they're willing to do because sometimes you do not know they will come out of their shell.

Non-emergent and emergent bilingual students benefit from the opportunity to naturally develop their first and second language acquisition through meaningful cross-curricular tasks (Collier & Thomas, 2017). Ana refined her approach by recognizing her students' strengths, areas of growth, and their gradual willingness. Her response indicated confidence in her ability to impact her EB students through PBL, as she claimed some students eventually become willing to participate and interact.

Iris explained she felt confident teaching through the PBL approach because she had prior experience in other grade levels. Iris stated,

> Pienso que al menos yo, el hecho de haber tenido ya la experiencia de enseñar en segundo, en tercero y en cuarto y en quinto, me da... Considero que tengo un poco más de conocimiento, porque sé la historia que pasó en [said state].

Iris also believed her partner was a significant support in her being able to implement PBL successfully. She affirmed,

> Entonces, pienso que eso es lo que me ayuda mucho, tenerla a ella y nos hacemos complemento. Okay, ¿qué te parece si hacemos esto para los de inglés? ¿Qué te parece si hacemos esto para los de español?

Iris demonstrated confidence in her ability to support EBs through the PBL implementation because she had prior experience in other grade levels. In addition, she stated she was more knowledgeable of the history of [said state]. Iris also commented that she felt confident in her ability to help EBs because she felt supported by Ana, her dual language partner. Iris also affirmed they planned together to accommodate the language of instruction for their students. Teachers with high efficacy were student-oriented and offered more individualized instruction and communication (Tschannen-Moran and Hoy, 2001). Ana and Iris reflected high self-efficacy

because they focused on providing student instruction in two languages and worked together to meet their EB's instructional and academic needs on a daily basis.

Olivia described her confidence as a continuous learning experience. She explained,

> Last year, I felt like I was at 30%, but this year I am like I'm at 60%. I feel like I am learning with the kids. Because it is not a set direction, it is not; this is the question, this is the answer, this is the question, this is the answer. It is a choice of how they are going to show their work. It is a lot of different aspects of how to show their work and their understanding. So, I feel like I am learning with the kids.

In addition, Olivia felt confident she did provide support to her emergent bilinguals. She explained,

> I do believe I provide support because for my support, I ask them a lot of questions. Like, well, how do I do this? What do you think you should do? Or anybody has any idea how can we show this? So, I feel like I support them to get to the end result because that is what teaching is. I mean, you are really a facilitator, not just in project-based learning but in every subject; you are a facilitator.

Olivia explained she was learning with her students because implementing PBL offered different avenues for students to demonstrate their work. She described it was not a controlled implementation because the instructional approach provided voice and choice for students. However, she firmly believed that she was supporting students through her level of questioning. She viewed herself as a facilitator in every aspect of her instruction. I established that Olivia indicated a high level of self-efficacy because she was focused on how her implementation influenced her student's learning.

Lucia stated it was her first year of implementation, and she perceived she still needed to learn more about the implementation and the process. Lucia indicated,

> All I can say is that it is a learning process. It is still a learning process. It is still something that I guess we still need to learn more about it, and the process of how to teach it and then going from the teaching from the modeling into the implementation of the students. So, it is a process, and I think, I mean, we are working at it. We have support from our administrator and support from the curriculum coaches as they go and model to the classrooms, but it's still a learning process, so we still have to work at it.

Lucia showed low self-efficacy by acknowledging she did not feel confident in her ability to implement the approach. She stated she received support from her school leadership but still felt she needed more understanding of the learning approach. Grades 3-5 were on year one of the PBL implementation. Thereby, it was no surprise upper grade participants felt uncertain about the implementation. Like Lucia, Elena believed she was implementing PBL the best way possible by following the lesson but expressed she still had questions about the learning approach. Elena stated,

> I think there are still some pieces that we are confused about. So, I mean, we are trying and following the lessons, and each class is different. So, I am trying to accommodate our students, especially our emergent bilinguals or English learners.

Elena also demonstrated a low self-efficacy through her response by declaring she needed clarification about the approach. Even though she was following the district's pacing guide, she needed to be more confident in supporting the various EB needs of each class withing the PBL implementation. However, she did clarify she was willing and trying.

Lastly, Arely described her implementation of PBL as needing more training. She responded,

> I say that maybe more training a bit. I would like to have this training before the new year, instead of having it like in the middle of the year, at the end of the year, because by then, it would be kind of late.

Arely also desired more training at the beginning of the year. She mentioned that training at the time around state testing was difficult because the focus was geared more towards students passing the end-of-year assessment. Additionally, Arely indicated low self-efficacy as she stated an inconsistent implementation of PBL during the end of year testing.

The teacher dyads in grades first and second displayed confidence in their abilities towards their PBL implementation. Their responses revealed they were new to the approach but were finding ways to improve their implementation from the previous year. Sara indicated she had improved on having students working on teams, while Olivia mentioned she increased her belief in supporting students' understandings through inquiry. Iris expressed confidence because she had prior knowledge and experience in other grade levels. She also attributed her confidence to having a great team member. Ana also expressed her confidence in identifying and supporting her students' abilities. However, the participants in grades 3, 4, and 5 all shared that they needed more training to feel confident in their abilities about the implementation, indicating low self-efficacy.

Teacher Self-Efficacy

The sixth theme of the study, Teacher Self-Efficacy, was reflected by the participant's confidence. As a reminder, the Concerns-Based Adoption Model (CBAM) is a framework for understanding and addressing teachers' concerns and needs while implementing new educational innovations, such as project-based learning (Hall & Hord, 1987). Self-efficacy is a key factor in the CBAM model, as it affects a teacher's level of engagement and commitment to implementing

PBL (Hall & Hord, 1987). CBAM is not a one-size-fits-all model. The recurring process can be adapted to the unique needs and context of each school or district so that instructional leaders can support the concerns and needs of teachers as they implement a new instructional practice such as PBL (Hall & Hord, 1987). My use of the SoC and LoU dimension tools were not evaluative. The Stages of Concern (SoC) and Levels of Use (LoU) dimension tools helped me understand the participant's self-efficacy and how it supports the implementation of PBL in a dual language to support EBs campus at a deeper level.

Stages of Concern

The Stages of Concern is one of the components of the CBAM and focuses on the fundamental understandings that gives insight for a new program to be successful (Hall & Hord, 1987). It helps leaders identify and address the concerns of those implementing an innovation. Moreover, the Stages of Concern diagnostic tool provides understanding into teachers' feelings, emotions, and attitudes through levels that show the intensity of their concerns. Instructional leaders can provide individualized support to implement PBL in their dual language setting by understanding teachers' concerns. There are four SoC categories, unrelated, self, task, and impact (Hall & Hord, 1987). The first category, unrelated, is Stage 0, Awareness, the teacher is not concerned or interested in the innovation (Hall & Hord, 1987). Stage 1, Informational, and Stage 2, Personal, are in the category self, where the teachers may indicate they are uncertain about innovation or feel they need more support. The task category includes Stage 3, Management, in which the concerns relate to time, schedules, or instructional materials. Finally, the last category, Impact, indicates teachers communicate concern about how their learning supports students and work with their grade levels to improve their teaching and practices. The

category, Impact, aligns with Stage 4, Consequence, Stage 5, Collaboration, and Stage 6, Refocusing.

During my analysis, I used the Stages of Concern tool to place participants in their appropriate stages based on evidence from their experiences on how they implement PBL in a dual language setting and their beliefs in their capabilities to support EBs through PBL. I also used the data from observations and informal interviews with the participants. None of the participants placed in Stage 0, Unconcerned. It was a district commitment and expectation to implement PBL; thus, all participants expressed concern about implementing dual language PBL. For instance, Arely was concerned about the upcoming state assessment and implementing PBL with Extended Constructive Response (ECR) mid-year. Arely provided the following explanation,

> Train us at the beginning so that when we start a new classroom, we will be more aware of what is out there and what needs to be done. So that we can practice. Do not give it to us, like in the middle of the year when we are really overwhelmed or when third, fourth, and fifth grade are getting ready for [said state assessment]. When teachers are thinking, but I need to concentrate on [said state assessment] right now.

Arely explained the PBL was initiated at the beginning of the year but that the expectation for students to complete the ECR as a final product was too late in the year. During the interview, I asked her how she would describe her competence in implementing project-based learning in a dual language setting and supporting emergent bilinguals. Arely responded,

> To be honest, it was kind of hard at the beginning because we did not know what to expect. It was just, oh my god, one more thing to do. You know, and to us as teachers, we do not want more work. So, we need to be flexible because we do not have enough time

> in the day. If you go with an open mind, see what is out there, and maybe try it if it did not work the first time, we will talk about it and figure out how you can change it. How can you do it in a different way? Once you start doing it, it is like everything else when you learn something new.

Arely admitted that implementing PBL was difficult at first, and she felt it was an additional task she had to accomplish. She stated teachers wanted less work and were concerned about the instructional time for PBL implementation. However, she stated teachers needed to be flexible and open-minded. Arely responded,

> I think after 25 years of teaching, I think I am there. I am open to new suggestions—all the time. I am open. I am very flexible. If something new exists, I may now be more than happy to do it. Do you know what I mean? Because, as teachers, we never give up. We are always looking for something, new strategies to implement, and new things.

She was open to learning more about the innovation and concerned about the training timing due to the state assessment. Arely placed in Stage 1, Informational, as she further explained her willingness to learn more about the implementation.

Lucia affirmed, like Arely, that their PBL focus had shifted in the middle of the year, and she perceived her competence as a learning progress. Her concern focused on learning about the innovation and how to apply it. Lucia claimed, “It is still something that I guess we still need to learn more about it and the process of how to teach it.” She further explained,

> This is my first year implementing the dual language PBL. We transitioned from being in a set way to going into the ECR. So, it has been a challenge to make that transition within a year. It is still a learning in progress because I'm still learning through it. I think I still have a lot to it.

Lucia confirmed she felt unsure about the implementation because it was the first year it was implemented for upper grades. She insisted it was difficult to apply the PBL having student autonomy to requiring students to complete a written piece as their final product. In the Stages for Concern diagnostic tool for Stage 1, Information, participants express concern about needing more information or not being confident about the innovation (Hall & Hord, 1987). Therefore, I placed Arely and Lucia in Stage 1, Information, Category "Self."

Elena also indicated she wanted clarification on the PBL implementation, "I think there are still some pieces that we are confused about." However, her concern was focused on the time she was devoted to the project and the timelines. Elena explained,

> Yes, I mean, I am trying; I am doing it. But it is something that maybe now with the ECR because it is writing and I teach writing, it is easier for me. I feel more comfortable doing that. But the project itself, having them come up with the end product and the timeline to complete that, I still feel like I need to grow a lot in the area.

The district tasked upper grade teachers to write a section of the written response each week as the students gained the content knowledge. Elena felt confident in her ability to implement PBL with ECR but stated the scaffolding of the ECR throughout the weeks gave her difficulties. Elena also brought forward that her grade level had substantial testing, making her uncertain about the implementation. Elena stated,

> Because we have so much testing, I feel we are not spending the time. We are not devoting the time that is needed to do this, and this is something that I believe would really benefit our students if it was followed through the way it is supposed to be. But I think that as a grade level, I think we need more training to see how we can do it with our students, even with RLA, because we follow HMH, we have to be faithful to EUREKA,

> but I do not like that it is at the end of the day. I wish we could set a different time for it and be faithful to it without interruptions. I think that is what would make it successful.

Elena stated upper grades spent substantial time testing and was not able to implement PBL with the consistency she wanted. She felt her grade level needed more training on implementing with her students and reflected on how changing the schedule would support the implementation. Elena shared that she felt some confidence when supporting EBs through PBL. She claimed,

> I mean, as a dual language teacher, I really have tools for our students to be successful and feel safe and to try to grow in different areas as well. Because I mean, that's what I have been doing. It is always an area of growth, but I feel like I have enough tools to support them so that they can succeed.

Elena stated she had tools to support her students in general, but due to the inconsistent schedule, she felt she did not support her students adequately through the PBL implementation.

Like Elena, Sara responded, "I am learning, I am not a newbie, but I am still learning as I go along." Sara felt she needed support in managing her time to finish the tasks on PBL Fridays.

> Maybe showing different examples, different ways, or how they do it to finish or to allow the final product to be finished? Like, I feel like sometimes time is not. I think that's the hardest, time. Science and social studies, we teach it every day, but sometimes on Fridays, I'm like, how do you? How does someone get to finish everything?

Sara provided insight into the different training opportunities she would like to receive. She stated she needed training on how time could be managed to complete the assignments within the PBL and how she could combine the science and social studies tasks to achieve the "Final product."

Participants that align with Stage 3, Management, express concerns about time, schedules, materials, and managing the innovation's process (Hall & Hord, 1987). For example, Elena indicated she was concerned about the fidelity to PBL due to the allocated time, the amount of testing, and the timeline to accomplish the student's end task. While Sara indicated she needed more training on managing her activities and time during PBL Fridays. As a result, Sara and Elena placed in State 3, Management, category "Task."

Olivia's responses indicated confidence in implementing PBL to support emergent bilinguals. She stated, "I do believe I provide support because, for my support, I ask them a lot of questions." She proceeded to explain she continues to learn every year because it was a shift compared to how she used to teach. Olivia affirmed, "I feel like it's a learning curve. Like every year, I feel like I learned a little bit more. I don't consider myself an expert." Olivia, like other participants, stated time and scheduling were a challenge. However, she declared she took it upon herself to switch the schedule so that her students could learn through PBL. Olivia stated,

> We took the executive decision to switch our PBL times to put PBL at the end of the day. So, we did start with math and then ended up with PBL, and we do not have to bring them back in because they enjoy it.

In addition, she perceived the PBL lessons were too rigorous for her students and that they often included a task that did not correlate with each other. Olivia suggested, "Don't put so many things in it. Make it one project that has to do with the end project in mind. I know the other stuff is important, but that can be done during that week's lessons and not included in the PBL; there should not be a must-include." Stage 4, Consequence, relates to participants questioning how their implementation affects their students or how they can improve it (Hall & Hord, 1987). For example, Olivia was confident and critical about her students learning due to the scheduling of

PBL and the components required, the must-includes. Thus, Olivia's data placed her in Stage 4, Consequence, category "Impact."

Lastly, observations, interviews, and informal interview indicated Iris and Ana were also confident in their ability to implement project-based learning to support EBs in their classrooms. The data of Ana and Iris placed them in Stage 5, Collaboration, category of "Impact," where participants show concerns about improving their teaching practices with their team members. Iris provided insight into how Ana and she encouraged each other to support their students linguistically. Iris stated,

> No sé si porque tengo mi compañera, ¿verdad? Entonces, el hecho de que se tiene que decir en los dos idiomas, yo ya sé que todo lo que yo diga en español ella lo va a decir en inglés y lo que ella diga en inglés yo lo voy a decir en español. Entonces, nos apoyamos una en otra. ¿Y sabes qué? ¿Qué te parece si hacemos esto?

Iris also asserted they try to work with their grade-level teachers to guide them in implementing PBL for their students. She expressed,

> Y ya nosotros tenemos que jalar a los niños en monolingüe. Es que las maestras son nuevas, Pienso que porque ya son nuevas y nosotros, como ya en nuestro segundo año, pues ya tenemos un poquito más de conocimiento. Nosotros desde el año pasado que empezamos con ellos, luego, luego los captamos.

Iris explained she felt confident in her capability to implement PBL since the initial implementation because she had her partner support the English language needs of her students and the support, they provided each other. I found that Iris and Ana had similar mindsets, which benefited their collaboration and implementation. Iris also stated her willingness to support the other monolingual teachers since they were new to the learning approach.

Similarly, Ana commented that from the start of the implementation, they were told it would be in two languages and were confident because they had each other. Ana stated, "So we took it upon ourselves, and we said we are going to do it in both languages because we are a team." She further explained the impact their collaboration had on students. She claimed,

> We teach it together, or co-teaching creates that opportunity for them to understand because if it is not in one language, I say it in the other language. Sometimes I get the kids that say, oh, you speak Spanish.? I say, of course, I do. So, it is pretty neat to see that. The kids can see how my partner and I work together and how she does the Spanish part and I do the English part, but either way, we both complement each other.

Ana and Iris are the only participants who co-taught. They were the only participants in the study who brought their classes together during PBL Fridays. Ana claims it benefited their students because they could grasp the content in both languages. Ana views their collaboration as a balancing act that positively impacts their student's learning.

The Stages of Concern framework describes the individual's concern about the innovation, delivery, implementation, and feelings of the instructional change (Hall & Hord, 1987). The participants, Arely and Lucia, placed in the beginning stages of implementing PBL in a dual language setting because their concern was on learning more about the innovation and the uncertainty of their knowledge and abilities. Although some participants stated they needed additional support, their main concern was to learn more about the innovation. Thus, no participants placed in Stage 2, Personal. Elena and Sara's concerns entailed schedules and managing the time to implement the innovation, so they placed in Stage 3, Management. Oliva's responses expressed she was more concerned about the impact her implementation was having on her students, indicating her level of intensity from "Self" to "Task" to "Impact." Iris and Ana

showed the highest level of confidence in their abilities or self-efficacy of the participants because, according to the SoC, they were concerned about their student impact and collaborated to maximize their PBL implementation to support their EB student learning. There were no participants that placed in the last level because none of the participants were concerned about significantly shifting the innovation to impact student learning. Table 4.1 presents a summary of the Stages of Concern analysis of each participant.

Table 4.1

Stages of Concern Analysis

Stage	Category (Unrelated/Self/Task/Impact)	Participant
Stage 0 (Unconcerned)		
Stage 1 (Informational)	Self	Arely and Lucia
Stage 2 (Personal)	Self	
Stage 3 (Management)	Task	Elena and Sara
Stage 4 (Consequence)	Impact	Olivia
Stage 5 (Collaboration)	Impact	Iris and Ana
Stage 6 (Refocusing)		

The Stages of Concern diagnostic tool provided the conceptual understanding of teachers' thoughts, feelings, and attitudes on PBL in a dual language setting on the U.S.-Mexico border. However, how the participants feel about PBL to support their EBs may not reflect how they implement PBL at their campus. Even though the participants feel optimistic towards the implementation and willing they could still struggle with the implementation due to the various

challenges mentioned prior, such as lack of time, lack of Spanish resources, testing, various proficiency levels, and need for more training and support.

Levels of Use

The Levels of Use (LoU) dimension provides actions or behaviors of teachers in the classroom as they use the innovation (Hall & Hord, 2001). The LoU diagnostic tool is used by observing the participants on how the implement PBL in a dual setting. Leaders can also provide individualized support to the participants by observing how PBL is being used in practice. They can help them move to higher levels of use to better support emergent bilinguals.

There are two categories, "non-use" and "use," in the Levels of Use diagnostic tool (Hall and Hord, 2001). The teachers considered non-users of the innovation fall under Levels 0-2. At Level 0, Nonuse, the individual takes no action toward the implementation. At Level 1, Orientation, the individual begins to inquire about the practice or program. At Level 2, Preparation, the teacher has chosen to adopt the approach and is planning to implement it. Levels 3-8 provide leaders with levels of mastery for those identified as users (Hall & Hord, 2001). At Level 3, Mechanical refers to teachers initially attempting to implement the technique or strategy with guidance and support. In Level 4, Routine, there is a solid pattern of implementation behaviors. In Level 5, Refinement, teachers assess their impact and make modifications as needed. At Level 6, Integration, individuals work together with others to use the innovation. Finally, at Level 7, Renewal, the teachers look for ways to implement the innovation and learn more about it (Hall & Hord, 2001).

The study's participants were required to implement project-based learning in a gradual release format. Thereby, there were no participants that the data indicated for Level 0, Non-use, Level 1, Orientation, and Level 2, Preparation. Lower grades, K-2, implemented a soft rollout in

the 2019-2020 school year. Then, upper grades 3-5, implemented in the 2022-2023 school year. All the participants implemented PBL in a dual language setting to some extent.

The actions and behaviors of the participants Arely, Lucia, and Elena indicated they were at Level 3, Mechanical, and category "Users." Level 3 is the beginning level of the implementation that shows unsteady pacing, sequencing, and changes of use (Hall & Hord, 2001). In one of our brief informal interviews, I asked Arely how PBL was going. Arely replied she had not been able to get to the PBL because they had testing and the campus had Reading Across the District activities all week. Then, she explained her schedule had shifted, but she was trying to get back on track. In another brief informal interview, Arely maintained she wanted to find more time to implement PBL, but she expressed "there's not enough time in the day and with testing coming up it's hard."

In the same fashion, when I encountered Lucia for an informal interview, she mentioned she was experiencing a high-stress level due to the amount of testing her grade level was facing. Her focus was on preparing the students for the end of year testing. However, during the interview, Lucia provided specific examples of how she would have her students complete their ECRs, indicating some level of implementation. Lucia stated,

> I do have a writing process, and I color-code everything. The introduction is blue, the body is yellow, and the conclusion is pink. That guides them. They also use post-it notes, and they love it. They love doing that because it is their organization, and the organization helps them a lot to answer.

Lucia also explained her knowledge about PBL and recommended that teachers differentiate for their emergent bilinguals. Lucia affirmed,

> PBL is a process. It is not something you will do just in one day, a 45-minute lesson. It is a process, and everything has to go in the process at the student's level. Differentiate, learn how to differentiate for students not at that level. Emergent bilingual students need a lower level. Not because they are not capable of doing it, you know, but they just need that additional help.

Lucia could describe her implementation with a strategy that supported her EBs in completing their ECR. She explained using post-it notes and color coding to support students in the writing process during PBL with ECR on Fridays. She acknowledged that the implementation had to be differentiated at a lower rigor with additional support. Lucia implemented PBL to support her EBs inconsistently due to the pressures of testing.

Like Arely and Lucia, Elena indicated when she first implemented PBL at the beginning of the year, she would request training. "So, I always asked if there is more training for PBL to see it in action." However, when the PBL incorporated the Extended Constructive Response (ECR) for the final product, she stated it was easier for her. "But now that he went into ECR, I'm connecting it to as an RLA teacher. I really feel that now they can use the content to use what we have been doing in the writing process." Even though Elena felt the PBL implementation with ECR was easier for her to implement, she wanted more time for students to experience PBL and complete their ECRs. She expressed she could observe how grades K-2 would engage in the PBLs successfully. Elena gave the following explanation,

> I saw last year how the lower grades would work on something from the beginning of the year, and then at the end, the kids would be in charge of presenting. They would teach us a lesson, and you would see them engage. Our dual language students were doing it in both languages. Seeing how they followed and implemented it in their classrooms was

> amazing. We were excited to have that opportunity in the upper grades, but I know time has not been our best friend. So, I mean, I do not know if we missed something that they were doing because, I mean, they were successful. I could see it. I noticed everybody knew what they were doing. Teachers worked together, the kids got to present, and every student had a role. So, I haven't seen that with us; I did not see that happen with us, and hopefully, we will get to it in our classroom. It is still working progress but trying to make more time to find time somewhere in between so that the kids do not miss out on any pieces that can help them develop that ECR where they will get to share their learning.

Elena reflected on the implementation success of the lower grade levels, which is a factor in supporting an individual's self-efficacy (Bandura 1997). However, she confirmed her grade level had yet to experience the same success. Elena claimed she needed more time so students could reap the benefits of consistently implementing PBL to write their final products successfully. In one of the observations, Elena guided her students in reading the ECR prompt on the Constitution of the Republic. She guided the students to identify essential words and internalize what the question was asking. Students had a graphic organizer with an open-ended question to organize their responses. Elena asked questions to activate their prior knowledge on the topic and provided thinking time for their responses. Elena permitted students to respond in the language the students felt comfortable. In addition, she made a connection with a cognate with the word construct, as indicated in the C6 Connect of the Biliteracy Instructional Framework (Medina, 2019). The C6 Connect calls for teachers of EBs to activate students' knowledge, allow students to translanguage, and make connections in their learning using cognates.

On the other hand, Sara placed in Level 4, Routines, category "Users" of the Levels of Use tool. Teachers at this level are reflective of their impact, have established routines, and make minimal modifications to support their student's needs (Hall & Hord, 2001). Sara explained last year, she and her dual language partner would model for their students, and this year they have provided more voice and choice. Sara stated,

> We are prepared. Like we know, it is student lead; it is their choice. It was more modeling. Let's do it together. And this year, it is like, okay, would you want to do a Google slide, or would you like to do a poster?

In addition, Sara explained her planning process with her partner and expressed they have attempted to establish a routine to finish students' products.

> We plan together. She is the Spanish teacher, and I am the English teacher. We do the same thing because we work with both our classes. So, like tomorrow, she will have my kids, my homeroom class, and I let her know they have not finished their poster on conservation. So, they did not finish, and they asked my partner, will we finish tomorrow for PBL Friday? So, they are excited about working on that. Some of them might have finished so that they will continue with the next thing, the bookmark, or if they are not finished with their Google Slides. So, we will get to do that. So, we work together and decide, okay, we need to finish this, or this group is finished with this. We need to know what both classes are working on or what they need.

Sara explained the process she engaged in according to the 50/50 dual language model implemented at the district, which requires her to co-teach with another teacher, Olivia. Teachers in a two-teacher model must communicate constantly and support each other to finalize their students' final products for PBL. They must be attentive to what they engaged in the other class

to continue and complete the work. During one of her observations, I noticed evidence of the accomplishments she had worked on with her students. Sara had an anchor chart of the brainstorming activity to locate goods and services of their city. She also had a section near her PBL wall labeled, what is a broadcast? The teacher displayed with post-its the student's responses on what they thought a broadcast was. Sara also provided opportunities for her students to use their native language during their PBLs, indicating that she supported her students' linguistic backgrounds. Sara's implementation demonstrated an established routine and incorporated options for students on their "Final Product" and supports for her EB students.

Teachers at Level 5, Refinement, determine how they are impacting student learning and how they can facilitate for their students better (Hall & Hord, 2001). Olivia placed on Level 5, Refinement, category "Users" of the Levels of Use diagnostic tool. Olivia declared during her interview she would consider the pacing guides to be focused on one end goal and not have other activities that did not align. Olivia stated,

> It is too much information that they want. So, I think if they were to make it more centralized and say, okay, today, we are going to do a broadcast of the news of the weather in [said city] and activities to go with it and just do that.

During a brief informal interview, Olivia displayed the pacing guide and showed me the must-includes she was working on and the resources she could not find in Spanish. She explained some of the resources were labeled in Spanish but were, in fact, in English. She felt that prolonged the videos and lessons because she would have to translate for her students. Moreover, Olivia felt confident using her student's proficiency levels to facilitate their learning. Olivia declared,

> So, you just have to take their language proficiency into effect, then how, how they're going to understand it. So sometimes there's a lot of explaining and giving examples. I do a lot of scenarios like for them to understand what I am trying to get them to do.

Olivia made significant shifts to ensure her students were learning through PBL successfully. She ensured the videos and resources were comprehensible to her students by explaining them in Spanish. Also, she considered her student's proficiency levels and provided additional examples than the ones provided to support her student's understanding. During one observation, she introduced the lesson by asking the students what animals they observed in their environment and activating their prior knowledge.

The observation data for Iris and Ana supported Level 6 (Integration) of the Levels of Use tool (Hall & Hord, 2001). Both participants demonstrated their efforts to work together and valued each other to implement PBL beyond their classrooms. Iris stated her PBL implementation in a dual language setting had not been difficult because of the support she experienced with her partner. Iris explained,

> No sé si porque tengo mi compañera, ¿verdad? Entonces, el hecho de que se tiene que decir en los dos idiomas, yo ya sé que todo lo que yo diga en español ella lo va a decir en inglés y lo que ella diga en inglés yo lo voy a decir en español. Entonces, nos apoyamos una en otra. ¿Y sabes qué? ¿Qué te parece si hacemos esto?

Iris believed the support they provided to each other influenced her confidence in supporting their EB students. The constant communication and planning provided them the opportunity to instruct PBL in English and Spanish.

Ana affirmed what Iris stated and included that her entire grade level works together to implement PBL regardless of the classroom setting. She responded,

> I think that is what makes us successful in it. I think implementing it and being in a grade level where all your grade level believes in it, not just the dual language because we integrate the other monolingual classrooms along with us.

Ana believed working with her grade level expanded the influence PBL for both the dual language students and the monolingual students. During my observations, Iris and Ana combined their classrooms and facilitated each other's instructional language to support their emergent bilinguals. Both teachers would co-teach the lesson. For instance, while Iris introduced and reviewed the project "Driving Question" in Spanish, Ana explained in English the five top cities they would research via google. In another observation, the whole grade level took turns practicing the four cardinal directions with the students in English and Spanish. The teachers modeled for the entire group while making hand movements to point to the directions. The teachers explained to the students in both languages the activities they would engage in for the following weeks. They would research different cities, calendar their weather, identify the holidays of state, and glue the information visually on a box. Students would also research living and non-living things from their city. As stated in the C6 Consider of the Biliteracy Instructional Framework Iris and Ana also displayed active student engagement (Medina, 2019). Table 4.2 presents a summary of the Levels of Use analysis of each participant.

Table 4.2

Levels of Use Analysis

Level	Category (Non-user/User)	Participant
Level 0 (Non-use)	Non-user	
Level 1 (Orientation)	Non-user	
Level 2 (Preparation)	Non-user	
Level 3 (Mechanical)	User	Arely Lucia Elena
Level 4 (Routine)	User	Sara
Level 5 (Refinement)	User	Olivia
Level 6 (Integration)	User	Iris Ana
Level 7 (Renewal)	User	

The Levels of Use diagnostic tool provided levels that were based on the consistent use of the teachers' on PBL in a dual language setting on the U.S.-Mexico border. I used the data from the participant's observations, informal interviews, and interviews to help inform their level of use according to the Levels of Use diagnostic tool. The implementation behaviors of the participants did not indicate placement in any of the levels related to "Non-user." Three participants placed in Level 3, Mechanical; one in Level 4, Routine; one in Level 5, Refinement; and two in Level 6, Integration. While all the participants placed in the "Users" category, the upper grade teachers, 3-5, used PBL in a dual language setting at a minimum level.

Beliefs and Actions

In analyzing the beliefs and actions of the participants with the assistance of the Stages of Concern (SoC) and Levels of Use (LoU) diagnostic tools, I was able to understand their self-efficacy and how it supported their PBL implementation in dual language to support EBs. For instance, Arely and Lucia stated concern about implementing project-based learning in a dual language campus. The teachers felt they needed more training and information about the PBL implementation. Both Arely and Lucia taught upper-grades and PBL in Social Studies. Arely taught in a one-teacher dual language model in both English and Spanish, while Lucia taught in a two-teacher Model in Spanish. The data placed Arely and Lucia in Stage 1, Informational, on the Stages of Concern diagnostic tool and Level 3, Mechanical, on the Levels of Use diagnostic tool. The Level of Use diagnostic tool indicated they were "Users" of the innovation (Hall & Hord, 2001). However, based on the observations, interviews, and informal interviews, Arely and Lucia implemented PBL in a dual language setting minimally and inconsistently.

Sara and Elena stated concern about managing time to implement PBL in a dual language setting. Sara taught in a two-teacher dual language model in English, and Elena instructed in a two-teacher model in English and Spanish. Sara expressed she wanted to prioritize time to finish the tasks during PBL Fridays, and Elena felt she wanted to ensure fidelity to the PBL time to complete the student's ECRs. In the Stages of Concern diagnostic tool, both placed in Stage 3, Management. In the Levels of Use diagnostic tool, Lucia placed Level 3, Mechanical, and Sara placed Level 4, Routine. Their sense of self-efficacy was higher than Arely and Lucia's. However, to achieve greater self-efficacy, Sara and Elena needed to feel more confident in implementing PBL to support emergent bilinguals by transitioning from concerns of PBL management to student impact (Hall & Hord, 1987).

In comparison with the participants Sara and Elena, Olivia's concern focused on student improvement and support for emergent bilinguals. Olivia taught in a two-teacher dual language model in Spanish and instructed PBL in social studies and science. In the Stages of Concern diagnostic tool, Olivia placed in Stage 4, Consequence, and Level 5, Refinement, in the Levels of Use diagnostic tool. Thus, Olivia seems to have experienced higher self-efficacy with implementing PBL in a dual language setting.

Lastly, Iris and Ana placed the highest on the Stages of Concerns and Levels of Use tools. They placed Stage 5, Collaboration, in the Stages of Concerns tool and Level 6, Integration, in the Levels of Use tool. Iris and Ana consistently implemented PBL in a dual language and continuously looked for ways to collaborate to improve their students' understanding. Thus, Iris and Ana had the highest sense of self-efficacy in implementing project-based learning in a dual setting at Barros Elementary to support their emergent bilinguals. Table 4.3 below summarizes the demographics and the placements of their Stages of Concern and Level of Use analysis.

Table 4.3

Stages of Concern and Levels of Use Analysis

Name	Gender	Subject	Dual Language Teacher Model	Stages of Concern (SoC)	Stages of Concern Category	Levels of Use (LoU)	Levels of Use Category
Iris	Female	Social Studies and Science	Two-teacher (Spanish)	Stage 5-Collaboration	Impact	Level 6-Integration	User
Ana	Female	Studies and Science	Two-teacher (English)	Stage 5-Collaboration	Impact	Level 6-Integration	User
Sara	Female	Studies and Science	Two-teacher (English)	Stage 3-Management	Task	Level 4-Routine	User
Oliva	Female	Studies and Science	Two-Teacher (Spanish)	Stage 4-Consequence	Impact	Level 5-Refinement	User
Lucia	Female	Social Studies	Two-Teacher (Spanish)	Stage 1-Informational	Self	Level 3-Mechanical	User
Elena	Female	Social Studies	Two-Teacher (English and Spanish)	Stage 3-Management	Task	Level 3-Mechanical	User
Arely	Female	Social Studies	One-teacher (English and Spanish)	Stage 2-Informational	Self	Level-3 Mechanical	User

Using the Stages of Concern (SoC) and Levels of Use (LoU) tools allowed me to understand the beliefs and practical actions of PBL teachers in a dual language setting and their self-efficacy in implementing PBL in dual language. Teacher self-efficacy is an important factor in the successful implementation of PBL, as it affects the teacher's motivation, effort, and persistence in implementing this instructional approach. The higher the teachers placed on the SoC and LoU diagnostic tools, the greater their chance of having higher levels of self-efficacy. Self-efficacy, particularly teacher self-efficacy, provided valuable insight into the implementation of PBL in a dual language campus.

Summary

The current chapter presented the participants' perspectives on dual language project-based learning, the implementation of project-based learning in a dual language campus, and the participant's experiences organized around six central themes. The first common theme, *District's Commitments and Expectations*, provided how the school-wide implementation of PBL at Barros Elementary was guided by AISD's instructional vision and the instructional resources provided by the district. The second theme gathered insight into the participants' perspectives on how they implement PBL to meet the needs of their emergent bilinguals (EBs). The third theme delved into the participant's perceptions about their *roles and responsibilities* of PBL in a dual language campus and their commitment to serving students through the PBL learning approach. The fourth theme provided the participants' experiences centered on their *successes and challenges* encountered during their PBL implementation. The fifth theme entailed the participants' perceived *confidence* in implementing PBL in a dual language setting and supporting EBs through PBL effectively. Lastly, with the support of the Levels of Use (LoU) and Stages of Concerns (SoC) diagnostic tools, I was able to better understand the participants

teacher self-efficacy in implementing PBL to support EBs on the U.S.-Mexico border. The final chapter presents the summary of findings, discussion, study implications, and recommendations for future research.

Chapter 5: Discussion and Recommendations

In this chapter, I present a summary of the findings, discussion, and implications for theory, research, and practice. The chapter concludes with recommendations and a summary. The study aimed to understand the implementation of project-based learning at a dual language campus on the U.S.-Mexico border. The study acknowledged teachers' viewpoints, experiences, and implementation decisions to guide classroom practices that support emergent bilinguals' specific needs. However, the success of implementing an innovation, such as PBL, is facilitated by the teacher's belief in the tools and ability to enact the approach (Bandura, 1977). Therefore, the study also considered how teacher self-efficacy supported the implementation of PBL in a dual language campus on the U.S.-Mexico border.

I used an intrinsic case study approach to understand how the participants implemented PBL at Barros Elementary, a dual language campus located at the U.S.-Mexico border. I employed an intrinsic case study because I was intrinsically interested in Barros Elementary because 1) nearly 50% of the student population were emergent bilinguals; 2) its location on the U.S.-Mexico border; and 3) the project-based learning implementation in a dual language setting. Teacher self-efficacy, a construct of self-efficacy, was used as the guiding Conceptual Framework and the existing literature on project-based learning to support emergent bilinguals (Campbell, 2012; Golden et al., 2014; Maulany, 2013). Moreover, a growing body of literature has explored how PBL supports teacher self-efficacy (Mahasneh & Alwan, 2018; Mirici & Uzel, 2019) and students' self-efficacy (Shin, 2018). However, there were no studies on how teacher self-efficacy supports PBL implementation in a dual language setting on the U.S.-Mexico border.

The data for this study was collected through multiple sources: formal and informal interviews, field observations, and district planning documents. I used two of the Concerns-

Based Adoption Model's (CBAM) dimensions, the Stages of Concern (SoC) diagnostic tool and the Levels of Use (LoU) diagnostic tools, to understand better the respondent's views and practices based on their self-efficacy implementing PBL in a dual language campus on the U.S.-Mexico border. Participants that placed higher on the diagnostic tools had higher self-efficacy and successful implementation of PBL in a dual language setting to support EBs. Many previous studies on PBL have used the SoC and LoU diagnostic tools for quantitative measures (Cyprian, 2014; Fry, 2017; Harris, 2014). However, I used the qualitative approach of the CBAM model to understand the participant's attitudes, beliefs, thoughts, and experiences regarding the implementation of PBL in a dual language setting. This study was intended to understand the implementation of PBL in a dual language campus on the U.S.-Mexico border rather than to measure the effectiveness of the PBL implementation.

The findings of this study support the current literature on project-based learning to support emergent bilinguals (Campbell, 2012; Golden et al., 2014; Maulany, 2013; Shafaei & Rahim, 2015; Syarifah & Emiliasari, 2018; Vicheanpant & Ruenglertpanyakul, 2012) and the opportunity to naturally develop their first and second language acquisition through meaningful cross-curricular tasks, such as project-based learning (Collier & Thomas, 2017; Howard et al., 2007). I provide a summary of the findings in the following section.

Summary of Findings

The seven participants in the study implemented PBL in a one- or two-teacher model at a dual language campus on the U.S.-Mexico border. There were six central themes in the study based on my data analysis: 1) District Commitment and Expectation, 2) Emergent Bilingual Supports, 3) Commitment versus Compliance, 4) Successes and Challenges, 5) Confidence, and 6) Teacher Self-Efficacy. A brief overview of the findings is found below.

District Commitment and Expectation

AISD's instructional vision guided the implementation of PBL at Barros Elementary. The district's vision indicated its commitment to providing students with student-centered opportunities that provide engagement, development skills, and multilingual capabilities. AISD was committed to implementing project-based learning (PBL) in social studies for teachers in kindergarten to fifth grades. Lower grades, K-2, implemented PBL with a cross-curricular connection in science, while upper grades, 3-5, in social studies. The district also applied the 50/50 one-way dual language model and promoted a vision to develop bilingual, biliterate, and bicultural student thinkers. All the participants in the study understood the district's expectations and commitment to implementing PBL at their dual language campus. Recall, Elena, who stated, "I know PBL is to support emergent bilinguals."

Barros Elementary reflected the district's program implementations and expectations through my formal and informal interviews, observations, and documents. The participants in the study stated they received guidance from the district through resources and documents such as PBL planning guides, Social Studies Pacing Tools, and rubrics in English and Spanish. A common response among the participants was using the PBL pacing guides that embedded the District's Essential PBL components. The participants expressed the PBL pacing guides were helpful during their PBL implementation in a dual language setting because they were available in English and Spanish. Recall, Arely, who claimed, "All we have to do is go to the pacing guide, and it is right there, and I love it because it is in English and Spanish."

Moreover, the participants could also explain their planning process, which incorporated the District's Essential Elements. The District Essential Elements, adapted from the Gold Standard PBL Model, were: Knows/Need to Know, Entry Event, Problem or Challenge, Driving

Question, Social Studies/Science Connection, Public Product, and Public Presentation. Ana expressed her student's joy on the "Public Presentation" of their PBLs and explained her implementation, "So, our students really go out for their PBL projects, and they love to share what they know. When we do, we do in both languages. So sometimes we get students that speak Spanish, and then we get students who speak English since we are so close to the border." In the U.S.-Mexico border, PBL can be designed to incorporate both languages in instruction, supporting language development and promoting bilingualism and biliteracy.

The findings from the study revealed that the dual language participants implemented PBL to support EBs by recognizing how the location of the campus on the U.S.-Mexico border diversifies the learning spaces of students from English and Spanish-speaking backgrounds (USDOE, n.d.-d). The U.S.-Mexico border region is linguistically diverse, with various languages spoken by different communities living in the area (USDOE, n.d.d). The finding that the district guided the participants in implementing PBL while considering their student backgrounds aligns with current literature on the need for teachers in U.S. schools to support students' linguistic and academic needs (DeMatthews & Izquierdo, 2019).

Project-based learning is an opportunity for students, including EBs, from disadvantaged communities to learn through authentic, innovative, and real-world experiences (New Tech Network, n.d.). School leaders at Barros Elementary played a critical role in supporting PBL by providing the participants with the necessary resources, training, and support (Ravitz, 2010). The findings showed leaders implementing PBL in a dual setting are tasked with creating a culture and climate that supports student-centered learning and values EB's cultural and linguistic diversity. Lucia declared, "We have support from our administrator and support from the curriculum coaches as they go and model to the classrooms."

There are positive and negative effects for project-based learning to be mandated by the district rather than being a bottom-up approach or a felt need of the school community (Barron & Darling-Hammond, 2008; Boss & Krauss, 2016). A mandated approach may provide a clear direction and purpose aligned with the school's goals and objectives. In addition, it may have allowed the campus to engage in a topic or issue that may not have otherwise been considered. On the contrary, the project at task may not align with the student's interests or needs, leading to disengagement. Projects that are mandated may also limit students' creativity. Barros Elementary aimed to balance structure and freedom by giving students voice and choice within their PBL implementations.

Emergent Bilingual Supports

The participants also commonly revealed the Emergent Bilingual Supports they incorporated in their dual language PBL implementations. The responses from the participants indicated asset-based perspectives that valued students' linguistic repertoires and strategies they perceived to support their emergent bilingual (EB) student's academic and linguistic learning. Regardless of the grade level, all participants declared the value of providing students with the opportunity to demonstrate their learning in English or Spanish. The finding was significant because PBL teachers who are not confident in their abilities or with low teacher-efficacy to support EBs may be hesitant to scaffold their instruction (Cho et al., 2020; Ertmer & Simons, 2005).

Activating students' background knowledge was also a common response for the participants. According to Haneda and Wells (2012), a fundamental principle to providing equitable learning opportunities for EBs is connecting the curriculum to their lives and experiences. While some activated their student's backgrounds through videos and pictures,

others valued student collaboration to build on each other's understanding. The final common subtheme from the study considering emergent bilingual support was peer support. Regardless of grade level, all participants believed peer support was essential to bridge the understanding of their Newcomers or students transferred from monolingual classrooms.

The studies finding's indicated the implementation of PBL in a dual language campus on the U.S.-Mexico border incorporated strategies and practices known to support EBs. First, participants provided scaffolding, such as graphic organizers, visual aids, and sentence starters, to help students navigate the language and content demands of the project (O'Brien et al., 2014). Second, participants provided opportunities for small-group collaboration and encouraged using multiple languages in the project (O'Brien et al., 2014). Third, participants valued and validated students' linguistic and cultural backgrounds and ensured that the project materials and activities were culturally responsive and inclusive (Harper & De Jong, 2004). The findings of the Emergent Bilingual Support theme also brought forward the insight that Barros Elementary, within their PBL implementation, values their students' ability to translanguage or use their entire linguistic abilities to produce and communicate language (Vogel & García, 2017). Moreover, it contributed to U.S. public schools' concern about EB's access to inclusive public-school experiences and opportunities to achieve academic and linguistic success (DeMatthews & Izquierdo, 2019).

Commitment versus Compliance

Another common theme in the study was Commitment versus Compliance. The participants expressed beliefs in their interviews, and their actions during their implementation of PBL demonstrated commitment. During my observations and interviews, I noticed teachers followed and implemented PBL as required by the district to some extent. However, the

participants' perceptions towards PBL and behaviors demonstrated commitment and a sense of pride. As a result, a subtheme that emerged was the participant's perspectives of their roles and responsibilities as dual language PBL teachers. The participants perceived themselves as facilitators versus depositors of knowledge. For instance, lower grades, K-2, believed their roles and responsibilities were to provide students with content knowledge during the week and enable their learning on PBL Fridays. Recall, Sara, when she affirmed, “My role is just a facilitator, of course, teaching the [said state standards] during the week, and then on PBL Fridays, I am just really a facilitator.”

On the other hand, upper grades 3-5 commonly stated they felt they had to model before facilitating their student learning because of the recent transition of the district to implement PBL with an Extended Constructive Response (ECR) as their final product. One of the participants, Elena, stated, “Once we go to our ECR Friday, then we will go through the writing process. Now I’m still modeling for them because, like I told you, there is growth in their writing, but some of them still need a lot of support.” Regardless of grade level, the participants believed their responsibility was to facilitate student learning and support their EB students by bridging their academic and linguistic understandings. Bridging strategies provide opportunities for the students to connect their learning, make comparisons, and apply what they learned in two program languages (Beeman & Urow, 2013).

Participants also commonly believed in PBL to help their EBs and demonstrated efforts beyond compliance to engage their students in their learning. Some participants stated they could relate to the students and extended their day to support their needs. During their interviews, upper grade participants commonly acknowledged how lower grades decorated and made the projects engaging for their students. They perceived lower grades to be the school role models

for PBL. Nonetheless, upper grades also demonstrated beyond compliance efforts by stating they believed in the innovation, expressed how they related to their students, and made themselves available after or before school to provide extra support for their struggling learners. This finding was essential because teacher motivation to adopt and adjust to the instructional method is a factor for successful PBL implementation (Fullan, 2007).

Successes and Challenges

Additional themes also emerged from the teacher's experiences implementing PBL at a dual language campus on the U.S.-Mexico border. Successes and Challenges were common responses of the participants. In all grades, the participants declared one of the successes was the support they had received from their instructional coach and campus administrator. Arely said, “I love this school because they give us a lot of support.” Moreover, the participants in the study acknowledged the campus principal for allowing them to implement some of the PBL projects school-wide. Iris stated, “Fue algo que también nos gustó porque el director nos apoya con estas locuras que hacemos.” Teachers’ self-efficacy through PBL training increased due to the support participants received (Mirici & Uzel, 2019).

The participants also identified their success with engaging students in projects that had real-world connections. For example, in one of the PBL projects shared by the participants, students had the opportunity to invite their parents and other classes at their campus to their exhibitions. Another participant, Olivia, stated the PBL projects were “eye-opening experiences” for the students. In addition to real-world connections, participants also claimed student collaboration succeeded in their PBL implementation because it motivated students. Lucia replied, “What encourages them is that they are working together.” The participant also shared the experience that students had the opportunity to practice their four domains during their group

projects. Another teacher, Lucia, affirmed, “I think there is a connection of the PBL because they must implement the oral, reading, listening, and speaking in all of them, academically and linguistically.” Their responses were significant because PBL geared towards supporting EBs should focus not only on student achievement and content knowledge (Duke et al., 2021) but recognize the importance of facilitating language development for students while monitoring their academic and language attainment (O’Brien et al., 2014).

However, shared challenges also emerged from the participant’s experiences. The participant’s stated time was a challenge. Some participants struggled with time to complete their tasks, while others struggled to implement the innovation. Another challenge in implementing PBL in a dual language setting was the variations in their student's proficiency levels. The participants acknowledged their student demographics included students new to the country and others transferred from the monolingual classrooms. As a result, regardless of the dual language teacher model or the language of instruction, teachers had students with various English and Spanish proficiency levels. In addition, a typical response in upper grades was the Covid-19 Pandemic. The teachers declared the Covid-19 Pandemic contributed to students struggling with their academic and linguistic attainment. Elena explained, “Some had not been in school because of the pandemic, which was also challenging.”

School leaders at a campus leading the implementation of PBL in a dual language setting may consider the findings beneficial to anticipate the successes and challenges to support EB student learning. When leaders anticipate the potential successes and challenges, they can better prepare and support teachers to implement PBL and meet the unique needs of EB students on the U.S.-Mexico border.

Confidence

The theme of Confidence was the participant's perceived confidence in implementing PBL in a dual language setting and supporting EBs through PBL. Grades K-2 displayed greater confidence than grades 3-5 to implement PBL in a dual language setting and support EBs through the learning approach. For instance, a participant in lower grades expressed confidence because she had prior knowledge and experience in other grade levels. She also attributed her confidence to having a great team member. Another participant articulated her confidence by explaining that she values students' linguistic abilities to support their learning.

However, participants in grades 3, 4, and 5 shared they needed more training on PBL and to see it in action by others who have mastered the implementation. Elena stated, "I think there are still some pieces that we are confused about." Also, Lucia said, "It is still something that I guess we still need to learn more about it and the process of how to teach it." Participants commonly shared they were new to the approach but perceived PBL in a dual language as a positive experience for themselves and their students. Teachers' motivation to adopt a new practice is highly personal and based on factors such as students' success and self-efficacy (Hall & Hord, 2001). Thus, district leaders, instructional coaches, or curriculum coaches overseeing the implementation must support teachers' confidence in their abilities or self-efficacy by providing positive experiences through ongoing training, teacher collaboration, and individualized attention to the concerns impeding successful implementation.

Teacher confidence in project-based learning (PBL) can be a critical factor in the success of PBL implementation. When teachers feel confident and capable in their ability to design and facilitate PBL experiences, they are more likely to embrace the instructional approach and support student learning in either language.

Teacher-Self Efficacy

The final theme was Teacher Self-efficacy. I used the Concerns-Based Adoption Model (CBAM); I specifically used the Stages of Concern (SoC) and Levels of Use (LoU) tools which allowed me to understand the perceptions and practical actions of the PBL participants in a dual language setting and their self-efficacy in implementing PBL in dual language. According to the CBAM, participants move through stages of concern while implementing a new program, beginning with awareness and information, personal, management, consequence, collaboration, and refocusing. Teachers with low efficacy were uncertain about the PBL implementation and requested more trainings. Although Arely, Elena, and Lucia expressed how they supported their EBs within PBL, their implementation could have been more consistent. Their concerns could be addressed by building teacher self-efficacy through professional learning, coaching, and providing opportunities for participants to share and learn from each other's implementation. Recall that Sara mentioned she would like support from a teacher who could model for her "how to finish everything on PBL Fridays."

Teachers with high levels of self-efficacy were concerned about the PBL implementation's impact on their student's learning. For example, Olivia's self-efficacy focused on how her implementation impacted her student learning in Spanish and showed behaviors of accommodating her PBL instruction to meet her EBs needs. However, Iris and Ana demonstrated behaviors to impact their student learning while collaborating with their team members indicating a higher intensity of self-efficacy than Olivia. There were no participants unconcerned with implementing the innovation or wanting to refine the implementation significantly. It seemed the higher the teachers placed on the SoC and LoU diagnostic tools, the greater their chance of having higher levels of self-efficacy (Hall & Hord, 1987). Self-efficacy, particularly

teacher self-efficacy, provided valuable insight implementing PBL in a dual language campus for leaders.

To effectively support project-based learning (PBL), instructional leaders, such as principals, superintendents, and curriculum directors, need to have a strong understanding of PBL, its benefits for EBs, and the skills and strategies required from teachers to implement it successfully.

Discussion

The opportunity gap refers to the unequal distribution of resources and opportunities that leads to disparities in academic achievement between students from different socioeconomic and linguistic backgrounds (Kamm, 2018). Emergent bilinguals, students who are learning English as a second language while also maintaining their home language, are often impacted by the opportunity gap due to factors such as limited access to high-quality instructional materials, lack of bilingual and culturally responsive teachers, and insufficient support for their language development (Samson & Collings, 2012; Sanchez, 2017).

Project-based learning (PBL) is a teaching approach emphasizing student-centered, inquiry-based learning designed to be engaging and relevant to student's lives (Larmer et al., 2015; Wurdinger et al., 2007). PBL can provide a powerful tool for addressing the opportunity gap for emergent bilinguals by providing opportunities for students to engage in meaningful and authentic language practice, work collaboratively with peers, and develop critical thinking and problem-solving skills. The implementation of PBL by the DL participants in the study affirmed culturally responsive practices that validated students' experiences, fostered students' cultural identity, and supported student learning through inclusive learning environments and interactions (Oberg De La Garza et al., 2020).

According to Gay (2018), culturally responsive teaching fosters students' experiences and cultural backgrounds in their learning. This study revealed that in a PBL dual language setting, EB students work on real-world issues and projects relevant to their lives and interests. Olivia explained the PBL project for Disneyland and how her students were shocked to learn how much work, money, and planning it took to organize a trip to the magical place. Olivia explained that the students researched the entirety of the trip and budgeted the expenses allowing students to engage in practical critical thinking skills and collaboration in English and Spanish. Another participant, Iris, also explained the PBL project with the caves. She and her partner, Ana, brought the PBL to life by making a cave-like demonstration in their hallway for their students. She explained parents were calling and wondering if they were going on a field trip. Iris stated the students told the parents they had to dress warm because they were going to the caverns. I realized the participants implemented PBL beyond the compliance of their district. All the participants, regardless of level of implementation, understood and acknowledged the opportunity project-based learning provided their EB students.

For instance, PBL can help emergent bilinguals develop their language skills by providing opportunities for them to engage in authentic communication with others (Vicheanpant & Ruenglertpanyakul, 2012), practice using academic language in a real-world context, and build their skills as language learners (Syarifah & Emiliasari, 2018). Findings in the study also revealed that the participants created a space for students to collaborate with their peers to build content understanding and develop their speaking, writing, reading, and listening domains. The present results are consistent with Echevarria and Short's (2008) work in differentiating for emergent bilingual students and considering their proficiency levels. Although differentiating instruction for the participants by proficiency levels was challenging, teachers were aware of

their various linguistic understandings and used strategies to support their students. For example, participants in the study used scaffolding, such as graphic organizers, visual aids, and sentence starters to help students navigate the language and content demands of the PBL projects. Participants also valued and validated their student's language and culture by bridging their fundamental knowledge to form new knowledge. While some activated their student's backgrounds through videos and pictures, others valued student collaboration to build on each other's understanding.

In addition, PBL can help address the opportunity gap by providing opportunities for emergent bilinguals to build on their cultural and linguistic strengths. PBL projects can incorporate students' home languages and cultures, which can validate and affirm their identities as emergent bilinguals. All the participants in the study experienced their students' backgrounds were valued through project-based learning using their native languages during their collaboration to finalize their "Final Presentation." In addition, the flexible separation of program languages in a 50/50 dual language model benefited students by allowing teachers and students to continually make cross-linguistic connections to support the transfer of skills in the partner language (Kennedy & Medina, 2017). As a result, PBL can also help to promote bilingualism and biliteracy, which are important assets in today's globalized society.

Participants implementing project-based learning in a dual language setting considered students' linguistic abilities to support academic learning. Campuses on the U.S.-Mexico border experience student diversity in their classrooms with emerging English proficiencies. Thus, participants prepared to bridge students' understandings to help their students have content access. This finding is consistent with Vogel and García (2017) on translanguaging, which refers to using features from their singular or multiple language banks of students to construct meaning

and demonstrate knowledge. Participants in the study commonly referred to this practice and provided students the opportunity to show their learning in English and Spanish.

The findings also support the work of O'Brien et al. (2014), encouraging enhancements to the PBL design models that accommodate emergent bilingual linguistic and cultural needs. Although there are many models of PBL implementation, as stated by Condliffe (2017) and Thomas (2000), the implementation practices found in the study show that the C6 Biliteracy Framework, in conjunction with The Gold Standard PBL model, may be used as a guide to support PBL implementation in a dual language setting. For instance, the C6 Framework facilitates the lesson planning process for dual language teachers and supports content access to students regardless of language proficiency (Medina, 2019). I found that many components in the C6 Framework align with the Golden Standard PBL Model.

The Gold Standard PBL projects provide a space where students share what they already know about the topic, while the C6 Connect requires DL teachers to connect and value students' understandings. For instance, during her PBL with ECR on the U.S. Constitution, Elena made a connection with her students for the word construct. She asked the students if it was a cognate word and bridged her students' understanding.

The PBL project elements also allow participants to provide students with an opportunity to collaborate and communicate in their native language to brainstorm ideas and possible solutions, while the C6 Communicate details student learning should leverage students to practice their speaking, writing, reading, and listening domains while developing their metalinguistic awareness. Elena stated, "their metalinguistic connections because they have a lot of them," indicating she is also aware of the importance of developing the students' understanding of the language structures and how they are similar and different.

According to the C6 Framework, teachers should take on the role of a facilitator and allow students to question and interact with one another, also posed by the PBL project elements. The participants believed their role was facilitating the implementation of PBL in a dual setting. However, the participants in upper grades felt they needed to continue to guide their students because of the recent shift their PBLs had experienced. They expressed they had to incorporate an Extended Constructed Response as their PBL final product and, due to the COVID-19 Pandemic, students had learning gaps that required additional guidance.

The Golden Standard PBL design elements also include authenticity to ensure projects are meaningful and make connections to the real world, just as the C6 Collaborate considers culturally responsive and sustaining pedagogy. Lastly, the C6 Consider emphasizes that teachers must foster EB student ownership to facilitate learning (Medina, 2019). Thus, students are empowered with the "Presentation" essential component of PBL to show their accomplishments to their peers and others. The participants in the study permitted students to present to others within and outside their learning community. Recall, Ana, who stated, "Sometimes we bring over admin, I mean from a central office, or we bring whoever wants to come to see us and join us." Figure 5.1 below visually represents the C6 Biliteracy Instructional Framework implemented at the study site.

Table 5.1

The C6 Biliteracy Instructional Framework

C6 Biliteracy Instructional Framework™	
Create and design authentic learning experiences that bring together content, language, and culture.	▪ Content learning target ▪ Language learning target ▪ Culture learning target
Connect learning experiences to students' lives and linguistic repertoires.	▪ Activating and valuing students' schemas ▪ Social and academic language (as part of one linguistic repertoire) ▪ Cross-linguistic connections
Collaborate with students as a facilitator of instruction, rather than a depositor of information.	▪ Culturally responsive pedagogy ▪ Differentiated instruction ▪ Higher level thinking
Communicate and model oral and written language, while structuring authentic student-to-student interaction that reflects each of the program languages.	▪ 4+1 Language domains ▪ Scripting ▪ Authentic biliteracy instruction and environmental print support
Consider students' varied instructional needs as an opportunity to promote reflection and self-assessment.	▪ Student learning modalities ▪ Active student engagement ▪ Diverse and authentic biliteracy assessments
Commit, in collaboration with students, to creating a learning environment that is focused on continuous improvement and service to others.	▪ Personal and academic growth ▪ Sociocultural competence ▪ Global citizenship and service

Note: Reprinted from https://duallanguageschools.org/column/planning-for-the-dual-language-classroom-the-c6-biliteracy-framework/. Copyright by DualLanguageSchools.org

Teacher self-efficacy in project-based learning (PBL) refers to the teacher's belief in their ability to successfully implement PBL in their classroom and support students in achieving the desired learning outcomes. Teacher self-efficacy is an essential factor in the successful implementation of PBL, as it affects the teacher's motivation, effort, and persistence in

implementing this instructional approach (Mirici & Uzel, 2019). The Concerns-Based Adoption Model (CBAM) was used to understand participants' self-efficacy and how they make sense of implementing the innovation (Hall & Hord, 2015). The Stages of Concern (SoC) dimension tool provided a visual overview of the analysis of the teacher's self-efficacy or perceived confidence in implementing PBL in a dual language setting to support EBs. The Levels of Use (LoU) dimensions tool also provided a visual of the intensity that teachers implemented PBL in a way that supported the intent of the learning approach to support emergent bilinguals.

The participants' beliefs provided an understanding of their confidence in the learning approach. Grades K-2 displayed greater confidence than grades 3-5 to implement PBL in a dual language setting and support EBs through the learning approach. For instance, a participant in lower grades expressed confidence because she had prior knowledge and experience in other grade levels. Iris stated, "Entonces, nos apoyamos una en otra. ¿Y sabes qué? ¿Qué te parece si hacemos esto?" She explained that they could support their students' needs in English and Spanish by collaborating and planning together. Participants in grades 3, 4, and 5 shared they needed more training on PBL and expressed the challenge of implementing PBL consistently because of the upcoming state assessments and writing requirements. Elena stated, "I also think because we are a testing grade and our students have more open-ended questions, more writing on their part." I found that the upper grade participants commonly shared they were new to the approach but expressed PBL in a dual language as a positive experience for themselves and their students. The SoC and LoU dimension tools helped me understand the participant's self-efficacy and how it supports the implementation of PBL in a dual language campus on the U.S.-Mexico border (Hall & Hord, 2015).

Teacher self-efficacy in PBL can be developed through several sources of information, including personal experience with PBL, observation of other teachers implementing PBL, feedback from colleagues, and professional development opportunities (Hall & Hord, 2015). The more teachers feel prepared and confident in implementing PBL, the higher their self-efficacy will be. When teachers believe in their ability to implement PBL, they are more likely to create a positive and supportive learning environment, provide effective scaffolding for student learning, and facilitate student collaboration and critical thinking. Dual language participants with higher levels of self-efficacy in their capabilities demonstrated confidence in PBL by focusing on how their teaching impacts their students' linguistic and academic learning. Findings in the study also showed that participants had high self-efficacy as they collaborated with their teacher partners to support student understanding. Participants received support from their campus leadership, indicating a possible factor in successfully implementing PBL in a dual language campus on the U.S.-Mexico border. Bandura (1997) provides that the construct of mastery of experience is the most influential in determining the efficacy of an individual. Thereby, the findings in this study align with his work on teacher efficacy being affected by their experiences.

Study Implications

The findings from the study provided valuable information on the implementation of PBL in a dual language campus on the U.S.-Mexico border. School leaders are now considered instructional leaders tasked with assisting teaching and learning through guidance, resources, and instructional support for students and teachers (Özdemir et al., 2020). However, Wiemelt and Welton (2015) found that in the context of bilingual education, instructional leaders must establish school visions of instruction with opportunities that foster teaching that focuses on each student's needs, interests, and abilities including inclusivity, bilingualism, and biliteracy. The

study's findings also support instructional leaders, instructional coaches, teachers, and school campuses in understanding how teacher self-efficacy supports the implementation of PBL for emergent bilinguals.

Research

The study was designed to add to the existing body of knowledge on the implementation of project-based learning to support emergent bilinguals (Campbell, 2012; Golden et al., 2014; Maulany, 2013) and teacher self-efficacy and PBL implementation (Mahasneh & Alwan, 2018; Mirici & Uzel, 2019). The understanding of the implementation of PBL for EBs and the role of teacher self-efficacy at a dual language campus can provide a learning approach that meets the diverse needs of emergent bilinguals on the U.S.-Mexico border. Teacher self-efficacy, grounded in the self-efficacy theory, provided a lens to view the participant's confidence in their ability to implement PBL in a dual language campus on the U.S.-Mexico border. The increase of emergent bilinguals in the U.S. requires teachers to engage students in instructional approaches, like PBL, that provide access and equity in their learning (Howard et al., 2007). Thereby, additional research can focus on the implementation of PBL for secondary grades in a dual language setting to support EBs on the U.S.-Mexico border. Future research can replicate this study in secondary grades to determine how implementing PBL supports the students' self-efficacy in these bilingual classrooms.

The COVID-19 pandemic impacted emergent bilinguals as they regressed in their English acquisitions because of the limited opportunity to practice their speaking, writing, reading, and listening domains (Sugarman & Lazarín, 2020). As students continue their K-12 education, pedagogical frameworks must provide EBs with opportunities to develop and apply bilingual abilities to become active citizens in our multilinguistic world (Lopez & Santibañez,

2018). Instructional leaders, teachers, and public and higher education institutions would also benefit from an investigation on how the PBL implementation in a dual language environment can support emergent bilinguals in special education.

In addition, Mudambi (2021) claims the achievement gap is not caused by the characteristics of students but by the lack of opportunities. Thus, PBL can effectively address the opportunity gap for emergent bilinguals by providing opportunities for them to engage in meaningful and authentic language use through collaboration. PBL can also help to build on emergent Bilinguals' cultural and linguistic strengths and promote bilingualism and biliteracy as valuable assets. Moreover, PBL facilitates culturally responsive teaching, which is a response to the need of more inclusive, responsive, and sustained teaching practices that support the diverse needs of EBs (Oberg De La Garza, 2020). Consequently, more research on implementing PBL in other bilingual models would be insightful to educators and instructional leaders at the campus and district levels since there are variations of bilingual programs in the U.S. (Freeman et al., 2018; Thomas & Collier, 2003, 2012).

Practice

The present study provided the experiences of seven participants who implemented project-based learning at a dual language site on the U.S.-Mexico border. The qualitative method of the study permitted me to reveal the significance of the collaboration of dual language teachers, the importance of linguistic considerations in implementing PBL for emergent bilinguals, the support teacher self-efficacy has on the dual language PBL instructional implementation, and the importance of the cross-linguistic connections teachers used during their PBL implementation to support their emergent bilinguals on the U.S.-Mexico border. Moreover, this study provided the benefits of teacher collaboration in a dual language setting in a two-

teacher model and continuous support for teachers during the implementation. The study's findings offer school districts, administrators, or teachers considering initiating the PBL learning approach with characteristics of teachers with high efficacy, dual language strategies that support PBL instruction, and insightful perceptions of teachers' concerns when implementing PBL in a dual setting.

An intrinsic case study helps leaders understand how project-based learning can support emergent bilinguals attending a dual language school on the U.S.-Mexico border. Many students on the U.S.-Mexico border are EBs who speak English and Spanish. Thus, PBL can support language development and promote bilingualism and biliteracy by engaging students in both languages (Howard et al., 2007). Participants in the study intentionally used both languages, providing opportunities for students to develop content understanding and practice their language with cross-linguistic connections such as translanguaging (Vogel and García, 2017). The use of both languages in the PBL implementation provided students with equal access to the content and permitted full participation in the learning experience, regardless of language proficiency level.

PBL in a One- and Two-Teacher Dual Language Model

The two-teacher dual language model (Thomas & Collier, 2012) for project-based learning (PBL) focuses on bilingualism and biliteracy. In this model, two teachers collaborate to design and implement PBL experiences for students in a dual language program where one teacher facilitates in English and the other in Spanish. The two teachers work together to design and implement PBL experiences that integrate both languages and promote collaboration between the two student groups. They can provide opportunities for students to develop their language skills in both languages in meaningful contexts. PBL experiences integrating both

languages can also promote cross-cultural understanding and appreciation as students engage in real-world, culturally responsive learning experiences. The expertise of the two teachers and the integration of both languages in the PBL implementation can also support differentiation instruction for students with diverse language needs and abilities.

The one-teacher dual language model (Thomas & Collier, 2012) for project-based learning (PBL) is an approach in which a single teacher plans, designs, and implements PBL experiences for students in a dual language program. In this model, the teacher is proficient in both languages and integrates both languages into the PBL experience. Implementation the one-teacher dual language model offers greater flexibility scheduling and pacing of the PBL experience. However, the one-teacher dual language model also presents some challenges, such as the need for the teacher to be proficient in both languages. Only one participant in the study taught in a one-teacher dual language model and expressed she did not have a partner like the other grade levels to plan and engage in PBL.

While there were no visible patterns between teachers who implement PBL in a one- or two-teacher model, participants declared constant communication had to occur between the teacher dyads to ensure students completed their PBL tasks. For teachers to achieve high levels of self-efficacy, they must collaborate with their teams to impact student learning (Hall & Hord, 1987). Based on the Stages of Concern and Levels of Use tools, the participants with the highest self-efficacy levels demonstrated confidence in their abilities to implement PBL due to their collaboration with their dual partners. Thus, a lack of collaboration between teacher dyads may challenge high levels of self-efficacy.

PBL Language Considerations

When implementing project-based learning (PBL) for emergent bilinguals, several linguistic considerations should be regarded to ensure that students are able to access the content and develop their language skills (O'Brien et al., 2014).

First, the language proficiencies of students play a key role in designing PBL experiences because of the level of support and scaffolding needs EB students may need to access the content and participate (Harper & De Jong, 2004). Teachers can identify their student's proficiency levels and plan their instruction accordingly using language proficiency frameworks such as the English Language Proficiency Standards. The framework provides descriptors that can be used to identify students' language proficiency and set appropriate language goals for PBL. Feedback and support for language development throughout the PBL process are key. Teachers can provide opportunities for students to set academic and linguistic goals with the support of PBL rubrics.

Another consideration could entail designing PBL tasks that are appropriate for students' language proficiency levels. For instance, EBs at beginning proficiency levels may benefit from scaffolding supports such as visuals, graphic organizers, and sentence stems. In contrast, intermediate or advanced-level students may be able to engage in more complex language and tasks. Furthermore, teachers can support language development by engaging students in authentic projects that help students practice the language. In a 50/50 dual language program, students are required to receive PBL instruction half of the time in English and the other in Spanish to supports students' bilingualism and biliteracy indicated in the Three Goals of Dual Language Education (Howard et al., 2007).

Second, academic language is also essential. PBL implementations in a dual setting should provide experiences for the student to develop vocabulary, grammar, and language structures in both languages. PBL dual language teachers can incorporate tasks that integrate both languages such as brainstorming solutions to the problem or challenges in both languages through reading and writing in both languages. Vocabulary banks and bridging strategies that make specific connections to language structures in both languages can also support students' language development.

Third, PBL experiences should be designed with cultural responsiveness in mind to ensure that EB students are able to connect with the content and see themselves reflected in the learning experience (Gay, 2018). For instance, teachers can achieve cultural responsiveness in PBL by valuing students' backgrounds and providing opportunities for students to share their fundamental knowledge (Gay, 2018). Students can share their knowledge by using their native language and any other language in their repertoire to communicate (Vogel & García, 2017). PBL dual teachers may also invite guest speakers or community members to share their experiences related to the project. In addition, teachers in the one- and two-teacher models must be equipped to design and implement PBL experiences that integrate both languages and provide adequate language support for emergent bilinguals.

Students access the content, develop their language skills, and engage in meaningful learning experiences by considering their linguistic abilities when designing and implementing PBL experiences for emergent bilinguals (O'Brien et al., 2014).

Instructional Leadership

Instructional leadership (Özdemir et al., 2020) plays a critical role in implementing project-based learning for emergent bilinguals. Effective leadership is needed to establish a

culture of innovation, support teacher professional development, and ensure that PBL is implemented in a culturally responsive and inclusive way. Resources, time, and space for teachers to engage in PBL are needed to develop confidence in their abilities to implement PBL to support EBs. Ongoing professional development in PBL specific for dual language is needed so that teachers can develop the necessary skills to implement PBL with EBs in a one- and two-teacher model. Specific professional development includes 1) how to make cross-linguistic connections that bridge the language and content in both languages, 2) how PBL experiences can connect to students' backgrounds, and 3) training for strategies on promoting EBs language development and academic achievement.

Professional learning communities can also be created where teachers can share ideas, resources, and experiences related to PBL. Within the PBL implementation, EBs students' linguistic and cultural diversity must be incorporated into the PBL design and implementation. If the district provides resources and PBL projects to teachers, they can support teachers to implement PBL in a culturally responsive and engaging way for emergent bilinguals. For instance, the PBL project can incorporate learning experiences that reflect students' backgrounds or cultures. The tasks can provide meaningful opportunities to collaborate, final products can incorporate student voice and choice, and include safe spaces for students to use their native languages to demonstrate their learning. Leaders who prioritize PBL, support teacher professional development, and ensure that PBL is culturally responsive and inclusive can help to create an environment where PBL is a powerful tool for promoting student learning and development (Wiemelt & Welton, 2015).

In the same vein, principal preparation programs could also support the work of future instructional leaders in understanding the linguistic and cultural needs of emergent bilinguals.

Due to the variations of bilingual programs (Thomas and Collier, 2012), variations in EBs student backgrounds and the growing numbers of emergent bilinguals in U.S. Public schools (USDOE, n.d.d), principals must be prepared and supported to understand the different bilingual programs, emergent bilingual pedagogies, and culturally responsive practices needed to support their learning.

Teacher-Self Efficacy

Supporting teacher self-efficacy is crucial for successfully implementing project-based learning in a dual language campus on the U.S.-Mexico border. When teachers feel confident in their ability to design and implement PBL experiences, they are likelier to take risks, innovate, and provide high-quality instruction for their EB students. I used two diagnostic tools in the CBAM model to understand the participants concerns and implementation behaviors of PBL to support their EBs (Hall & Hord, 1987). Instructional leaders can use the model to provide individualized support to teachers based on their confidence in their ability to implement PBL and possibly increase their implementation level that supports EB's diverse needs.

Training in PBL design, language support strategies, and cultural responsiveness can support teacher self-efficacy. Leaders can provide opportunities for teachers to plan with others to share ideas and resources. In addition, instructional leaders can provide feedback to help teachers reflect on their practice and adjust to improve it. Providing teachers with high-quality resources and materials, such as lesson plans, instructional videos, and student work samples in two languages, can help to build teacher confidence and support effective PBL implementation. Teacher self-efficacy and confidence can also be supported by recognizing and celebrating their PBL dual language implementation successes. Campus PBL bulletin boards can be created for teachers every nine weeks to celebrate their student's accomplishments.

Recommendations

I offer several recommendations to Bilingual Instructional Leaders and instructional coaches on implementing PBL in a dual language setting on the U.S.-Mexico border.

In the study, participants expressed concerns about needing more time due to the number of tasks required from the district on the PBL pacing guides. This concern may be supported by adjusting the student standards included in the PBLs as recommended by some of the participants in the study. Only those standards that connect to the project's theme should be incorporated in the PBL project. All others can be taught separately. Collaborative training can be provided for teachers to identify what standards to prioritize within the PBL.

Moreover, campus leaders may address participants' concerns about the schedules by considering the appropriate time for PBL on the Master Schedules. For example, while some participants preferred the end of the day, others stated earlier would be better. A PBL committee to discuss PBL scheduling may be helpful per grade level or a committee with a representative from each grade level. Participants in the study felt PBL was more engaging than other subject areas. Thereby, they felt PBL during the day before any other subject areas were challenging to manage because students wanted to continue their PBLs instead of shifting to the other subject areas.

In addition, the teachers with low self-efficacy requested more training and support to implement PBL successfully. Their concerns were implementing PBL one way at the beginning of the year and then shifting the focus of the PBL to meet the requirements of the state assessment middle of the year. Teachers may resist and challenge the implementation of PBL while others could be more supportive. According to the participant's placement in the Stages of Concern and Levels of Use diagnostic tools, their implementation reflected inconsistency.

Therefore, I recommend consistent implementation practices since the beginning of the year to reduce stress and change within the PBL implementation. PBL can have a transformative impact on school culture because it requires student-centered learning, collaboration, and creativity (Larmer et al., 2015). Instructional leaders need to consider the needs of students and the concerns of teachers to understand the benefits of PBL and be prepared to support their students learning differently.

Lastly, implementing PBL in a dual language campus on the U.S.-Mexico border tasks teachers to implement the PBL approach within a dual language program model. Instructional leaders can support the use of cross-linguistic connections in the PBL implementation and provide training on how to successfully integrate both language proficiencies in PBL experiences. Cross-linguistic connections may include bridging strategies where teachers may use the academic language to help students understand the similarities and differences between the native and partner language (Medina, 2019). Training on the integration of student proficiencies in PBL can be initiated by providing teachers the opportunity to determine their students' learning proficiencies in their native and second language.

The implementation of PBL also requires instructional leaders to understand the implementation of PBL through a critical lens that aims to understand the challenges posed by the two-teacher model in dual language program. For example, collaborative learning environments are influenced by several factors such as differences in teacher experience, styles of communication, and beliefs about teaching and learning (Van den Bossche et al., 2006). Allocating specific time frames for teachers to reflect on their PBL projects with their team members could support their teacher efficacy and promote effective teacher collaboration in PBL. Furthermore, to promote a shared vision, instructional leaders may need to also be aware of

dynamics that affect how teachers are evaluated within the learning approach and work collaboratively to support teacher concerns.

Summary

PBL allows teachers to engage in culturally responsive practices that disrupt the deficit ideologies that limit EB's schooling (Oberg De La Garza, 2020). The student-centered approach requires the involvement and willingness of school leadership at the district and campus levels to include teachers, students, and parents. This chapter provided an overview of the themes that emerged in the data based on the analysis of my interviews, observations, and documents. The study had six central themes: *District Commitment and Expectation, Emergent Bilingual Supports, Commitment versus Compliance, Success and Challenges, Confidence*, and *Teacher Self-Efficacy*. Each theme revealed the participants perspectives and experiences with project-based learning in a dual language setting on the U.S.-Mexico Border. I also provided an analysis of the data through the lens of self-efficacy with the assistance of the Stages of Concerns and the Levels of Use diagnostic tools. I also specified an analysis of data for each tool and a collective analysis of the data to understand better the teacher's self-efficacy and how it supports their PBL implementation in a dual language setting on the U.S.-Mexico border. I provided a discussion on the key findings of the study, followed by the implications for theory, research, and practice. The findings revealed PBL could be an equalizer in emergent bilingual education by providing teachers with the platform to engage students in relevant content that bridges connections across the border, values students' content and linguistic understandings, and provides meaningful student collaboration. Finally, the chapter concluded with recommendations for Bilingual Instructional Leaders.

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APPENDIX A

INTERVIEW PROTOCOL

Interview description: Interviews will be semi-structured. The interview process will follow the subsequent protocol.

1) Introduction
2) Share the purpose of the study and provide an informed consent form to the interviewee
3) Provide the interviewee with the opportunity to ask questions and express concerns
4) Upon completion of the consent form, begin recording, and proceed with the interview

The following questions will guide the interview:

Introduction

1. Please tell me about yourself as a PBL dual language teacher on the U.S.-Mexico Border.
    a. What grade level do you teach and content area?
2. Could you describe a typical day teaching through PBL in a dual language classroom?
3. Describe the roles and responsibilities of a PBL dual language teacher on the U.S.-Mexico Border.
4. How would you describe the practices used at your campus to ensure you meet your roles and responsibilities as a PBL dual language teacher?

Experiences

5. How would you describe PBL at your campus or classroom?
    a. Describe the successes you experienced when implementing PBL in your classroom.
    b. Describe the challenges you experienced when implementing PBL in your classroom.
6. Based on your experience, what skills/instructional strategies are needed to meet the needs of emergent bilinguals?

Implementation

7. Please describe your planning process to implement PBL in your classroom.
8. What considerations, if any, do you take to support the implementation of PBL in your DL classroom?
9. Describe how you monitor your PBL implementation for your emergent bilingual students.
10. Describe how PBL in Dual Language supports students' academic and linguistic learning, if at all.

Self-Efficacy

11. How would you describe your belief in your competence to implement project-based learning in a dual language setting?
12. How would you describe your belief in your competence to support emergent bilinguals through project-based learning effectively?
13. If you could offer recommendations to help support emergent bilingual classroom practices centered on PBL, what would those be?
14. Is there any additional information you would like to share to help me fully understand your experiences with dual language project-based learning?

Vita

Guadalupe Vela was born and raised in El Paso, Texas. She earned her undergraduate degree at The University of Texas at El Paso (UTEP) with a focus on K-12 Elementary Bilingual Education. She also earned her master's degree in K-12 Educational Leadership and her doctorate in May of 2023 in Educational Leadership and Administration at UTEP. Her research focus includes bilingual education, dual language education, and elementary school leadership. Her other research interests include project-based learning, pedagogy for emergent bilinguals, bilingual instructional frameworks, and culturally responsive teaching practices.

She has served eleven years of elementary education teaching and instructional leadership experience at the El Paso Independent School District (EPISD). Guadalupe is currently an English as a Second Language/Bilingual District Coordinator at the Clint Independent School District (CISD). She advocates for policies, programs, and pedagogies that support all student populations, including emergent bilinguals. She has facilitated the implementation of the dual language program at her current district. Guadalupe empowers instructional leaders and educators to implement and sustain practices that support and value all students' academic, linguistic, and cultural backgrounds.