

THE IMPACT OF VIRTUAL MENTORING AND COACHING ON THE  
PEDAGOGICAL PRACTICES OF TEACHERS OF ENGLISH LANGUAGE  
LEARNERS

A Dissertation

by

ALMA GUERRERO VELEZ

Submitted to the Office of Graduate and Professional Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Chair of Committee,	Rafael Lara-Alecio
Co-Chair of Committee,	Hector Rivera
Committee Members,	Beverly J. Irby
	Fuhui Tong
Head of Department,	Shana Hagan-Burke

May 2019

Major Subject: Educational Psychology

Copyright 2019 Alma Guerrero Velez

## **ABSTRACT**

The purpose of this mixed methods study was to determine if the instructional practices of teachers of English language learners (ELLs), as observed by the Transitional Bilingual Observation Protocol (Lara-Alecio & Parker, 1994), in the treatment group improved due to the virtual mentoring and coaching they received through Project ETELL (Empowering Teachers of English Language Learners, Grant Award No. T365Z160229). Texas has seen an increase in the percentage of students identified as ELLs and with students receiving bilingual education or English as a second language (ESL) instructional services from 2007-08 to 2017-18. Passing rates among ELLs in Texas on all state assessments show a decline from elementary to the secondary grade levels. These challenging demographic changes bring about a heightened need for teachers that are trained and knowledgeable on effective instructional strategies for ELLs. In spite of these changes, there has not been much of a change in the way teachers are prepared to address the needs of ELLs. With the increased population of ELLs as well as the increasing demands on teachers of ELLs, it is imperative that more research be conducted on effective virtual professional development programs that involve mentoring and coaching.

This study included a sample of 38 participants, 18 of which were in the treatment group and 20 of which were in the control group. Teachers participating in the treatment group were provided three 30-minute mentoring and coaching sessions by an

experienced bilingual/ESL teacher mentor during the 4-week time frame ranging between the submission of the pre- and post-observation videos.

Based on the data, there was a statistically significant difference between treatment and control groups in the domains of ESL strategies, activity structures, and communication mode. Furthermore, the perception of participants towards the virtual mentoring and coaching (VMC) was positive and also in alignment with the results from research conducted by Tong, Irby, and Lara-Alecio (2015) on virtual professional development (VPD) and teachers of ELLs. Participants responded positively regarding their experience with the virtual mentoring and coaching they received and expressed the professionalism with which their mentors portrayed in their mentoring sessions.

## DEDICATION

To my husband, Rick Velez, who was my biggest supporter and motivator: I could not have made it one day in this journey without your love, support, and words of encouragement. Thank you for never giving up on me and for always believing that I could achieve this.

To my children, Rebecca, Mary Grace, Jacob, and Daniel: you four have inspired me to strive for my dreams in hope that by my example you would never be afraid to fight for your very own.

To my father and mother, Viviano y Alma Guerrero: your sacrifice and courage in bringing your children to America have made it possible for me to have the opportunities I have had. You always instilled in me that knowledge was our ticket out of poverty and that I could do anything I set my heart to do.

To my grandfather and grandmother: Octavio y Maria Soledad Gutierrez: Welo, your love, kindness and gentleness provided me with the safe environment I needed to grow in confidence. Wela, your constant example of faith and strength have been my motivation in times of trial.

## ACKNOWLEDGEMENTS

I would like to thank my committee chair, Dr. Rafael Lara-Alecio, and my committee members, Dr. Beverly J. Irby, Dr. Hector Rivera, and Dr. Fuhui Tong, for their guidance and support throughout the course of this research. I am grateful to Drs. Lara, Irby, and Tong for granting me permission to use the data from their Project ETELL.

Thanks also go to my friends and colleagues and the department faculty and staff for making my time at Texas A&M University a great experience.

Thank you to Elsa Villarreal, Serena Garcia, Valerie Choron, and Mayra Vargas for working with me to explain the workings of ETELL and operating on my behalf with the participants involved in this study.

To my parents, Viviano y Alma Guerrero, your never-ending faith and belief in me helped see me through this incredible journey. Para mis padres, Viviano y Alma Guerrero, su interminable fe y creencia en mí me ayudaron a superar este increíble viaje.

Finally, but definitely not least, to my husband, Rick Velez: You never once stopped believing in me. It is because of the emotional support and unconditional love that you have bestowed upon me that I have continued fighting through the tough times when I felt like giving up. Thank you for being my rock.

## **CONTRIBUTORS AND FUNDING SOURCES**

### **Contributors**

This work was supervised by a dissertation committee consisting of Dr. Rafael Lara-Alecio, Department of Educational Psychology, and Dr. Beverly J. Irby, Department of Educational Administration, as well as Dr. Hector Rivera, Department of Educational Psychology and Dr. Fuhui Tong, Department of Educational Psychology.

The data analyzed for Chapter IV was provided by Professor Dr. Rafael Lara-Alecio as principal investigator of Project ETELL: Empowering Teachers of English Language Learners, study number IRB 2016-0720D.

All work for the dissertation was completed by me, in collaboration with Elsa Villarreal, Serena Garcia, and Shifang Tang, from the Department of Educational Psychology.

### **Funding Sources**

This work was made possible in part by Project ETELL (2017-present), U.S. Department of Education, under Grant Award No. T365Z160229. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the U.S. department of Education.

## NOMENCLATURE

BICS	Basic Interpersonal Communicative Skills
BTLPT	Bilingual Target Language Proficiency Test
CALP	Cognitive Academic Language Proficiency Skills
CFC	Content-focused Coaching
CRI	Culturally Responsive Instruction
CRIOP	Culturally Responsive Instruction Observation protocol
ELLA-V	English Language and Literacy Acquisition - Validation
ERIC	Education Resources Information Center
ESL	English as a Second Language
ETELL	Empowering Teachers of English Language Learners
ELL	English Language Learner
L1	First Language
L2	Second Language
NCLB	No Child Left Behind Act
PLC	Professional Learning Community
SIOP	Sheltered Instruction Observation Protocol
STAAR	State of Texas Assessments of Academic Readiness
TBOP	Transitional Bilingual Observation Protocol
TEA	Texas Education Agency
TEKS	Texas Essential Knowledge and Skills

VPD                      Virtual Professional Development

VMC                      Virtual Mentoring and Coaching



## TABLE OF CONTENTS

	Page
ABSTRACT .....	ii
DEDICATION .....	iv
ACKNOWLEDGEMENTS .....	v
CONTRIBUTORS AND FUNDING SOURCES.....	vi
NOMENCLATURE .....	vii
TABLE OF CONTENTS.....	ix
LIST OF FIGURES .....	xi
LIST OF TABLES.....	xii
CHAPTER I INTRODUCTION .....	1
Definition of Terms .....	3
Theoretical Framework.....	5
Statement of the Problem.....	10
Purpose .....	15
Research Questions .....	16
Limitations .....	17
Delimitations.....	18
Assumption .....	19
Organization of my Study.....	19
CHAPTER II REVIEW OF LITERATURE.....	21
Questions for Systematic Review of the Literature.....	21
Relevant Publications .....	21
Findings .....	26
Summary.....	40

CHAPTER III METHOD .....	42
Sample .....	42
Research Design .....	44
Procedure .....	46
Research Questions .....	49
Instrumentation .....	50
Data Collection.....	54
Data Analysis .....	56
 CHAPTER IV DATA ANALYSIS AND FINDINGS.....	 58
Research Question One.....	60
Research Question Two.....	63
Research Question Three.....	67
Research Question Four.....	70
Research Question Five.....	73
Summary.....	78
 CHAPTER V DISCUSSION, LIMITATIONS, RECOMMENDATIONS, AND CONCLUSIONS .....	 80
Discussion .....	82
Limitations .....	91
Conclusion and Recommendations .....	92
 REFERENCES.....	 96
 APPENDIX A .....	 106
 APPENDIX B.....	 112

## LIST OF FIGURES

	Page
Figure 1 Conceptual framework for virtual mentoring and coaching .....	6
Figure 2 PRISMA flow diagram of selection process .....	25
Figure 3 Mode of professional development .....	26
Figure 4 Mentoring intervention type.....	28
Figure 5 Method of PD delivery.....	29
Figure 6 Evaluation method .....	30
Figure 7 Teaching experience of participants .....	45
Figure 8 Grade level(s) taught by participants .....	45
Figure 9 Four-dimensional Transitional Bilingual Pedagogical Theory (Lara-Alecio & Parker, 1994) .....	52

## LIST OF TABLES

	Page
Table 1 Chi-square Values Related to ESL Strategies, Activity Structures, Communication Mode, and Language Content by Pre- and Post-observations.....	59
Table 2 Crosstabulation of Conditions and Type of ESL Strategy by Pre- and Post-observations.....	61
Table 3 Chi-square Comparison of Pre- and Post-observation in the Domain of ESL Strategies.....	62
Table 4 Crosstabulation of Conditions and Type of Activity Structure by Pre- and Post-observations.....	64
Table 5 Chi-square Comparison of Pre- and Post-observation in the Domain of Activity Structure .....	66
Table 6 Crosstabulation of Conditions and Students' Mode of Communication by Pre- and Post-observations.....	68
Table 7 Chi-square Comparison of Pre- and Post-observation in the Domain of Communication Mode .....	70
Table 8 Crosstabulation of Conditions and Language Content by Pre- and Post-observations.....	71
Table 9 Chi-square Comparison of Pre- and Post-observation in the Domain of Language Content.....	72
Table 10 Descriptive Statistics for Multiple Choice Survey Questions.....	74

## **CHAPTER I**

### **INTRODUCTION**

According to a report by the National Center for Education Statistics, the percentage of students in public school in the United States who were English language learners (ELLs) increased from 9.1% in 2004-05 to 9.4% in 2014-15, which equates to an increase of 300,000 students (McFarland et al., 2017). Spanish was the home language of 3.7 million ELLs in 2014-15, which is equal to 77.1% of all ELLs as well as 7.6% of all public K-12 students (McFarland et al., 2017). The percentage of ELLs in Texas for which Spanish is the home language is up to 91% (TEA, 2017). Hispanic students make up 77.8% of ELL enrollment in the United States. In Texas, the percentage of students identified as ELLs grew from 16.6% in 2007-08 to 18.8% in 2017-18, and the percentage of students receiving bilingual education or English as a second language (ESL) instructional services increased from 15.5% to 18.8% (TEA, 2018a). Of the students enrolled in Bilingual/ESL programs, 87.6% are Hispanic and 88.5% of ELLs in Texas are Hispanic with Asians coming in second at 5.9% (TEA, 2018a). TEA (2018a) also reports that 82.5% of students enrolled in Bilingual/ESL programs and 83.5% of ELLs are economically disadvantaged.

Passing rates among ELLs in Texas on all state assessments taken show a decline from elementary to the secondary grade levels, ranging from 63% in Grade 3 to 35% in Grade 7 (TEA, 2017). Additionally, 59% of ELLs approached grade level on all state assessments, which is 18 percentage points lower than the state average (77%) of

students approaching grade level on all state assessments (TEA, 2018c). In 2017 ELLs in grades 9-12 in the state of Texas (TEA, 2018b) had a 75.5% graduation rate, which is lower than the state average (89.7%) and that of students who participated in special education programs (77.4%).

The United States is experiencing major changes in the demographics of the students in public education. The ever-changing demographics of our schools have brought with it a whole new set of implications. For example, the achievement gaps between ELLs and their monolingual English-speaking peers begin to develop towards the end of elementary school and dramatically get wider as ELLs progress through middle and high school. The onset of the No Child Left Behind Act (NCLB) brought about major changes in the way ELLs were being educated. Under NCLB, school districts were held responsible for the academic success and adequate yearly progress of their ELLs. Unfortunately, the amount of time allowed through NCLB, which equates to about 4 – 5 years, does not coincide with the research conducted by researchers in the field of second language acquisition, which state that it may take between 5 to 7 years for an ELL to acquire English as a second language and to close the gap between themselves and their monolingual English-speaking peers.

These challenging demographic changes along with the already existing shortage of teachers bring about a heightened need for teachers that are trained and knowledgeable on effective instructional strategies for ELLs (Penner-Williams, Díaz, & Worthen, 2017). Smith (2014) found that without the necessary specialized training required for working with ELLs, teachers will not be well prepared to meet the needs of

these children. These rapid changes in the demographics of students being served in public education not only impact new teachers coming into the profession, but veteran teachers as well who might be highly experienced and yet untrained in effective instructional strategies for ELLs.

### **Definition of Terms**

The terms and definitions listed below are highly referenced and mentioned throughout my dissertation study.

#### **English Language Learners**

An English language learner (ELL) is a student whose primary language is not English and whose English language skills make it difficult for the student to perform ordinary classwork in English.

#### **BICS**

BICS is an acronym developed by Jim Cummins that stands for Basic Interpersonal Communication Skills (Cummins, 1986). This is one of the components needed in order for an individual to acquire a second language.

#### **CALP**

CALP is an acronym developed by Jim Cummins that stands for Cognitive-Academic Language Proficiency (Cummins, 1986). This is one of the components needed in order for an individual to acquire a second language.

### **L1 or First Language**

L1 refers to your native language or mother tongue. It is typically learned during childhood and the language that is most used and most comfortable for people. In my study, L1 may not refer always refer to Spanish even though we do have a high number of Spanish-speaking ELLs in Texas. When mentioned, L1 will be clarified in terms of the language being referred to, should this identification be pertinent to the comprehension of the topic at hand.

### **L2 or Second Language**

L2 can also be known as a foreign language or target language. Individuals who have an L2 are not native speakers of L2. In the case of my research study, L2 refers to English since students participating in bilingual and ESL programs are identified as limited in their English.

### **English as a Second Language**

English as a Second Language (ESL) is a program used to instruct students that have been identified as limited in their English. In Texas, ESL is a program of intensive instruction in English from teachers trained in recognizing and dealing with language differences.

### **ESL Teaching Standards**

ESL standards are set by the State Board of Educator Certification (SBEC) is responsible for establishing standards for beginning teachers that are focused on the Texas Essential Knowledge and Skills (TEKS), which are the required curriculum for all students. The ESL standards are established specifically for the instruction for ELLs being instructed



in an ESL program and reflect current research on the needs of ELLs in grades pre-kindergarten through grade 12.

### **Alternative Certification Program**

Alternative certification program refers to a certification program that provides a non-traditional route to becoming certified to teach in Texas. This route would be available for those individuals desiring a career in teaching but that did not go through the traditional education certification degree offered at the university level. Participants must hold a bachelor's degree and upon enrollment and completion of certain requirements are able to be hired as a teacher as they complete the program.

## **Theoretical Framework**

### **Conceptual Framework**

Due to the immediate need for teachers that are knowledgeable on effective instructional practices for ELLs, using different approaches, I built my conceptual framework on the interconnectedness of the three components pertinent to my study: virtual professional development (VPD; Irby, Sutton-Jones, Lara-Alecio, & Tong, 2017) on effective instructional strategies for ELLs, virtual observations (VOBS; Irby, Sutton-Jones, Lara-Alecio, & Tong, 2017), and virtual mentoring and coaching (VMC; Irby, Sutton-Jones, Lara-Alecio, & Tong, 2017). Figure 1 helps provide a visual of my conceptual framework.

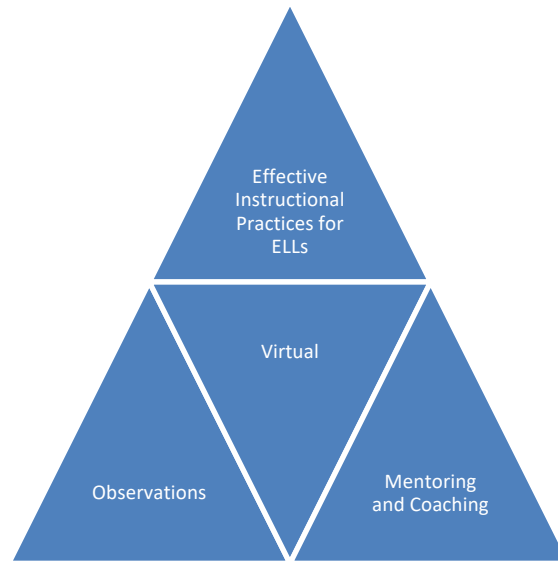


Figure 1: Conceptual framework for virtual mentoring and coaching

### **Second Language Acquisition Theories**

Krashen and Cummins have played a big role in the promotion and success of bilingual and ESL education models throughout the country. Both Krashen and Cummins conducted research that dealt with identifying theories and instructional strategies that could explain and facilitate the acquisition of a second language. In the Acquisition and Language Learning Hypothesis, Krashen states that fluency in a second language cannot be learned through basic knowledge of grammar and vocabulary, but rather, it must be acquired in the same way in which we acquire a first language (Krashen, 1996). According to Krashen's Input Hypothesis (1996), language is acquired through the understanding of input, which involves listening and reading. Output, which involves speaking and writing, does have an impact or influence on second language acquisition but does so indirectly by allowing the acquirer to control the amount and

quality of the input. Language is developed through communicative practice in real situations. Krashen believed that the knowledge a child acquires in their first language makes learning a second language more comprehensible. He also felt that by recognizing the value of the child's native language and using it as a means of instruction, students' self-esteem would go up which in turn increased the likelihood of English attainment. That being said, it is critical that teachers tap into a student's background knowledge when delivering instruction in a student's second language.

According to Krashen, language acquisition occurs when certain conditions are met. The need for comprehensible input when being instructed in a second language is a critical condition that must be met if English language learners are to acquire both content and language. He refers to this delivery of comprehensible input in a student's second language as sheltered instruction. According to Haley and Austin (2012), teachers of ELLs must employ sheltered instruction in order to make content that is delivered in a student's second language comprehensible while at the same time developing the second language. When done effectively, sheltered instruction lowers the linguistic demand of lessons without compromising the rigor of the subject matter. By incorporating sheltered instruction strategies, teachers make academic instruction for English language learners of varying English language proficiencies more accessible.

Sheltered instruction requires significant teaching skills in both English language development and subject-specific instruction, as well as clearly defined language and content objectives, supplementary materials, a modified curriculum, and alternative assessments. Strategies to be considered by teachers when delivering content in a

student's second language and trying to make content comprehensible are the use of nonverbal cues such as pictures, objects, demonstrations, gestures, and intonation cues. As competency in the second language develops, other strategies for teachers to consider include: building from language that is already understood, using graphic organizers, hands-on learning opportunities, and cooperative or peer tutoring techniques. Students must also be provided with multiple opportunities to use the second language they are acquiring in direct communication and for the purpose of making sense of the second language in real-life situations (Krashen, 1996). Teachers can do this by including cooperative learning, study buddies, project-based learning, and one-to-one teacher/student interactions in lesson delivery.

Cummins' (2000) work revealed that there is interdependence between languages that facilitates transfer from one language to another due to the fact that cognitive-academic skills are interdependent across languages. He addressed the interdependency of these skills in his Common Underlying Proficiency Theory. He is well known for the iceberg model, which is made up of a visual with two icebergs to represent the two languages spoken by an individual. The parts of the iceberg that are seen above the surface represent the basic interpersonal communicative skills, also known as BICS. These are usually the skills that are acquired initially and take about two to three years to develop. According to Cummins, language is like the icebergs in that there are many skills that remain unseen and lie below the surface level of the ocean. He referred to these skills as cognitive academic language proficiency skills (CALP). This is where the

two languages share common skills, which Cummins refers to as common underlying proficiency.

Additionally, the theoretical framework for this study is based on the Transitional Bilingual Observation Protocol (TBOP) which is an observation tool that was developed by Lara-Alecio and Parker in an effort to operationalize elements of classroom instruction for ELLs that have been supported by the theories and principles of bilingual education. The TBOP consists of four elements and is based on the four-dimensional Transitional Bilingual Pedagogical Theory (Lara-Alecio & Parker, 1994). The elements addressed are activity structures, language of instruction, language content, and communication mode. For the element of activity structures, the focus is on the combination of teacher behavior and primary student expected behavior. Cummins postulates in the Bilingual Threshold Hypothesis that transference of a students' content learning across two languages occurs once students have reached a higher level of bilingual competence. When looking at language of instruction, this can be measured by observing four different combinations of native language and English use during instruction. These four combinations range from content being taught in the first language (L1), content being introduced in L1 but taught in the second language (L2), L2 being clarified by L1, and content being taught in L2. The element of language content stems from the work of Cummins (1986) regarding the distinction between Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP) only the Transitional Bilingual Pedagogical Theory takes it a step further in that it proposes that CALP in L1 should not precede CALP in L2 but rather

that there should be incremental shifts in emphasis between L1 and L2 in CALP over time (Lara-Alecio & Parker, 1994). The observable four levels in this element are: social routines, academic routines, light cognitive content, and dense cognitive content. The additional two levels were added in an effort to accommodate for the range of activities that are typically seen in bilingual classrooms. The last element considered in this model is that of communication mode which is based on the idea that there may exist multiple modalities within a particular activity structure. Modalities to consider are that of reading, writing, and verbal expression.

This model is useful in that it lends itself to the collection of observational data that in turn can be used to guide teachers to more efficiently transition ELLs into English. This model is also useful in that teachers can better plan for the language of instruction based on the activity structures, content, and communication mode of their lesson. Another positive aspect of the TBOP is that due to the small segments of time utilized to code an observation, it serves as a useful tool for measuring the fidelity of program implementation regardless of the program being implemented.

### **Statement of the Problem**

In spite of the continuing increase in the ELL population, there has not been much of a change in the way teachers are prepared to address the needs of ELLs. Moreover, Franco-Fuenmayor, Padrón, and Waxman (2015) found that bilingual/ESL teachers need additional professional development in the areas of bilingual education and best practices for working with culturally and linguistically diverse students. Not only is the ELL student population increasing, but Lucas and Grinberg (2008) believed

that the number of bilingual programs has been decreasing and that the onset of No Child Left Behind has placed a strong emphasis on testing. This has led many school districts to hurriedly move ELLs into ESL or mainstream classrooms. ESL stands for English as a second language and is a program that strives to assist ELLs with the acquisition of both language and content. According to Garcia et al. (2010), English language learners spend most of their school day in ESL or mainstream classrooms with teachers who are not appropriately prepared to work with them. In regards to preparation, some of the shortcomings that teachers of ELLs face are the scarcity of relevant and effective teacher preparation and professional development programs as well as the lack of highly qualified and effective teachers of ELLs to provide mentoring and coaching (Penner-Williams, Díaz, & Worthen, 2017). With the increased population of English language learners, educators need professional development programs and strategies that help ELLs access academic content while learning to understand, speak, read, and write English.

According to researchers, Ingersoll and Strong (2012), teaching is such complex work, that pre-employment teacher preparation is seldom sufficient enough for teachers to be able to successfully address all aspects of teaching without on the job experience. Additionally, districts are employing more alternatively certified teachers and according to Casey, Dunlap, Brister, Davidson, and Starrett (2011) alternative certification programs tend to be accelerated programs that vary in content and expectations. Schools and districts must provide teachers with the necessary resources, professional development, and support so that teachers can truly transform their instruction to be able

to meet the needs of their English language learners. Teachers do not work in isolation and therefore must be provided with opportunities to collaborate with fellow teachers of English language learners. Part of a teacher's professional development must include training on how to reflect on what was taught, which involves analyzing lessons regularly so that teachers can adjust their lessons to be able to better meet the academic and linguistic needs of their students. Ingersoll and Strong (2012) also state that teachers must also receive training on how to analyze data in a way that will help them make the necessary changes to more purposefully improve their teaching practices as well as student success in acquiring language and content. With all that is required to be an effective teacher of ELLs, it is no wonder that many districts struggle to sufficiently staff their programs. There is a consensus on the fact that effective professional development can change teachers' pedagogical behavior and improve instruction for ELLs but there is not much evidence on what constitutes effective professional development and/or classroom practices aimed specifically for the development of ELLs' academic English proficiency (Tong et al., 2015).

Researchers Ingersoll and Strong (2011) conducted their own review of the literature regarding induction programs for beginning teachers and found that mentoring programs, specifically, have had a positive impact on beginning teachers. Most of the studies they reviewed collectively claimed positive results in the area of teacher commitment and retention, classroom instructional practices, and student achievement. Teachers that were provided with some sort of an induction program performed better in various aspects of teaching and also ended with students that performed better on



academic achievement tests. According to Ingersoll and Strong (2011) mentoring involves personal guidance on the part of experienced veteran teachers to beginning teachers.

In addition, more recently, Desimone and Pak (2017) found 5 empirically predictive elements of effective professional development to include: content focus, active learning, sustained duration, coherence, and collective participation. In their review of the literature, the form of professional development that provided all of these elements was that of instructional coaching. They were able to find evidence that instructional coaching led to increased student outcomes, improvements in school culture, teacher collaboration, improved teacher attitudes, skill transfer, and feelings of efficacy. In regards to content focus, instructional coaches are more effective when they take time to plan lessons with teachers, observe lessons, and provide immediate feedback. This feedback piece also addressed the element of active learning. In their research, Desimone and Pak (2017) found that professional development was more successful when teachers were provided multiple opportunities to practice what they learned as well as received feedback on this practice. Active learning involved opportunities for teachers to be observed teaching their students and the obtainment of feedback on that teaching. The continuous cycle of reflection and action led to the element of duration. Collective participation can come in the form of learning teams with peers in the same subject area or grade level. The last element that was found to be effective was that of coherence. Teachers benefitted when the professional development,

such as coaching was aligned to their standards, curriculum, viewpoints, and external expectations.

In relation to the virtual or online focus of mentoring and coaching and professional development, Fishman et al. (2013) found that there was not a significant difference between conditions. They found that teacher performance between conditions did not differ but also added that there shouldn't necessarily be a difference in the learning outcomes of teachers but rather the difference came in the affordances of the virtual professional development provided. The affordances of the online professional development provided to the condition group included greater collegiality, the reflection and discussion among participants, and the ability to access content over an extended period of time. Additionally, Collins and Liang (2014) found effective virtual or online professional development programs must address the relevance of the learning as it pertained to the individual teachers. Collins and Liang found that online professional development programs must address the teachers of ELLs' areas of need and therefore be individual in nature.

Tellez and Varghese (2013) found that strong professional development for teachers of ELLs engages teachers in concrete tasks of teaching, assessment, observation, and reflection that highlights learning and development. Moreover, in their study they also found that effective professional development also connects to and stems from teachers' work with their ELLs. In addition, Kraft, Blazer, and Hogan (2018) found that effective professional development programs include job-embedded practice, are time-intensive, focus on discrete skills, and focus on active learning on the part of the

participants. Finally, strong professional development is also supported by modeling and coaching. Researcher Trifiro (2017) noted that teachers of ELLs should engage in professional development that allows them to grow in pedagogical practices that foster linguistic and academic development. According to Trifiro, teachers that participate in professional development opportunities that incorporate active learning and allow them to reflect on their own instructional context tend to have more enhanced learning experiences.

### **Purpose**

The purpose of this mixed methods study was to determine if the instructional practices of teachers of ELLs, as observed by the Transitional Bilingual Observation Protocol, in the treatment group was positively impacted due to the virtual mentoring and coaching they received through Project ETELL (Empowering Teachers of English Language Learners, Grant Award No. T365Z160229) while seeking their ESL certification. Project ETELL is a federal training and research project targeting teachers of ELLs wishing to acquire either their Texas Bilingual or ESL certification. Teachers that participate in this project must agree to receive online preparation and professional development coursework that is geared towards preparing them for one of three Texas certification assessments: ESL, Bilingual Supplement, or Bilingual Target Language Proficiency Test (BTLPT). In helping prepare these participants for their certification exams, Project ETELL's main goal is that these participants be better prepared to work with linguistically diverse students. The teachers participating in Project ETELL were asked to submit a total of five video observations: a pre-observation video, a post-

observation video, and three observation videos in between. Teachers were provided three 30-minute mentoring and coaching sessions by an experienced bilingual/ESL teacher mentor during the 4-week time frame between the pre- and post-observation videos. Two data points were analyzed using a chi-square test of homogeneity to determine if teachers' instructional practices changed from the pre- to the post-observation due to the virtual mentoring and coaching they received.

### **Research Questions**

The research questions that guide my study are as follows:

1. Is there a difference in time allocation of ESL strategies between treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?
2. Do teachers' instructional practices in the domain of activity structure differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?
3. Do teachers' instructional practices in the domain of communication mode differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?
4. Do teachers' instructional practices in the domain of language content differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?
5. How do treatment teachers perceive the quality of mentoring feedback?

## **Limitations**

The main limitation in utilizing data from Project ETELL is that the length of time for the intervention of mentoring and coaching was four weeks. This limited amount of time may or may not be able to provide enough information regarding the full results of teacher learning as well as the sustainability of the participants' pedagogical practices. Results might be more evident if participants received virtual mentoring and coaching for a longer period of time. That being said, recommendations for future research include more long-term follow-up studies to advance our understanding of effective virtual mentoring and coaching on the pedagogical practices of teachers of English language learners. Moreover, there was an initial difference between treatment and control groups in that the treatment group was already doing better than the control group. This initial difference can be attributed to the small sample size. Regardless of the initial difference, the purpose was to evaluate the impact of the VMC which involved analyzing the post-observation data. In addition, in order to win the public's attention, it would be beneficial to look into conducting studies that link the virtual mentoring and coaching to improved teacher performance along with student achievement. Since the virtual piece of the mentoring and coaching is a big component in that it allows for flexibility and convenience, more care should be taken in ensuring that the technology used is user friendly and that clear expectations for use are provided based on the levels of technology experience participants have as they begin the project. Finally, variables such as whether teachers are in STAAR tested grade levels, the amount of professional

development provided by the district, as well as personal factors could prevent participants from completing all course expectations.

### **Delimitations**

When considering the sample of participants, I would like to consider demographics that would be common to both the treatment and control group. One characteristic that I feel could skew the results is that of certification. There are primarily two ways in which a teacher can become certified to teach in Texas: the traditional university coursework avenue and that of alternative certification. While each university might have varying coursework that is required, most offer future teachers multiple opportunities to be mentored and coached through a student teaching scenario. Individuals seeking a degree in education will usually have the opportunity to be a student teacher for a full semester under the guidance of a certified classroom teacher. The classroom teacher serves as a mentor to the student teacher and provides opportunities for observation, reflection and feedback while the student teacher gets hands-on experience in teaching. An alternative certification program, on the other hand, is offered to those individuals seeking certification and that already hold a bachelor's degree in a different field of study. In this case, individuals take coursework in education, complete observations, and take certification exams. Once these steps are fulfilled, they are eligible for hire. Therefore, participants currently in an alternative certification program are not fully certified. For this reason, I would like to not include participants that are currently in an alternative certification program. I want to be able to

ensure, to the greatest extent possible, that there are no other external factors that could possibly negatively impact the data collected from either group.

### **Assumption**

One assumption of my study is that all participants receive additional professional development related to the district and campus needs. This professional development may or may not be related to the needs of ELLs in public education. All districts have initiatives they are promoting based on the needs demonstrated in their student and staff data. While the number of ELLs is growing, they may not represent a significant number that would prompt districts to provide teachers with specific training for linguistically diverse students. Depending on the professional development provided by the varying districts, there may be an impact on the findings that is not fully due to the intervention being provided. For example, if districts offer specific training for teachers of ELLs we might not see a significant difference in results stemming from the intervention provided.

### **Organization of my Study**

Chapter I of my study includes introduction, theoretical framework, definition of terms, a statement of the problem, the purpose, research questions, limitations, delimitations, and assumptions.

Chapter II of my study includes an introduction describing the process I took in conducting my systematic literature review which is then proceeded by the current literature available on the topic of mentoring and coaching as they relate to teachers of ELLs.

Chapter III of my study includes information on my research design, sample, procedure, instrumentation, data collection, and data analysis.

Chapter IV of my study contains my results and findings.

Chapter V includes a discussion, limitations, and implications for future practice and future research.



## **CHAPTER II**

### **REVIEW OF LITERATURE**

This chapter includes a systematic literature review of research on virtual mentoring and coaching of teachers of ELLs. In an effort to identify current research on the topic of virtual mentoring and coaching and the impact on the pedagogical practices of teachers of ELLs I decided to conduct a systematic literature review. A systematic literature review attempts to identify, evaluate, and synthesize findings of studies addressing common research question(s) (Khan, Kunz, Kleijnen, & Antes, 2003). The explicit and systematic approach followed is what makes these reviews different from traditional reviews.

#### **Questions for Systematic Review of the Literature**

The research questions guiding my systematic literature review were:

1. What scholarly literature exists regarding the impact that virtual mentoring and coaching of best instructional practices for English language learners has on the effective instructional practices of teachers of English language learners?
2. What information exists about virtual mentoring and coaching for teachers who instruct English language learners?

#### **Relevant Publications**

##### **Eligibility Criteria**

Selection criteria for the publications included the following:

1. The publication must have been written or translated into English.

2. Included publications must have been published in 2007 or later to ensure the material is relevant to current use of technology.
3. Only studies conducted in the United States were considered.
4. Only literature including English language learners was considered.
5. The publications must have included all four key variables, or synonymous variations thereof, mentoring & coaching, English as a Second Language teachers, observations, and virtual.
6. Studies published in journal article format, dissertations, and reports were eligible.

### **Selection Publications**

**Search strategy.** I began my search by consulting with the Systematic Reviews and Research Services Coordinator at Texas A&M University. During my first consultation, I informed my librarian of the topic of my study and she helped me identify the particular variables and synonyms to include in my search. We began our search in ERIC (Education Resources Information Center) which is a database under EBSCO, an online library of educational research and information. ERIC is sponsored by the Institute of Education Sciences which is part of the U.S. Department of Education. My initial search began on July 7, 2017 using the following:

(( ( DE "Virtual Classrooms" OR DE "Asynchronous Communication" OR DE "Computer Assisted Instruction" OR DE "Distance Education" OR DE "Correspondence Study" OR DE "Internet" OR DE "Online Courses" OR DE "Synchronous Communication" OR DE "Web Based Instruction" ) OR TI (

(online or internet or virtual) ) OR AB ( (online or internet or virtual) )) AND ( (DE "Professional Development") OR (DE "Continuing Education" OR DE "Mandatory Continuing Education" OR DE "Professional Continuing Education") ) OR TI ( "professional development" or "continuing education" ) OR AB ( "professional development" or "continuing education" )) AND (( (DE "Second Languages" OR DE "English (Second Language)") OR (DE "Bilingual Teachers" OR DE "Second Language Instruction") ) OR TI ( (language or english or esl or ell or efl) n3 (instructor\* or teacher\*) ) OR AB ( (language or english or esl or ell or efl) n3 (instructor\* or teacher\*) ) OR DE "Bilingual Teachers" OR TI Bilingual n1 Teacher\* OR AB Bilingual n1 Teacher\*))

This initial search resulted in 116 results. I then exported the studies from this search into my Rayyan account in order to search through titles and abstracts and attempt to narrow my findings. Later in the year I met with my committee chair to further clarify my topic of study and we decided to look specifically at professional development that involved virtual mentoring and coaching. On January 11, 2018 I met with my librarian to request this more refined search. This new search included the following:

(DE "Mentors") OR (DE "Coaching (Performance)") OR AB(coach\* or mentor\*) OR TI(coach\* or mentor)

AND

((((DE "Second Languages" OR DE "English (Second Language)") OR (DE "Bilingual Teachers" OR DE "Second Language Instruction") ) OR TI ( (language or english or esl or ell or efl) n3 (instructor\* or teacher\*) ) OR AB (

(language or english or esl or ell or efl) n3 (instructor\* or teacher\* ) OR DE

"Bilingual Teachers" OR TI Bilingual n1 Teacher\* OR AB Bilingual n1

Teacher\*))

AND

((DE "Virtual Classrooms" OR DE "Asynchronous Communication" OR DE

"Computer Assisted Instruction" OR DE "Distance Education" OR DE

"Correspondence Study" OR DE "Internet" OR DE "Online Courses" OR DE

"Synchronous Communication" OR DE "Web Based Instruction") OR TI (

(online or internet or virtual) ) OR AB ( (online or internet or virtual) ))

This new, more refined search produced 86 results which I then uploaded into my

Rayyan account.

**Method of selection.** Within my Rayyan account, I then took the original 116 in the first search and the 86 results of the second search, read through the titles and abstracts. Figure 2 below is my PRISMA flow diagram (Liberati, 2009) indicating my selection process. PRISMA stands for preferred reporting items for systematic reviews and meta-analysis.

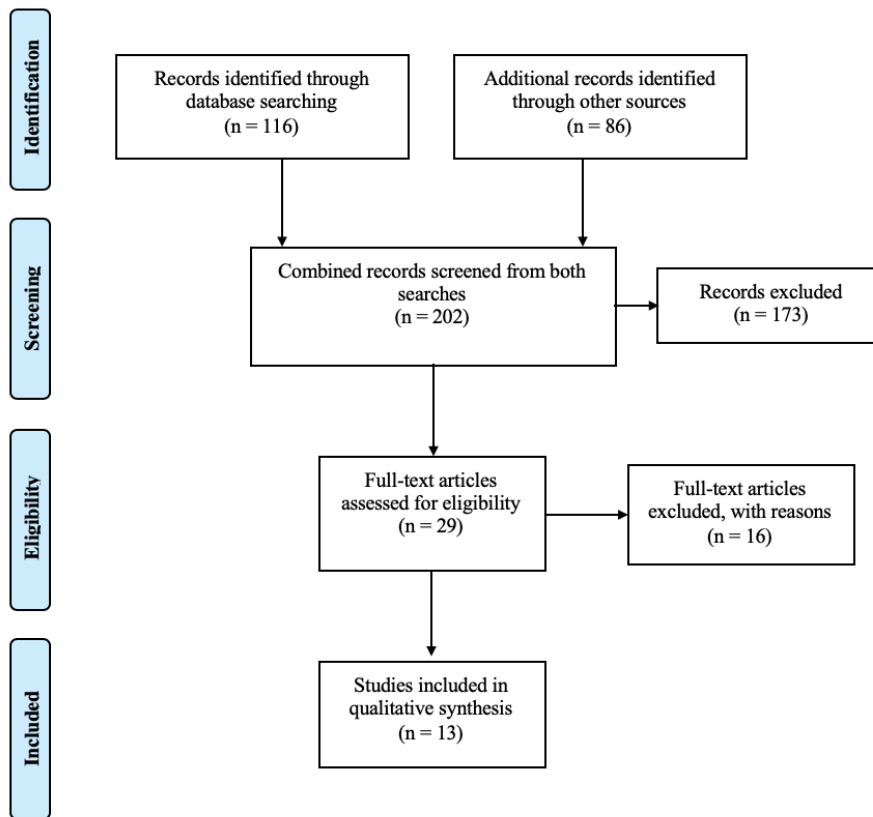


Figure 2: PRISMA flow diagram of selection process

I searched through all of the titles and abstracts and was able to eliminate many based on identifiable terms that were part of my exclusion criteria, such as year of publication and not being related to the instruction of ELLs. Through this process I was able to narrow the search down to a total of 29 results. At this point I exported the 29 documents into my RefWorks account to conduct a more thorough review of the full text for each result. Upon opening and scanning each document, I was able to determine if they fit my inclusion criteria. This review narrowed my results down to 13 studies.

**Data extraction.** Once all screening was complete, I created a Google form that would include the coding of identifiable characteristics of the studies that could then be

extracted into a Google spreadsheet. Items that were coded from each document were: type of study, methodology, and results. Documents were categorized by the mode of professional development offered. Figure 3 shows the number of findings by mode of professional development.

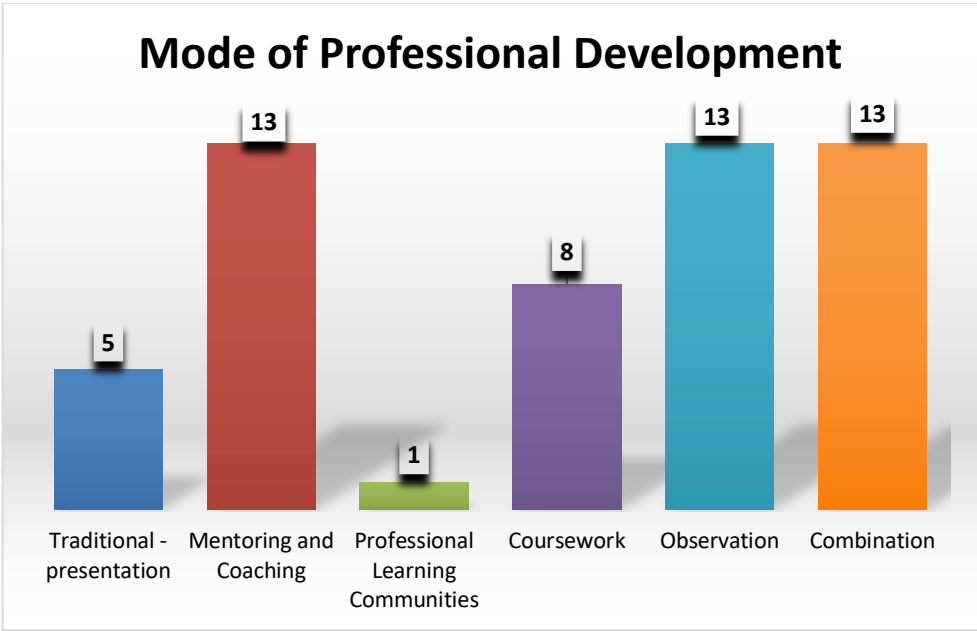


Figure 3: Mode of professional development

### Findings

In regards to scholarly literature that exists involving the impact of virtual mentoring and coaching on instructional practices of teachers of ELLs, I was able to identify only a very limited number of studies. All of the studies identified in the systematic literature review I conducted aligned with recent research on mentoring and coaching. Those studies that had to do with ELL instructional strategies were aligned with research on second language acquisition and sheltered instruction. They provided

opportunities for teachers to acquire new strategies for their students, implement new learning, reflect on their teaching, and receive feedback from an instructional coach. This provided for active learning, collective participation of some sort, and coherence. The duration of all of the studies ranged between one semester and two years of mentoring and coaching. The aspect that I wish to provide further insight into is that of virtual mentoring and coaching teachers of ELLs, which I did not see enough of in the review of the literature.

The results from my search and selection criteria referenced many modes of professional development as well as methods of delivery. One common method of delivery was found within all 13 studies and that was that they all involved mentoring and coaching of some sort. Of the 13 studies identified through this process, I found that there were three main topics of focus for the mentoring and coaching: ELL instructional strategies, literacy instruction, and culturally responsive teaching. I defined these categories based on the focus of the study, intervention provided, and/or mentoring offered to the participants. If the study had a sole focus of enhancing teacher's ability to instruct ELLs, then I placed the study in the ELL instructional strategies category. Studies that had a focus on professional development in the area of reading, literacy, reading fluency, or reading comprehension were placed in the literacy instruction category. In some of the studies I was able to identify participants that worked with ELLs but the intervention offered to the participants was not completely dedicated to advancing ELLs but rather was targeting culturally responsive teaching or sociocultural practices. For this reason, I placed these studies in the culturally responsive teaching

category. Figure 4 shows the number of studies per mentoring and coaching intervention type.

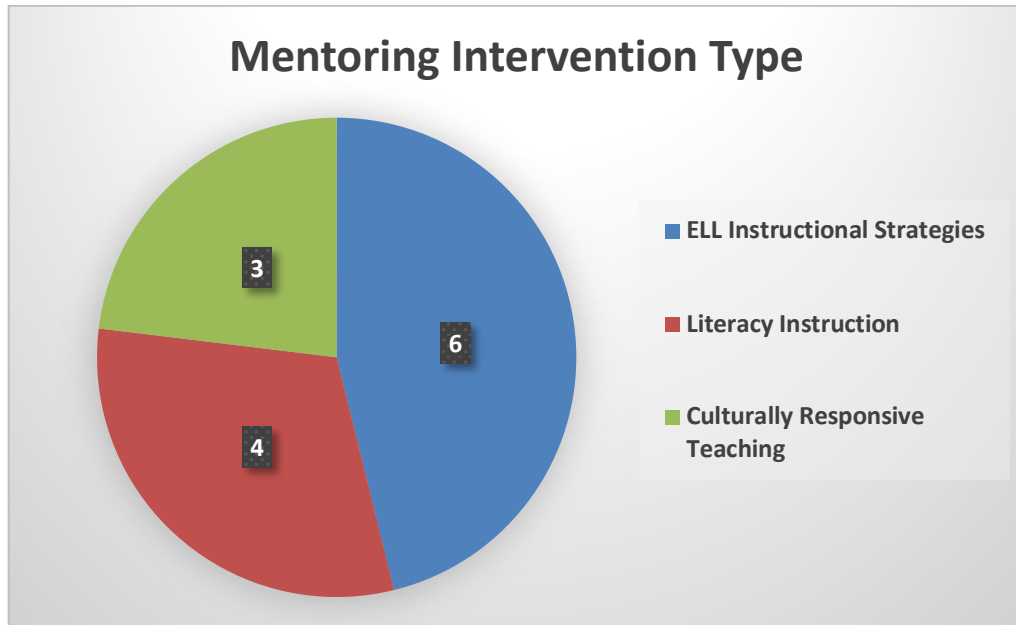


Figure 4: Mentoring intervention type

While not all of my findings included or specifically mentioned a program type, programs that I found mentioned were general education, bilingual education, and special education. What my findings all had in common is that all of the studies involved ELLs. Figure 5 demonstrates the common delivery types presented in the studies. In five of the 13 studies, the researchers did involve a virtual component but of the five only one researcher actually made use of virtual mentoring and coaching. The researchers of the other four studies included online professional development coursework. The method of delivery of the professional development offered in the studies I found was that of both



face-to-face and online. The sample of participants in the majority of the studies consisted of elementary school teachers.

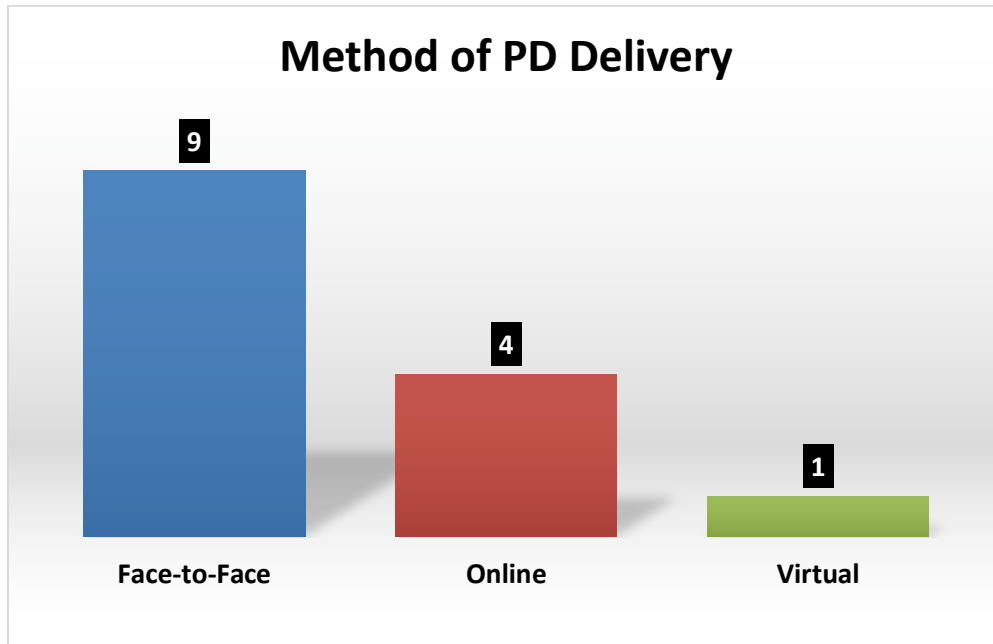


Figure 5: Method of PD delivery

Within the methodology, one of the items I paid special attention to was the evaluation methods employed by researchers. I found that the studies represented almost equally qualitative, quantitative, and mixed-methods research designs. Figure 6 provides a further breakdown of the various evaluation methods used in the studies I found.

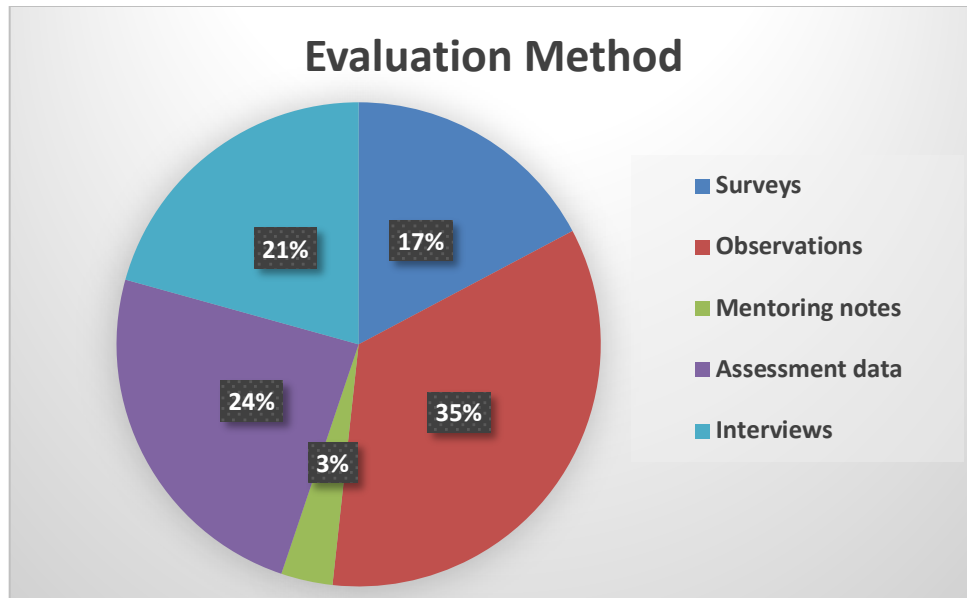


Figure 6: Evaluation method

### **ELL Instructional Strategies**

The United States is experiencing major changes in the demographics of the students in public education. Students whose first language is not English is the fastest growing demographic group in public schools in all regions of the United States (Collier & Thomas, 2004). This group is also the largest under educated group in the United States (Elfers & Stritikus, 2014). If the growth rate of ELLs in public schools in the U. S. continues to grow at the same rate, it is highly likely that all teachers will soon have an ELL in their classrooms in the near future. These demographic changes have also brought on an increased awareness of the need for teachers to improve in their skillset regarding how they teach ELLs. The idea of improving teachers' instructional strategies for ELLs is now at the forefront of many school district's agendas. The following studies were conducted with this idea in mind.

Hardin, Lower, Smallwood, Chakravarthi, Li, and Jordan (2010) found that through the implementation of a professional development model that included both training and coaching, teachers and teacher assistants that participated in this study were better prepared to meet the needs of the ELLs they served, along with their families. Teachers in this study experienced a shift in their perception of ELLs which led to more frequent and meaningful interactions between the staff, the ELLs, and their families. This study focused on the implementation of a professional development model that focused on providing three interactive training sessions and onsite classroom coaching visits to pre-kindergarten teachers of ELLs. The training sessions provided focused on helping teachers identify cultural practices, strategies for the support of second language acquisition, and ways to build teacher, family, and community organization relationships. Action plans based on the training content covered were developed after each training session. Onsite coaching was provided by experienced doctoral students and was focused on the concerns and interests the pre-kindergarten teachers they were assigned had expressed in their action plan. While this study demonstrated positive results for participating teachers, researchers felt that the extension of the on-site coaching for a longer period of time could increase the participants' competence in implementing changes.

In a qualitative case study conducted by Chien (2013), the person providing the mentoring and coaching was found to be effective due to their knowledge and understanding of academic language. In this study, the coach was perceived as the professional developer for teachers of ELLs due to their responsibilities for not only

providing the coaching but also being responsible for providing the training. The coach in this study was assigned teachers throughout the district but also conducted training for the district. The intervention in this study was offered face-to-face and involved the use of academic language for ELLs through lesson planning, modeling, observation, and self-reflection. Due to some constraints put on by the district, the coach was not able to fully execute their role with all teachers of ELLs but did positively impact those teachers she did serve.

The mentoring and coaching provided through a university-school partnership in a study conducted by Green, Gonzalez, Lopez-Velasquez, and Howard (2013) proved to be effective due to the fact that the intervention provided allowed for both content/instructional learning as well as sustained support. In this study participating teachers from four dual language middle schools received a 12-hour training on a vocabulary intervention as well as coaching twice a week. This eight-week long intervention focused specifically on the academic vocabulary learning of Spanish-speaking English language learners. The curriculum that coaches were focusing on was a cognate-based academic vocabulary intervention that was developed according to the theoretical framework that involved sheltered instruction, vocabulary instruction, and reflective teaching. The vehicle for coaching in this study was the curriculum, therefore coaches met with teachers at the beginning of each unit to discuss objectives, materials, and strategies required for student success with the unit. Teachers in this study attributed their success to the sustained assistance, feedback, and guidance provided by the research assistants and trained coaches.

Choi and Morrison (2014) conducted a study that involved both a face-to-face and virtual component in which teachers seeking their English for Speakers of Other Languages certification participated in an 18-month program that involved online coursework and discussions, met face-to-face with mentor groups, and had a mentor assigned to them for observation and coaching. Two measures were taken to determine effectiveness of the professional development program: observations of classroom practice and threaded online discussions from the blackboard course website. This study revealed that changes in classroom practice indeed occurred and that the changes were overall positive. This aspect of change is important because it captures most directly whether or not there was observed evidence that teachers applied what they learned through the professional development. This study reveals teacher professional development as an ongoing process of collective reflection and analysis and professional collaboration with peers. This innovative and multi-dimensional approach was successful in enabling experienced teachers to adapt their practice of working more effectively with EL students. In addition to documenting changes in classroom practices and teacher attitudes through classroom observations and threaded discussions, the study endeavored to unpack and explicate the teacher change process and link it to PD structures and processes.

In a randomized control trial study conducted on Project ELLA-V (English Language and Literacy Acquisition-Validation), Corcoran, Ross, Irby, Tong, Lara-Alecio, and Guerrero (2014) found that having a virtual coach who is consistent for the teachers of ELLs, has knowledge of the field, and can offer general and individual

feedback and mentoring on a continual basis is essential. In this study, treatment teachers receive virtual professional development on pedagogical skills twice a month for a total of three hours. In this study, the same coordinator served to provide training on the treatment innovation as well as functioned as the coach/mentor. As coach/mentor, they provided feedback based on observed needs and discussions held during the trainings. In a survey that was completed by participants in the treatment group, among other things, teachers reported that they felt they had acquired new skills and that their teaching had improved. Recommendations from this study include the need for a planned, comprehensive, research-based, and ongoing professional development plan that targets teachers of ELLs.

Song (2016) reports on a quantitative, mixed-methods study that involved a 30-item instructional strategy survey, a 15-item teachers' attitudes toward ELL survey, and an 8-item teacher interview protocol. Participants in grades 6-12 were provided with 11 sheltered instruction observation protocol (SIOP) workshops as well as monthly workshops covering the SIOP components. The monthly meetings also covered content- and grade-specific activities. Participants also received one-on-one coaching two times during each semester that followed a pre-conference, observation, and post-conference cycle. Results show that most of the participating teachers perceived that they improved their instructional strategies for ELLs and attributed this improvement to SIOP and guided coaching. Results also showed that most of the participants considered their roles for ELLs positively and attributed their attitude change toward ELLs and teaching strategies to professional development trainings. While observations were conducted,

they were not included in the data collection process. This makes it difficult to know whether or not the instructional strategies were actually implemented.

### **Literacy Instruction**

In a randomized experimental study conducted by Landry, Anthony, Swank, and Monseque-Bailey (2009) wanted to compare the effectiveness of “business as usual” professional development to that of four professional development programs that targeted teachers of at-risk preschoolers. The four professional development programs differed in whether they included regularly scheduled in-classroom mentoring and whether they included detailed feedback regarding the progress monitoring data that included recommendations for grouping children and for instructional activities included in the supplemental curriculum. Teachers were randomly assigned to one of the 4 professional development models being studied. Teachers also received online professional development that involved nine courses that covered topics such as classroom management, best practices and responsive teaching. Coursework also included content specific training on reading, written expression, language development, and math. Mentors met with teachers two times per month for two hours each visit. Mentors conducted classroom visits as well as video recorded lessons. Feedback was provided to teachers after every classroom visit and video recording. Results indicate that online coursework and mentoring with detailed instructionally linked feedback yielded the greatest improvement in teaching behavior. Professional development programs that are comprehensive and integrated into what teachers are already doing are most effective.

Cabell and Downer (2011) conducted a randomized control trial study in which they found that teachers who received a combination of web-based supports, to include observations, skills training, and consultation, had students who made greater fall-to-spring gains in language and literacy skills than teachers who received only access to the curricular supplement. One clear implication of this work is that an intensive level of support that includes a layer of coaching appears to be necessary to change teacher practices to a sufficient degree to systematically improve preschoolers' language and literacy skills. Simply providing teachers with curricula or resources is insufficient. Teachers received two consecutive years of training in the MyTeachingPartner program, a web-based professional development approach that focuses on promoting teachers' capacity to skillfully use interactions with children to facilitate learning. In this study, the consultant viewed classroom video footage and then posted clips from this footage and posed prompts for teachers to engage in analysis and reflection. The consultant also provided feedback to teachers based on the classroom video via videoconferencing. The MyTeacherPartner program was not as effective in moving children that spoke a language other than English.

Matsumura, Garnier, and Spybrook (2013) conducted a longitudinal group-randomized trial in which they looked at the effect content-focused coaching (CFC) had on student reading achievement. Content-focused coaching involves professional development at multiple levels: district, school, and classroom. In this particular study the focus was on the district level literacy coaches but district and campus administrators also attended this face-to-face professional development. Literacy coaches then in turn



would go and observe, mentor, and coach classroom teachers on literacy instruction via professional learning communities (PLC) and individually in classrooms. Each participant gets two observations per year, one in the fall and one in the spring. The literacy coaches are observing for classroom text discussions. The CFC program was implemented in schools for three years. Findings identified a positive effect of the CFC program on observed classroom text discussion quality which led to a positive effect on student reading achievement. This study employed the use of surveys, observations, and student assessment data.

In another study conducted by Ehri and Flugman (2018), the effects of a year-long mentoring program to improve teachers' knowledge and effectiveness in teaching phonics were reviewed to determine the extent to which the mentoring program improved students' achievement in reading and spelling. Overall the phonics mentoring model was very effective in impacting both teachers and students and showed substantial gains. Mentors provided teachers with knowledge about the structure of speech and the writing system but also instructional procedures for teaching phonics and reading skills effectively to students. Reading Reform Foundation (RRF) funded this project and trained the mentors, which consisted of retired teachers. Mentors kept monthly logs on knowledge and teaching effectiveness ratings of teachers based on their observations and interactions. Teachers improved in their phonics teaching according to the monthly mentor reports. There was no difference in knowledge of phonics teaching from grade to grade. Non-native English-speaking teachers took longer to learn to teach phonics but were able to catch up to their native English-speaking peers by the end of the year.

## **Culturally Responsive Teaching**

In a quantitative, correlational exploratory study, Teemant and Hausman (2013) examined whether teachers' use of sociocultural practices improved student performance results on assessments of English proficiency for English language learners. The intervention used in this study is based on the critical sociocultural theory and is intended to improve teachers' understanding of how to use students' lives as curriculum. This was a two-year study on instructional coaching. Participating teachers received a \$2000 stipend. This study involves instructional coaching of teachers of ELLs in the use of the Six Standards for Effective Pedagogy, which represent research-based sociocultural principles of learning for teachers to use in designing learning activities. The six standards include: joint productive activity, language and literacy development, contextualization, challenging activities, instructional conversation, and Critical Stance. Critical Stance makes teacher use of critical perspectives incremental, intentional, observable, and actionable in teaching practice. Teachers initially participated in a five day, 30-hour summer workshop, then teachers were individually coached seven times throughout the year. Prior to the professional development, three baseline observations (30 minutes each) were conducted. Then two 30-minute post-intervention observations were conducted. Teachers' Critical Stance post-intervention and growth scores were significantly and positively correlated with increased student performance on the English/Language Arts exam as well as on five LAS Links assessments. Both native and non-native English speakers benefited from increased teacher use of Critical Stance.

This study also found that teacher use of Critical Stance was also a stronger predictor of ELLs' gains in English proficiency than teacher use of higher order thinking.

Along with the previous study mentioned, Powell, Cantrell, Malo-Juvera, and Correll (2016) also showed positive results on student scores, only this study looked at student achievement scores in the areas of reading and math. Researchers in this mixed-methods study examined the impact of professional development on the use of the Culturally Responsive Instruction Observation Protocol (CRIOP). Training for the program was held throughout the summer and in the fall semester in a face-to-face setting. Participating teachers also received 50.4 hours of classroom-based coaching and mentoring which included observations. Researchers in this study used a concurrent triangulation mixed-methods design in which they analyzed data that included classroom observations, student achievement results, and post-observation teacher interviews. Results from classroom observations showed that teachers had significantly higher levels of culturally responsive instruction (CRI) implementation in the spring compared to the fall. Data on student achievement indicated that students of high implementers of the CRIOP had significantly higher achievement scores in reading and math than students of low implementers. Results from this study also suggest that teachers face several challenges in implementing CRI, including constraints imposed by administrators, high-stakes accountability, language barriers in communicating with families, and the sheer complexity of culturally responsive instruction.

Haneda, Teemant, and Sherman (2017) conducted a case study on the instructional coaching interactions between an experienced coach and one kindergarten

teacher. The data used in this study were taken from a mixed-methods study conducted in the context of a professional development project that involved as a key constituent longitudinal instructional coaching. The professional development offered in this study consisted of a 30-hour summer intensive workshop on critical sociocultural teaching practices and seven cycles of individualized instructional coaching spread over the academic school year. The coach predominantly used "dialogue as inquiry", which helped establish a non-hierarchical relationship within which she and the teacher were able to co-construct a practical understanding of Critical Stance as a teaching practice. Through the strategic use of dialogue as inquiry, this study argues that the coach was able to cultivate a dialogic space in which the teacher was invited to challenge, explore, appropriate and eventually enact Critical Stance in her teaching. The analysis further indicates that the experience of dialogic interaction in the coaching sessions led the teacher to appropriate a "dialogic stance" and space in her classroom with her kindergarteners.

### **Summary**

In regards to scholarly literature that exists involving the impact of virtual mentoring and coaching on instructional practices of teachers of ELLs, I was able to identify only a very limited number of studies. All of the studies identified in the systematic literature review I conducted aligned with recent research on mentoring and coaching. Those studies that had to do with ELL instructional strategies were aligned with research on second language acquisition and sheltered instruction. They provided opportunities for teachers to acquire new strategies for their students, implement new

learning, reflect on their teaching, and receive feedback from an instructional coach. Additionally, they provided for active learning, collective participation of some sort, and coherence. The duration of all of the studies ranged between one semester and two years of mentoring and coaching. Of the 13 studies, I was only able to find one study in which the researchers provided virtual mentoring to the participants. Moreover, I was able to identify 4 of the 13 studies in which researchers reported their interventions as random trials. In an effort to avoid selection bias and to be able to attribute any changes after an intervention is provided are attributed to the actual intervention, it is recommended that researchers implement a randomized controlled trial. Much more research on the impact of virtual mentoring and coaching on the pedagogical practices of teachers of ELLs is needed. Specifically, more research involving randomized controlled trials to ensure that results can be attributed to the intervention of virtual mentoring and coaching provided is needed. The aspect that my study will be able to provide further insight into is that of virtual mentoring and coaching teachers of ELLs. In addition, my study will also positively add to the literature in that it is a randomized controlled trial.

## **CHAPTER III**

### **METHOD**

The purpose of this mixed methods study was to determine if the instructional practices of teachers of ELLs, as observed by the Transitional Bilingual Observation Protocol, in the treatment group were positively impacted by the virtual mentoring and coaching they received through Project ETELL (Empowering Teachers of English Language Learners, Grant Award No. T365Z160229) while seeking their ESL certification. The teachers participating in the treatment group of my study submitted a total of five video observations: a pre-observation video, a post-observation video, and three observation videos in between. During the time ranging between the submission of the pre- and post-observation, participants in the treatment group were provided three 30-minute mentoring and coaching sessions by an experienced bilingual/ESL certified teacher mentor. Two data points were analyzed to determine if teachers' instructional practices changed from the pre- to the post-observation due to the virtual mentoring and coaching they received.

This chapter is made up of the methodological design of my study. It includes information on my research design, sample, procedure, instrumentation, data collection, and data analysis.

#### **Sample**

The present study stems from Project Empowering Teachers of English Language Learners (ETELL; Grant Award No. T365Z160229), a federal training and

research project targeting teachers of ELLs wishing to acquire either their Texas Bilingual or ESL certification. All teachers who participated in this project agreed to receive virtual professional development (VPD; Irby, Sutton-Jones, Lara-Alecio, & Tong, 2017), also known as online preparation and professional development coursework that was geared towards preparing them for one of three Texas certification assessments: ESL, Bilingual Supplement, or Bilingual Target Language Proficiency Test. The virtual professional development all participants received was asynchronous in that participants completed training modules and posted discussions on the discussion board. Participants also received feedback on their discussion posts, but this was not done in real time. In helping prepare these participants for their certification exams, Project ETELL's main goal was that these participants be better prepared to work with linguistically diverse students. Participating teachers received an observation tablet to set up in their room that would assist them with the recording of observations, completion of online coursework, and the virtual mentoring and coaching (VMC; Irby, Sutton-Jones, Lara-Alecio, & Tong, 2017) sessions. Additionally, upon completion of and passing of their certification exam, participants qualify to receive reimbursement for the out of pocket exam cost. Participants were given up to a year to take and pass the exam, in order to qualify for reimbursement. The participants in this study taught in school districts throughout the entire state of Texas. Districts included in this study come from counties in the southern, central, northern, and western parts of Texas. This project is currently in its second year of implementation and is serving its fourth cohort of teachers. Each academic school year there is a fall and a spring cohort of participants

that are randomly assigned to either treatment or control. The data for my study was derived from the second cohort of year 1. Participating teachers were randomly assigned to treatment or control group upon registration. While all teachers received online preparation and professional development coursework geared towards the area in which they were wishing to achieve certification in, only those teachers participating in the treatment group received the virtual mentoring and coaching.

### **Research Design**

A total of 123 teachers agreed to participate in the spring cohort of the ETELL research project. Of the 123 participants, 93 were signed up for the ESL certification preparation course. Of the 93 registered participants seeking ESL certification, only 43 actually began the course and of the 43 that began the course 38 actually completed all of the requirements. Of those who actually completed the course, 20 were in the control group and 18 were in the treatment group. Figures 7 and 8, below demonstrate demographic information pertaining to both the treatment and control groups.



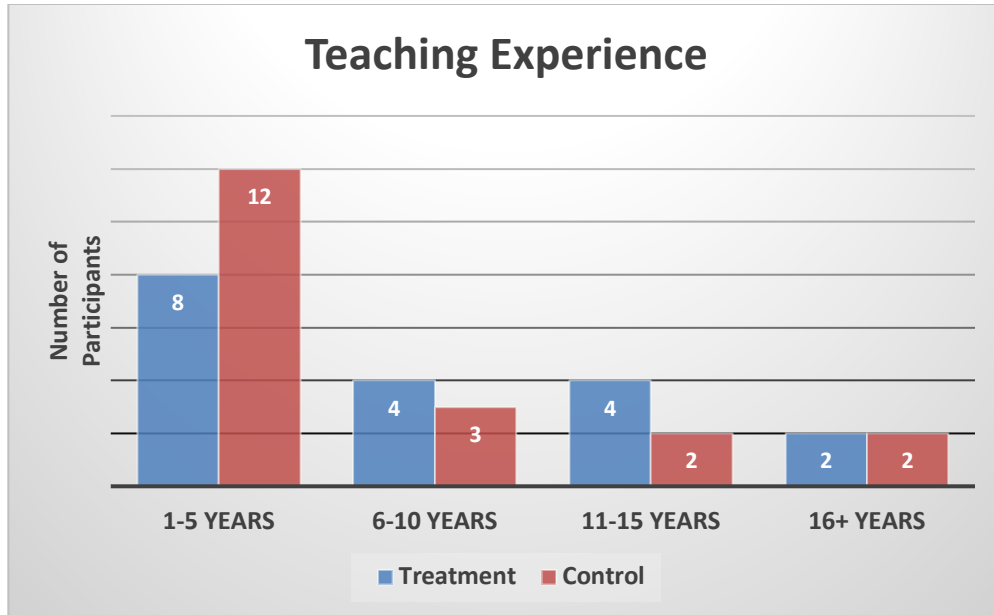


Figure 7: Teaching experience of participants

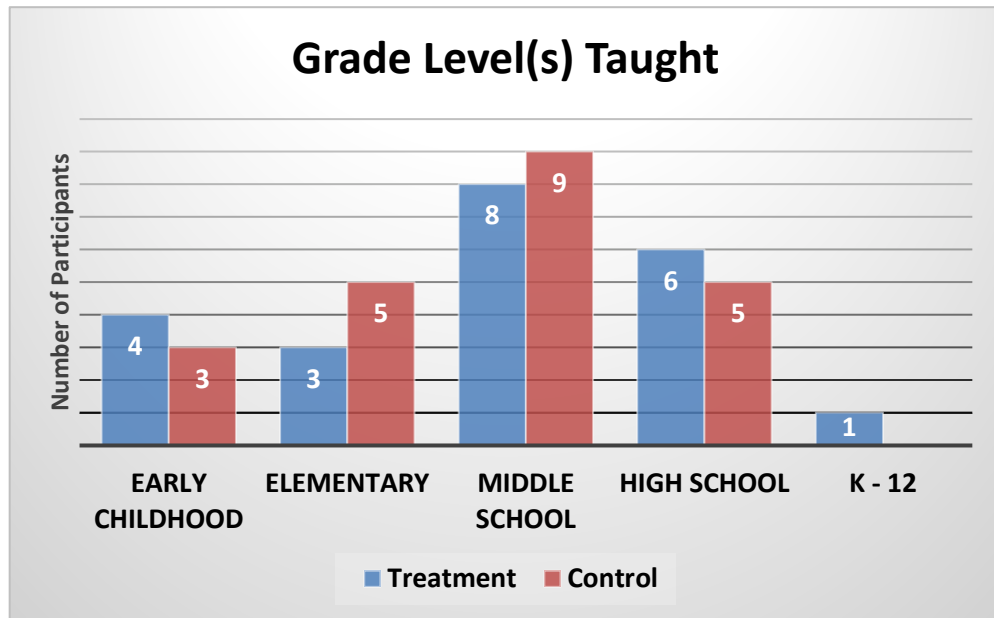


Figure 8: Grade level(s) taught by participants

## **Procedure**

### **Project ETELL Pre/Post Video Observations**

The teachers participating in the treatment group of my study submitted a total of five video observations: a pre-observation video, a post-observation video, and three observation videos in between. Teachers were provided three 30-minute mentoring and coaching sessions by one of two experienced bilingual/ESL teacher mentors between the pre- and post-observation videos. Two data points were analyzed to determine if teachers' instructional practices changed from the pre- to the post-observation due to the virtual mentoring and coaching they received. All participating teachers submitted pre- and post- video observations that were evaluated by trained individuals using the Transitional Bilingual Observation Protocol (TBOP). This observation instrument was developed by Lara-Alecio and Parker (1994). Each video was expected to be fifteen minutes in length.

### **Virtual Mentoring and Coaching**

Teachers participating in the treatment group received three 30-minute virtual mentor and coaching sessions. Participants and mentors met during a scheduled time via GoToMeeting, which allowed them to have the face-to-face time while physically being in two separate locations. The mentoring and coaching participants received was provided by one of two experienced bilingual/ESL teacher mentors and was aligned to the Texas ESL certification domains and competencies (TEA, 2018d), which consist of the following:

*Domain I: Language Concepts and Language Acquisition.*

*Competency 001: The ESL teacher understands fundamental language concepts and knows the structure and conventions of the English language.*

*Competency 002: The ESL teacher understands the processes of first-language (L1) and second-language (L2) acquisition and the interrelatedness of L1 and L2 development.*

*Domain II: ESL Instruction and Assessment*

*Competency 003: The ESL teacher understands ESL teaching methods and uses this knowledge to plan and implement effective, developmentally appropriate instruction.*

*Competency 004: The ESL teacher understands how to promote students' communicative language development in English.*

*Competency 005: The ESL teacher understands how to promote students' literacy development in English.*

*Competency 006: The ESL teacher understands how to promote students' content-area learning, academic-language development and achievement across the curriculum.*

*Competency 007: The ESL teacher understands formal and informal assessment procedures and instruments used in ESL programs and uses assessment results to plan and adapt instruction.*

*Domain III: Foundations of ESL Education, Cultural Awareness and Family and Community Involvement*

*Competency 008:* The ESL teacher understands the foundations of ESL education and types of ESL programs.

*Competency 009:* The ESL teacher understands factors that affect ESL students' learning and implements strategies for creative and effective multicultural and multilingual learning environment.

*Competency 010:* The ESL teacher knows how to serve as an advocate for ESL students and facilitate family and community involvement in their education.

Upon the submission of their videos, the mentor used a rubric to evaluate the lesson. The rubric used was developed in alignment with the standards pertaining to the certification area in which participants had registered for. Mentors paid particular attention to instructional strategies specific to effective teaching of English as a second language. Upon completion of the rubric, the mentor would communicate with the teacher to determine the best time to meet via the internet. Mentoring sessions were intended to take place when it was more convenient for the participants. Some participants preferred to meet virtually during the school day, while other participants met during after school hours from the comfort of their own homes.

**Treatment Group Surveys on Mentoring**

Upon completion of the course, each participant in the treatment group was asked to complete a survey regarding their thoughts on the mentoring they received and their

perceived effectiveness. The survey consisted of a total of seventeen questions regarding the following: demographic information, mentoring experience, and their teaching experience. Nine of the seventeen questions were regarding the participants' mentoring experience during the project. The majority of the questions were multiple choice questions involving a Likert scale. The Likert scale questions consisted of the following: (a) the virtual mentoring met my expectations overall; (b) the mentor provided helpful and constructive feedback on my instruction; (c) the mentor was well versed and knowledgeable about the ESL/bilingual strategies; (d) I was able to improve my instruction as a result of the virtual mentoring; (e) the observation laptop and GoToMeeting were easy to use for the virtual mentoring; and (f) any technical issues were resolved quickly. Three of the nine questions on the mentoring experience consisted of short answer responses regarding what they felt was the best part of their mentoring experience as well as any suggestions they might have for improving the virtual mentoring experience. The short answer questions consisted of (a) what was the best part of the virtual mentoring; (b) what is the most important thing that you learned; and (c) do you have any suggestions for improving the virtual mentoring. Participants were asked to complete the survey online in the form of a Google Form.

### **Research Questions**

The research questions for my study were:

1. Is there a difference in time allocation of ESL strategies between treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?

2. Do teachers' instructional practices in the domain of activity structure differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?
3. Do teachers' instructional practices in the domain of communication mode differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?
4. Do teachers' instructional practices in the domain of language content differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?
5. How do treatment teachers perceive the quality of mentoring feedback?

### **Instrumentation**

#### **Video Observations**

Pre- and post-observation videos were coded based on the Transitional Bilingual Observation Protocol (TBOP). Once teachers had submitted their pre- and post-observation videos, a team of trained research assistants coded events using the TBOP which analyzes the domains of (a) Activity Structures, (b) Language Content, (c) Language of Instruction, and (d) Communication Mode (noted by Lara-Alecio & Parker, 1994). Figure 9 below, is a visual of the Four-dimensional Transitional Bilingual Pedagogical Theory that supports the observation protocol tool being used to code the pre- and post-observation videos being submitted by participants (Lara-Alecio & Parker, 1994). Permission to use the four-dimensional transitional bilingual theory was granted from the Principal Investigator of Project ETELL (see Appendix A).

The Transitional Bilingual Observation Protocol (TBOP) is an observation tool that was developed by Lara-Alecio and Parker in an effort to operationalize elements of classroom instruction for ELLs that have been supported by the theories and principles of bilingual education. Moreover, TBOP was developed to identify the interactions of the following four dimensions: language of instruction, language content, communication mode, and activity structures (Lara-Alecio, Tong, Irby, & Mathes, 2009). Prior to the development of the TBOP, the field of bilingual education lacked in adequate methods for describing teaching and learning within classrooms (Bruce et al., 1997). The TBOP consists of four elements and is based on the four-dimensional Transitional Bilingual Pedagogical Theory (Lara-Alecio & Parker, 1994). The elements addressed are activity structures, language of instruction, language content, and communication mode. For the element of activity structure, the focus is on the combination of teacher behavior and primary student expected behavior. Cummins postulates in the Bilingual Threshold Hypothesis that transference of a students' content learning across two languages occurs once students have reached a higher level of bilingual competence. When looking at language of instruction, this can be measured by observing four different combinations of native language and English use during instruction. These four combinations range from content being taught in the first language (L1), content being introduced in L1 but taught in the second language (L2), L2 being clarified by L1, and content being taught in L2. The element of language content stems from the work of Cummins (1986) regarding the distinction between Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language

Proficiency (CALP) only the Transitional Bilingual Pedagogical Theory takes it a step further in that it proposes that CALP in L1 should not precede CALP in L2 but rather that there should be incremental shifts in emphasis between L1 and L2 in CALP over time (Lara-Alecio & Parker, 1994). The observable four levels in this element are: social routines, academic routines, light cognitive content, and dense cognitive content. The additional two levels were added in an effort to accommodate for the range of activities that are typically seen in bilingual classrooms. The last element considered in this model is that of communication mode which is based on the idea that there may exist multiple modalities within a particular activity structure. Modalities to consider are that of reading, writing, and verbal expression.

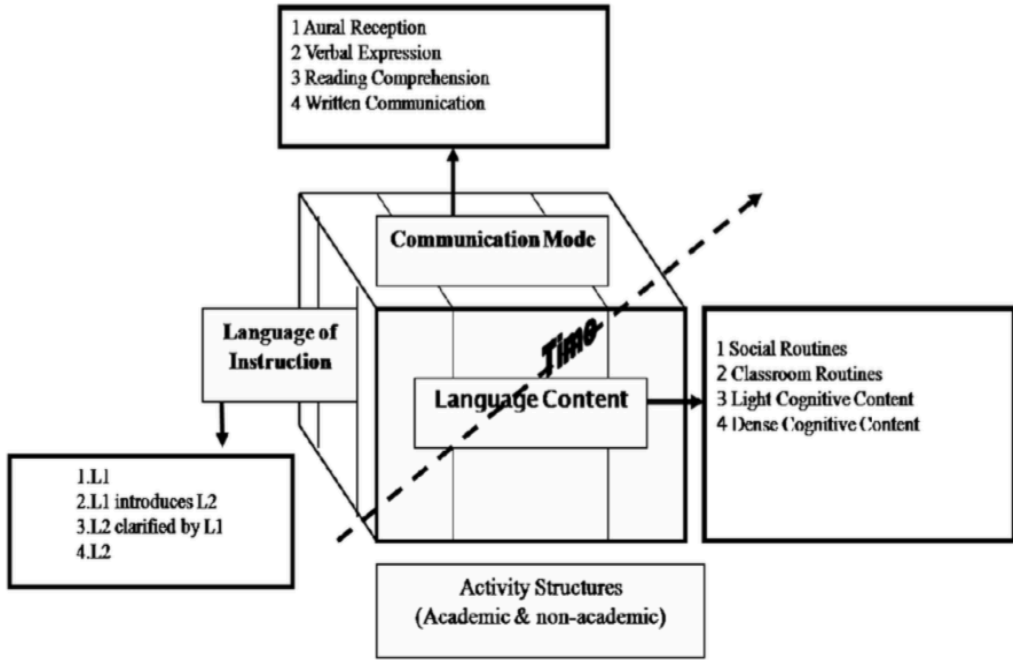


Figure 9: Four-dimensional Transitional Bilingual Pedagogical Theory (Lara-Alecio & Parker, 1994)



The pre- and post-observation videos were rated by a total of three research assistants. The research assistants were all trained at one time by one of the project managers for the grant project. In addition to training, the research assistants met to ensure fidelity of the rating procedures by each rating the same four pre-observations individually. Inter-rater reliability at each domain level was met with a cross-domain initial agreement  $AC_1 = 0.74$  and percentage of agreement = 0.77 (Gwet  $AC_1$  cutoff = 0.6). Upon meeting acceptable inter-rater reliability, pre-observation videos were randomly assigned through the TBOP online platform. Upon completion of the coding for the pre-observation videos, the research assistants completed an additional round of inter-rater reliability by rating the same four post-observation videos. Following acceptable inter-rater reliability results, post observation videos were randomly assigned to the raters through the TBOP online platform.

### **Treatment Group Surveys on Mentoring**

The majority of the questions in the survey that were completed by participants were multiple-choice questions involving a Likert scale. Three of the nine questions on the mentoring experience consisted of short answer responses regarding what they felt was the best part of their mentoring experience as well as any suggestions they might have for improving the virtual mentoring experience. The short answer questions consisted of (a) what was the best part of the virtual mentoring; (b) what is the most important thing that you learned; and (c) do you have any suggestions for improving the virtual mentoring. Upon reading through the responses, rather than using a computer program, I hand analyzed the data. I began with a preliminary exploratory analysis to get

a feel for how to best organize the data. I not only reviewed the short answer responses, but also the multiple-choice responses to ensure that they aligned. The mentor survey also consisted of six Likert scale questions which consisted of the following: (a) the virtual mentoring met my expectations overall; (b) the mentor provided helpful and constructive feedback on my instruction; (c) the mentor was well versed and knowledgeable about the ESL/bilingual strategies; (d) I was able to improve my instruction as a result of the virtual mentoring; (e) the observation laptop and GoToMeeting were easy to use for the virtual mentoring; and (f) any technical issues were resolved quickly. These questions were five-point Likert scale questions, in which the following scale was used: “1” represented strong disagreement and “5” represented strong agreement. Once I had an opportunity to review the responses thoroughly, I began the coding process. I began by dividing responses up into segments and then continued with labeling those responses with codes. Upon the completion of coding all of the responses, I attempted to collapse the codes into possible common themes. Finally, after I identified some common themes, I went back to the responses to ensure that the themes were reflective of the overall participant responses.

### **Data Collection**

Project ETELL is currently in its second year of implementation and is serving its fourth cohort of teachers. Each academic school year there is a fall and a spring cohort of participants that are randomly assigned to either treatment or control. The data for my study was derived from the second cohort of year 1. Teachers that applied for the program were randomly placed into either treatment or control groups. In order to

determine the effects of virtual mentoring and coaching those teachers participating in the treatment group submitted a total of five video observations: a pre-observation video, a post-observation video, and three observation videos in between. Each video was expected to be fifteen minutes in length. During the time period in between the pre- and post-observation, teachers were provided three 30-minute mentoring and coaching sessions by one of two experienced bilingual/ESL teacher mentors. The recorded pre- and post-observation videos were rated by three trained personnel using an online web tool that contained the domains and dimensions of each domain for raters to be able to record the frequency of occurrence in 20 seconds segments. The three research assistants were experienced teachers and/or administrators and attended training for the use of TBOP at the same time. Inter-rater reliability at each domain level was met with a cross-domain initial agreement  $AC_1 = 0.74$  (adjusted Gwet  $AC_1 = 0.64$ ) and percentage of agreement = 0.77 (Gwet  $AC_1$  cutoff = 0.6). Two data points were analyzed to determine if teachers' instructional practices changed from the pre- to the post-observation due to the virtual mentoring and coaching they received. Mentoring notes, participant surveys, and observations were submitted to and stored on a secure online server. Originally, for Project ETELL, participants provided informed consent during initial collection of data. The process of submission and storing of data followed all requirements as stated by the IRB office and regulations of the University. Permission to use the archived data was granted from the Principal Investigator of Project ETELL upon approval from IRB.

## Data Analysis

The research design that I employed for research questions 1 – 4 was a quantitative comparative analysis using the chi-square test of homogeneity of proportion. Given the frequency nature of the data collected from each observation using the TBOP, the chi-square test of homogeneity was used as initial statistical analysis to determine if the frequency of occurrences of each category under every domain is homogenous across treatment and control groups. This approach is appropriate in this instance because Project ETELL employed a simple random sampling technique and the variables under study were categorical in nature. The chi-square test of homogeneity maintains  $\alpha$  at a constant level throughout the significant tests (Cox & Key, 1993). I then used the Cramer's  $V$  to report the type of effect size for  $n \times k$  comparison. While Phi will calculate effect size for 2x2 Cramer's  $V$  is a way of calculating correlation in tables which have more than 2x2 ( $n \times k$ ) rows and columns. It is used as a post-test to determine strengths of association after chi-square has determined significance. Chi-square says that there is a significant relationship between variables, but it does not say just how significant and important this is. Cramer's  $V$  is a post-test to give this additional information. Cramer's  $V$  varies between 0 and 1. A Cramer's  $V$  value close to 0 shows little association between variables where as a Cramer's  $V$  value close to 1, indicates a strong association. The statistical software, SPSS 25, was used to analyze the data for this study. Upon finding a statistically significant difference, in order to determine the strength of the relationship, I then used the statistic Cramer's  $V$ . Cohen's (1988)

recommended cutoff values were used for reporting and interpreting the effect size (small effect = 0.2; medium effect = 0.5; large effect = 0.8).

Research question 5 involved a qualitative approach in that I collected participant responses regarding their perception of the VMC they received as part of their participation in the treatment group. In regards to question five, I employed the constant comparative method to code and identify common themes in the short answer responses as well as descriptive statistics to determine the overall perception the treatment group teachers had regarding the virtual mentoring and coaching they received throughout the course of their study. This involved reporting the mode and median as measures of central tendency for the individual survey items that are on a five-point Likert scale. Using the constant comparative method, I then coded the short answer responses into categories that helped identify overall themes. Furthermore, I compared common themes reported in the short answer response questions with that of the Likert-type scale items in an effort to demonstrate whether these themes were reflected in the overall participant responses.

## CHAPTER IV

### DATA ANALYSIS AND FINDINGS

This chapter is made up of the results of the data analysis I conducted to answer the five major research questions. Each question is presented with the results following.

I used the chi-square test of homogeneity as initial statistical analysis to determine if the frequency of occurrences of each category under every domain is homogenous across treatment and control groups. Chi-square was calculated for both the pre-observations and the post-observations to determine if there wasn't already a significant difference between treatment and control groups. Upon calculating chi-square for the post-observations, I then compared the difference found to that of the pre-observations to determine if that difference grew after the intervention received by the treatment teachers. Once chi-square was calculated, and a statistically significant difference was found, in order to determine the strength of the relationship, I then used the statistic Cramer's V. Cohen's (1988) recommended cutoff values were used for reporting and interpreting the effect size (small effect = 0.2; medium effect = 0.5; large effect = 0.8). In addition, I included descriptive statistics for the Likert-type mentor survey questions as well as qualitative examples obtained from the short answer response questions to respond to question five of my study. I used the constant comparative method to code and compare short answer responses by identifying common themes within the participant responses to each of the three short answer survey questions.

When examining the results for the treatment and control groups from pre- to post-observation, I found that there was a statistically significant difference between treatment and control groups in the domains of ESL strategies, activity structures, and communication mode. These differences may be due to grade levels and content participants teach in. I did not find a statistically significant difference between treatment and control groups in the domain of language content. Table 1 shows the chi-square, Cramer's V, and *p* values for ESL strategies, activity structures, communication mode, and language content for both the pre- and post-observations. In total, there were 1619 observation clips collected for the pre-observation with 845 in control and 774 in treatment and 1615 observation clips collected for the post-observation with 851 in control and 764 in treatment.

Table 1  
*Chi-square Values Related to ESL Strategies, Activity Structures, Communication Mode, and Language Content by Pre- and Post-observations*

		Chi-square	<i>df</i>	Cramer's V	<i>p</i> value
ESL strategies by condition	pre	29.83	8	0.136	<0.001
	post	180.17	9	0.334	<0.001
Activity structures by condition	pre	119.76	19	0.272	<0.001
	post	154.91	17	0.310	<0.001
Communication mode by condition	pre	75.58	14	0.216	<0.001
	post	163.28	16	0.318	<0.001
Language content by condition	pre	33.41	3	0.144	<0.001
	post	27.52	3	0.131	<0.001

### **Research Question One**

Research question one was-- Is there a difference in time allocation of ESL strategies between treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group? This research question consists of examining the results from the chi-square test that was applied to condition relative to ESL strategies. The results as observed by TBOP can be found in Table 1.

In total, there were 1619 observation clips collected for the pre-observation with 845 in control and 774 in treatment and 1615 observation clips collected for the post-observation with 851 in control and 764 in treatment. Results indicate that there was a statistically significant difference in time allocation of ESL strategies between the treatment group and the control group along with a small to medium effect size ( $X^2 = 180.17, p < 0.001, \text{Cramer's } V = 0.334$ ). Table 2 demonstrates the frequency and percentage of time both treatment and control group teachers allocated to each individual ESL strategy by pre- and post-observation.



Table 2

*Crosstabulation of Conditions and Type of ESL Strategy by Pre- and Post-observations*

Type of ESL Strategy	Condition							
	Pre-observation				Post-observation			
	Control (n, %)		Treatment (n, %)		Control (n, %)		Treatment (n, %)	
Visual scaffolding	122	14.4	166	21.4	151	17.7	226	29.6
Questioning strategies	88	10.4	50	6.5	57	6.7	71	9.3
Advanced organizers	1	0.1	8	1.0	14	1.6	67	8.8
Integrate technology	114	13.5	98	12.7	0	0.0	46	6.0
Academic language scaffolding	109	12.9	105	13.6	91	10.7	35	4.6
Collaborative or cooperative learning	41	4.9	34	4.4	56	6.6	31	4.1
Manipulatives and realia	35	4.1	23	3.0	13	1.5	17	2.2
Content connections	0	0.0	0	0.0	2	0.2	0	0.0
L1 clarifications	3	0.4	0	0.0	1	0.1	0	0.0
Non-academic	332	39.3	290	37.5	466	54.8	271	35.5

*Note.* Numbers represent observed frequencies.

In further examining each strategy the data show that treatment group teachers allocated significantly more instructional time in two strategies: visual scaffolding and advanced organizers while teachers in the control group significantly allocated more instructional time in the academic language scaffolding strategy. Based on frequency distribution, results indicate that visual scaffolding was the most used strategy by both treatment and control group teachers and treatment teachers significantly used this strategy more often than the control teachers ( $X_2 = 14.920, p < 0.001$ ). Treatment group

teachers also allocated more instructional time in advanced organizers ( $X_2 = 34.679, p < 0.001$ ). Control group teachers allocated significantly more instructional time in academic language scaffolding ( $X_2 = 24.889, p < 0.001$ ). The data between pre- and post-observations also show that treatment teachers increased the amount of time allocated to the ESL strategies of visual scaffolding, questioning strategies, and advanced organizers. Control group teachers also increased the amount of time allocated between pre- and post-observations to the ESL strategies of visual scaffolding advanced organizers, and collaborative or cooperative learning. Chi-square values applied to condition related to ESL strategies by pre- and post-observation can be seen below in Table 3.

Table 3  
*Chi-square Comparison of Pre- and Post-observation in the Domain of ESL Strategies*

Type of ESL Strategy		Chi-square	N	<i>p</i> value
Visual scaffolding	pre	6.722	288	0.010*
	post	14.920	377	<.001*
Questioning strategies	pre	10.464	138	<.001*
	post	1.531	128	0.216
Advanced organizers	pre	5.444	9	0.020*
	post	34.679	81	<.001*
Academic language scaffolding	pre	0.075	214	0.785
	post	24.889	126	<.001*

*Note.* Degrees of Freedom = 1 for all strategies. \* Indicates a *p* value <.05

When reviewing the data between pre- and post-observation, it is evident that there was no significant statistical difference between treatment and control groups before the VMC was provided in the ESL strategies of visual scaffolding, advanced organizers, and academic language scaffolding (see Table 3).

## Research Question Two

Research question two was-- Do teachers' instructional practices in the domain of activity structures differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group? This research question consists of examining the results from the chi-square test that was applied to condition relative to activity structures. The results as observed by TBOP can be found in Table 1.

In total, there were 1619 observation clips collected for the pre-observation with 845 in control and 774 in treatment and 1615 observation clips collected for the post-observation with 851 in control and 764 in treatment. When looking at activity structures, results show that there is a statistically significant difference between treatment and control teachers ( $X^2 = 154.91, p < 0.001, \text{Cramer's } V = 0.310$ ). Table 4 demonstrates the frequency and percentage of time both treatment and control group teachers allocated to each individual activity structure by pre- and post-observation.

Table 4

*Crosstabulation of Conditions and Type of Activity Structure by Pre- and Post-observations*

Type of Activity Structure	Condition							
	Pre-observation				Post-observation			
	Control (n, %)		Treatment (n, %)		Control (n, %)		Treatment (n, %)	
Lecture/listen	161	19.1	231	29.8	145	17.0	220	28.8
Ask/answer	74	8.8	20	2.6	156	18.3	192	25.1
Direct/perform	83	9.8	58	7.5	100	11.8	68	8.9
Lead/perform	19	2.2	31	4.0	72	8.5	67	8.8
Observe/perform	7	0.8	12	1.6	69	8.1	60	7.9
NA-transition	7	0.8	2	0.3	56	6.6	29	3.8
Observe/cooperate	4	0.5	3	0.4	14	1.6	26	3.4
Demonstrate/listen	52	6.2	48	6.2	17	2.0	21	2.7
Interact	4	0.5	0	0.0	2	0.2	21	2.7
Direct/Listen	131	15.5	94	12.1	70	8.2	16	2.1
Lecture/perform	138	16.3	192	24.8	24	2.8	14	1.8
Evaluate/perform	28	3.3	17	2.2	37	4.3	14	1.8
Answer/ask	15	1.8	19	2.5	46	5.4	11	1.4
Ask/perform	42	5.0	29	3.7	37	4.3	2	0.3
Evaluate/discover	28	3.3	8	1.0	2	0.2	2	0.3
Evaluate/cooperate	0	0.0	0	0.0	0	0.0	1	0.1
NA-Free time	10	1.2	2	0.3	2	0.2	0	0.0
NA-interact	0	0.0	1	0.1	2	0.2	0	0.0

*Note.* Numbers represent observed frequencies.

To be specific, compared with teachers in the control group, treatment teachers allocated significantly more instructional time in lecture/listen ( $X_2 = 15.411, p < 0.001$ ), ask/answer ( $X_2 = 3.724, p = 0.054$ ), observe/cooperate ( $X_2 = 3.600, p = 0.058$ ), and interact ( $X_2 = 15.696, p < 0.001$ ). These results indicate that teachers in the treatment group allocated more instructional time in lecture/listen, ask/answer, observe/cooperate, and interact. Based on frequency distribution, results also indicate that teachers in the treatment group allocated 79.5% of their time to lecture/listen, ask/answer,

direct/perform, lead/perform, and observe/perform. Moreover, teachers in the control group allocated significantly more instructional time in direct/perform ( $X_2 = 6.095, p = 0.014$ ), direct/listen ( $X_2 = 33.907, p < 0.001$ ), evaluate/perform ( $X_2 = 10.373, p = 0.001$ ), answer/ask ( $X_2 = 21.491, p < 0.001$ ), and ask/perform ( $X_2 = 31.410, p < 0.001$ ). When comparing the frequency distribution between the pre- and post-observations, treatment group teachers showed an increase in the amount of time allocated to the activity structures of ask/answer, direct/perform, observe/perform, and observe/cooperate. Moreover, frequency distributions between pre- and post-observations, control group teachers showed an increase in the amount of time allocated to the activity structures of ask/answer, direct/perform, lead/perform, observe/perform, observe/cooperate, evaluate/perform, and answer/ask. Chi-square values applied to condition related to activity structure by pre- and post-observation can be seen below in Table 5.

Table 5  
*Chi-square Comparison of Pre- and Post-observation in the Domain of Activity Structure*

Type of Activity Structure		Chi-square	N	<i>p</i> value
Lecture/listen	pre	8.836	330	0.003*
	post	15.411	365	<0.001*
Ask/answer	pre	12.500	392	<0.001*
	post	3.724	348	0.054
Direct/perform	pre	31.021	94	<0.001*
	post	6.095	168	0.014*
Lead/perform	pre	6.084	225	0.014*
	post	0.180	139	0.671
Observe/cooperate	pre	0.471	34	0.493
	post	3.600	40	0.058
Demonstrate/listen	pre	2.880	50	0.090
	post	0.421	38	0.516
Interact	pre	10.704	27	<0.001*
	post	15.696	23	<0.001*
Direct/Listen	pre	2.380	71	0.123
	post	33.907	86	<0.001*
Lecture/perform	pre	1.316	19	0.251
	post	2.632	38	0.105
Evaluate/perform	pre	11.111	36	<0.001*
	post	10.373	51	<0.001*
Answer/ask	pre	2.689	45	0.101
	post	21.491	57	<0.001*
Ask/perform	pre	5.333	12	0.021*
	post	31.410	39	<0.001*

*Note.* Degrees of Freedom = 1 for all strategies. \* Indicates a *p* value <.05

When reviewing the data between pre- and post-observation, it is evident that there was no significant statistical difference between treatment and control groups before the VMC was provided in the activity structures of lecture/perform, observe/cooperate, direct/listen, answer/ask, and demonstrate/listen (see Table 5).

### **Research Question Three**

Research question three was-- Do teachers' instructional practices in the domain of communication mode differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group? This research question consists of examining the results from the chi-square test that was applied to condition relative to communication mode. The results as observed by TBOP can be found in Table 1.

In total, there were 1619 observation clips collected for the pre-observation with 845 in control and 774 in treatment and 1615 observation clips collected for the post-observation with 851 in control and 764 in treatment. Results in the domain of communication mode show that there is a statistically significant difference between treatment and control teachers ( $X^2 = 163.28, p < 0.001, \text{Cramer's } V = 0.318$ ). Table 6 demonstrates the frequency and percentage of time both treatment and control group teachers allocated to each individual communication mode by pre- and post-observation.

Table 6

*Crosstabulation of Conditions and Students' Mode of Communication by Pre- and Post-observations*

Communication Mode	Condition							
	Pre-observation				Post-observation			
	Control		Treatment		Control		Treatment	
	(n, %)	(n, %)	(n, %)	(n, %)	(n, %)	(n, %)	(n, %)	(n, %)
Aural	216	25.6	239	30.9	240	28.2	246	32.2
Aural-verbal	246	29.1	242	31.3	156	18.3	182	23.8
Aural-writing	115	13.6	72	9.3	112	13.2	108	14.1
Aural-reading-verbal	68	8.0	72	9.3	36	4.2	70	9.2
NA	31	3.7	24	3.1	38	4.5	54	7.1
Writing-verbal	8	0.9	1	0.1	0	0.0	27	3.5
Verbal-aural	17	2.0	26	3.4	94	11.0	25	3.3
Writing	21	2.5	7	0.9	45	5.3	22	2.9
Verbal	33	3.9	33	4.3	49	5.8	7	0.9
Reading	13	1.5	29	3.7	7	0.8	5	0.7
Reading-writing	1	0.1	0	0.0	1	0.1	5	0.7
Aural-reading	23	2.7	26	3.4	27	3.2	5	0.7
Reading-aural	0	0.0	0	0.0	22	2.6	4	0.5
Writing-aural	0	0.0	0	0.0	10	1.2	2	0.3
Verbal-writing	39	4.6	3	0.4	10	1.2	2	0.3
Writing-reading	0	0.0	0	0.0	1	0.1	0	0.0
Reading-verbal	1	0.1	0	0.0	3	0.4	0	0.0

*Note.* Numbers represent observed frequencies.

The frequency distribution data show that students in both the treatment and the control group spent the majority of their instructional time engaging in more than one communication mode. Based on frequency distribution, results also show that the students of teachers in the treatment group allocated 79.3% of their time to listening ( $X_2 = 0.074, p = 0.785$ ), listening-speaking ( $X_2 = 2.000, p = 0.157$ ), listening-writing ( $X_2 = 0.073, p = 0.787$ ), and listening-reading-speaking ( $X_2 = 10.906, p = 0.001$ ). Based on these frequency distribution results, students of teachers in the treatment group were



observed to use listening-reading-writing significantly more frequently than the students of teachers in the control group. Students of teachers in the control group were observed to use speaking-listening ( $X_2 = 40.008, p < 0.001$ ), writing ( $X_2 = 7.896, p = 0.005$ ), speaking ( $X_2 = 35.500, p < 0.001$ ), listening-reading ( $X_2 = 15.125, p < 0.001$ ), and reading-listening ( $X_2 = 12.462, p < 0.001$ ) more frequently than the students of teachers in the treatment group. When comparing the frequency distribution data between the pre- and post-observations, students of teachers in the treatment group showed an increase in the amount of time spent in the communication mode of listening, listening-writing, writing-speaking, and writing. Moreover, based on frequency distribution data between pre- and post-observations, students of teachers in the control group showed an increase in the amount of time spent in the communication mode of listening, speaking-listening, writing, speaking, listening-reading, reading-listening, writing-listening, and reading-speaking. Chi-square values applied to condition related to student communication mode by pre- and post-observation can be seen below in Table 7.

Table 7  
*Chi-square Comparison of Pre- and Post-observation in the Domain of Communication Mode*

Type of Communication Mode		Chi-square	N	<i>p</i> value
Aural	pre	1.163	455	0.281
	post	0.074	486	0.785
Aural-verbal	pre	0.033	488	0.856
	post	2.000	338	0.157
Aural-writing	pre	9.888	187	0.002*
	post	0.073	220	0.787
Aural-reading-verbal	pre	0.114	140	0.735
	post	10.906	106	0.001*
Verbal-aural	pre	1.884	43	0.170
	post	40.008	119	<0.001*
Writing	pre	7.000	28	0.008*
	post	7.896	67	0.005*
Verbal	pre	0.000	66	1.000
	post	35.500	56	<0.001*
Aural-reading	pre	0.184	49	0.668
	post	15.125	32	<0.001*
Reading-aural	pre	0.000	0	0.000*
	post	12.462	26	<0.001*

*Note.* Degrees of Freedom = 1 for all strategies. \* Indicates a *p* value <.05

Based on the data that compares the pre- and post-observation, it is evident that there was no statistically significant difference between treatment and control groups before the VMC was provided in the student communication mode of listening, listening-speaking, listening-reading-writing, speaking-listening, speaking, and listening-reading (see Table 7).

#### **Research Question Four**

Research question four was-- Do teachers' instructional practices in the domain of language content differ between the treatment and control groups due to the

intervention of virtual mentoring and coaching received by the treatment group? This research question consists of examining the results from the chi-square test that was applied to condition relative to language content. The results as observed by TBOP can be found in Table 1.

In total, there were 1619 observation clips collected for the pre-observation with 845 in control and 774 in treatment and 1615 observation clips collected for the post-observation with 851 in control and 764 in treatment. Results in the domain of language content indicate that there was not a statistically significant difference between treatment and control teachers ( $X^2 = 27.52, p < 0.001, \text{Cramer's } V = 0.131$ ). Table 8 demonstrates the frequency and percentage of time both treatment and control group teachers allocated to each individual language content by pre- and post-observation.

Table 8  
*Crosstabulation of Conditions and Language Content by Pre- and Post-observations*

Language Content	Condition							
	Pre-observation				Post-observation			
	Control		Treatment		Control		Treatment	
	(n, %)	(n, %)	(n, %)	(n, %)	(n, %)	(n, %)	(n, %)	(n, %)
Light cognitive	535	63.3	586	75.7	404	47.5	443	58.0
Dense cognitive	221	26.2	122	15.8	336	39.5	248	32.5
Academic routines	59	7.0	36	4.7	90	10.6	44	5.8
Social exchanges	30	3.6	30	3.9	21	2.5	29	3.8

*Note.* Numbers represent observed frequencies.

Moreover, frequency distribution data results indicate that teachers in the treatment group allocated 90.5% of their instructional time to instruction that involved both light and dense cognitive language content while teachers in the control group

allocated 87% of their instructional time to instruction that involved both light and dense cognitive language content. Specifically, treatment group teachers allocated more instructional time to instruction that involved light cognitive language content ( $X_2 = 1.796, p = 0.180$ ) but there was not a statistically significant difference from that of the teachers in the control group. Moreover, control group teachers allocated significantly more instructional time than treatment group teachers to instruction that involved dense cognitive language content ( $X_2 = 13.260, p < 0.001$ ). When comparing the data between the pre- and post-observations, both teachers in the treatment and control group showed an increase in the amount of time allocated to dense cognitive language content. Chi-square values applied to conditions related to language content by pre- and post-observation can be seen below in Table 9.

Table 9  
*Chi-square Comparison of Pre- and Post-observation in the Domain of Language Content*

Type of Language Content		Chi-square	N	<i>p</i> value
Light cognitive	pre	2.320	1121	0.128
	post	1.796	847	0.180
Dense cognitive	pre	28.574	343	<0.001*
	post	13.260	584	<0.001*
Academic routines	pre	5.568	95	0.018*
	post	15.791	134	<0.001*
Social exchanges	pre	0.000	60	1.000
	post	1.280	50	0.258

*Note.* Degrees of Freedom = 1 for all strategies. \* Indicates a *p* value <.05

When reviewing the data between pre- and post-observation, it is evident that there was no significant statistical difference between treatment and control groups

before the VMC was provided in light cognitive and social exchanges language content (see Table 9).

### **Research Question Five**

Research question five was-- How do treatment teachers perceive the quality of mentoring feedback? This research question involved descriptive statistics for the Likert scale survey questions as well as the qualitative reporting of the short answer response questions.

In reviewing the results from the five-point Likert scale questions, in which the following scale was used: “1” represented strongly disagree; “2” represented disagree; “3” represented undecided; “4” represented agree; and “5” represented strongly agree, it was determined that teachers in the treatment group experienced positive results due to the mentoring and coaching. All 18 treatment teachers completed the mentor survey at the end of the project. Table 10 shows descriptive statistics related to the six Likert scale questions from the mentor survey. In looking at the mean scores of the responses, the average response was in the “agree” to “strongly agree” range. Moreover, in reviewing individual results, the lowest rated questions had to do with the technology and the technology issues that were related to the virtual piece of the mentoring and coaching. The highest rated questions had specifically to do with the actual mentoring and coaching experience. In addition, this data also aligns with the short answer responses from the mentor survey.

Table 10  
*Descriptive Statistics for Multiple Choice Survey Questions*

	Mean	Median
The virtual mentoring met my expectations overall.	4.50	5
The mentor provided helpful and constructive feedback on my instruction.	4.72	5
The mentor was well versed and knowledgeable about the ESL/bilingual strategies.	4.82	5
I was able to improve my instruction as a result of the virtual mentoring.	4.67	5
The observation laptop and GoToMeeting were easy to use for the virtual mentoring.	4.06	4.5
Any technical issues were resolved quickly.	4.28	4

***Survey question--*** What was the best part of the virtual mentoring? This question required teachers to share what they liked best from the virtual mentoring experience they received as treatment participants in this project. In reviewing and coding the short answer responses, I found that seven of the eighteen participant responses were related to the theme of feedback. Overall, participants appreciated the feedback that was provided by their mentor and felt that this feedback helped them grow in their ability to better serve their ELLs. The following is a direct quote from one of the participant’s short answer response regarding what they felt was the best part of the virtual mentoring:

“Having a knowledgeable resource who could give unbiased feedback regarding my classroom instruction and how it correlates to ELL students.”

In addition, another participant commented the following regarding what they felt was the best part of the virtual mentoring:

“My mentor seemed experienced in ESL and provided good feedback and ideas. I enjoyed meeting with her.”

While another participant commented the following regarding what they felt was the best part of the virtual mentoring:

“I was able to receive targeted feedback on my teaching.”

The second most noted theme in the participant short answer responses regarding what they felt was the best part of the virtual mentoring had to do with being able to put a face to the name. Three of the 18 responses mentioned that they appreciated being able to visit face-to-face with their mentor, which was achieved virtually. One participant responded the following regarding the face-to-face time provided:

“Having the ability to see who we were speaking to through the use of WebEX.”

Another participant had the following short answer response to share regarding the virtual mentoring experience:

“The face to face Q and A with \_\_\_\_\_. She gave me some great test taking advice.”

Other themes that showed up in the participant short answer responses had to do with: ideas for improvement, affirming what they were already doing, the professionalism of the coaching, being provided the opportunity to reflect on their teaching, flexibility and convenience in time and place for meeting, as well as the feelings of enjoyment and encouragement.

*Survey question--* What is the most important thing that you learned? The response to this question required teachers to reflect on their teaching before and after their experience with the mentoring and coaching they received as participants in Project ETELL. Of the eighteen responses provided, eight of the participants stated that the most important thing that they learned had to do specifically with learning strategies for their ELLs. Four of the participants that responded with learning strategies for ELLs mentioned specific strategies such as: sentence starters, anchor charts, visuals, the use of cognates, conversations, and white boards. Below is a direct quote from one of the participants regarding the most important thing they learned:

“New strategies like use of cognates even with Pre-k students. Promote students side conversations during large group instructions, use of small boards to make students write during circle time.”

Another participant also mentioned a specific learning strategy in their response:

“How to use vocabulary, what students already know, and use of visuals.”

In addition, a different participant spoke about sentence starters by stating the following:

“I was reminded of the usefulness of sentence starts for ELLs and am making a poster for my room.”

Other participants did not mention specific learning strategies in their response but rather mentioned that they learned about tools like providing feedback, praise, and writing opportunities that could be helpful while teaching ELLs. One participant specifically spoke of how their mentor used strategies that the participant was already



implementing to help them connect with the strategies they were studying about in their coursework. Below is that participant's direct quote:

“It was really nice to have someone use what I was already doing to illustrate what each of the domains looked like. It gave a real-life example rather than simply reading about it in the book.”

While a common theme in the responses for this question had to do with learning strategies, other themes that were mentioned had to do with the language development process, L1 transfer, and language barriers that interfere with comprehension. One participant specifically mentioned the importance of understanding a student's cultural background, as quoted below:

“I realized how critical it is to have an appreciation and understanding of each students' cultural background and their individual situations.”

***Survey question--*** Do you have any suggestions for improving the virtual mentoring? In reviewing the responses for this question, it was evident that three themes surfaced. While three of the participants had no suggestions for improvement, the three themes that I was able to identify were issues related to the tablet the participants were issued; the mentor and mentoring session; along with guidance on videos, video management, and software. The first theme that surfaced was that the tablets posed issues related to size and their effectiveness during the mentoring sessions, as stated below:

“I was given the tablet for use with the program, but the screen is too small to use effectively for the mentoring sessions.”

Another theme for improvement that was mentioned in the participant responses had to do with the length of some of the mentoring sessions as well as the need to only assign one mentor to each participant. One participant, quoted below, mentioned that while they did recognize the value of the mentor, the sessions did go a little long.

“While I appreciate the thoroughness of my mentor and her clear desire to help me prepare for the exam, the sessions did tend to be on the lengthy side. I found myself struggling to remain engaged toward the end.”

Finally, participants would have liked more guidance on the video software as well as the variety of videos to submit. Additionally, the management of the videos seemed to be a concern for participants as seen quoted below from one of the participants:

“Perhaps provide more specific guidance on managing the recordings. There were several confusing points for my mentor because she was not privy to the materials I was using or what the overall lesson looked like.”

### **Summary**

The purpose of this study was to determine if the instruction delivered by teachers that received virtual mentoring and coaching as an intervention while seeking their ESL certification was positively impacted. More specifically I looked at whether they allocated their time differently in the domains of ESL strategies, activity structures, communication mode, and language content. Another component that I studied was the perception that treatment teachers had regarding the quality of the mentoring feedback they received while participating in this project. There was a control group and a treatment group in this study. Both groups submitted a 15-minute pre-observation video

along with a 15-minute post-observation video. These videos were coded using the validated classroom observation instrument, Transitional Bilingual Observation Protocol (TBOP). The data used for this study was taken from Project ETELL (Empowering Teachers of English Language Learners, Grant Award No. T365Z160229).

To achieve this purpose, I investigated and analyzed (a) if there was a difference in time allocation of ESL strategies between treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group; (b) if teachers' instructional practices in the domain of activity structure differed between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group; (c) if teachers' instructional practices in the domain of communication mode differed between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group; (d) if teachers' instructional practices in the domain of language content differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group; and (e) the perception treatment teachers had on the quality of mentoring feedback. I employed the chi-square test of homogeneity as an initial statistical analysis to determine if the frequency of occurrences of each category under every domain was homogenous across treatment and control groups. Once chi-square was calculated, in order to determine the strength of the relationship, I then used the statistic Cramer's V. In the following chapter, I will present the discussion of the findings, limitations, recommendations, and conclusions.

## **CHAPTER V**

### **DISCUSSION, LIMITATIONS, RECOMMENDATIONS, AND CONCLUSIONS**

According to a Consolidated State Performance Report provided through the National Clearinghouse for English Language Acquisition, in the 2013-14 school year in the state of Texas there were 24, 654 teachers working with ELLs. This number grew by 1,385 from the previous school year (USDE, 2018). In addition, the Consolidated State Performance Report also stated that based off of information from the 2013-14 school year, Texas would need an additional 13, 297 teachers to work with ELLs within the next five years. This number grew by almost 2,000 from the previous school year. These challenging demographic changes bring about a heightened need for teachers that are trained and knowledgeable on effective instructional strategies for ELLs. Smith (2014) found that without the necessary specialized training required for working with ELLs, teachers will not be well prepared to meet the needs of these children. Due to the continued dramatic need for teachers of English language learners in U.S. schools the need for research on effective pedagogical practices for the teaching of ELLs is in high demand (Starkman, 2008). These numbers lead to the conclusion that not only is there a need for teachers that are prepared to effectively educate ELLs but also of continued professional development opportunities via mentoring and coaching for teachers of ELLs. With the already existing shortage of teachers of ELLs, it is even more difficult to find well-trained and proficient mentors to provide the needed mentoring and coaching.

In terms of professional development, researchers Garet, Porter, Desimone, Birman, and Yoon (2001) found that teachers benefit from active learning and the integration into their daily instructional routines. Additionally, researchers Wang and Odell found that effective mentors were those that treat novice teachers as active learners and assist novice teachers with the construction and reconstruction of effective pedagogical practices as opposed to simply offering suggestions, emotional support, providing curriculum resources, and supply procedural information (Wang & Odell, 2002). Furthermore, Darling-Hammond (2006) found that productive professional development should include opportunities for teachers to engage in analysis and application of new learning as well as reflection on and connection with and to the students teachers instruct. Project ETELL seeks to do just that through the virtual mentoring and coaching provided. Participating teachers were randomly assigned to treatment or control group upon registration. While all teachers received virtual professional development, also known as online preparation and professional development, coursework geared towards the area in which they were wishing to achieve certification in, only those teachers participating in the treatment group received the virtual mentoring and coaching. Of those that actually completed the course, 20 were in the control group and 18 were in the treatment group. The results of this study were examined using the chi-square test of homogeneity as an initial statistical analysis to determine if the frequency of occurrences of each category under every domain was homogenous across treatment and control groups. Once chi-square was calculated, in order to determine the strength of the relationship, I then used the statistic Cramer's V.

Perhaps my study can inform districts and teacher preparation programs on the benefits and positive results of virtual mentoring and coaching. While the main purpose and goal of Project ETELL is that participants be better prepared to work with linguistically diverse students, in order to do so, teachers must be Bilingual and/or ESL certified in the state of Texas. Additionally, upon completion of and passing of their certification exam, participants qualify to receive reimbursement for the out of pocket exam cost. Participants are given up to a year to take and pass the exam, in order to qualify for reimbursement. After reviewing the results of those participants that we know of attempted the ESL certification exam, all participants in the treatment group passed while of those in the control group, one did not pass. When reviewing the passing scores, the treatment group participants that attempted the ESL certification exam reported higher passing scores ( $p < 0.172$ ).

The data from my study were guided by five research questions. Below is a list of the discussions in order by research question. The discussions are reflective of the literature review and data analysis from previous chapters.

## **Discussion**

### **Research Question 1**

Is there a difference in time allocation of ESL strategies between treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?

A chi-square test of homogeneity as initial statistical analysis was used to determine if the frequency of occurrences of each category under every domain is

homogenous across treatment and control groups. Chi-square was calculated for both the pre-observations and the post-observations to determine if there wasn't already a significant difference between treatment and control groups. I then compared the difference found to that of the pre-observations to determine if that difference grew after the intervention received by the treatment teachers. This was then followed by the statistic Cramer's V. Cohen's (1988) recommended cutoff values were used for reporting and interpreting the effect size (small effect = 0.2; medium effect = 0.5; large effect = 0.8).

When looking at differences between treatment and control groups from pre- to post-observation, I found that there was a statistically significant difference between treatment and control groups in the domains of ESL strategies. When further examining each strategy, the data showed that treatment group teachers allocated significantly more instructional time in two strategies: visual scaffolding and advanced organizers while teachers in the control group significantly allocated more instructional time in the academic language scaffolding strategy. Upon further examination of the pre-observation data, specifically at visual scaffolding, advanced organizers, and academic language scaffolding, there was no statistically significant difference between treatment and control groups. After the treatment group participants received the virtual mentoring and coaching, data show that there is a statistically significant difference between treatment and control in the ESL strategies of visual scaffolding and advanced organizers. Results indicate that visual scaffolding was the most used strategy by both treatment and control group teachers and treatment teachers significantly used this

strategy more often than the control teachers. Treatment group teachers also allocated more instructional time in the use of advanced organizers. Moreover, control group teachers allocated significantly more instructional time in academic language scaffolding. All participants received the VPD which placed a strong emphasis on the use of visual scaffolding, advanced organizers, and academic language scaffolding as tools to help ELLs make meaning of content provided in their second language. The VPD along with the virtual mentoring and coaching received helps explain why there was an increase in the amount of time allocated to strategies such as visual scaffolding, advanced organizers, and academic language scaffolding.

### **Research Question 2**

Do teachers' instructional practices in the domain of activity structure differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?

When looking at differences between treatment and control groups from pre- to post-observation, I found that there was a statistically significant difference between treatment and control groups in the domains of activity structures. In addition, results indicate that teachers in the treatment group allocated more instructional time in lecture/listen, ask/answer, observe/cooperate, and interact. Results also indicate that teachers in the treatment group allocated 79.5% of their time to lecture/listen, ask/answer, direct/perform, lead/perform, and observe/perform. To further specify, compared with teachers in the control group, treatment teachers allocated significantly more instructional time in lecture/listen. In addition, treatment teachers allocated



significantly more instructional time to ask/answer. Teachers in the treatment group also allocated significantly more instructional time in observe/cooperate. Moreover, treatment teachers allocated significantly more instructional time in the structure of interact. On the other hand, teachers in the control group allocated significantly more instructional time in direct/perform. The data further show that control teachers allocated significantly more instructional time to direct/listen. The data also revealed that control group teachers allocated significantly more instructional time to evaluate/perform. Moreover, control group teachers allocated significantly more instructional time to answer/ask. Finally, control group teachers allocated significantly more instructional time to ask/perform.

When comparing the data between the pre- and post-observations, treatment group teachers showed an increase in the amount of time allocated to the activity structures of ask/answer, direct/perform, observe/perform, and observe/cooperate. Moreover, control group teachers showed an increase in the amount of time allocated to the activity structures of ask/answer, direct/perform, lead/perform, observe/perform, observe/cooperate, evaluate/perform, and answer/ask. The increase in time allocation on the part of treatment group teachers for specific activity structures can be attributed to the VMC they received through Project ETELL. The increase in time allocation to specific activity structures by the control group teachers indicates that the feedback that was provided through the VPD instructors was effective in assisting with the learning of effective instructional strategies for ELLs.

### **Research Question 3**

Do teachers' instructional practices in the domain of communication mode differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?

The review of results in the domain of communication mode show that there is a statistically significant difference between treatment and control teachers. Furthermore, the data show that students in both the treatment and the control group spent the majority of their instructional time engaging in more than one communication mode. Results also show that the students of teachers in the treatment group allocated 79.3% of their time to listening, listening-speaking, listening-writing, and listening-reading-writing. These results are in accordance with what we would want to see in classrooms that contain ELLs. According to Cloud, Genesee, and Hamayan (2009), literacy is the ability to read and write fluently and accurately and literacy development is an integrated process. While treatment teachers did allocate more instructional time to listening, listening-speaking, and listening-writing, there was a not a statistically significant difference from that of the control group. On the other hand, the data did show that treatment teachers allocated significantly more time to the communication mode of listening-reading-speaking. Based on these results, students of teachers in the treatment group were observed to use listening-reading-writing significantly more frequently than the students of teachers in the control group. Students of teachers in the control group were observed to use speaking-listening, writing, speaking, listening-reading, and reading-listening more frequently than the students of teachers in the treatment group.

When comparing the data between the pre- and post-observations, students of teachers in the treatment group showed an increase in the amount of time spent in the communication mode of listening, listening-writing, writing-speaking, and writing. Moreover, between pre- and post-observations, students of teachers in the control group showed an increase in the amount of time spent in the communication mode of listening, speaking-listening, writing, speaking, listening-reading, reading-listening, writing-listening, and reading-speaking. The data indicate that both treatment and control group increased the amount of time they engaged students in the expressive language domains of speaking and writing, which ties to the VMC received by the treatment group as well as the instruction and discussion board feedback provided by the VPD. According to Krashen's Input Hypothesis (1996), language is acquired through the understanding of input, which involves listening and reading. Output, which involves speaking and writing, also has an impact or influence on second language acquisition but does so indirectly by allowing the acquirer to control the amount and quality of the input. Students from both treatment and control groups stand to grow in their acquisition of English due to the feedback, learning, and guidance provided through Project ETELL.

Additionally, the data show a connection between teachers' instructional activities and students' corresponding communication modes. For example, in the domain of activity structures, it was observed that lecture/listen (see Table 4) was the most frequently used instructional practice in the classroom, while in the domain of students' communication mode, it was observed that listening (see Table 6) is the most frequently used communication mode by students. A similar pattern was found in the

second and third most frequently used categories in each domain, e.g., ask/answer corresponding to listening-speaking and direct/perform corresponding to listening-writing. This finding indicates that systematic classroom observation plays a crucial role in documenting multiple dimensions of classroom activities. These dimensions are interdependent rather than of independent of each other, which suggests teacher pedagogy should never be evaluated from a single domain. To comprehensively and reliably evaluate teacher instructional quality; researchers, practitioners, and administrators need to adopt a multi-dimensional classroom observation instrument (e.g., TBOP) to record the complex dynamics in the classroom.

#### **Research Question 4**

Do teachers' instructional practices in the domain of language content differ between the treatment and control groups due to the intervention of virtual mentoring and coaching received by the treatment group?

Results in the domain of language content indicate that there was not a statistically significant difference between treatment and control teachers. Moreover, results indicate that teachers in the treatment group allocated 90.5% of their instructional time to instruction that involved both light and dense cognitive language content while teachers in the control group allocated 87% of their instructional time to instruction that involved both light and dense cognitive language content. Specifically, treatment group teachers allocated more instructional time to instruction that involved light cognitive language content. These are positive findings that correlate with what the VPD and the VMC instructors and mentors provided feedback, as they relate to the importance of

exposing ELLs to cognitive academic language content, which includes light and dense cognitive language content. However, there was not a statistically significant difference from that of the teachers in the control group. Moreover, control group teachers allocated significantly more instructional time than treatment group teachers to instruction that involved dense cognitive language content.

Furthermore, when comparing the data between the pre- and post-observations, both teachers in the treatment and control group showed an increase in the amount of time allocated to dense cognitive language content. These findings indicate that teachers in both treatment and control groups acquired new learning on the effective instruction of ELLs engaged. Additionally, that there was not a statistically significant difference between treatment and control group participants could be related to the teaching assignments of the participants. In review of these assignments (see Figure 8), fourteen of the eighteen treatment group teachers and fourteen of the twenty control group teachers taught in grades six through twelve. These grade levels tend to engage in more content specific instruction that may require observation coders to be more versed in the content in order to make a much clearer distinction between light and dense cognitive language content. This may have played a role in why there was no statistically significant difference between treatment and control groups in terms of language content.

### **Research Question 5**

How do treatment teachers perceive the quality of mentoring feedback?

In reviewing the results from the five-point Likert scale questions in conjunction with the short answer response questions, it was determined that teachers in the treatment group experienced positive results due to the mentoring and coaching. In looking at the mean scores of the responses, the average response was in the “agree” to “strongly agree” range. Moreover, in reviewing individual results, the lowest rated questions had to do with the technology and the technology issues that were related to the virtual piece of the mentoring and coaching. The highest rated questions had specifically to do with the actual mentoring and coaching experience. In addition, this data also aligns with the short answer responses from the mentor survey. The results from the mentor survey questions that were directly related to the virtual mentoring and coaching questions are in alignment with research conducted by Ingersoll and Strong (2011) that indicates that support and assistance have a positive impact on teacher classroom instructional practices. The perception of participants towards the VMC was positive and also in alignment with the results from research conducted by Tong, Irby, and Lara-Alecio (2015) on VPD and teachers of ELLs. Participants responded positively regarding their experience with the virtual mentoring and coaching they received and expressed the professionalism with which their mentors portrayed in their mentoring sessions. Of the 18 participants that responded, only one participant expressed disagreement with the virtual mentoring and coaching received. The question that had the lowest mean had to do with the technology piece of the project. It was evident that a couple of participants struggled with both the tablet provided and the recording and

storage of videos. Some of the struggles regarding the video management may be related to the technological capabilities of the district and may be unavoidable.

### **Limitations**

The main limitation in utilizing data from Project ETELL is that the length of time for the intervention of mentoring and coaching was four weeks. This limited amount of time may or may not be able to provide enough information regarding the full results of teacher learning as well as the sustainability of the participants' pedagogical practices. Results might be more evident if participants received virtual mentoring and coaching for a longer period of time. That being said, recommendations for future research include more long-term follow-up studies to advance our understanding of effective virtual mentoring and coaching on the pedagogical practices of teachers of English language learners. Moreover, there was an initial difference between treatment and control groups in that the treatment group was already doing better than the control group. This initial difference can be attributed to the small sample size. Regardless of the initial difference, the purpose was to evaluate the impact of the VMC which involved analyzing the post-observation data. In addition, in order to win the public's attention, it would be beneficial to look into conducting studies that link the virtual mentoring and coaching to improved teacher performance along with student achievement. Since the virtual piece of the mentoring and coaching is a big component in that it allows for flexibility and convenience, more care should be taken in ensuring that the technology used is user friendly and that clear expectations for use are provided based on the levels of technology experience participants have as they begin the project. Finally, variables

such as whether teachers are in State of Texas Assessments of Academic Readiness (STAAR) tested grade levels, the amount of professional development provided by the district, as well as personal factors could prevent participants from completing all course expectations.

### **Conclusion and Recommendations**

Between the school years 2007-08 and 2017-18, the enrollment of students identified as English language learners has increased by 239,940 students which equates to a 30.9% increase (TEA, 2018a). In the 2017-18 school year students participating in bilingual/ESL programs made up 18.8% of the overall student population in Texas public schools. While the number of ELLs in Texas public schools may be growing, so is their dropout rate. The graduation rate of ELLs in Texas public schools in the school year 2017-18 was 75.5% while the state average graduation rate was at 89.7% (TEA, 2018b). Additionally, ELLs in Texas public schools have a dropout rate of 14.2% while the state average dropout rate is at 5.9%. This raises the question regarding what the state is doing to ensure that teachers are better prepared to instruct the increasingly impactful demographic group of ELLs that are enrolled and are continuing to enroll in Texas public schools. Lowenhaupt and Reeves (2015) found that there is a scarcity of resources and a need to build the capacity of teachers at schools that are seeing an influx of immigrant students.

Smith (2014) mentions that in order to produce more ELLs that are academically successful in school, we must provide them with teachers that have a firm research-based foundation in ELL instruction. In order to achieve this purpose, teachers of ELLs



require specialized training for how to work with ELLs. These demographic changes along with the research speak to a need for programs that can address the needs incoming and experienced teachers have regarding how to better educate this ever-growing group of students. Teachers do not work in isolation and therefore must be provided with opportunities to collaborate with fellow teachers of English language learners. With the increasing demands placed on teachers, online professional development can assist teachers in acquiring the professional development and mentoring and coaching they need to better serve their ELLs. Not only does online professional development provide more flexibility and greater choice as to when to participate but it also provides professional development opportunities for teachers that teach in remote or small school districts that may not have the means to achieve this purpose (Russell, Carey, Kleiman, & Venable, 2009). Moreover, this is supported by research conducted by McCann, Rodesiler, and Tripp (2012) in which they found that mentors of beginning teachers should take advantage of the emerging interactive online technologies when meeting with their mentees in an effort to accommodate for the increasing demands of beginning teachers. Additionally, part of a teacher's professional development must include training on how to reflect on what was taught, which involves analyzing lessons regularly so that teachers can adjust their lessons to be able to better meet the academic and linguistic needs of their students. Finally, strong professional development is also supported by modeling and coaching. According to Trifiro (2017), teachers that participate in professional development opportunities that incorporate active learning and allow them to reflect on their own instructional context tend to have

more enhanced learning experiences. In a critical review of the literature, researchers Wang, Odell, and Schwille (2008) found that beginning teachers prefer lesson observation and lesson-based discussion as part of their professional development. In addition, researchers Hwang & Vrongistrinos (2012) reference that beginning teachers can benefit greatly from a mentoring system that is supportive and nonjudgmental. Hwang & Vrongistrinos go on to say that by having an online community, mentee and mentor teachers are able to connect, collaborate and reflect with each other as if they were present together in one place (2012). With the many demands that are already placed on teachers, it is imperative that professional development program developers consider a more flexible means to providing teachers with the necessary training they need. Research conducted by Smith and Ingersoll (2004) found that teachers that received mentors from the same subject field and planned and collaborated with them, were less likely to leave the teaching profession. Moreover, researcher Reyes (2002), also found that teachers of ELLs benefit from planning for their own learning as well as identifying their own needs. By allowing teachers to reflect on their instruction in order to determine their deficits and identify their learning needs, Reyes found that teachers were more effective in meeting the needs of their ELLs.

Results from my study show that teachers of ELLs that receive virtual mentoring and coaching do allocate their instructional time differently in the domains of ESL strategies, activity structures, and students' mode of communication. Results from the mentor surveys that the participants of Project ETELL completed support research on the benefit of online professional development and showed that teachers appreciated the

ability to reflect on their teaching with a mentor as well as the flexibility of being able to do so when it was convenient to them. The results from my study have implications for future virtual mentoring and coaching along with virtual professional development for teachers of ELLs. Through virtual mentoring and coaching, teachers of ELLs, regardless of whether they come from rural or urban districts, can be provided with the effective instructional strategies needed to instruct the ever-growing population of ELLs. Further research is needed to better support the benefits virtual mentoring and coaching have on teachers of ELLs as well as the academic success of ELLs. Through the further development of professional development programs that combine a virtual platform along with effective instructional strategies for working with ELLs, observations, and mentoring and coaching, ELLs stand a chance at being better prepared to face the challenges of acquiring both content and language as well as be better equipped to compete in this global economy through the effective instructional delivery of the teachers that serve them.

## REFERENCES

- Bruce, K. L., Lara-Alecio, R., Parker, R. I., Hasbrouck, J. E., Weaver, L., & Irby, B. (1997). Inside transitional bilingual classrooms: Accurately describing the language learning process. *Bilingual Research Journal*, 21(2-3), 123-145.
- Cabell, S. Q., & Downer, J. T. (2011). Improving preschoolers' language and literacy skills through web-mediated professional development. *NHSA Dialog*, 14(4), 316-322.
- Casey, P., Dunlap, K., Brister, H., Davidson, M., & Starrett, T. M. (2011). Sink or swim? Throw us a life jacket! Novice alternatively certified bilingual and special education teachers deserve options. *Education and Urban Society*, 45(3), 287-306.
- Chien, C. (2013). Analysis of an instructional coach's role as elementary school language teachers' professional developer. *Current Issues in Education*, 16(1). Retrieved from <http://cie.asu.edu/ojs/index.php/cieatasu/article/view/1004>
- Choi, D. S., & Morrison, P. (2014). Learning to get it right: Understanding change processes in professional development for teachers of English learners. *Professional Development in Education*, 40(3), 416-435.
- Cloud, N., Genesee, F., & Hamayan, E. (2009). *Literacy instruction for English language learners: A teacher's guide to research-based practices*. Portsmouth: Heinemann.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillside, NJ: Lawrence Earlbaum Associates.
- Collier, V., & Thomas, W. (2004). The astounding effectiveness of dual language education for all. *NABE Journal of Research and Practice*, 2(1), 1-20.
- Collins, L. J., & Liang, X. (2014). Task relevance in the design of online professional development for teachers of ELLs: A Q methodology study. *Turkish of Online Journal of Distance Education*, 15(3), 268-281.
- Corcoran, R. P., Ross, S. M., Irby, B. J., Tong, F., Lara-Alecio, R., & Guerrero, C. (2014). Ella-V and technology usage in an English language and literacy acquisition validation randomized controlled trial study. *World Journal on Educational Technology*, 6(3), 291-307.
- Cox, M. K., & Key, C. H. (1993). Post hoc pair-wise comparisons for the chi-square test of homogeneity of proportions. *Educational and Psychological Measurement*, 53, 951-962.
- Cummins, J. (1986). Empowering minority students: A framework for intervention. *Harvard Education Review*, 56(1), 18-35.
- Cummins, J. (2000). *Language, power, and pedagogy: Bilingual children in the crossfire*. Clevedon, England: Multilingual Matters.
- Darling-Hammond, L. (2006). Constructing 21<sup>st</sup>-century teacher education. *Journal of Teacher Education*, 57(3), 300-314.
- Desimone, L. M., & Pak, K. (2017). Instructional coaching as high-quality professional development. *Theory Into Practice*, 56(1), 3-12.

- Ehri, L. C., & Flugman, B. (2018). Mentoring teachers in systematic phonics instruction: Effectiveness of an intensive year-long program for kindergarten through 3<sup>rd</sup> grade teachers and their students. *Reading and Writing, 31*(2), 425-456.
- Elfers, A. M., & Stritikus, T. (2014). How School and District Leaders Support Classroom Teachers' Work with English Language Learners. *Educational Administration Quarterly, 50*(2), 305-344.
- Fishman, B., Konstantopoulos, S., Kubitskey, B. W., Vath, R., Park, G., Johnson, H., & Edelson, D. C. (2013). Comparing the impact of online and face-to-face professional development on the context of curriculum implementation. *Journal of Teacher Education, 64*(5), 426-438.
- Franco-Fuenmayor, S. E., Padrón, Y., & Waxman, H. C. (2015). Investigating bilingual/ESL teachers' knowledge and professional development opportunities in a large suburban school district in Texas. *Bilingual Research Journal, 38*(3), 336-352.
- Garcia, E., Arias, M. B., Harris-Murri, N. J., & Serna, C. (2010). Developing responsive teachers: A challenge for a demographic reality. *Journal of Teacher Education, 61*(1-2), 132-142.
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915-945.

- Green, J. D., Gonzalez, E. M., Lopez-Velasquez, A. M., & Howard, E. R. (2013). Hands-on professional development: Middle school teachers' experiences with a curriculum intervention research project. *Middle School Journal, 45*(2), 27-32.
- Haley, M., & Austin, T.Y. (2012). *Content-Based Second Language Teaching and Learning: An Interactive Approach* (2<sup>nd</sup> ed.). Boston: Pearson.
- Haneda, M., Teemant, A., & Sherman, B. (2017). Instructional coaching through dialogic interaction: Helping a teacher to become agentive in her practice. *Language and Education, 31*(1), 46-64.
- Hardin, B. J., Lower, J. K., Smallwood, G. R., Chakravarthi, S., Li, L., & Jordan, C. (2010). Teacher, families, and communities supporting English language learners in inclusive pre-kindergartens: An evaluation of a professional development model. *Journal of Early Childhood Teacher Education, 31*, 20-36.
- Hwang, Y. S., & Vrongistinos, K. (2012). Using Blackboard and Skype for mentoring beginning teachers. *American Journal of Distance Education, 26*(3), 172-179.
- Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research, 81*(2), 201-233.
- Ingersoll, R. M., & Strong, M. (2012). What the research tells us about the impact of induction and mentoring programs for beginning teachers. *National Society for the Study of Education, 111*(2), 466-490.

- Irby, B. J., Sutton-Jones, K., Lara-Alecio, R., & Tong, F. (2017). From MOOCs to MOOPILs: Pushing the boundaries of virtual professional development and learning for teachers. *International Journal of Information Communication Technologies and Human Development*, 9(1), 34-47.
- Khan, K. S., Kunz, R., Kleijnen, J., & Antes, G. (2003). Five steps to conducting a systematic review. *Journal of the Royal Society of Medicine*, 96, 118-121.
- Kraft, M. A., Blazar, D., & Hogan, D. (2018). The effect of teacher coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research*, 88(4), 547-588.
- Krashen, S. (1996). *Under attack: The case against bilingual education*. Culver City, CA: Language Education Associates.
- Landry, S. H., Anthony, J. L., Swank, P. R., & Monseque-Bailey, P. (2009). Effectiveness of comprehensive professional development for teachers of at-risk preschoolers. *Journal of Educational Psychology*, 101(2), 448-465.
- Lara-Alecio, R., & Parker, R. (1994). A pedagogical model for transitional English bilingual classrooms. *Bilingual Research Journal*, 18(3&4), 119-133.  
doi:10.1080/15235882.1994.10162671
- Lara-Alecio, R., Tong, F., Irby, B. J., & Matthis, P. (2009). Teachers' pedagogical differences during ESL block among bilingual and English-immersion kindergarten classrooms in a randomized trial study. *Bilingual Research Journal*, 32(1), 77-100.



- Liberati A., Altman D. G., Tetzlaff J., Mulrow C., Gøtzsche P. C., et al. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *The BMJ*, Retrieved from <https://www.bmj.com/content/339/bmj.b2700.full?view=long&pmid=19622552>
- Lowenhaupt, R., & Reeves, T. (2015). Toward a theory of school capacity in new immigrant destinations: Instructional and organizational considerations. *Leadership and Policy in Schools, 14*, 308-340.
- Lucas, T., & Grinberg, J. (2008). Responding to the linguistic reality of mainstream classrooms: Preparing all teachers to teach English language learners. In M. Cochran-Smith, S. Feiman-Nemser, & D. J. McIntyre (Eds.), *Handbook of research on teacher education* (3<sup>rd</sup> ed., pp. 606-636). New York: Routledge.
- Matsumura, L. C., Garnier, H. E., & Spybrook, J. (2013). Literacy coaching to improve student reading achievement: A multi-level mediation model. *Learning and Instruction, 25*, 35-48.
- McCann, T. M., Rodesiler, L., & Tripp, L. (2012). Mentoring matters: Mentoring preservice and early-career English teachers in online environments. *The English Journal, 102*(2), 134-137.

- McFarland, J., Hussar, B., de Brey, C., Snyder, T., Wang, X., Wilkinson-Flicker, S., ...  
Hinz, S. (2017). *The Condition of Education 2017* (NCES 2017-144). U.S.  
Department of Education. Washington, DC: National Center for Education  
Statistics. Retrieved from  
<https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2017144>
- Penner-Williams, J., Díaz, E. I., & Worthen, D. G. (2017). PLCs: Key PD component  
in learning transfer for teachers of English learners. *Teaching and Teacher  
Education, 65*, 215-229.
- Powell, R., Cantrell, S. C., Malo-Juvera, V., & Correll, P. (2016). Operationalizing  
culturally responsive instruction: Preliminary findings of CRIOP research.  
*Teachers College Record, 118*, 1-46.
- Reyes, L. O. (2002). Professional development in a bilingual adult learning community:  
The case of P. S. 24. *Bilingual Research Journal, 26*(1), 181-192.
- Russell, M., Carey, R., Kleiman, G., & Venable, J. D. (2009). Face-to-face and online  
professional development for mathematics teachers: A comparative study.  
*Journal of Asynchronous Learning Networks, 13*(2), 71-87.
- Smith, T. M., & Ingersoll, R. M. (2004). What are the effects of induction and  
mentoring on beginning teacher turnover? *American Educational Research  
Journal, 41*(3), 681-714.
- Smith, S. U. (2014). Frameworks shaping an online professional development program  
for K-12 teachers of ELLs: Toward supporting the sharing of ideas for  
empowering classroom teachers online. *TESOL Journal, 5*(3), 444-464.

- Song, K. H. (2016). Systematic professional development training and its impact on teachers' attitudes toward ELLs: SIOP and guided coaching. *TESOL Journal*, 7(4), 767-799.
- Starkman, N. (2008). ELL spoken here. *T. H. E. Journal*, 35(4), 32-38.
- Teemant, A., & Hausman, C. S. (2013). The relationship of teacher use of critical sociocultural practices with student achievement. *Critical Education*, 4(4). Retrieved from <http://ojs.library.ubc.ca/index.php/criticaled/article/view/182434>
- Tellez, K., & Varghese, M. (2013). Teachers and intellectuals and advocates: Professional development for bilingual education teachers. *Theory Into Practice*, 52(2), 128-135.
- Texas Education Agency. (2017). *2016 comprehensive biennial report on Texas public schools* (Document No. GE17 601 07). Austin, TX: Author.
- Texas Education Agency. (2018a). *Enrollment in Texas public schools, 2017-18*. (Document No. GE18 601 06). Austin, TX: Author.
- Texas Education Agency (2018b). *Secondary school completion and dropouts in Texas public schools, 2016-17*. (Document No. GE19 601 01). Austin, TX: Author.
- Texas Education Agency (2018c). Texas academic performance report 2017-2018 state STAAR performance. Retrieved from [https://rptsvr1.tea.texas.gov/cgi/sas/broker?\\_service=marykay&year4=2018&year2=18&\\_debug=0&single=N&batch=N&app=PUBLIC&title=2018+Texas+Academic+Performance+Reports&\\_program=perf rept.perfmast.sas&ptype=H&level=state&search=campname&namenum=&prgopt=2018%2F](https://rptsvr1.tea.texas.gov/cgi/sas/broker?_service=marykay&year4=2018&year2=18&_debug=0&single=N&batch=N&app=PUBLIC&title=2018+Texas+Academic+Performance+Reports&_program=perf rept.perfmast.sas&ptype=H&level=state&search=campname&namenum=&prgopt=2018%2F)

- Texas Education Agency (2018e). Texas Examinations of Educator Standards (TExES) Program Preparation Manual: English as a Second Language Supplemental (154). Retrieved from <http://www.tx.nesinc.com/Content/Docs/154PrepManual.pdf>
- Tong, F., Irby, B. J., & Lara-Alecio, R. (2015). Teachers' perception of virtual professional development in a randomized control trial. *International Journal of New Technology and Research*, 1(7), 58-61.
- Tong, F., Luo, W., Irby, B., Lara-Alecio, R., & Rivera, H. (2015). Investigating the impact of professional development of teachers' instructional time and English learners' language development: a multilevel cross-classified approach. *International Journal of Bilingual Education and Bilingualism*, 1-22. doi:10.1080/13670050.2015.1051509
- Trifiro, A. J. (2017). Transforming teachers' practice through professional development: Culturally sustaining pedagogical changes in support of English language learners. *Culturally Sustaining and Revitalizing Pedagogies*, 29, 269-287.
- U.S. Department of Education, Office of English Language Acquisition, Language Enhancement, and Academic Achievement for Limited English Proficient Students, *The Biennial Report to Congress on the Implementation of the Title III State Formula Grant Program, School Years 12 – 14*, Washington, D.C., 2018.
- Wang, J., & Odell, S. J. (2002). Mentored learning to teach according to standards based reform: A critical review. *Review of Educational Research*, 72(3), 481-546.

Wang, J., Odell, S. J., & Schwille, S. A. (2008). Effects of teacher induction on beginning teachers' teaching: A critical review of the literature. *Journal of Teacher Education*, 59(2), 132-152.

**APPENDIX A**

**TBOP CODE DESCRIPTIONS**

<b>Categories</b>	<b>Code</b>	<b>Description</b>
<b>Strategy</b>		
<b>Questioning Strategies</b>	1 QS	Developing and asking leveled questions that include <i>two or more</i> of the following:
		<b>Student Involvement:</b>
		➤ Active Participation AND
		<ul style="list-style-type: none"> <li>• Simultaneity – Students answer simultaneously vs. one or two students responding (pair share, choral response – students respond to a question from the teachers – all students respond together, visual cues – thumbs up/down, write/illustrate, timed thinking).</li> </ul>
		<ul style="list-style-type: none"> <li>• Randomness – after simultaneity strategy use (Popsicle sticks or other) to call on students randomly, rather than selecting students who raise their hands).</li> </ul>
		<b>Leveled Questioning:</b>
		<ul style="list-style-type: none"> <li>• Cognitive verbs in questions (identify, list, explain, compare, ...)</li> <li>• Wait Time Plus Coaching – giving wait time, reword question, offer clues, give time for students to conference with peers, explain reasonable answer (scaffolding)</li> </ul>
		<b>Cognitive Feedback:</b>
<ul style="list-style-type: none"> <li>• Cognitive Terms in Praise Statements – “Nice job recalling!”, “Great job comparing!”, “Excellent use of identifying”</li> </ul>		
<b>Academic Language Scaffolding</b>	2 ALS	Teachers support student use of academic language (within New Content/Reviewing, Not Social) through:
		<ul style="list-style-type: none"> <li>• Identifying and directly teaching academic vocabulary</li> </ul>
		<ul style="list-style-type: none"> <li>• Teaching multiple meanings and contexts</li> </ul>
		<ul style="list-style-type: none"> <li>• Modeling use of academic vocabulary</li> </ul>
		<ul style="list-style-type: none"> <li>• Repeating/Restating ideas using academic vocabulary</li> </ul>
<ul style="list-style-type: none"> <li>• Requiring student responses to be in complete sentences</li> </ul>		

		<ul style="list-style-type: none"> <li>• Enunciating clearly</li> </ul>
<b>Visual Scaffolding</b>	3 VS	Language is made more understandable by the display of drawings or photographs that allow students to hear English words and connect them to the visual images being displayed:
		<ul style="list-style-type: none"> <li>• Vocabulary cards, Power Point Presentations, digital clips, textbook illustrations, inquiry activities</li> </ul>
		<ul style="list-style-type: none"> <li>• Teacher use of fingers to count or symbolize sounds</li> </ul>
<b>Manipulatives and Realia</b>	4 MR	Vocabulary and concepts are connected to real life by providing hands on materials, giving students opportunities to use senses in learning (see, feel, hear, smell object) even if working in pairs/small groups
		<ul style="list-style-type: none"> <li>• Develop skills using manipulatives and models</li> </ul>
		<ul style="list-style-type: none"> <li>• Student using fingers to count or symbolize sounds</li> </ul>
		<ul style="list-style-type: none"> <li>• Construct something</li> </ul>
<b>Advanced Organizers</b>	5 AO	Information is made comprehensible as students make connections between their existing knowledge and new information:
		<ul style="list-style-type: none"> <li>• Venn Diagram, flow chart, concept map, attribute charting</li> </ul>
<b>Collaborative or Cooperative Learning</b>	6 CG	Opportunities for verbal interaction and support while learning interpersonal and interaction skills
		<ul style="list-style-type: none"> <li>• Cooperative learning students work together (with assigned roles) to accomplish a group task</li> </ul>
		<ul style="list-style-type: none"> <li>• Partner work (Think-Pair-Share)</li> <li>• Partner reading</li> </ul>
<b>Content Connections</b>	7 CC	Teaching reading and writing through another content (i.e. integrating reading skills into content)
<b>L1 Clarification</b>	8 LC	Supporting second language development with L1 (Spanish) clarifications. (Not to be confused with code-switching):
		<ul style="list-style-type: none"> <li>• Identify cognates</li> </ul>
		<ul style="list-style-type: none"> <li>• Provide brief clarifications in Spanish for challenging concepts</li> </ul>
<b>Integrate Technology</b>	9 IT	Supporting concept development through technology:

		<ul style="list-style-type: none"> <li>Educational software (demonstrations, simulations) that deepens understanding of content topic</li> <li>Student use of technology (computer, internet, email, iPod, digital camera, SMART board)</li> </ul>
<b>Non Academic</b>	10 NA	<ul style="list-style-type: none"> <li>No discernable strategy identified</li> </ul>
<b>Curriculum Area</b>		
	1 read/lit	Reading / literacy
	2 math	Math
	3 spell	Spelling
	4 hand	Handwriting
	5 science	Science
	6 soc sci	Social sciences / social studies
	7 health	Health
	8 PE	PE
	9 music	Music
	10 art	Art
	11 lang	Language
	12 compos	Composition
	13 non-ac	Non academic
	14 ESL	English as Second Language
<b>Physical Group</b>		
	1 TC	Total class (whole group)
	2 LG	Large group
	3 SG	Small group
	4 pairs	2 students working together
	5 single	1 student
<b>Activity Structure</b>		
Teacher Behaviors	Lec	<b>Lecture</b> - teacher lectures instructing students about content/subject matter/skills, presents info verbally or on chart, overhead, or AV materials, explains how something works
	Dir	<b>Directs</b> -teacher gives directions, orders, directives, procedures to follow for academic assignments
	Dem	<b>Demonstrates</b> -teacher demonstrates or models desired student academic performance, demonstration/modeling something students will later perform themselves
	Led	<b>Leads</b> -teacher leads students through a desired performance while students perform the task with or slightly behind the teacher



	Ask	<b>Asks</b> -teacher verbally asks questions related to content/subject matter/skills; asks/directs students to perform a content/subject matter/skills related task. Teacher's behavior during a teacher-led/controlled discussion.
	Ev	<b>Evaluates</b> -any overt teacher behavior which is part of a judgment of correctness or quality of a content/subject matter/skills response or performance, including teacher giving academic feedback to students and making verbal corrections
	Ans	<b>Answers</b> -verbally answering content/subject matter/skills area questions from students; making clarifications. Teacher's behavior during a student led/controlled discussion
	Obs	<b>Observes</b> -observing or supervising students during academic activities including informal socializing with students, including those times when a teacher may be physically in the room but is not actively engaged in overt observation or supervision
Student Behaviors / Response	Lis	<b>Listens</b> -student is passively listening, watching
	Ask	<b>Asks</b> -student asking questions related to content/subject matter/skills. Student behavior during student-led/controlled discussion
	Per	<b>Performs</b> -student performs an academic task; a response to a directive; note-taking; paraphrasing
	Ans	<b>Answers</b> -fairly brief verbal response to a content/subject matter/skills area question. Student answers questions related to skill/subject area; student behavior during a teacher-led/controlled discussion
	Dis	<b>Discovers</b> -discovering an answer to a content/subject matter/skills question or problem/ involves trial and error, exploratory learning. Students work individually
	Cop	<b>Cooperates</b> -cooperatively learning or helping each other, students work in groups of 2 or more
<ul style="list-style-type: none"> <li>• &gt;2 times = interact</li> <li>• &lt;2 =led/ dir/ or ask/</li> </ul>	interact	<b>Interactive Instruction</b> -teaching with active student responding, typical of direct instruction lessons. Teacher models, leads, tests students and students perform and orally respond to questions as an integral part of instruction
Non-Academic Activities	NA feed	<b>Feedback</b> - giving positive or negative verbal feedback to students about their non-academic

		behavior, includes activities related to discipline of students
	NA free	<b>Free time</b> -free time or play
	NA tran	<b>Transition</b> /housekeeping-beginning and end-of-day activities including managerial routines such as taking attendance, collecting money, lunch count, cleaning desks, etc.: setting up or preparing for an activity, putting materials away. Also includes non-academic discussion, demonstration, directives for social behaviors which occur within the classroom
	NA int	<b>Interruption</b> -any interruption to the classroom instructional activity including fire drills, intercom messages, unplanned visitors, child becoming ill, etc.
	NA out	<b>Outside</b> of the classroom-activity on the playground, hallway, bus area, cafeteria, in assemblies, etc.
<b>Mode</b>		
	Wr	Writing
	Re	Reading
	Au	Aural-hearing/listening
	Ver	Verbal-speaking
<b>Language Content</b>		
	Social	<b>Social routines</b> -social exchanges and conversation
	Academ	<b>Academic routines</b> -repetitive school-related tasks (preparing for recess, returning books, handing in assignments, structuring homework)
<ul style="list-style-type: none"> <li>Recall vocabulary word itself, previously introduced (singing routine ABC song, calendar....)</li> </ul>	Light cog	<b>Light cognitive</b> - reviewing previously introduced content (listening, summary); repetitive drill or skills practice
<ul style="list-style-type: none"> <li>Discuss vocabulary definition</li> <li>Application (provide</li> </ul>	Dns cog	<b>Dense cognitive</b> -new content-area information, conceptually loaded communication with specialized vocabulary and procedures, critical thinking

word that starts with /c/)		
<b>Language of Instruction</b>		
	L1	<b><u>Content presented in L1</u></b> (native language)- indicates Spanish-only introduction, a beginning point for students with very low English-proficiency
	L2	<b><u>Content presented in L2</u></b> (second language)- indicates English-only instruction
	L1-2	<b><u>L1 introduces L2</u></b> -indicates instruction primarily in L1, but additionally, English vocabulary is taught for key ideas, concepts, and procedures
	L2-1	<b><u>L2 clarified by L1</u></b> -indicates instruction primarily in English, but with L1 used as “back-up” as needed to ensure understanding

## APPENDIX B

# LETTER OF PERMISSION TO REPRODUCE TRANSITIONAL BILINGUAL PEDAGOGICAL THEORY

COLLEGE OF EDUCATION  
AND HUMAN DEVELOPMENT

Educational Psychology



March 4, 2019

To whom it may concern,

I hereby grant Mrs. Alma Guerrero Velez permission to reproduce the Model/theory of the four-dimensional bilingual pedagogical theory in her dissertation study, *The Impact of Virtual Mentoring and Coaching on the Pedagogical Practices of Teachers of English Language Learners*.

A handwritten signature in blue ink that reads 'Rafael Lara-Alecio'.

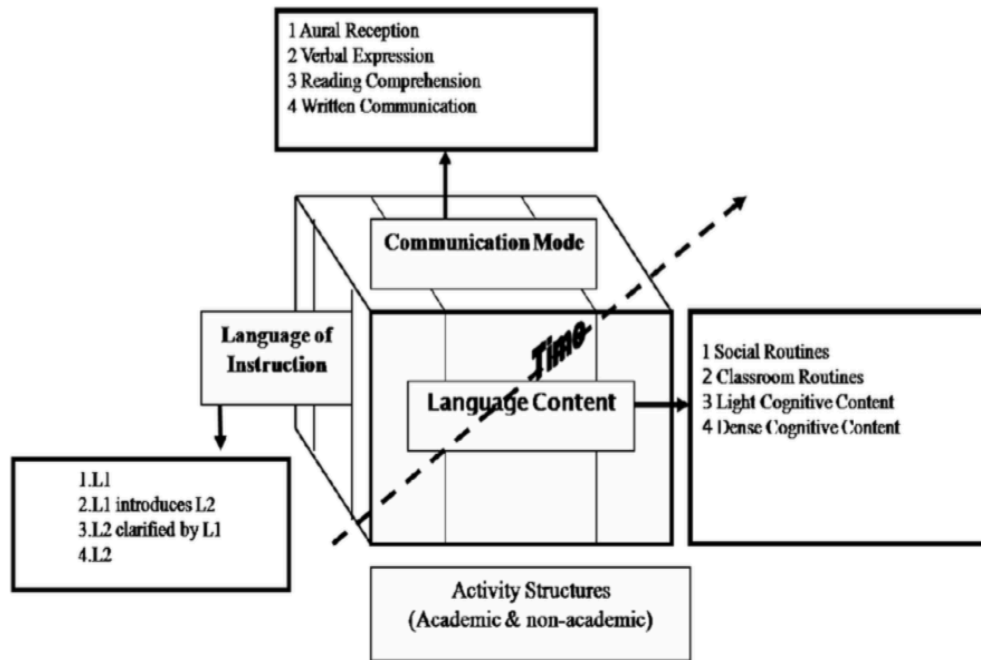
Dr. Rafael Lara-Alecio

*For permission to use this theory/model, contact*

Rafael Lara-Alecio, Ph. D.  
Regents Professor, Texas A&M University System  
Professor & PI for Projects ELLA-V, LISTO, & ETELL  
Director, Center for Research & Development in Dual  
Language & Literacy Acquisition (CRDLLA)  
Department of Educational Psychology  
College of Education and Human Development  
Texas A&M University, College Station, TX 77843-4225  
979-845-3467 (Office), 979-845-2599 (Front Desk)  
E-mail: a-lara@tamu.edu

704 Harrington Tower  
Mailstop 4225  
College Station, TX 77843-4225

Tel. 979.845.1831 Fax 979.862.1256  
<http://epsy.tamu.edu/>



Four-dimensional Transitional Bilingual Pedagogical Theory (Lara-Alecio & Parker, 1994)

For permission to use this theory/model, contact

Rafael Lara-Alecio, Ph. D.  
 Regents Professor, Texas A&M University System  
 Professor & PI for Projects ELLA-V, LISTO, & ETELL  
 Director, Center for Research & Development in Dual  
 Language & Literacy Acquisition (CRDLLA)  
 Director, Bilingual Programs  
 Department of Educational Psychology  
 College of Education and Human Development  
 Texas A&M University, College Station, TX 77843-4225  
 979-845-3467 (Office), 979-845-2599 (Front Desk)  
 E-mail: a-lara@tam.u.edu