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# Effectiveness and Impact of the Sheltered Instruction Observational Protocol on ELL Student Academic Achievement

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Effectiveness and Impact of the Sheltered Instruction  
Observational Protocol on ELL Student Academic Achievement

by  
Gladymar Soto-Lopés

An Applied Dissertation Submitted to the  
Abraham S. Fischler College of Education  
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## Approval Page

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## Statement of Original Work

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Name

September 23, 2018  
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## **Acknowledgments**

The following dissertation is dedicated to my parents Antonio and Agnes. Daddy, I truly miss you and I know that you wanted to see me become Dr. Soto; however, I know that the moment that I become hooded upon stage the heavens shall celebrate. Mom, thank you for supporting me through this dream and for caring for me through these past years, but especially these past months that have been so hard on me health wise. I love you both immensely and I thank God for providing me with the best parents in the world.

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## Abstract

Effectiveness and Impact of the Sheltered Instruction Observational Protocol on ELL Student Academic Achievement. Gladymar Soto-Lopés, 2018: Applied Dissertation, Nova Southeastern University, Abraham S. Fischler College of Education. Keywords: cultural diversity, ELL, SIOP, academic achievement, teacher effectiveness, high school

This applied dissertation was designed to determine the effectiveness of using the Sheltered Instruction Observation Protocol with fidelity for English Language Learners (ELL) and its impact on student academic achievement through FCAT Reading and FSA scores.

In a high school located in Central Florida that served approximately 2,244 students there were 1,129 (50.6%) students classified as English Language Learners (ELLs), by the 2016-17 school year the school expected to have 62% of their entire student body passing state mandated assessments in order to make Adequate Yearly Progress (AYP) (PCSB, 2013). In order for the aforementioned to take place it was essential for teachers in all content areas to be addressing the needs of ELLs; hence the use of the Sheltered Instruction Observation Protocol (SIOP) Model can be seen as a teaching strategy for many struggling educators who do not know how to adequately meet the unique academic needs of this population of students.

The writer developed the following five research questions that served as a basis for this study: (1) To what extent did teachers improve their ELL instructional effectiveness as a result of using SIOP? (2) By what percentage had staff development improved teachers' SIOP methodology knowledge? (3) By how much did student's academic achievement in their reading scores from FSA improve as a result of teachers using SIOP Model in their instruction? 4. By how much did students' academic achievement in their reading scores from FSA improve as a result of teachers using SIOP Model in their instruction? and (5) What was the impact of using the instructional components and features included in SIOP on student achievement as measured by the FSA ELA Reading Assessment?

In order to respond to the aforementioned questions the following four data collection instruments were utilized: (a) the Sheltered Instruction Observation Protocol; (b) the Florida Standards Assessment ELA scores from the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years; (c) Teacher Preparations Survey; and (d) a SIOP Self-Assessment.

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## Chapter 1: Introduction

### Statement of the Problem

In a high school located in Central Florida that serves approximately 2,244 students there were 1,129 (50.6%) students classified as English Language Learners (ELLs), by the 2016-17 school year the school expected to have 62% of their entire student body passing state mandated assessments in order to make Adequate Yearly Progress (AYP) (PCSB, 2013). In order for the aforementioned to take place it was essential for teachers in all content areas to be addressing the needs of ELLs; hence the use of the Sheltered Instruction Observation Protocol (SIOP) Model could have been seen as a teaching strategy for many struggling educators who do not know how to adequately meet the unique academic needs of this population of students.

**The topic.** The consistent underperformance of English Language Learners (ELLs) in U.S. schools highlights the need for changes that must have been implemented in their education. Consequently, ensuring that ELLs were able to meet with the demands imposed by the 21<sup>st</sup> Century was a challenge placed upon many educators and educational administrators that was both imperative and overwhelming (Koelsch, Chu, & Rodriguez-Banuelos, 2014). During the 1960's, public schools all over the United States served a population a students that were predominantly white (80%); however, as the years have gone by there had been a shift in numbers as non-Hispanic whites that made up about 57 percent of the student population and were considered to be a minority group in most large urban districts (Calderon, Slavin, Sanchez, 2011). Moreover, English Language Learners (ELLs) were an increasing and wide-ranging student population with exclusive educational necessities (Corder, 2007). Plentiful were immigrants from

countries that were non-English speaking, while others were students who were born in the United States to parents who were classified as language minority and were raised listening to another language that was not English in their home environment (McIntyre, Kyle, Chen, Muñoz, & Beldon, 2010). As a result, educational institutions around the United States had become even more diverse not only culturally, but also linguistically as well. Recent data provided by The Florida Department of Education (FLDOE) (2013), stated that in the 2012-2013 school year there were approximately 50.6% of the student population classified as English Language Learners in the intended research school of which 12.3% were registered to receive English to Speakers of Other Languages (ESOL) services. It was worth noting that the development and comprehension of a second language was an extensive and intricate process that required time and determination from both the teacher and student. A student who was classified as an English Language Learner (ELL) must have developed their main communication domains which were: reading, writing, listening, and speaking through many years of effort and practice in order to have proper command of English as a second language (Castañeda, Rodríguez-González, Schulz, 2011).

Corder (2007) expounded that many educators felt intimidated to teach ELLs because this journey required them to not only meet the distinctive educational needs of the student population, but also kept current with educational practices that would have better served this group of ever-increasing students. However, it was noteworthy to mention that no matter the challenge, there were three main reasons that required United States public schools to instruct and meet the needs of English Language Learners. The first reason was that the federal government approved legislation concerning the

education of students who were acknowledged as Limited English Proficient (LEP). Therefore, the following Acts have changed the education that ELLs obtained today in schools: Title II of the Educational Amendments Act of 1974 as well as the Equal Educational Opportunity Act that outlined that all schools must use educational curriculums that would have provided ELLs the opportunity to overcome language barriers. The 1974 Congressional Amendment to the Bilingual Education Act of 1968 that elucidated the intent and strategy of programs for LEP students. Also, the No Child Left Behind Act of 2001 along with the reauthorization of Title I of the Elementary and Secondary Act of 1965, that commanded testing and identification of English Language Learners' academic performance and progressed through their educational careers. Second, the United States Supreme Court had explained the role of schools relating ELLs within educational institutions. According to the Court, children who did not have a proper command of the English language had a right to obtain and access supplementary and special help, therefore; schools must follow and implement a curriculum that would have catered to the specialized needs of LEP students by using educational theories and approaches that have been recognized by specialists within this area. Third, most teachers recognized a moral commitment to provide ELLs equal educational circumstances as non-English Language Learners (Corder, 2007).

Also, federal requirements for liability of all children hold both State and Local Educational Agencies accountable for confirming that English Language Learners made academic progress in Reading, Math, and Science. Cited in the 2006 regulation under Title 1 of the No Child Left Behind Act of 2001 (NCLB), ELLs were only excused from the required Reading and Language Arts tests during their first year of living in the

United States. Therefore, it was imperious that every educator in the United States works toward the distinct considerations, skills, and dispositions required to enable the linguistic and academic growth of students who were encountering English as new language (Lessow-Hurley, 2003).

Moreover, many studies had recognized the national deficiency of adequately trained teachers who could have worked successfully with the large and rising number of students classified as ELLs. The aforementioned reflected the lack of awareness by the Department of Education in relation to the rapid growth of ELLs in the United States. Ovando, Collier, & Combs (2003), indicated that this deficiency would have developed to an even more severe shortage in the upcoming 20 years, when the proportion of well-trained language minority teachers to the students classified as language minority dwindles to an all-time low, if measures were not put into place in order to inverse current tendencies.

If the needs of ELLs were to be adequately met, it was imperative that educators received effective trainings within this realm of education as well as ongoing yearly support from administrators and researchers of best practices. The aforementioned would have allowed these educators to become effective in their instructional practices with ELLs and they would have been able to deliver quality instruction that would have lead ELLs to not only transition into the mainstream classroom, but also performed successfully in state-mandated assessments, which were a graduation requirement. This research studied the effectiveness of Sheltered Instruction as a means to helping English Language Learners who became proficient English speakers and allowed these to reach educational benchmarks within state testing. Sheltered Instruction was an educational

approach used with ELLs in the classroom that facilitated through a set of components the mastery of vital concepts in a friendlier manner, while at the same time promoted the language development of ELLs. It was vital that educators had basic multicultural awareness in terms of the diverse backgrounds of their students in order to better understand where their students came from, which could have been achieved through workshops and ongoing specialized training that allowed them to better meet and address the unique educational needs of these students (Echevarria, Vogt, & Short, 2010).

**The research problem.** The research site provided a caring and supportive environment both conducive to teaching and learning along with a wide-variety of educational programs and opportunities for all students. In addition, it offered ESOL programs that included 416 students Dual-Language, Sheltered, and Mainstream Immersion programs to their second language learners through English courses. In order to comply with statewide accountability the school needed to prepare their English Language Learners in an efficient and effective manner, which allowed these to pass the new Florida Standards Assessment (FSA) in English Language Arts (ELA) at a 245 (minimum passing score) or higher. The FSA was being administered in lieu of the Florida Comprehensive Assessment Test (FCAT) beginning the 2014-2015 school year as a means to meet the new Florida standards. It was important to note that the percentage of these students (ELLs) equated to more than half of the school's student population, that were greatly affected in the overall score. Since the opening of this school in 2005, it had struggled to make Adequate Yearly Progress (AYP) given that only 57% of their students were passing the reading portion as measured through FCAT. Therefore, it was expected that by the year 2016 the school had 62% of their students passing this test as

required by state (PCSB, 2013). Chen, Kyle, & McIntyre (2008), expound that many educators throughout the United States felt they had not received adequate training to efficiently work with students who were classified as ELLs. Currently, educational institutions were being held accountable for the academic achievement of all students including, but not limited to ELLs; therefore, it was imperative that teachers sought further assistance concerning innovative and effective teaching strategies that greatly benefited the learning process of ELLs. Current and past research studies had proven that the Sheltered Instruction Approach had great advantages and played a major role in allowing educators and schools to meet the increasing needs of ELLs. It was worth noting that across the United States the number of students classified as ELLs had increased significantly; however, they were considerably behind their Non-ELL peers in terms of academic achievement (Echevarria, Vogt, & Short, 2010). Educators must have understood that the preparation and delivery of stimulating and pertinent lessons were vital in order to motivate English learners to fully participate in the classroom, which in turn will lead to future success in their academic careers (Echevarria & Vogt, 2010). It was worth noting that in Florida ELLs had to take the FCAT that had now transitioned into the FSA; a statewide assessment of progress, and passed in order to obtain a standard high school diploma. The failure to pass such assessments hindered a student from attending a post-secondary institution; regardless of their performance in high school (Khong & Saito, 2014).

**Background and justification.** Lakin and Young (2013) asserted that current accountability regulations require states to monitor the academic progress of subgroups such as ELLs. However, despite a long history of education reform efforts, multicultural

students still remain as marginalized students in many U.S. schools because they are most likely to have access to highly qualified teachers, resources, and assessments that would have appropriately measured their learning gains (Lopez & Iribarren, 2014). It was important to note that a substantial amount of ELLs were unable to obtain post-secondary degrees and in many cases high school diplomas because they lacked the knowledge and skills necessary to compete in today's technologically advanced society (Haneda & Wells, 2012). As larger numbers of English Language Learners (ELLs) entered schools across the United States it was imperative for teachers to discover and learn how to effectively teach this population of students (Calderon, Slavin, Sanchez, 2011). Multiple empirical studies had proven that ELLs had a significant achievement gap in comparison to their native English-speaking peers. Consequently, K-12 school teachers must have become aware of the diverse teaching methods and strategies available to serve this population of students to help meet their academic needs (Gomez & Diarrassouba, 2014). Currently, the use of Sheltered Instruction in English to Speakers of Other Languages (ESOL) classrooms was of main concern because it provided essential features that included, but were not limited to: the introduction of vocabulary relevant to the unit, the use of visuals, collaborate-paired learning, kinesthetic activities, scaffolding, and the modification of content to better serve ELL educational needs (Echevarria & Graves, 2003). Educational institutions had the obligation of affording all children with quality education; therefore, it was necessary for educators to keep current with innovative teaching practices as a means to provide lessons that were meaningful for the students they serve, especially ELLs who were known to lag significantly in mainstream learning environments (Echevarria, Short, & Powers, 2006).

Echevarria and Graves (2006) indicated in their research that teachers who were effectively trained in the implementation of Sheltered Instruction were able to use a plethora of instructional activities and strategies that catered to the unique educational needs of ELLs in the classroom. Consequently, an environment that stimulated the students to speak a language that was not their main language was developed while being placed in culturally diverse mainstream classrooms. Providing better educational opportunities for ELLs allowed for these students to succeed academically and in turn became productive members of our society (Echevarria, Vogt, & Short, 2010). Therefore, discovering and analyzing teachers' perceptions of Sheltered Instruction allowed for empirical insights into the research topic, that in turn helped improve the quality of professional development for teachers and implementation of this program in mainstream classrooms.

Furthermore, it was vital to keep in mind that many ELLs received most of their educational instruction from teachers who had not received adequate professional development that allowed educators to deliver instructional content in a more approachable manner, as well as to catered to have met the unique educational needs of this diverse group of students. Therefore, it was not only necessary for teachers to have received additional support from best research practices and adequate time to prepare relevant lesson that worked better with ELLs. English Language Learners were an ever-growing population of students that required educators across the nation to seek ESOL innovative and proven to work teaching strategies (Echevarria, Short, & Powers, 2008). As a result of the aforementioned, it was imperative to study the effectiveness of



Sheltered Instruction as a teaching strategy in the classroom through the use of the Sheltered Instruction Observation Protocol.

**Deficiencies in the evidence.** Tharp, Estrada, and Yamauchi (2000) argued that traditional teaching methods do not aid in the learning process or literacy instruction for ELLs. Furthermore, they expounded that the dependence upon oral instruction through lecture make the comprehension of information even more challenging especially for ELLs. In addition, they purported that tasks that were completed as paper and pencil, that included worksheets were considered to be difficult for ELLs because they did not allow for scaffolding techniques, that was a learning method that involved support through the Zone of Proximal Development, that allowed children to reach the subsequent level of comprehension (Powell & Kalina, 2009). Therefore, the use of Sheltered Instruction had been an approach that many educators had decided to integrate within their lessons because it allowed them to incorporate teaching more academic content, which aided in meeting the needs of ELLs.

Moreover, Sheltered Instruction assisted teachers in the development of English language skills because it supplemented other effective teaching methods while adding unique elements that further assisted ELLs. It had been proven through empirical research that when the unique features contained within Sheltered Instruction were used consistently in the classroom, the performance of ELLs in reading and writing improved considerably over similar peers who received instruction through this approach, but not in a consistent manner. It was worth noting that Sheltered Instruction was classified as a model or an approach and not a theory. VanPatten and Williams (2007) asserted that a model had the intent of describing procedures or sets of procedures of an occurrence (p.

5). As a result, a model placed its efforts upon the “how” instead of the “why” as it tended to happen with theories, that made forecasts that were grounded upon generalities.

In addition, Honigsfeld and Cohan (2008) conducted a study where they merged Sheltered Instruction along with Lesson Study in order to appreciate the effect it had upon the students. The results of the aforementioned research established that the combination of both models resulted in the enrichment of teaching and learning environments that focused on ELLs. Moreover, they purported that teachers must have worked within professional learning communities that stimulated collaboration among colleagues of best practices regarding this subject matter, while being afforded at the same time with adequate in-service professional development.

Furthermore, other studies regarding the use of Sheltered Instruction as a means to improve the achievement level in reading of English Language Learners concluded in stating that this model did not appear to be disadvantageous to reading achievement although it was not designed to serve as a reading intervention program, nonetheless the aforementioned will transpire if it was consistently and wholly carried out as proposed by the authors of this model (McIntyre, Kyle, Chen, Muñoz, & Beldon, 2010). It was worth noting that researchers had acknowledged that this model seemed to work better for some educators than for others although the aim and objectives of this model have been clearly delineated by its originators. However, it was assumed that this model could have been adapted to accentuate its attention on content during professional development.

Moreover, a study on the importance of including a cognitive coaching phase in professional development targeted on Sheltered Instruction established that the inclusion of this phase added considerable value to conventional activities within a training (Batt,

2010). Batt (2010) also acknowledged that the time that was spent coaching was significant and there should have been a strong emphasis upon this matter because it provided the basis for the results that were obtained regarding the academic achievement of these culturally and linguistically diverse students. In addition, coaching affected the skillfulness in which these students obtain mastery of their second language. It was worth noting that in the same manner that students needed additional guided practice in order to become proficient at a newly acquired skill, educators would have greatly benefited from this additional professional development, which specifically addressed the topic of cognitive coaching. The inclusion of this phase aided teachers in the process of implementing innovative instructional strategies that would have eventually lead their ELLs to academic success especially when dealing with state-mandated assessments.

Past and current research led by the authors of the Sheltered Instruction Approach (Jana Echevarria & Mary Ellen Vogt) in addition to other scholars had established that the if teachers in every area implemented this model in their classrooms with fidelity English Language Learners would ultimately have been successful in their future academic careers. However, in order for the aforementioned to take place it was imperative for educators to receive proper training regarding this teaching method so they were able to implement it correctly in their classroom. It was important to note that even though these studies had successfully proven that Sheltered Instruction was effective, there had not been studies that would have proven the ease of implementation of this approach. However, there was a belief that studying the use of SIOP in the classroom would have provided researchers with additional resources that would have allowed for the discovery of any weaknesses that may have been present in this model so they could

have promptly addressed and improved as a means to allow English Language Learners to continue benefiting from this approach. As a result of the above, this study took place in order to address this issue promptly.

**Audience.** This study was aimed to target the conceptual understandings of educators and policymakers so that informed decisions were made regarding appropriate pre-service and in-service professional development related to the use of the Sheltered Instruction approach by teachers who served ELLs in their classroom. In addition, it facilitated the implementation of this constructivist-based instruction strategy as well as evaluating the effectiveness of the model based upon past ELL's FCAT and FSA test scores. Furthermore, the results of this study should assist school and district administrators in their future decisions regarding the academic achievement of linguistically and culturally diverse students in order to meet the No Child Left Behind (NCLB) accountability requirements. Moreover, educators who were devoted in seeking strategies that in finding closure to the achievement gaps between native English speakers and ELLs worked alongside other teachers in order to empower them through professional development aimed to make instruction coherent for these students. The intent of this study was to inform educators and school administrators of the benefits that developed when a program of this nature was implemented consistently and correctly in the classroom because it had been proven through many studies to be an effective vehicle that helped ELLs learn English faster and more effectively.

**Setting of the Study**

The research site is a high school located in central Florida. It consists of two teachers of English and one SIOP trained English/ ELL teacher. A total number of 416 ELL students included in the study with an average of 200 students per class.

**Researcher's Role**

The researcher's role is to train the teachers in SIOP instruction, to perform observations every few weeks to make sure the teachers are following the procedures and to collect data. The data from the teacher observations will be reviewed with the teacher to trouble shoot any difficulties they are having and to improve their use of the SIOP model. The researcher will oversee the SIOP model instruction for a period of 12 weeks and administer the Pre/Post SIOP Model Self-Assessment and Teacher Perceptions Surveys to the teachers to compare their knowledge of the instructional model. Additionally the researcher will compare reading scores for past year's FSA reading scores to current year's results to determine if there were improvements.

**Purpose of the Study**

The purpose of this study was to determine the effectiveness and impact of using the Sheltered Instruction Observation Protocol (SIOP) Model in the classroom as an approach to meet the educational needs of English Language Learners (ELLs). In addition, this study aimed to explore how the Sheltered Instruction Approach had impacted students' academic achievement; specifically in their FSA for ELA test scores when used effectively and with fidelity in the classroom as a means to help ELLs who became successful at acquiring a second language in school.

Additionally, this study investigated the effects that the SIOP Model had upon ELL students' academic achievement in Reading. Therefore, this researcher aimed to understand the relationship between professional development, model implementation with fidelity, and student achievement. All of the above eventually lead to the ultimate purpose of this study that was to help ELLs succeed in the classroom by providing teachers with effective strategies that enhanced their learning.

### **Definition of Terms**

The following terms assist the reader with a better understanding of the research.

**Adequate yearly progress.** This term referred to an individual state's measure of yearly progress toward achieving state academic standards. AYP was a minimum level of improvement that states, school district, and schools must achieve each year (No Child Left Behind, 2001).

**English language earners (ELLs).** This term referred to students whose first language was not English, and encompassed both students who were just beginning to learn English and those who had already developed considerable proficiency (The Center for Equity and Excellence in Education, 2005).

**English to speakers of other languages (ESOL).** An educational program used to teach English to people whose first language was not English (Amisano, 2012).

**Fidelity.** The delivery of instruction in the way in which it was designed to be delivered (Gresham, MacMillan, Boebe-Frankenberger, & Bocian, 2000).

**Inter-rater.** The consistency of measurement obtained when different examiners independently administer the same test to the same individual (Mondofacto, 2010).

**Sheltered Instruction Observation Protocol (SIOP).** Sheltered Instruction was a method for teaching content to English Language Learners (ELLs) in strategic ways that made the subject matter concepts comprehensible while promoting the students' English language development (Echevarría, Vogt, & Short, 2007).

## **Chapter 2: Literature Review**

### **Introduction**

The increase of English Language Learners (ELLs) throughout the United States had become an ever increasing trend over the past decades; therefore, it was vital that educators found educational tools that lead their students to successful academic achievement. The purpose of this literature review was to incorporate the ideas and best practices of various scholars in the education realm regarding the instructional strategies of Sheltered Instruction that catered to the needs to ELLs. However, it was imperative that educators continued seeking best practices through additional research in order to teach their students and allow them to reach their maximum potential so they were able to be successful in any goal they set to conquer in the near future.

### **Theoretical Framework**

It was worth noting that in order to implement this research the works of Stephen Krashen regarding second language acquisition theories were considered. Furthermore, the works by Deborah J. Short, Jana Echevarria, and MaryEllen Vogt regarding the Sheltered Instruction Observation Protocol (SIOP) Model were fundamental in order to gather literature for this trending topic. Through the acquired literature it was noted that the aforementioned researchers in addition to the many more that would be found throughout this literature review all shared a common purpose, which was to promote the development a second language learning content subject matter in other words, while in the mainstream classroom, which was the ultimate goal of the Sheltered Instruction Observational Protocol Model.



### **Increased Population of English Language Learners in the United States**

There were over 5 million ELLs in the U.S., with the largest numbers living in California, Texas, and Florida; therefore, the academic achievement of this population of students was of particular concern (Kareva & Echevarria, 2013). Successful and devoted teachers of linguistically diverse students were in demand now more than ever (Franquiz & Salinas, 2013). The amount of English Language Learners (ELLs) has increased drastically over the past two decades. Short (2000) found that from the 1985-86 school year through the 1994-95 school year the number of students classified as ELLs grew 109 percent. Furthermore, in recent studies (Short, 2013) acknowledged that during the 1998-99 school year through the 2008-09 school year this school population experienced an increase of 51 percent. Short (2013) asserted that the latter increased only included data for students who were enrolled in programs that provided language support or were being monitored for progress due to limited proficiency of a second language (p. 118). Additionally, Cellante and Donne (2013) asserted that approximately 43 percent of all general education teachers in the nation that served students K-12 had taught ELLs; however, many of these teachers had claimed they had received very limited training regarding the education of this population of students. Donado (2014) purported that ELLs needed committed educators to address their unique academic needs and in return the nation needed ELLs; therefore, if this population of students was served well, educational attainment could have been improved, which consequently guaranteed efficiency and competitiveness for the near future. Dhillon and Wanjiru (2013) claimed that when students were exposed to an early intervention program while acquiring a second language in this case English they were not only afforded the opportunity to have

an additional language to communicate with their peers with, but they had an essential life-long tool that was used to achieve many academic goals and successive shared mobility.

Therefore, it was worth noting that the aforementioned results did not include the students who passed their English proficiency test, which could have eventually lead to double amount of students classified as ELLs. Moreover, Baecher, Artigliere, Patterson, and Spatzer (2012) claimed that by the 2015- 2016 school year the ELL enrollment in U. S. schools may have reached up to 10 million and by the school year 2025-2026 one out of every four public school student will be classified as an ELL. Additionally, Short (2013), purported that teachers who effectively use Sheltered Instruction in the classroom provided their students with the opportunity of transitioning into the mainstream classroom at an earlier time in their academic careers, which in turn allowed them to better develop their academic English proficiency. Currently, many schools and districts were implementing and encouraging the use of Sheltered Instruction in the classroom in order to better serve ELLs as they transitioned into mainstream content-area courses (Hansen-Thomas, 2008). It was worth noting that 82 percent of U.S. schools were unlikely to make Adequate Yearly Progress according to testimony from U.S. Secretary of Education Arne Duncan (Cummins, 2011). Kareva and Echevarria (2014) purported that when ELLs were transitioned into mainstream classrooms, little or no accommodations were provided to address the specific needs of these students, which placed them at a shortfall as they were expected to excel academically while using a new language.

Furthermore, Short (2013) expounded that Florida was within one of the six states that required teachers to study topics that pertained to ESOL methods and second language acquisition as well as obtain certification in this area. Batt (2010), discussed how in recent years the focus of school's priority lists within the United States had shifted towards improving the academic achievement as measured through standardized tests of culturally and linguistically diverse students. Also, she stated that educators around the world were seeking effective models and methods that aided them in effective and efficient teaching strategies for ELLs. Therefore, Short (2013) encouraged school districts to prepare and offer professional development opportunities that allowed mainstream teachers to become acquainted with best instructional practices that were appropriate for these students. Due to current influences of immigration, educators were discovering they needed to attend in-service professional development that imparted knowledge and skills that were not acquired during initial teacher preparation programs.

### **Effectiveness of SIOP**

Sheltered Instruction made its way into K-12 educational settings as teachers began struggling with the dramatic increase in the number of ELLs in mainstream classrooms since the 1980s and 1990s. Consequently, sheltered classes were suggested as a feasible option for ELLs to learn English while simultaneously keeping up with their grade-level academic content learning (Fritzen, 2011). Kareva and Echevarria (2013) claimed that schools have reported that teachers who used the SIOP Model in their classroom has experienced an improved academic performance among their English Language Learners (ELLs). Polat and Cepik (2015) asserted that SIOP had become popular in use because it not only improved language growth and academic success

among ELLs, but it also provided a tool to measure teacher's performance in the classroom. Teachers who implement the SIOP Model with fidelity in their classrooms defined both the language and content objectives for their students through various techniques in order to activate their background knowledge, made content more comprehensible, and foster classroom interactions among peers (Polat & Cepik, 2015). It was important to note that ELLs seldom received equal instructional opportunities as their native English speaking peers; therefore, collective attempts must have been placed in order to address the aforementioned issue and to have found a solution for these students to not be deprived of relevant learning opportunities (Elfers & Stritkus, 2014). Batt (2010) monitored the effectiveness of SIOP training in order to assess the value of cognitive coaching. Batt's study in 2010 contained five research questions that were: (a) How effectively did a state team of SIOP trained teacher educators deliver a summer institute in the SIOP model? (b) Did initial training in SIOP instill teacher commitment to incorporate the knowledge and skills gained? (c) To what extent did teachers implement SIOP instructional strategies following training and substantial practice time monitored by administrators? (d) To what extent did cognitive coaching produce additive value to the traditional SIOP training activities? (e) What specific changes in classroom practice did teachers make as a result of their professional development in SIOP when further supported by a phase in cognitive coaching?

Additionally, Batt (2010) discussed the impact the SIOP Model had upon ELLs, that to this day had been positive and effective according to the research that she referenced. The participants of Batt's study were 15 mainstream elementary teachers with high numbers of multicultural students within their classrooms. It was important to note

that the teachers of this study were deliberately selected by their school administrators to partake in the cognitive coaching professional development for Sheltered Instruction. These 15 participants were employed in three different schools of which two were located in a Miami and Orlando, while one was in Jacksonville. It was worth noting that these educators either previously attended a summer SIOP institute prior to coaching delivered by a state team of language minority education specialists, or a national SIOP institute offered by the developers of this model. Correspondingly, the teachers participated in long-term district sponsored SIOP workshops that were delivered gradually throughout the school year. The purpose of these was to allow a cadre of teachers from each school to work directly with a SIOP coach, that supported them in becoming proficient in the use of the model and to enhance their instructional practices especially when working with ELLs. When the coach observed these teachers he/she used the SIOP instrument to collect data and rated the level of implementation of the targeted components of the model.

Furthermore, Batt's study used both quantitative and qualitative methods that included, but were not limited to a knowledge test, surveys, and interviews. During the summer institute quantitative data was obtained through pre and posttests that had the intention of discovering teacher's knowledge and skills regarding the use of SIOP. In addition, they were provided with an evaluation survey during this institute. Batt's study included a second phase that focused on the results of cognitive coaching in the SIOP model. Regarding the qualitative data, which was collected during the conference and team meetings in order to monitor the efficacy of the coaching process and to stimulate adjustments that would better serve the teachers. Furthermore, the use of open-ended

questions allowed for opportunities that explored how the coaching process modified the teachers' former instructional strategies and student learning.

Batt's (2010) findings indicated that the SIOP institute was beneficial towards the professional growth of its participants and in turn they indicated that they had definitely implemented this model in their classrooms. Additionally, the participants recognized that this training would be of more assistance if the needs of ELLs were further addressed within the model. Moreover, it was reported that the lack of time in their schedule restrained educators from fully implementing lessons that contained effective instructional strategies for the benefit of their ELLs. Batt (2010) also indicated that implementing SIOP after cognitive coaching allowed for various successes such as: reducing the achievement gap for ELLs, higher state/classroom assessment scores, active involvement, engagement, and motivation in the classroom.

Batt (2010) asserted that the findings from this study corroborated with previous studies in general on the benefits of coaching or mentoring. She also elucidated that cognitive coaching served teachers to turn their understanding of SIOP into application in their classrooms. She concluded by stating that schools must devote abundant amounts of time, effort, and budgetary resources on professional development for teachers, which catered research-based best practices for ELLs. As part of the educational reform, schools had been expected over the past decade to raise the bar in regards to the topics of academic rigor and educational standards. Therefore, Short (2013) argued that it was imperative that the requirement for rigor be matched in the professional development that was provided to teachers throughout the school year. In addition, Ware and Benschoter (2011) affirmed that the challenge of meeting the needs of ELLs at the secondary level

was perplexing since contact time became restricted to one or two hours each day and the teacher typically served between 70 and 140 students on a school day. Therefore, many efforts at federal and state level had been placed in order to meet the aforementioned challenge, which allowed for allocated funds to provide specialized workshops that equipped teachers with the necessary tools to cater to the educational needs of ELLs in the classroom.

Using sheltered instruction techniques in the classroom allowed educators to make amendments to their lessons in order to include differentiation for those students who required special accommodations due to language barriers (Baecher, Artigliere, Patterson, & Spatzer, 2012). Although not all educators were accustomed to making alterations to their traditional lesson plans in order to meet the needs of their ELLs specifically, it would be of great advantage to their students if they made an attempt to do so as they provided access to content learning. In addition, they were meeting with the demands imposed by policy makers in order to guide these students to academic success, which was the ultimate goal of every educator.

### **Professional Development**

Li (2013) purported that it was imperative for educators to be devoted in advancing their knowledge and skills for the purpose of stimulating student learning. Moreover, Khong and Saito (2014) asserted that teachers play an essential role within the education of ELLs; therefore, providing these educators with quality preservice and in-service professional development was essential in order to build enhanced learning environments for ELLs. Furthermore, Kibler and Roman (2013) claimed that as the population of ELLs of K-12 continued to increase and raise the expectations regarding

academic performance, so had the needs for adequately prepared teachers to serve this population of students. Extensive research pertaining to education and language teaching have confirmed that many teachers were not successfully prepared to impart instruction upon multicultural students, which caused feelings of anxiety, uncertainty, and intimidation upon these educators (Gomez & Diarrassouba, 2014). Since the introduction of SIOP into the field of education around the 1990s, this Model had filled an essential gap in both preservice and in-service teacher education and professional development activities in order to assist educators in the classroom who taught ELLs on a daily basis (Polat & Cepik, 2015). Currently, the instruction that ELLs received by their teachers was not adequate because most did not have proper training; therefore, changes had to take place in order to ensure that the academic achievement of this population of students was equal to those not classified as ELLs (Crawford, Schmeister, & Biggs, 2008). Teachers who work on a daily basis with students who had a primary language that varied from the dominant language of their peers can truly benefit from in-service training as well as professional development in order to equip themselves with the essential tools they needed to teach these students and lead them to academic success (Crawford et al., 2008). Short (2013) purported that the key to improving student achievement as well as teacher performance relied upon effective professional development that employed the following seven guidelines: (a) initiated with an intervention of instructional strategies that assisted students to obtain academic and content language simultaneously while in the classroom, (b) teachers were allowed to work on their new knowledge and practice what they have learned (p. 122); therefore, educators were given time to employ these best practices in the classroom and reflect upon their findings as well as given the opportunity to make



necessary adjustments to future lessons. The aforementioned was seen as a cumulative process, (p. 122) which allowed educators to build upon newly acquired knowledge, (c) the professional development was designed to cater towards the teacher's instructional environment; consequently, these were able to actively put into practice what they had learned with their students upon their return to the classroom, (d) it was essential that educators obtaining professional development be provided with on-going support through instructional coaches, professional learning communities, and book study groups, which allowed educators to collaborate among peers and improve teaching practices, (e) it was essential that the participants of professional development received an explanation of the theories that were the underlying foundation within the intervention. Educators had to develop an understanding of best practices for ELLs in order have made modifications that were appropriate during lesson planning and delivery of instruction that would have eventually lead their students to academic success and then addressed the linguistic needs of this population of students, (f) equally important was the inclusion and commitment of school administration in professional development as they oversaw the outcomes of the intervention employed by teachers after being trained on specific educational strategies, and (g) the creation of an observation protocol must have taken place in order to measure if teachers were implementing their newly acquired strategies and techniques for inter-rater reliability.

ELLs in the U.S. came from diverse cultural backgrounds; therefore, in order to effectively work with this population of students educators must have been prepared to address their unique educational needs through perhaps the attendance of professional development and training sessions that provided unique teaching strategies and

techniques that facilitated the teaching and learning process in the classroom for both the teacher and the student (Khong & Saito, 2014). In a study conducted at an elementary school that for two consecutive years failed to make Adequate Yearly Progress that served 425 pre-kindergarten through fifth grade students of which 294 of these were identified as ELLs, Crawford et al. (2008), examined the effects of professional development upon teachers' use of sheltered instruction in classroom that contained linguistically diverse students. The study had a duration of two school years (2004 and 2005) and 23 teachers participated. As part of the materials of the study, before initiating in any research The Levels of Use interview protocol was utilized to interview the teacher participants in the fall of 2004 it was worth noting that the same protocol was used at the culmination of the professional development activities. It was worth noting that the aforementioned protocol had the intention of measuring a person's use of an innovation, though it was not precisely intended to measure a teacher's use of instructional strategies with ELLs, it did offer a platform for gathering this kind of data (Crawford et al., 2008, p. 332). The protocol contains eight levels:

- 0 - little or no knowledge of the innovation,
- 1 - acquired or is acquiring information about the innovation,
- 2 - preparing for first use of the innovation,
- 3 - day-to day use of the innovation,
- 4a - use of the innovation is stabilized,
- 4b - varies the use of the innovation,
- 5 - combines own efforts to use the innovation,
- 6 - reevaluates the quality use of the innovation.

In regards to the procedure for the aforementioned study, the teachers were observed twice and interviewed once during fall of 2004. It was worth noting that the professional development activities took place during spring, summer, and fall of 2005. Furthermore, in fall 2005, the researchers were able to obtain additional data (post-professional development) that included two more observations and a final interview of the teachers at school (Crawford et al., 2008). During spring, 2005, after reference point data was collected, the team in charge of conducting the professional development trainings met with the ESOL teaching team from the school in order to develop an action plan that would be implemented. Furthermore, they met with the school's administrative team in order to share the course of action to be taken and create an agenda for the teacher participants who would be part of the coached and mentored in their classroom through the duration of this two year study. Prior to conducting any professional development, this team conducted teacher observations in order to view teaching styles, classroom interactions and management skills in order to provide adequate feedback during training (Crawford et al., 2008).

In regards to the results of this study it was found through the Levels of Use protocol interviews that teachers had a strong desire to learn more about effective instructional strategies that may be used in the classroom with ELLs. Furthermore, data revealed that teachers exhibited positive attitudes towards teaching this population of students and had a strong desire in meeting the unique educational needs of these students. Additionally, it was worth noting that the professional development activities in which the teacher participants engaged in during two years allowed them to supplement their repertoire of instructional strategies to be implemented in the classroom while

teaching ELLs (Crawford et al., 2008). During post-observation informal conversations, the teachers were able to share with their mentors that they were able to learn from the training they received, but they benefited the most from the individual coaching and mentoring sessions, which ensured active learning through the duration of the study. Crawford et al. (2008) purported that the teacher participants of this study made significant improvements in the use of sheltered instruction in the two years they were a part of this study. Moreover, teachers shared their lack of instructional strategies at beginning of the study and later described themselves as being everyday users of sheltered instruction at the culmination of the research (Crawford et al., 2008). It was worth acknowledging that the findings of this study correlate with the findings of past studies on professional development. However, Crawford et al. (2008) acknowledged that further research should continue to examine the effect of professional development on teachers' use of sheltered instruction along with the academic performance of ELLs, which was not measured in this particular study. It was imperative to continue finding effective instructional methods that will help close the achievement gap between native English speaking students and those classified as ELLs (Crawford et al., 2008).

Data provided by a national survey concluded that educators were least likely to have professional development pertaining to the education of ELLs, with only 26 percent of teachers participating in training for the 2000-2001 school year. Additionally, data revealed that teachers were unprepared to teach this population of students and only 27 percent reported feeling well equipped to teach ELLs (U.S. Department of Education, National Center for Education Statistics, 2001). It was worth noting that although teachers reported feeling unprepared to work with ELLs, they were expected to educate

these students by setting high standards in their classrooms regardless of their level of preparedness (Cellante & Donne, 2013). Additionally, Cole (2013) claimed that as states were required to move ELLs into mainstream classrooms this population of students often found themselves in classrooms with teachers who did not feel adequately prepared to teach and lead these student to success. Furthermore, Calderon, Slavin, and Sanchez (2011) indicated that teachers who were afforded the opportunity to work with ELLs found professional development most beneficial when they were given a hands-on practice with teaching techniques that were readily applicable for their own classroom and when they received personalized coaching. It was important to note that teachers participate in professional development in order to improve their work abilities and because educators were life-long learners who helped students obtain the skills and strategies they needed in life to be successful in their future endeavors. Cellante et al. (2013) asserted that federal and state education offices recommended making significant changes due to the increased amount of students classified as ELLs, their documented low levels of achievement, and the data reported from teachers feeling unprepared to work with this population of students. Among these changes the U.S. Department of Education requested the improvement of professional development of ELL content teachers.

It was worth noting that as the number of ELLs continued to grow in mainstream classrooms all educators, and not just ESOL teachers must be adequately prepared to meet the academic needs of this ever-increasing population of students (Hutchinson, 2013). As a result, a case study that intended to examine the impact of a required three-credit course for teaching ELLs as part of a Bachelor's degree in elementary education.

The study gathered data through a pre and post course survey (Language Attitude of Teachers Scale [LATS]) to determine the 25 preservice participant attitudes towards ELLs, which consisted of 13 Likert scale statements and classroom observation data. After all the data was gathered, two evident issues emerged from the study. First, it was found that teachers were in need of preparation programs that exposed them to understand what it felt like to work with linguistically and culturally diverse students. Second, mainstream content teachers must be provided adequate professional development that included differentiated instruction and information regarding the acquisition of a second language (Hutchinson, 2013). The pre and post LATS survey as well as the classroom observations suggested that the course had a positive influence upon its participants especially since the preservice teachers were given the opportunity to confront their assumptions in regards to teaching ELLs and what they needed to do to support the academic development of these learners (Hutchinson, 2013). Kibler and Roman (2013) purported that just as educators adapted to newly acquired knowledge in their own settings, professional development adapted to teachers diverse background and needs in order to better serve the academic needs of their students.

### **Meeting the Needs of English Language Learners**

Teachers who were culturally responsive educators were most likely to meet the academic needs of ELLs because he or she was capable of affirming students' identities by using their backgrounds as teaching and learning resources. Furthermore, these teachers were able to respect differences and believed that all students were capable of learning, even when they shared contrasting views from the dominant student population (Gomez & Diarrassouba, 2014). Pereira and de Oliveira (2015) stated that the population

of English Language Learners (ELLs) had continued to increase among general education classrooms; however, they claimed that the presence of these students in gifted programs has become underrepresented. As a result, they had gathered vital research on effective ways that allowed educators of high achieving ELLs to address their needs proficiently. Unarguably it had been proven that teachers must be provided with adequate tools and research that allowed them to offer educational experiences of excellence to their ELLs (p. 208). Despite the acknowledgment of the increasing numbers of this population of students within K-12 classrooms it was worth noting that only 12.5% of educators in the United States had received ESOL training or certification in order to properly address and meet the unique needs of these students (Berg, Petron, & Greybeck, 2012). Further research conducted by Pereira and de Oliveira (2015) stated that ELLs between the ages of 5 to 17 were approximately 21% of the United States population. It was worth noting that the highest concentration of these students were found within the states of California, Florida, and Texas. Nonetheless, states that included, but were not limited to Arkansas, Colorado, Delaware, and North Carolina had experienced a growth in their ELL student population by 200% over the past years. Therefore, it was concluded that the growth of ELLs was a phenomenon that was significantly affecting schools across the United States.

As a result, Calderon, Slavin, and Sanchez (2011) argued that it was imperative that school administrators had in place at least four effective programs or approaches throughout the school year that assisted their teachers to meet the needs of their ELLs in the classroom to the best of their abilities. First, it was vital for the school staff to have a good communication system in order to discuss the progress of students who were

succeeding as well as failing not only with other staff, but also with parents. In addition, it was necessary to have a carefully considered plan to avoid or resolve the issues regarding students who may be failing and found alternate ways to help them be successful and continued to monitor their progress throughout the year. Second, all staff members including administrators should attend professional development, which should be rigorous and ongoing throughout the school year. In addition, teachers should be given an opportunity to share with staff members and administration their newly acquired knowledge during staff meetings. Third, a program on discipline should be created, which should have delineated the consequences if rules were broken in the classroom. It should contain the standards of behavior in the classroom and effective strategies for classroom and school management. The fourth and final program relies upon the leadership team of the school, which should ensure to monitor the quality of teaching and learning in the classrooms on a daily basis and should hold all staff members accountable for working as a team to reach the shared mission and vision of the school.

In a study that aimed to investigate K-8 teachers' knowledge and understanding of their ELLs needs and their perceptions regarding how well prepared they were to effectively impart instruction to their students, the Kent Intermediate School District (KISD) of Kent County, Michigan used a snowball sampling of teachers. The teachers ranged Language Arts, Science, Music, Social Studies, to Music instructors with a diverse student body in their classrooms (Gomez & Diarrassouba, 2014). It was worth noting that the researchers received a total of 89 responses back from their web-based questionnaire (three-part questionnaire: demographic information, closed-form, and open-ended questions) of which 76 participants were female and 13 were male. It was



worth noting that two participants reported that they were school administrators. Among the participants; 42 worked in the urban district, 28 in the rural, and 19 in the suburban. In regards to school level, 53 teachers worked in elementary schools, 21 in middle schools, and 15 in high schools. (Gomez & Diarrassouba, 2014).

The analysis of the web-based questionnaire results were reported through the form of a Pearson chi-square test. Based upon the findings of this study, two elements emerged regarding teachers' perception of their preparation to teach ELLs, which were language needs and diversity awareness. In regards to the first, teachers felt they did not have the linguistic background or methodology to teach ELLs in the mainstream classroom and they reinforced that these students needed additional support to learn and develop academic English. In order to address diversity awareness teachers recommend the development of workshops that integrated cultural elements so that teachers can include these into their daily lesson and their interactions with ELLs (Gomez & Diarrassouba, 2014). Educators were essential in assisting ELLs to meet their academic needs and preparing them for the workforce. Therefore, it was imperative that colleges and universities implement courses and curriculum that prepared teachers work with ELLs and lead them to academic success (Gomez & Diarrassouba, 2014).

The ultimate goal for all educators of ELLs was to offer educational settings that cater to their educational needs through the use of appropriate language and teaching models. In an attempt to meet the needs of this ever-increasing population of students it was critical of educators to attempt to make their instructional activities highly interactive and include many oral language activities within their lessons in order to allow these students to build their communication skills within the second language they were

acquiring (Castañeda, Rodríguez-González, & Schulz, 2011). Furthermore, the use of body language and gestures by teachers should be taken into consideration when working with ELLs as well as the enunciation of words (Castañeda et al., 2011).

Therefore, it was crucial to allow ELLs to interact with English-proficient students through the mainstream curriculum and the use of the Sheltered Instruction Observation Protocol (SIOP). Researchers Pereira and de Oliveira (2015) purported that educators must research best educational practices and find key strategies that aided them with essential knowledge in the providing a rich learning environment to all students especially ELLs who have to encounter many challenges during their educational endeavor. Therefore, having knowledge of how academic knowledge was developed versus proficiency of language within ELLs can undeniably help educators plan to deliver lessons that were highly responsive to the needs of their ELLs. It was worth noting that educators should use cooperative pairs in their classrooms, which was a technique that provided students the opportunity to participate with his or her peers in the learning activity without feeling singled out due to language barriers. It may have been plausible for the teacher to allow students to select their pairs on certain occasions in order to allow students to work with a student whom they feel comfortable (a student who speaks same native language) to share their ideas with and consequently gain a deeper understanding of the lesson of the day (Berg, Petron, and Greybeck, 2012). Teachers who were fully committed to promoting the academic achievement of all their students should ensure that ELLs had equal opportunities and motivations to participate dynamically in educational activities as their surrounding peers (Cummins (2011).

Calderon, Slavin, and Sanchez (2011) purported that when students were afforded the opportunity to through the cooperative learning approach they were able to teach one another immediately after a lesson had been presented and clarify any doubts that arose with one another. Also, they stated that cooperative learning offered them the opportunity to discuss the class content in a safe context because many ELLs were reluctant to ask questions in a whole class setting for fear of being ridiculed or laughed at, but in a small cooperative group they were able to clarify their doubts, speak, and learn from the peers all together. Furthermore, addressing the needs of ELLs can be seen as an opportunity for educators to enhance and improve innovative skills, materials, approaches, and techniques that may have benefitted all members within the learning environment (Baecher, Antiglieri, Patterson, & Spatzer, 2012). Moreover, Li (2013) exhorted educators allowed time within the learning process for collaborative learning because it allowed ELLs the opportunity to express their thoughts and ideas through social collaboration with their peers and in return learning goals became effectively accomplished. It was equally important for educators especially for those who taught secondary level students to keep the expectations high with their ELLs in order to help them develop their second language quickly as well as transition into the mainstream curriculum, which was their ultimate goal. As a result, it was vital for teacher to challenge their potential and helped them think critically and aided them to academic success and helped them through the process of acquiring a second language, while adapting to a new culture (Berg, Petron, Greybeck, 2012). In addition, Castañeda et al. (2011) purported that if teachers were able to acquire more insight and knowledge regarding their ELLs' environment and educational backgrounds they were even more

equipped to meet the educational needs of their students and in return led these students into academic success, which was the ultimate goal of every educator. Li (2013) claimed that as the diversity of schools continued to increase, the challenge for educators increased as well; therefore, it was imperative to continue exploring and acquiring essential knowledge and skills to meet the unique academic needs of ELLs.

### **Efficacy of SIOP**

The objective of sheltered instruction was to allow ELLs the opportunity to have access to mainstream classrooms and core curriculum through modified lessons in which students were able to learn academic language in a meaningful and understandable manner. In addition, lessons delivered through the SIOP Model allow teacher made connections between new concepts, students' personal experiences and their background knowledge (Kareva & Echevarria, 2014). Moreover, Fritzen (2011) asserted that the focus of Sheltered Instruction involved making the mainstream curriculum accessible to ELLs. Teachers who implement the SIOP Model with fidelity explain the academic tasks that students were to implement clearly and in a step-by-step manner both orally and in writing for ELLs. Furthermore, during the lesson the scaffold (provide additional support) in order to ensure they have understood the academic task to be completed. Additionally, SIOP trained teachers were capable of presenting meaningful learning activities that were interesting to the students, they provide ample wait time for the students so they could process newly learned concepts, and the classroom instruction nurtured students' engagement. Furthermore, SIOP teachers who implemented the Model with fidelity frequently checked for student comprehension in order to assess if further explanation were required or the re-teaching of a specific skill was in need (Kareva &

Echevarria, 2013). Furthermore, Echevarria, Richards-Tutor, Ghinn, and Ratleff (2011b) stated that literacy instruction for ELLs was currently a topic of critical importance because this population of students was not only the fastest growing in U.S. schools, but they were also overrepresented as the group of students that struggled in many academic areas. Echevarria et al. (2011b) claimed that the poor performance of ELLs in the classroom may be influenced by the role of academic language in literacy and learning. Moreover, they stressed that one fundamental component that was often omitted in the discussion of research-based literacy practices was the relationship among teacher implementation and student success. Therefore, they discussed within their article the importance of employing research-based literacy practices with fidelity in order to obtain positive effects specifically relating to student achievement. The term fidelity was defined as the degree to which an intervention or model of instruction was implemented. Echevarria et al. (2011b) expounded on the fact that many studies do not assess or report fidelity; therefore, this leaves readers with uncertainty as to the actual effect that the intervention had upon student achievement. In addition, they stated that professional development was essential when trying to implement a program with fidelity.

Echevarria et al. (2011b) stated that the context of their study was to test the effects of a model of instruction for ELLs that was called the SIOP model, but focusing on content area literacy and language development in seventh-grade Science classrooms. In order to complete their study they randomly selected eight middle schools in one large urban school district with high numbers of ELLs. There were 8 teachers and 649 students in the treatment group and 4 teachers and 372 students in the control group making a total of 12 teachers and 1,021 students participating as a whole in the study. It was worth

noting that the treatment teachers received intensive professional development in the use of the SIOP model of instruction in order to aid them on how to implement the unique features of this model and so they would understand why using these techniques in the classroom especially with ELLs were effective. The fidelity of teacher implementation was assessed by using the actual SIOP that was an observation instrument on which the SIOP model is based upon.

The treatment teachers delivered SIOP lesson plans that were created by the research team, while the control teachers taught the same unit and used the same textbook as the treatment teachers; however, they used their own lesson plans and teaching methods. It was important to note that as a means to help support treatment teachers in their delivery of SIOP lesson plans, they were provided with coaching by researchers who were highly experienced in the implementation of the model. Additionally, the treatment teachers were provided with a fidelity checklist that would guide them through implementation stage as they carried through the provided lesson plan. Furthermore, observations were conducted every other week that provided each teacher with a total of five observations.

Moreover, both the treatment and control teachers were provided with pacing guides that ensured they were teaching the same content and providing pre and post assessments to the students at the same time. The aforementioned assessments were curriculum based and examined content knowledge as well as academic language in Science. The students responded to content questions and read passages in order to answer multiple-choice and fill-in the answer questions. As part of the results found by researchers Echevarria et al. (2011b) there was a significant learning growth on the pre

and post-tests that were done by the treatment groups, while the control groups remained mostly stable. Also, it was acknowledged that the teachers that implemented the model with greater fidelity had the students with largest learning gains.

Echevarria et al. (2011b) asserted that the data from their observations and field notes had several implications for schools and districts because the SIOP Model allowed fidelity to be rated on a continuum and because not all measures of fidelity were reliable and valid instruments, as was the SIOP. They concluded by stating that the best practice in literacy development of ELLs involved the consistent application of research-based practices in the classroom by passionate educators who strived to serve and meet the needs of their students on a daily basis. Equally important, a focus on fidelity must become a priority in order for teachers to implement research-based literacy practices in the classroom, this, in turn will help ELLs meet high academic standards.

McIntyre, Kyle, Chen, Muñoz, and Beldon, (2010) explained in their research how the United States had seen a huge increase in language minority students in schools. They stated that the primary concern that drove them to conduct research was the low levels of school achievement among many of the ELLs, as well as the lack of research-proven instructional models for teaching this population of students. In addition, they argued that research throughout the years has failed to provide an accurate response to what constitutes an instruction of excellence for language minority students.

Therefore, the purpose of McIntyre's et al. (2010) study was to examine the reading achievement of elementary ELLs in classrooms where teachers implemented the SIOP model compared to students who did not receive instruction using the model. Also, their study focused on how well the teachers implemented SIOP in the context of 18

months while receiving professional development. McIntyre et al. (2010) were interested in understanding the relationship among professional development, teachers learning of the SIOP Model, implementation of the Model in the classroom with fidelity, and student achievement in Reading. McIntyre et al. (2010) explained that the standpoints of their study arise from the socio-cultural theories of teaching and learning in addition to multiple studies pertaining to effective professional development.

McIntyre's et al. (2010) study took place in a large urban school district in the Midwest where 23 classroom teachers participated in the 18-month project. The aforementioned ranged in grade levels from kindergarten through upper elementary and in regards to years of teaching experience from early career to veteran teachers. It was worth noting that all of the participants of the study were assessed prior to and after the 18 months of professional development that began with three full Saturday sessions followed by eight 3-hour after school sessions for a total of more than 50 hours across the 18 months. The preparation of action plans was compulsory among the participants stating how they would implement the eight components of the SIOP Model throughout the school year within their lessons. It was important to note that after each session the teachers completed feedback forms.

In regards to data collection and analysis, McIntyre et al. (2010) acknowledged that this involved a three-step process. First, after they attained inter-rater reliability they measured teachers' learning on the SIOP rubric. Then, based on teachers' scores on the rubric, they selected teacher participants to be included in the analysis of student achievement. Finally, they analyzed student achievement by comparing them to a control group of students. McIntyre et al. (2010) stated that while there were substantial



achievement differences in classrooms where the Model was well-implemented as compared to classrooms in which SIOP was not implemented, the achievement variances came with qualification.

As part of the findings regarding the teachers' learning and implementation of the Model, many educators scored remarkably different on the post-observation as compared to their pre-observation. McIntyre et al. (2010) stated that teachers who grew most at the conclusion of the study according to the SIOP tool, were either those who were already high scorers on the pre-observation or those who went beyond expectations of the study by embracing new strategies and sharing their findings with the researchers at each meeting. In terms of student learning findings, there was evidence that the students who were served using the SIOP Model benefited significantly more than students not served by the Model. In order to measure the students' learning gains the researchers used the Predictive Assessment Scales (PAS) test that was administered at three crucial points in the school year that provided prompt feedback to the students and teachers (McIntyre et al., 2010).

Moreover, McIntyre et al. (2010) stated that their research findings contribute to the growing research base on effective instruction models for ELLs in U.S. schools in addition to the research literature on instructional supports for reading achievement of ELLs. Also, they acknowledged that while SIOP was not a reading intervention program; rather, it was a popular Model for ELLs which must be examined in light of whether or not it was supportive of students' reading achievements. McIntyre et al. (2010) concluded by stating that the SIOP Model could be amended in order to emphasize a focus on content as critical during professional development. Also, they purported that the SIOP

Model had much to offer when implemented in the classroom with fidelity which requires teachers to pay attention to content, skills, and context for learning.

Moreover, Short (2013) asserted that educators must possess the ability to engage their English Language Learners in rigorous instruction that provided a strong focus on academic vocabulary, content area literacy, and critical thinking skills. The SIOP Model incorporated the use of best educational practices for instructors of ELLs. In addition, it provided strategies that followed a logical structure that allowed students to improve their academic achievement (Short, 2013). It is worth noting that highly effective teachers challenge their students by setting high expectations and provided them with instruction that promoted the use of higher-order thinking skills. Furthermore, these teachers were capable of creating positive classroom environments through the development of healthy relationships and they were purposeful about their teaching by using a repertoire of instructional strategies that lead their students to accomplish their learning goals (Goodwin, 2011). Additionally, Haynes and Zacarian (2010) asserted that the success of students was highly correlated with their engagement in the learning process.

Additionally, in a two year study that sought to examine the effects of the SIOP Model regarding the acquisition of academic language and science concepts with ELLs in science classrooms; researchers Echevarria, Richards-Tutor, Canges, and Francis (2011) used ten middle schools in one large urban district in Southern California. The schools were randomly assigned as either treatment (SIOP Model) or control (normal classroom science instruction). The teachers assigned to the treatment school were provided with SIOP Model training and then taught four science lesson units to their students. It was worth noting that the control teachers taught the same lesson units, but using their own

instructional approaches. The teachers in the treatment school had coaches to ensure that they were delivering lesson plans according to the SIOP Model and to provide feedback every other week. The students in both treatment and control school received pre and post assessments in order to measure growth in terms of science language acquisition and comprehension of science content (Echevarria et al., 2011). It was worth noting that two of the control schools dropped out of the study, which significantly impacted the final results leaving the researchers with three control schools and five treatment schools. The percent of ELLs within the schools ranged from 27.2 to 39.9; due to the increased number of this population of students all teachers are required to be certified to teach ELLs in addition to their content area. According to the findings, there was substantial variability in student performance across all aspects of the study. In regards to the posttest the study did not find substantial statistical differences between students taught through SIOP and those taught through conventional strategies. Echevarria et al. (2011) acknowledged that the aforementioned may be due in part to the many challenges they faced with this study their results should be interpreted with caution starting with the attrition of two schools, only 12 teachers were willing to participate, the course (Biology) had a duration of one semester, scheduling constraints for SIOP extensive training among many other variables. Although with differentiated growth, it was worth noting that the performance of students in the treatment group was slightly better than those in the control, predominantly when teachers applied the features of the model with devotion; therefore, additional research regarding the SIOP Model providing more focus on professional development as a means to increase fidelity to the model should be considered (Echevarria et al., 2011).

## **Insights and Challenges of SIOP**

Lai (2013) claimed that one of the most important elements in the process of acquiring a second language was motivation, not only from the student, but also from the educator. Hacias, Da Luz Fontes, Kephart, and Blume (2012) asserted that the main goal of Sheltered Instruction was to provide English Language Learners (ELLs) with access to the mainstream curriculum. It was worth noting that ELLs encountered a myriad of challenges that included the use of intellectual academic language (p. 85) and numerous researchers including Echevarria and Graves (SIOP advocates) indicated that Sheltered Instruction can be used as a support system that will eventually allow the students to transition smoothly into the mainstream. Hacias et al. (2012) provided the results of a study conducted in an urban school with students being taught under Sheltered Instruction as well as students being served through the general curriculum.

Their research was conducted within four classrooms in which one served as the experimental classroom by being taught in Spanish, while the other three were classified as the control classes. It was worth noting that two schools were used for the purpose of this study, but both serve in the same school district with a high population of Hispanic students (89.4% in one school and 89.5% in the other).

In order to complete their research four research tools were utilized, which included, but were not limited to a Language History Questionnaire that contained 20 questions on rudimentary demographic information as well as scales for each participant to self-rate his/her personal ability in reading, writing, speaking, and comprehension skills for English and Spanish (Hacias et al., 2012, p. 89). The second research tool used by Hacias et al. (2012) consisted of the Stanford English Language Proficiency (SELP)

scores, which was an instrument used in the school district in which the study took place as a means to having a reference point regarding the students' English language reading, writing, speaking, and listening skills before any research was implemented (p. 89). This assessment was generally provided to all newcomer students who were classified as ELLs. Furthermore, the researchers used student interviews in order to obtain their perceptions regarding the use of Spanish in the English Language Arts classroom through the use of five questions. Finally, the researchers conducted individual teacher interviews that consisted of six questions through a protocol that was administered to participating teachers of this study.

Moreover, Hacias et al. (2012) provided the general findings of their study through the use of SELP scores and it was found through initial and follow-up tests that students who were receiving their instruction of Language Arts in English obtained higher SELP gain scores than their peers who received instruction of Language Arts in Spanish (p. 93). Through the use of the compiled data (SELP scores and transcripts of student and teacher interviews) the researchers were able to provide a response to their research questions. However, it was important to note that the researchers did not exclude the limitations of their study, which included, but were not limited to the fact that they were not able to fulfill their original research plan (observe and record each classroom) because they did not receive informed consent from 100% of the participating students. Furthermore, as aforementioned these researchers faced numerous challenges that included a group size in which they expected their experimental class to be larger (25 students); however, due to consents and funding this number dwindled to seven students. Another challenge included not being able to use two standardized tests to compare

scores because the district only required a few students to take the other assessment they had proposed in their original plan and as a result they were only able to use SELP scores. Another challenge was obtaining back all distributed consent forms on time as requested from all participants. Lastly, one of the teachers who had provided initial consent to participate went on maternity leave and when she returned she was reassigned to another group of students who were not part of the study. The researchers acknowledge that these limitations and challenges hindered them from obtaining other expected results; therefore, they suggest future researchers that a long-term study with a greater number of students be conducted through an exhaustive examination into diverse program designs for secondary ELLs in identical language groups (Hacías et al., 2012, p. 100).

### **The Use of SIOP Components in a Colombian Public School**

Rativa-Murillo (2013) argued that throughout the years many educators have used a variety of teaching strategies in the process of teaching a second language. As a result of the latter, some learners have obtained successful accomplishments, while others have not. Therefore, it was vital for educators to understand that although they provided the same learning environment for their students they must adapt their teaching styles and methods in order to better address the diverse educational needs of their students. In a study conducted by Rativa-Murillo in 2011-2012 he expounded on how Colombian public schools were willing to become bilingual in order to comply with the Colombian Ministry of Education. Therefore, students were required to take English classes as part of their graduation requirements. However, it had been found that the two common practices used to teach ELLs in Colombia (English Immersion Method [No mother

tongue was used] and Two-Way Bilingual Method [mother tongue was used]) the latter being preferred by educators due to courses having components being taught in the students' mother tongue, which was Spanish had resulted as ineffective as a means to effectively address the learning needs of ELLs specifically in Colombia (Rativa-Murillo, 2013, p. 172).

Therefore, Rativa-Murillo (2013) deemed the necessity of incorporating the some of the components of the Sheltered Instruction Observation Protocol (SIOP) in order to better support the bilingual process for public school students in Colombia. As a result, he conducted a study, that had the purpose of exploring how teachers could have become accustomed to the features from the Lesson Delivery SIOP component to foster the use of English in a given public school. The primary objective of his study was to incorporate SIOP components in the classroom in a manner that would allow teachers to refrain from the use of Spanish in the Language Arts (English) classroom and to establish an action plan on how to fully implement the SIOP components in Colombia public schools in the near future. (Rativa-Murillo, 2013, p. 173).

After conducting an exhaustive review of other similar studies Rativa-Murillo (2013) concluded that the use of the mother tongue in the process of learning a second language could have been considered a hindrance; however, it should not be utterly disregarded through the use of necessary and appropriate activities. In order to initiate the implementation of his study three English lessons were planned and delivered by adjusting several features of the Lesson Delivery SIOP component, which included, but were not limited to the use of content objectives, student engagement, and pacing (Rativa-Murillo, 2013, p. 178).

Furthermore, Rativa-Murillo (2013) asserted that within the findings of his study when English lessons were adapted with the SIOP template the students acknowledged that the classes were easier to comprehend, they learned more vocabulary, and they felt better engaged in the classroom (p. 181). However, it was important to note that Spanish was still used in some cases in order to create and establish relationships as well as assist some students with learning problems (Rativa-Murillo, 2013, p. 181). Moreover, it was found that students were better engaged in most of the class activities and as a result they were able to apply most of the knowledge they had acquired in English. Rativa-Murillo (2013) was able to confirm that many of his findings within his literature review were able to be confirmed especially when it came to reducing the amount of Spanish used in the English Language Arts classroom in order to foster development of the second language (English).

### **Affecting Factors in the Implementation of SIOP**

Fritzen (2011) asserted that the term Sheltered Instruction had become a commonly used metaphor for instructional interventions that aimed to help ELLs in their proficiency and understanding of a second language. Additionally, Trevino-Calderon and Zamora (2014) defined English Language Learners (ELLs) as students who were in the process of learning English as they had an alternate language as their main method of communication (p. 20). Furthermore, they expounded on percentages of the increase of ELLs particularly in the state of Texas that was considered the second state with the largest number of ELLs in the United States according to recent research. The leading initiative that inspired Trevino-Calderon and Zamora to conduct their study was the fact that 78% of students were able to obtain a high school diploma in Texas, but only 39% of



ELLs were able to attain this same goal. The extensive review of literature pertaining to ELLs conducted by Trevino-Calderon and Zamora (2014) included the consequences that under lied from an individual who failed to obtain their high school diploma, which may have resulted in an estimate of \$250 billion cost to the federal government from missing salaries, lost tax revenue, and greater dependence on social services (p. 21). It was worth noting that their study had the purpose of ascertaining the attitude of 12 teachers towards the implementation of SIOP in the classroom, specifically within the performance of 222 English Language Learners that served purposively for the sampling of this study. Moreover, the findings produced from their study had the sole purpose of providing school districts with vital information that can be used in professional development activities and curriculum adjustment workshops, which ultimately aided in meeting the educational needs of all students being served.

Trevino-Calderon and Zamora's (2014) mixed-methods study qualitative component had the intention of discovering the emotion and outlook towards the SIOP intervention while the quantitative component involved searching for a connection between the two groups using an examination of the achievement data (p. 23). Trevino-Calderon and Zamora (2014) emphasized that if educators were unable to relate to the educational needs of their students and understand the various teaching strategies available to aid these students to reach their highest potential, these educators would not be able to lead successfully their students to obtain their proposed academic goals and as a result these ELLs would be underperforming against their peers. In research performed by Trevino-Calderon and Zamora (2014) through the precursors of the SIOP Model the 30 features within the eight components allow for educators to effectively meet and

address the unique needs that ELLs face on a daily basis within their corresponding educational setting. It was noteworthy that all of the components within SIOP (8) had indicators that teachers used as references during lesson planning in order to ensure that they were making content understandable for ELLs. (Trevino-Calderon & Zamora, 2014, p. 25).

In order to obtain the qualitative data for this study it was essential to use a four part written survey to determine teacher attitudes and perceptions as they relate to ELLs, an oral interview to provide additional validity and insights into the study, and a classroom observation; which allowed the researchers to see what kind of instruction takes place in the classroom and to allow room for feedback (Trevino-Calderon & Zamora, 2014, p. 28). It was worth noting that the results determined that five out of the 12 teachers had negative attitudes towards the SIOP Model, ProALT as labeled by the researchers as well as to the ability of ELLs to be successful in their future endeavors. As a result, it was found that the remaining seven teachers exhibiting an implementation of the SIOP Model with more fidelity towards the design, ProSIOP as labeled by the researchers. In addition, these seven teachers were seen to have a more optimistic attitude towards the academic abilities of their ELLs and were seen as positive role models towards the lives of these students.

On the other hand, the quantitative data was measured through the use of two independent measures that were shown using similar examples and identical theories. It was worth noting that data that was compared among both groups with Reading and Math both exhibited that the ProSIOP group obtained a slightly higher mean score than the ProALT group (Trevino-Calderon, 2014, p. 29). Therefore, according to the findings,

students who were taught by teachers with an affirmative outlook towards the SIOP Model perform to some extent better than those who have teachers with an adverse viewpoint towards the Model. Among the recommendations for the future preparation of teachers by Trevino-Calderon and Zamora (2014) these must be taught to be more sympathetic towards meeting the educational needs of their students as well as to the values and norms of their entire student population within their classrooms. Furthermore, they included school administrators who felt they must have included more professional development workshops to include addressing appropriately the needs of ELLs. Conclusively, Trevino-Calderon and Zamora (2014) argued that if ELLs were taught solely in English it was necessary to equip educators with the necessary tools that allowed these to lead their students to academic success in their second language acquisition process. Therefore, they had argued and concluded through their research findings that SIOP had the purpose of reducing the inequality in content integration among students who dominate the English language and those who continue to struggle with the language acquisition process (p. 31). The SIOP Model was an intricate framework that required substantial modifications from most teacher's accustomed lesson planning. It was important to note that it was not a step-by-step approach that could have been learned and reenacted in one class session. Educators must have keep in mind that it required a combination of techniques, awareness of academic language, and patience to guide a diverse group of students to academic success (Short, Fidelman, & Louguit, 2012).

### **Effectiveness of SIOP on Academic Language**

Educators face numerous challenges when asked to include language objectives into their daily lessons for their ELLs. It was worth noting that many teachers welcome the challenges, while others felt they would have done a disservice to these students because they were not equipped with the essential instructional strategies required to teach this population of students and tended to give up easily without finding possible solutions (Franquiz & Salinas, 2013). Short, Fidelman, and Louguit (2012) purported that all around the world educators were making necessary adjustments by partaking in additional professional development in order to address appropriately the needs of English Language Learners (ELLs). These trainings equipped teachers in their ability to prepare their students to use a new language and allowed to lead them to academic success in their future endeavors. Furthermore, Short et al. (2012) asserted that the aforementioned became a necessity in ESOL teachers since students in the United States were required to take standardized tests regardless of their proficiency in English, which resulted in many obtaining low scores that in the long-run impact their educational careers. For example, teachers were required to cover state specific standards in their classroom for at least core subjects that included Science, Mathematics, and Social Studies; however, little to none accommodation was made for ELLs in order to aid these in their language barrier. As a result, these students had been hindered from achieving success in state assessments and demonstrating mastery of the academic standards. They must have taken the assessments whether or not they felt prepared. In addition, their needs were not being adequately addressed since they had to pass End of Year (EOY) or End of Course (EOC) exams in order to fulfill graduation requirements to obtain their

diploma. Short et al. (2012) expounded that these testing practices have no plan to vary in the near future; therefore, the need to provide interventions that will address the existing performance gap of ELLs must be highly considered not only by educators, but also by school and district administrators.

It was worth noting that Short et al. (2012) asserted that Sheltered Instruction in the United States was the use of special language development techniques by teachers in order to make teaching units more fathomable for ELLs (p. 335). In terms of the study employed by Short et al. (2012) the use of the Sheltered Instruction Observation Protocol (SIOP) Model was employed as a means to increase the academic achievement of ELLs. It was important to note that SIOP was originally intended to be a researcher's tool to measure the techniques of Sheltered Instruction through observation. However, after extensive research and use through seven years it was transformed into a framework that could be used for both teaching and lesson planning. When this model was implemented with fidelity the rate of academic success among ELLs had been found to increase over the years. Short et al. (2012) purported that SIOP incorporated 30 features that provide an instruction of high standards. Among these features included the use of cooperative pairs, reading strategies, language goals, verbal language exercises and the improvement of background knowledge and academic vocabulary (p. 337).

In a study conducted by the Center for Research on Education, Diversity and Excellence (CREDE), which was funded by the United States Department of Education, which was also the center responsible for the development of the SIOP Model purported that there was a next step to follow-up with the model in terms of the scholastic achievement of ELLs (Short et al., 2012, p. 338). In this two-year extended study it was

proposed to use a new state and broaden the scope to include high schools, since originally SIOP was used within elementary schools. In addition, this extended research had the intention of examining the use of professional development as a means to enhance SIOP trained educators.

It was vital to note that this quasi-experimental study was conducted with two school districts located in northern New Jersey because it was not possible to separate two groups of high school students within the same district due to scheduling matters. However, the researchers did their best to match up both districts in terms of five factors: (a) diversity in dialectal and ethnic backgrounds, (b) student population, (c) socioeconomic status, (d) state mandated assessment scores, and (e) language program design in middle and high school levels (Short et al., 2012, p. 339). It was worth noting that the six selected schools (two high schools and four middle schools) did not have a Title I status at the time the study was conducted. The district that was used as the treatment group served approximately 10,000 students, while the control group district served approximately 6,000 students. However, both districts were highly known for having embedded ESOL programs within high schools as well as multilingual programs at the elementary level (Short et al., 2012, p. 340). The main reason for using these school districts as part of the extended SIOP research was the fact that both experienced a performance gap among ELLs when compared to native English speakers on state mandated assessments.

Regarding the participation of teachers for this study, middle and high school educators from both districts were a part of the research. The great majority volunteered to participate; however, in the treatment school, teachers that were new to the district

were assigned to be part of the study. During the first year of the study 23 teachers participated, while during the second year, 22 educators participated; nonetheless, only 19 teachers participated during both of the years in which the study took place. It can be stated that within the teacher participants half taught high school students while the other half taught middle school across the subjects of Mathematics, Science, Social Studies, and English to Speakers of Other Languages (ESOL) (Short et al., 2012).

On the other hand, when dealing with student participants over the two research years 278 ELLs were part of the study in the treatment district, while 169 ELLs were part of the control group during the first year. Nevertheless, during the second year of the research 267 ELLs were part of the treatment district and 168 ELLs formed the participants for the control group of students. It was worth noting that in terms of school population in the treatment district 5-8% of the students were classified as ELLs; likewise, in the control district 5-7% of the student population were considered ELLs. In regard to gender, for each school district the treatment breakdown was approximately 51% male and 49% female, while the control group was around 44% male and 56% female.

Researchers Short et al. (2012) used the New Jersey Assessment of English Language Achievement, the IDEA Language Proficiency Test (IPT), that provided separate scores for Writing, Reading, and Oral Language. It was worth acknowledging that these tests were normed upon a group of ELLs that represented a broad range of ethnic, socioeconomic backgrounds, and language abilities. The SIOP professional development offered to the treatment group consisted of summer institutes, workshops, school-based coaching, and classroom observations. The workshops allowed the

researchers to present the SIOP Model to the teacher participants in a collaborative manner in order to present effective ways to use this approach in the classroom. As a means to examine the impact of the SIOP Model upon ELLs the students IPT scores for the Writing, Reading, and Oral Language were compared in two subsequent years in order to monitor progress. In regards to the performance of the students, the researchers acknowledged that the treatment students (SIOP exposed) performed better on the IPT tests for two consecutive years in comparison to their peers who were not taught under the SIOP Model. Conclusively, the results confirmed that the SIOP Model had a positive impact upon student English language performance and significantly enhanced the quality of teaching in content area courses (Short et al., 2012).

#### **Daniel and Conlin on the Effectiveness of SIOP**

Daniel and Conlin (2015) asserted that the Sheltered Instruction Observation Protocol (SIOP) is an educational framework that many elementary and secondary educators were increasingly incorporating into their daily lessons in order to support the educational needs of their ELLs. It was worth noting that the sheltered instruction approach emerged in the United States during the 1980s and 1990s as an appealing content-based educational approach for English Language Learners (ELLs). During the 1980s this approach focused on alleviating the anxiety among ELLs by segregating these students from their American born English speakers into a classroom that provided the general education courses in their native language until their obtained proficiency in the second language, which resulted in merging them into the mainstream curriculum. However, due to current policy changes it had been found necessary to incorporate ELLs rapidly into mainstream classrooms, which was seen as a manner of aiding these students



to better understand the content of their mandated curriculum through the effective use and application of second language acquisition theories (Daniel & Conlin, 2015, p. 170).

Although Daniel and Conlin (2015) were strong advocates of the SIOP Model they purported that it may be amended in order to enrich teacher professional development (p. 169). The main reason for these improvements relied on the fact that SIOP was a Model that focused on the educator's efficiency in the classroom rather than focusing on what role that student played in the classroom (Daniel & Conlin, 2015, p. 169). As a result of the aforementioned they had offered the following three suggestions that served as a complement towards the current SIOP Model: (a) supplementary features that aided teachers in praising the contributions made by their students in the classroom, (b) additional prompts that allowed educators to reflect on how their teaching selections influence their students in the long run, and (c) supplementary professional development opportunities that provided best practices on immediate feedback during classroom interactions (Daniel & Conlin, 2015).

In order to support their suggestions Daniel and Conlin (2015) had broken-down the 30 components of the SIOP Model and had come to the conclusion that out of the 30 features that this Model was comprised of; 25 were exclusively geared towards teacher actions, while only 3 of these 30 were student-centered. Furthermore, they provided the results of a study they conducted with a pre-service teacher on how she was able to improve her lessons plans through the incorporation of SIOP, but simultaneously her commitment in deeper retrospect of students' perception became limited (p. 174). Throughout their study Daniel and Conlin (2015) provided a narrative of their observations and findings. The pre-service teacher concluded that SIOP allowed her to

become purposeful, clear, and attentive of her activities during lesson planning and delivery of instruction to her students (p. 176). It was further emphasized that the pre-service teacher increased her awareness of supporting her ELLs through the use of kinesthetic activities that involve practical approaches and student collaboration (p. 176). It was asserted that the researchers who came from an educational background would have appreciated seeing their observation. The pre-service teacher, considering the actions and interactions of her students in the classroom and made use of these as part of the lesson; rather than relying solely upon the SIOP checklist as a formulaic way of delivering her lessons. It was worth noting that the checklist provided by the SIOP Model did not provide room for considering the perspectives of the students. However, in order to accomplish the aforementioned Daniel and Conlin (2015) posited that it was necessary for educators to nurture comprehensive interactions with their students and make space in their teaching plans to consider and respond to student's contributions in the instant instruction (p. 177).

Moreover, Daniel, and Conlin (2015) offer four suggestions that helped refine the SIOP checklist in order to attend the ideas presented by the students in the classroom. First, they exhorted educators to anticipate the contributions that were made by their students during classroom interactions and had ideas on how to further expand upon these in order to promote an elaborative discussion. Second, educators stimulated feedback and questions from the students as well as take time to respond to these effectively. This in turn encouraged students to build and interact upon their own ideas and comments. Also, educators needed to rephrase these comments, which helped build academic language and instigated students to provide additional descriptions, arguments, disputes, and data

supported justifications (p. 179). Third, educators needed to reflect upon the input that the students had provided and discerned whether it was comprehensible and had to be prepared to reteach skills as needed. Lastly, educators observed students during collaborations and determined their level of engagement and how they were able to foster one another's disciplinary engagement. The incorporation of these features in the SIOP checklist helped support ELLs in "the educational process, corrective measures in behavior, and language acquisition, which were vital in the teaching for understanding process (Daniel & Conlin, 2015, p. 179). The main focus of Daniel and Conlin (2015) in their study was to help educators surpass their own actions and further consider the perceptions of their students in order to engage in a learning environment that was richer in order to better address the learning needs of ELLs and helped them reach successfully their academic goals while improving their personal collection of languages (p. 181). Daniel and Conlin (2015) concluded that in order to uphold an extraordinary reliability during implementation, educators who wished to incorporate SIOP in their teaching practices must be part of extensive training through continued professional development and had supported systems to rely upon if doubts arose (p. 183).

### **Summary**

The aforementioned literature noted how the increased within the states of California, Texas, and Florida of English Language Learners had created a great concern among the academic achievement of this subgroup of students. As a result of the latter, it was imperative that educators committed themselves to address the unique educational needs of their ELL population, which sought to guarantee that they were able to compete among other candidates for in job-related scenarios. According to the research noted

above many school districts had turned to implementing and encouraging the use of Sheltered Instruction Observation Protocol among their instructional staff in order to better serve ELLs as they transitioned into the mainstream classroom, which began making its way into the classroom as teachers were struggling in a daily basis with ELLs since the 1980s and 1990s. As a result, Sheltered Instruction, then, became as a plausible solution for these educators that were struggling. Many scholars were taken into consideration in order to conducted developed literature reviews as the opinion of many scholars was needed regarding this subject matter; however, it was worth mentioning that the precursors of the Sheltered Instruction Observation Protocol by Echevarria, Short, and Vogt (2007).

Furthermore, it was worth noting that the research from the above mentioned scholars had proven that teachers who were effectively competent in the use of SIOP and were able to employ the learned strategies with fidelity were able to provide successful instruction to ELLs. Furthermore, research had stated that ESOL students served through SIOP outperform peers in which their teacher did not receive SIOP training (Hansen-Thomas, 2008). Therefore, it was evident that the effectiveness of Sheltered Instruction for ELLs had been successfully demonstrated through research.

### **Research Questions**

The following five research questions evolved from the literature that suggested a need for additional studies:

1. To what extent had teachers improved their ELL instructional effectiveness as a result of using SIOP? (Sheltered Instruction Observation Protocol Appendix A).

2. By what percentage had staff development improved teachers' SIOP methodology knowledge? (Pre/Post SIOP Model Self-Assessment Appendix B).

3. How did teacher's perceptions change as a result of being trained in SIOP and using this methodology throughout the school year? (Teacher Perception Survey Appendix C)

4. By how much did students' academic achievement in their reading scores from FSA improve as a result of teachers using SIOP Model in their instruction? (FSA ELA Reading Assessment)

5. What was the impact of using the instructional components and features included in SIOP on student achievement as measured by the FSA ELA Reading Assessment? (FSA ELA Reading Assessment Scores). These five research questions were answered through the use of four instruments that will serve as data collection tools.

## Chapter 3: Methodology

### Participants

This study was conducted in a Central Florida high school that had a high population of English Language Learners. The school had an approximate enrollment of 2,244 students and according to provided assessments and benchmark testing such as the FSA ELA Assessment there were approximately 1,129 (50.6 %) students that were classified as English Language Learners (ELLs). However, it was worth noting that only 416 (36.85%) are served through ESOL strategies since the rest were merged in the mainstream classrooms. This school served students in grades nine through twelve and it had one teacher (treatment) that served students through SIOP strategies in ninth through eleventh and 2 to be trained in SIOP in the 12<sup>th</sup> grade. Therefore, it was important to note that this study focused on the effectiveness of the Sheltered Instruction Observation Protocol (SIOP) Model when used with fidelity to help ELLs succeed academically. Hence, it was necessary to include three twelfth grade teachers to be trained in SIOP and compare previous years' reading scores with this year's results to determine the effectiveness of the SIOP Model. Teacher one served 188 students, teacher two served 200 students, and teacher three served 203 students. The total of 591 ESOL classified students were served by ELL teachers and the remaining 538 of the 1129 students were taught in the mainstream classroom on a daily basis.

It was vital to note that the researcher was informed that only one teacher school-wide was trained in the usage of the SIOP Model for the 2016-17 school year and for this reason the two additional teachers rolled up with their students called looping grade level because the teacher participants received training in SIOP and served ELLs on a daily

basis. In addition, all teachers within this study continued to serve these same students during their senior year of high school to maintain consistency of the study. It was worth noting that teaching experience was not to be considered as a selection criteria.

Moreover, the student participants had to be high school students classified as Limited English Proficient (LEP) through the applicable Florida state codes [LY]. The students were Limited English Proficient and were enrolled in classes specifically designed for ELL students or [LZ]. The students were being followed up for a two-year period after having exited from the ESOL program (Florida Department of Education, 2013) and were taught under the SIOP Model in order to be accountable for this study. In the senior year all students participated and two teachers received SIOP training. It was expected that a total of three teachers at the end of 2017-18 school year were trained in SIOP. The test scores were compare to prior years, while the usage of two untrained in previous years were trained for the final year to provide comparative test results. In regards to this research only the scores from LEP students classified as LY or LZ from the three aforementioned teachers were considered as part of the final results. Since all three teachers looped up from the eleventh grade to the twelfth grade it provided the opportunity to compare prior years scores from the inexperience of two of the teachers with the spring of 2017-18.

### **Instruments**

It was expected to use four instruments in this study: (a) Sheltered Instruction Observation Protocol (see Appendix A) (b) the Pre/Post SIOP Model Self-Assessment (see Appendix B); (c) the Florida Standards Assessment ELA scores from the 2014-2015,

2015- 2016, 2016-2017, and 2017-2018; and (d) a Teacher Perceptions Survey (see Appendix C) on the use of the SIOP Model.

The first instrument, which aimed to respond to research questions one that was used as the Sheltered Instruction Observation Protocol (see Appendix A) (North Slope Borough School District, 2018) was an instrument that was utilized as a list of items to be included in the SIOP model. The instrument provided an observation check off list for the observer to record growth of each teacher over the 12-week period. The observations were compared from the pre, midway and post research of the study. In the Pre/Post SIOP Observation Self-Assessment (see Appendix B) was used as an instrument for teachers to score their use of SIOP from the beginning and end of the study to measure their improvement of the knowledge about the SIOP model as they progressed through the study. They rated their lesson delivery to the model of instruction, which in this case was Sheltered Instruction and as a tool for teachers to plan and deliver lessons that made academic content comprehensible and promoted language development for ELLs (Echevarria, Vogt, & Short, 2010). This instrument contained thirty observable features that were rated on a 5-point Likert scale that covered the eight components of the SIOP Model. The scale ranged from zero that represented that this feature was not evident in the lesson, to five, which indicated that the feature was highly evident. In 2001, Guarino, Echevarria, Short, Schick, Forbes, and Rueda (2001) conducted a study to evaluate the reliability and validity of this instrument for which they used Cronbach's Alpha to analyze the reliability of three sections of the components with a target alpha of .90 or higher that is considered to be acceptable. The alpha for preparation was .919, instruction was .975, and review and application was .946. Therefore, this instrument was a



consistent instrument that was considered to be reliable in discriminating between Sheltered and Non-Sheltered Instruction. Regarding validity the classification rate was 95.25 percent, which represented a high value of validity and it provided evidence that the observation protocol was a good predictor of the implementation of effective Sheltered Instruction (Guarino et al., 2001).

The third instrument used in this study responded to question number three of this study. The instrument consisted of the Florida Standards Assessment English Language Arts, (FSA ELA). The third instrument consisted of the Florida Standards Assessment (FSA) scores in English Language Arts. This instrument served as a tool for Florida to measure student achievement of the Next Generation Sunshine State Standards (NGSSS) for FCAT and the Florida Standards for the FSA in the Reading, Mathematics, Science, and Writing; thus ensuring the skills needed in school to achieve at high levels, academically and receiving a passing score was considered a graduation requirement for high school students. According to Florida Department of Education (2013) the FCAT and FSA assessment items were classified using a model that required the use of in-depth knowledge and the cognitive classification system that was used by the National Assessment of Educational Progress (NAEP). It was worth noting that items of low-complexity rely on student's ability to recall and recognize, items of moderate complexity required flexible thinking, informal reasoning, and problem-solving. Lastly, items classified with high-complexity required students to provide responses that elicited analysis and abstract reasoning.

The third instrument, the FSA aimed to respond to research question four: by how much did students' academic achievement in their reading scores from FSA improve as a

result of teachers using the SIOP model in their instruction? In addition the third instrument will answer the research question five: what was the impact of using the instructional components and features included in the SIOP on student achievement as measured by the FSA ELA Reading Assessment.

The second instrument which consisted of a Pre/Post SIOP Model Self-Assessment that was created by SIOP coaches and a fourth instrument was a teacher perception survey on the use of SIOP, that was provided to the trained SIOP teacher in the treatment group. These assessments had the purpose of providing data to determine the effectiveness as well as measured perceptions of teachers regarding the SIOP Model, their response towards professional development, the value of the coaching experience they received while being SIOP trained, and the value or usefulness of each feature that the SIOP Model comprised. The self-assessment consisted of 30 statements to which the teacher indicated their level of use in a scale that ranged between Daily, Often/Occasionally, and Never. This assessment went under the revision of SIOP trained coaches as well as an Institution Revision Board (IRB) in order to verify appropriateness of use, accuracy, and effectiveness in measuring teachers' use of this Model. On the other hand, the teacher perceptions surveyed utilizing 22 open-ended questions that were obtained from a previous dissertation through the ProQuest database after requesting approval to use from the original author. Sent email and received response from Dr. Madeline Negron granting permission to use her survey (Appendix D).

### **Procedures**

The collection of data for this study is projected to begin in January 2017 and it is intended to extend throughout the 2016-2017 school year. The researcher worked along

with the school administrator, the school's testing coordinator who will provide testing data, as well as the three teacher participants that provided access to their student data for this study. It was expected that prospective participants were granted with a letter requesting their participation that explained the purpose of the study, what their involvement would entail, and it allowed them to select if they would like to be a part of this study, and most important they will be informed that participation was on a voluntary basis. Once the prospective participants returned their invitation letter, those who agreed to participate received a consent form that provided them with an outline of their rights as participants. Once they signed and return this consent form, the researcher worked with the SIOP trained teachers closely to oversee that they were planning their lessons according to the Model and she conducted an informal observation using the SIOP protocol to ensure if the teacher was implementing the Model with fidelity. The researcher met with the teacher after each observation to discuss the outcomes. It was then expected to evaluate the teacher formally in two additional occasions in order to provide accurate feedback on the implementation of SIOP in the classroom.

Simultaneously, the researcher began gathering data from FCAT for 2013-2014 and FSA that was provided to the students during the 2014-15, 2015-16, 2016-17, and 2017-18 school years in order to begin analyzing it and comparing it to the control group. It was expected for the students to take the FSA in Fall 2017 and the data from all years will be compared to oversee if there were any learning gains while using the SIOP Model with fidelity. Also, to investigate if there are any differences between the learning gains of students who are being taught under the SIOP Model versus students who do not receive instruction with the SIOP Model. During the study year, the researcher planned to

observe the teachers once more to verify if the suggestions from the first observation were taken into consideration and implemented. Moreover, before concluding the study, the teachers were provided with a survey that investigated their effectiveness/perceptions regarding the SIOP Model.

**Design.** This study consisted of a quantitative research design that addressed three components which were: (a) the instructional practices of teachers and their use of the SIOP Model, (b) the achievement of ELLs on the FSA, and (c) the effectiveness of the teacher participants regarding the SIOP Model. In order to address the first, observations were conducted using the SIOP protocol to SIOP trained teachers and post observations discussions took place between the researcher and teacher participants. The achievement of ELLs was measured by using the 2013 and 2014 treatment group's ESOL scores from the FSA and they will be compared to the control group's scores. Finally, the data on teachers' effectiveness/perceptions of the SIOP Model were collected by using a provided survey. Both the observations and the survey had a range scale that allowed the researcher to tabulate the results in a prompt and efficient manner. The 23 open-ended questions were read individually and the responses were coded and grouped into recurrent themes.

**Data collection procedures.** In order to obtain data for this research the Reading scores from the FCAT from 2-13-2014 and FSA ELA scores from the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 scores were compared. All of the aforementioned, were among the students who were taught using the SIOP Model versus those who received instruction through conventional methods. Furthermore, in order to obtain valuable input from the SIOP trained instructor the open- ended questions were analyzed along with the

Pre/Post SIOP Model Self-Assessment pertaining to SIOP as it was generated by the creators of the SIOP Model.

**Data analysis procedures.** It was expected to administer a Pre/Post SIOP Model Self-Assessment to the SIOP trained teacher to determine her evaluation and use of SIOP. In addition, she will receive an open-ended question survey that provided the teacher with opportunity to express her perception on the Model. FSA ELA Reading Assessment past scores for both the students being served under SIOP and those through traditional methods will allow the researcher to ascertain that students served under SIOP Model obtain higher scores on state assessments than those not served under the Model.

In Research Question 1 (To what extent did teachers improved their ELL instructional effectiveness as a result of using SIOP?) was resolved through the use of a Pre/Post SIOP Model Self-Assessment, using open-ended survey questions, and the use to the Sheltered Instruction Observation Protocol it was expected to address the aforementioned question.

In Research Question 2 (By what percentage did staff development improved teachers' SIOP methodology knowledge?) was resolved by administering The SIOP Model Self-Assessment before and after the research in order to compare answers with a t-test to calculate increase.

In Research Question 3 (By how much did student's academic achievement in their reading scores from FSA improve as a result of teachers using SIOP Model in their instruction?) was resolved by comparing the scores from FSA 2014-2015, 2015-2016, 2016-2017, and 2017-2018.

In Research Question 4 (By how much did students' academic achievement in their reading scores from FSA improve as a result of teachers using SIOP Model in their instruction?) the FSA ELA Reading Assessment scores were listed and compared to prior years.

In Research Question 5 (What was the impact of using the instructional components and features included in SIOP on student achievement as measured by the FSA ELA Reading Assessment?) was resolved by comparing the teachers responses in using the SIOP and the time they dedicated to the fidelity and compared the scores to prior years.

### **Limitations**

Despite every effort to account for possible threats to validity in this study the researcher was aware that in the course of the research there may have been unexpected events that may have compromised this study. As for any limitations that may occur it had been acknowledged that because of the nature of this study there may not have been accessed to each grade level due to the fact that the teacher participants must have had training in the SIOP Model. Moreover, the amount of trained teachers in the SIOP Model were a small population of the school's teachers, therefore; the results did not represent the school as a whole. Another limitation that may have been a product of the current trend of the increased rate of mobility in ELLs was that the parents of these children relocated in the middle of the school year to other states or other schools in search for better job opportunities, and as a consequence of this, the data that was obtained from this student was not used in the final results of this study. Also, the researcher recognized that this study was on a voluntary basis; therefore, it was the participants' choice to continue

this study throughout the full school year and the participants may drop out of the study if he/she selected to do so without any repercussions.

### **Summary**

In order to recapitulate all of the aforementioned it was worth noting that the use of a high school within Central Florida was used in order to complete this study that had the intention of addressing the needs of English Language Learners through the use of the Sheltered Instruction Observation Protocol. It was necessary to use the scores of students who were classified as Limited English Proficient and were still receiving ESOL services as part of the reliability and validity of this study. It was noted above that in the school that will be used only one teacher had training within the SIOP Model; therefore, those scores were compared among two other non-SIOP trained teachers. The use of five instruments, that included student's test scores, teachers' observations, and teacher surveys provided sufficient data to allow the researcher to answer the four research questions. Furthermore, this research may respond to the matter regarding whether the use of Sheltered Instruction Observation Protocol as model was incorporated into collegiate courses as a part of each educator's formation or even as a mandated professional development in order to help ELLs reach their academic goals in a successful manner.

## **Chapter 4: Results**

## **Introduction**

The study addressed the level of increase in students' graduating based on the teachers receiving training in SIOP teaching model to determine its effectiveness on improving ELL students' academic achievement. Assumptions will be made based on the results to determine the effectiveness of the use of the SIOP model for instruction. The conclusions will be drawn to determine if teachers rolling up with the same class from one year to the next made additional influences on the academic achievement based on the time saved by not having to adapt and adjust to the new teaching styles of new teachers every year.

## **Demographic Characteristics**

The students included in the study were 416 English Language Learners, with an average of 200 students per English teacher. The SIOP instructed teacher taught the same students in the 9<sup>th</sup> grade, followed up with them to 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade. The teachers who received training were all 12<sup>th</sup> grade teachers. One teacher rolled over with her students from 11<sup>th</sup> grade to 12<sup>th</sup> grade.

## **Data Analysis**

For research question 1 the teachers' answers will be notated from the beginning, middle and at the end. Comparative analysis was undertaken due to the need to provide results from observations, small conferences, discussions and continued practice throughout the twelve week period. Because a small group of teachers were participating and the large number of student participants, the analysis of the SIOP model provided individual responses from teachers and trainer. In each research question information was obtained and analyzed and compared to each answer to analyze similarities and



differences in responses.

### Research Question 1

To what extent did teachers improved their ELL instructional effectiveness as a result of using SIOP? Through the use of the Sheltered Instruction Observation Protocol (see Appendix A) and a Pre/Post Teacher Perceptions Survey, (see Appendix C) open-ended questions provided opportunities for teachers to share their work and training experiences, and it was expected to address the aforementioned question. The first questions - one through seven were more informational, eight through ten were work experiences about teaching and their training of teaching ELL students in the Table 1 below. To summarize, the teachers are all Caucasian, two

Table 1

*Teacher Demographic Information From Pre/Post Teacher Perception Survey*

Question	Response	Number
1. Gender	M	1
	F	2
2. Race	Caucasian	3
3. Ethnicity	English	2
	Hispanic	1
4. Education	BA Degrees	2
	MS Degree	1
5. Years Teaching	6	2
	10	1
6. Years with District	6	2
	10	1
7. Grade Teaching	12 <sup>th</sup>	3
8. Years Experience Teaching ELL from A variety of cultures	only in summer school	1
	None	1
9. Do you feel adequately prepared to teach ELL?	Many years	10
	No	2
10. Did you have specific ELL courses in your undergrad program?	yes	1
	No	1
	Yes	2

English speakers, one Hispanic, having one male and two females. Two teachers have a

bachelors degree and one has a masters degree. They had from six to ten years experience teaching at this school and at this district, currently teaching 12<sup>th</sup> grade. Two teachers had no experience teaching ELL students and one teacher had ten years of experience. They had some courses to teach ELL students in college, and no training prior to becoming a teacher. They had some graduate course training in ELL students in the master's level course work.

In Table 2 below will consist of teachers' preparation for teaching ELL students.

Table 2

*College ELL Courses to Prepare for Teaching Special Populations and Feelings About SIOP*

Question	Response	Number
11. Did you take specific ELL courses in college prep?	yes	2
	no	1
12. Did district provide staff development to prepare you to teach ELL students	no	1
	yes	2
13. Do you use the SIOP model in your classroom?	yes	3
14. How do you feel about using SIOP?	Good	3

In the following question 15 from the Teacher Preparations Survey the teachers were asked what they would change if anything to improve the SIOP model in their classrooms. Table 3 below lists the teacher's comments about changes.

Table 3

*Question 15: What Changes Would You Make in the SIOP Model?*

Teacher one states to "change everything"

Teacher two states to "change groupings and activities".

Teacher three states to "increase time for speaking, listening, reading and writing."

In the following Table 4 the question 16 asks the teachers to list what changes if any,

have you made in your instructional techniques since receiving SIOP training? Please give examples. The teachers responded in the table below.

Table 4

*Question 16: What Changes Have You Made Since Receiving SIOP Training?*

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Teacher one responded: "SIOP made me a better teacher."

Teacher two responded: "I have a better way of teaching, modeling for students, and improve my skills."

Teacher three responded: "When doing these activities, students are engaged."

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## Research Question 2

By what percentage did staff development improved teachers' SIOP methodology knowledge? The Pre/Post SIOP Model Self-Assessment (see Appendix B) was administered before and after the staff development training to calculate changes in teacher's knowledge. The results of this self-assessment are provided in the Table 5 below. These questions were rated from showing no evidence a "0" to demonstrating evidence a "5". The Likert scale was tabulated before and after to compare the changes.

Table 5

*Pre/Post SIOP Model Self-Assessment Teachers' Results in Knowledge Retained*

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Teacher #	Pre Staff Dev. Score	Post Staff Dev. Score	% of Increase
1.	106	150*	29
2.	47	120	48
3.	37	121	5

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\* 150 is the total Highest Score Possible

Teachers were observed in the beginning of training in the SIOP model, during the middle of the 12-week study and again at the end of the study to compare scores from the three observations. The Table 6 below will show these comparisons in training and development by observations from the trainer. The ratings were D for using daily, O for occasional use and N for never observed or used. Teacher one was experienced in SIOP

and therefore already demonstrated the expected behaviors and therefore showed the least increase in knowledge learned. Teachers two and three both made considerable gains as they improved their use of the SIOP model. They increased their knowledge by 36% and 42% accordingly.

Table 6

*Teacher Sheltered Instruction Protocol Pre Midway and Post Training Comparisons*

<i>Teacher #</i>	<i>Pre D O N</i>	<i>Midway D O N</i>	<i>Post D O N</i>	<i>% of Increase</i>
1	25 3 -	27 2 -	30 0 -	16.7
2	8 11 11	14 16 -	22 8 -	36.0
3	11 12 7	18 12 -	26 4 -	42.0

D=Daily, O= Occasionally, and N=Never Observed

### Research Question 3

By how much did student's academic achievement in their reading scores from FSA improve as a result of teachers using SIOP Model in their instruction? In order to address this question the scores from FSA 2014-2015, 2015-2016, 2016-2017, and 2017-2018 were compared and located from the Florida Department of Education (2014); Florida Department of Education (2015); Florida Department of Education (2016); Florida Department of Education (2017); Florida Department of Education (2018) sources for the school site.

Review Table 7 below to view the total number of graduating students for the research site over the past five years to compare changes in the ELL population of graduating students.

### Research Question 4

By how much did students' academic achievement in their reading scores from FSA improve as a result of teachers using SIOP Model in their instruction? In the following Table 7 the ELL students were listed by years of FSA ELA average scores starting with 2013-2014. Students must score a minimum of 245 to pass the test and be allowed to graduate. In research question 5: What was the impact of using the instructional components and features included in SIOP on student achievement as measured by the FSA ELA Reading Assessment? As in Table 7 below, the number of graduating students for 2016-2017 school year was 298 and the following year 2017-2018 the number of students graduating

Table 7

*Average ELL Student Achievement Scores on the FSA ELA by Year*

Year	Number of Students Graduating	Average Academic Achievement
2013-2014	308	
2014-2015	264	85.7%
2015-2016	283	53.9
2016-2017	298	47.7
2017-2018	416	57.9

was 416 or an increase of 118 more students than the year before. One can only speculate that the majority of these students were taught by a mastery teacher with ten years of experience in using the SIOP model indicating a tremendous improvement over previous years.

### Research Question 5

What was the impact of using the instructional components and features included in SIOP on student achievement as measured by the FSA ELA Reading Assessment? To answer this question the following test results have occurred over the past few years. In Table 8 below the FSA ELA number of students who earned passing scores began in 2013-2014 when students took the FCAT and 308 graduated. It was replaced by a more rigorous FSA, then, the following year it went down by 44 students. In 2015-2016 it increased by 19 students. The following year in 2016-2017 it increased by 15 students. In 2017-2018 when there were two trained SIOP teachers and one experienced SIOP teacher the number of students graduating increased by 118 students. This is a good indication that the SIOP methodology made a substantial improvement on the number of students graduating. To answer the research question four, the number of students graduating increased by 118 students.

Table 8

*Number of ELL Students By Year Graduating at the Research Site*

Year	Test	White	African American	Hispanic	Other
2013-2014	FCAT	22	80	189	17
308					
2014-2015	FSA	11	17	232	3
264					
2015-2016	FSA	1	15	265	2
283					
2016-2017	FSA		19	271	8
298					
2017-2018	FSA	10	14	322	10
416					

In Table 9 below, the total number of students in teacher one was 188 and this teacher was a well trained SIOP teacher who rolled up with the same students from the

ninth grade to the twelfth grade. There are a number of reasons one could make assumptions about how a teacher with so many students made such an impact on the students and one can only assume that it was because of the training and methodology of instructing with the SIOP model that made the difference. The teacher number two actually had 12 more students but 44 less passing, indicating lack of experience using the SIOP model, but there could have been other influencing factors. The third teacher did have 15 more students but 35 less graduating than teacher one.

Table 9

*Number of 12th Grade ELL Students By Teacher Graduating and Not Graduating for 2017-2018*

Teacher #	Graduating	Not Graduating	Total in All Classes
1	165	23	
188			
2	121	79	
200			
3	130	73	
203			
Grand Total	416	175	
591			
<u>Percentage</u>			
	<u>70%</u>	<u>30%</u>	<u>100%</u>
N=Number			

Other factors need to be considered as to why teacher one, who rolled up with her students had more students graduating than teacher two who also rolled up one year with his class.

Comments from the Teacher Perceptions Survey (see Appendix C) question 23 as viewed below in Table 10 provided district recommendations to consider when developing curriculum to service the ELL student populations in a Central Florida High School.

Teacher two was not an education major and this may have been an influencing factor as to why in Table 8 he had 44 students not pass.

Table 10

*Comments From Teacher Perceptions Survey Question 23*

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Question 23: What advice, if any, would you give to a district that is beginning the implementation of the SIOP model?

Teacher 1 response:

“I feel that all districts across the nation need to find funds in order to implement the SIOP model into their curriculum as soon as possible, from beginning stages for all students’ needs to be met.”

Teacher 2 response:

“The best advice I could give any district that is not taking advantage of this model is losing and doing ELL’s a disservice in their educational career from the get go. This is really good stuff. *I am not an education major* and it has helped me become a better teacher. It has helped me reach my students in ways these past months without knowing about the model I would never have been able to.”

Teacher 3 response:

“Districts need to be more proactive in meeting and addressing the needs of this quickly growing student population and many studies have shown that this model is beneficial to the academic success of students; therefore, it is imperative that more teachers are trained on how to use it effectively.”

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**Summary**

With all the surveys allowing for Likert scale rankings in the Pre/Post SIOP Model, open-ended questions provided in the Teacher Perceptions Survey and the numerous observations and conferences with trainer and teachers in utilizing the SIOP model, one can easily assume the SIOP model had a tremendous affect on the teaching styles of the teachers as well as on the knowledge retained by the ELL students. It is thought that if there was an increase to the time allowed for speaking, listening, reading and writing, the ELL students would do even better. A district considering this instructional model would benefit from incorporating SIOP into their curriculum.



## **Chapter 5: Discussion**

### **Introduction**

The study included 416 12<sup>th</sup> grade students from a high school in central Florida. The large population of ELL students necessitated the need for the school to make Annual Yearly Progress (AYP). Over the past six years testing has changed from FCAT and NGSS state assessments to FSA to improve the rigor in questioning and raise the bar as a result the students in 2013-2014 were graduating at a higher rate. Then with the introduction of Common Core nationally, students were graduating unprepared to go into the work force, or to enter college. As the FSA ELA Reading Assessment scores kept going down the school's ranking went down because it did not make AYP. As a result the district wanted to look into a study to decide if the SIOP model would be a possibility. Thus this study was developed.

### **Summary of Findings**

As the scores were going down and the number of students graduating was dropping, the researcher decided to approach the district and request a study on introducing the SIOP to teach the large population of ELL students at the designated school. As a result, the graduation rate increased by 118 students in 2017-2018 and there were several reasons for this increase in scores and numbers. Of the three teachers who were trained in the SIOP instruction model, the researcher was the lead teacher and trainer with over 10 years of teaching ELL students with the SIOP model. She started at the high school teaching 9<sup>th</sup> graders, and rolled up each year with the same groups of students until they became seniors. The two other grade 12 teachers had little experience and training prior to the SIOP training. All teachers indicated on the Pre/Post SIOP

Model Observation Self-Assessment Survey that they were not prepared to serve the ELL students. In Addition, As a result of the Teacher Perceptions Survey the teachers were able to state their feelings about the training of the SIOP model. As a result of that survey, teachers commented that they became better teachers as a result of this training and recommended the district include intensive training for all teachers in the SIOP method to improve the servicing of the ELL population in Florida and in the nation in general. The FSA ELA Reading Assessment scores increased with all three teachers. Of the 1129 seniors, 591 ESOL classified students and 416 graduated in 2017-18 school year.

### **Interpretation of Findings**

Of the three teachers who were trained one had taught 11<sup>th</sup> grade last year and decided to roll up with his class and taught them as seniors. He commented that the training made him a better teacher and he said he was not a certified education major. He was a Math teacher. He became an English teacher as they needed more Reading teachers. The other English teacher had taught seniors last year so she was used to teaching English but not prepared in the courses she took to get her bachelor's degree to be a teacher of ELL students. She felt the training was a big help. The teacher with a master's degree and ten years SIOP training was a much better teacher and shared all her expertise with the two trained teachers. As a result the observations and self evaluations the teachers continually honed in on their training throughout the 12 week study and then as a result they continued using the model for the rest of the school year.

### **Context of Findings**

The students received additional time in reading and English instruction with the

SIOP model to allow for speaking, listening, reading, and writing. As this block of time was increased for the ELL students but not for the regular English and reading classes, students had more time to learn. The increased time also was a factor to improve the students' reading comprehension. The ELL SIOP model provided the students additional time to speak in small groups and translate from Spanish to English to allow for more time for students to increase their class time.

### **Implications of Findings**

The findings implied that the more time ELL students spend working together in small groups, and share ideas the more they will learn and the opportunities to be able learn English will increase. The students working with Spanish speaking teachers also were at an advantage because they could translate Spanish to English and English to Spanish. The other ELL teachers were not Spanish speakers and that may explain why less students graduated in the less experienced teachers' classrooms because it is a combination of translation and vocabulary identification and usage that will help students learn English as quickly as possible. With standards based instruction and assessments in English all ELL students are at a disadvantage in testing until they learn English fluently. They must pass the test with a score of 245 to graduate.

This implies with additional teachers being trained in SIOP, more students will learn English faster and comprehend and speak, write, read, and listen more fluently.

### **Limitations of the Study**

The threats to reliability and validity are the fidelity the future teachers must use when teaching the SIOP model with when they are trained to maintain integrity. This will necessitate adherence to a high standard of monitoring and self-assessment and honesty

to make sure the teachers fairly service the ELL students. Another limitation of the study is that there were only three teachers in this study. Had there been a whole school of teachers learning this model, the scores would have been even higher. Future students will have an even better chance of learning.

### **Future Research Directions**

Future research will include using bilingual teachers, pictures, graphs, other trainings to include the SIOP model to improve upon the model. More time added into the reading, listening, speaking and writing blocks will improve the SIOP model. Research into this additional time added to the ELL curriculum will provide for more research and further study.

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Appendix A

Sheltered Instruction Observation Protocol

## Sheltered Instruction Observation Protocol (SIOP)

The Sheltered Instruction Observation Protocol (SIOP) Model is a research-based and validated instructional model that has proven effective in addressing the academic needs of English learners throughout the United States.

The SIOP Model consists of eight interrelated components. Check off the time you spend doing these activities:                    **D=Daily**                    **O=Occasionally**                    **N=Never**

### Lesson Preparation

D O N

1. <b>Content objectives</b> clearly defined, displayed, and reviewed with students
2. <b>Language objectives</b> clearly defined, displayed, and reviewed with students
3. <b>Content concepts</b> appropriate for age and educational background level of students
4. <b>Supplementary materials</b> used to a high degree, making the lesson clear and meaningful (e.g., computer programs, graphs, models, visuals)
5. <b>Adaptation of content</b> (e.g., text, assignment) to all levels of student proficiency
6. <b>Meaningful activities</b> that integrate lesson concepts (e.g., interviews, letter writing, simulations, models) with language practice opportunities for reading, writing, listening, and/or speaking

### Building Background

7 <b>Concepts explicitly linked</b> to students' background experiences
8 <b>Links explicitly made</b> between past learning and new concepts
9 <b>Key vocabulary emphasized</b> (e.g., introduced, written, repeated, and highlighted for students to see)

### Comprehensible Input

10 <b>Speech</b> appropriate for students' proficiency levels (e.g., slower rate, enunciation, and simple sentences for beginners)
11 <b>Clear explanation</b> of academic tasks
12 <b>A variety of techniques</b> used to make content concepts clear (e.g., modeling, visuals, hands-on activities, demonstrations, gestures, body language)

### Strategies

D O N

13 Ample opportunities provided for students to use <b>learning strategies</b>
14 <b>Scaffolding techniques</b> consistently used, assisting and supporting student understanding (e.g., think aloud)
15 A variety of <b>questions or tasks that promote higher-order thinking skill</b>

s (e.g., literal, analytical, and interpretive questions)
---

## Interaction

D O N

16 Frequent opportunities for <b>interaction</b> and discussion between teacher/student and among students, which encourage elaborated responses about lesson concepts
<b>17 Grouping configurations</b> support language and content objectives of the lesson
Sufficient <b>wait time for student responses</b> consistently provided
18 Ample opportunities for students to <b>clarify key concepts in L1 (1<sup>st</sup> language)</b> as needed with aide, peer, or L1 text

## Practice/Application

<b>19 Hands-on materials and/or manipulatives</b> provided for students to practice using new content knowledge
20 Activities provided for students to <b>apply content and language knowledge</b> in the classroom
21 Activities integrate all <b>language skills</b> (i.e., reading, writing, listening, and speaking)

## Lesson Delivery

22 <b>Content objectives</b> clearly supported by lesson delivery
23 <b>Language objectives</b> clearly supported by lesson delivery
24 <b>Students engaged</b> approximately 90% to 100 % of the period
25 <b>Pacing</b> of the lesson appropriate to students' ability levels

## Review & Assessment

D O N

26 Comprehensive <b>review of key vocabulary</b>
27 Comprehensive <b>review of key content concepts</b>
28 Regular <b>feedback</b> provided to students on their output (e.g., language, content, work)
29 <b>Assessment of student comprehension and learning</b> of all lesson objectives e.g., spot-checking, group response) throughout the lesson

Using instructional strategies connected to each of these components, teachers are able to design and deliver lessons that address the academic and linguistic needs of English learners. North Slope Borough School District webpage (2018) retrieved from <https://www.nsbds.org/Page/2763>

Appendix B

Pre/Post SIOP Model Self-Assessment

## Pre/Post SIOP Model Self-Assessment

Using the features below, mark the box that most closely represents your current teaching practices:

Not evident

Very

evident

Likert scale: 0 (not used) 1 (somewhat) 2 (used occasionally) 3 (used half of the time) 4 (used almost daily) 5 (used daily)

0 to 5

	0	1	2	3	4	5
<b>Lesson Preparation</b>						
1. <b>Content objectives</b> clearly defined, displayed, and reviewed with students						
2. <b>Language objectives</b> clearly defined, displayed, and reviewed with students						
3. <b>Content concepts</b> appropriate for age and educational background level of students						
4. <b>Supplementary materials</b> used to a high degree, making the lesson clear and meaningful (e.g., computer programs, graphs, models, visuals)						
5. <b>Adaptation of content</b> (e.g., text, assignment) to all levels of student proficiency						
6. <b>Meaningful activities</b> that integrate lesson concepts (e.g., interviews, letter writing, simulations, models) with language practice opportunities for reading, writing, listening, and/or speaking						
<b>Building Background</b>						
7. <b>Concepts explicitly linked</b> to students' background experiences						
8. <b>Links explicitly made</b> between past learning and new concepts						
9. <b>Key vocabulary emphasized</b> (e.g., introduced, written, repeated, and highlighted for students to see)						
<b>Comprehensible Input</b>						
10. <b>Speech</b> appropriate for students' proficiency levels (e.g., slower rate, enunciation, and simple sentences for beginners)						
11. <b>Clear explanation</b> of academic tasks						
12. <b>A variety of techniques</b> used to make content concepts clear (e.g., modeling, visuals, hands-on activities, demonstrations, gestures, body language)						
<b>Strategies</b>						
13. Ample opportunities provided for students to use <b>learning strategies</b>						
14. <b>Scaffolding techniques</b> consistently used, assisting and supporting student understanding (e.g., think aloud)						
15. A variety of <b>questions or tasks that promote higher-order thinking skills</b> (e.g., literal, analytical, and interpretive questions)						
<b>Interaction</b>						
16. Frequent opportunities for <b>interaction</b> and discussion between teacher/student and among students, which encourage elaborated responses about lesson concepts						
17. <b>Grouping configurations</b> support language and content objectives of the lesson						
18. Sufficient <b>wait time for student responses</b> consistently provided						
19. Ample opportunities for students to <b>clarify key concepts in L1 (1<sup>st</sup> language)</b> as needed with aide, peer, or L1 text						

	0	1	2	3	4	5
<b>Practice and Application</b>						
20. <b>Hands-on materials and/or manipulatives</b> provided for students to practice using new content knowledge						
21. Activities provided for students to <b>apply content and language knowledge</b> in the classroom						
22. Activities integrate all <b>language skills</b> (i.e., reading, writing, listening, and speaking)						
<b>Lesson Delivery</b>						
23. <b>Content objectives</b> clearly supported by lesson delivery						
24. <b>Language objectives</b> clearly supported by lesson delivery						
25. <b>Students engaged</b> approximately 90% to 100 % of the period						
26. <b>Pacing</b> of the lesson appropriate to students' ability levels						
<b>Review and Assessment</b>						
27. Comprehensive <b>review of key vocabulary</b>						
28. Comprehensive <b>review of key content concepts</b>						
29. Regular <b>feedback</b> provided to students on their output (e.g., language, content, work)						
30. <b>Assessment of student comprehension and learning</b> of all lesson objectives (e.g., spot-checking, group response) throughout the lesson						

Appendix C  
Teacher Perceptions Survey

**Teacher Perceptions Survey**

## Demographic Data

1. What is your gender?

\_\_\_\_\_ M \_\_\_\_\_ F \_\_\_\_\_

2. What is your race? \_\_\_\_\_

3. What is your ethnicity? \_\_\_\_\_

4. What is the highest degree that you have earned?

\_\_\_\_\_  
\_\_\_\_\_

5. How many years have you taught?

\_\_\_\_\_  
\_\_\_\_\_

6. How many years have you taught in this district?

\_\_\_\_\_  
\_\_\_\_\_

7. What grade level do you teach?

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8. Prior to teaching in this district, have you had any experience teaching students from a variety of different cultures who speak languages other than English?

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9. Do you feel that your teacher preparation program addressed how to teach English Language Learners (ELLs)? Explain

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10. Did you have specific courses in working with ELLs in either your undergraduate or graduate programs? If yes, explain.

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11. Prior to teaching in this district, did you have any professional development on instructional strategies to meet the needs of ELLs?

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12. While working in this district, have you had any professional development on instructional strategies to meet the needs of ELLs? If yes, explain.



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13. Do you use the SIOP model in your classroom? If yes, explain.

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14. How do you feel about using the SIOP model in your classroom?

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15. What changes, if any, have you made in your instructional techniques since receiving SIOP training? Please give an example of something you have tried or a technique you were able to incorporate.

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16. What specific successes have you experienced in the classroom while implementing the SIOP model to meet the needs of your ELL students?

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17. What specific difficulties have you experienced in the classroom while implementing the SIOP model to meet the needs of your ELL students?

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18. On a scale of 1 to 10, how effective do you feel that the SIOP model is as a tool to help you meet the needs of ELL students? Explain

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19. If you rated 5 or above on the previous question, how does it help?

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20. If you rated 5 or below on the previous question, which feature/s are not helpful?

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21. Please explain how setting content and language objectives affects your teaching.

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22. Do you feel that the language objectives focus your teaching to meet the needs of ELL students?

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23. What advice, if any, would you give to a district that is beginning the implementation of the SIOP model?

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Appendix D

Dr. Madeline Negrón Survey Approval Letter

### Dr. Madeline Negron Survey Approval Letter

**From:** NEGRON, MADELINE (DR.) <MADELINE.NEGRON@xxxxxxx> **Sent:** Friday, December 2, 2016 7:29:13 AM **To:** Gladymar Soto-Lopes **Subject:** Re: Request to Utilize 22 Open-Ended Question Survey

Good Morning Ms. Soto-Lopes,

I am hereby granting my written permission for you to utilize my 22 open ended question survey as a research tool in your dissertation study.

I wish you much success in this important work that will be sure to add value to research based practices for supporting ELs.

Best regards,

Madeline

On Nov 28, 2016, at 9:02 PM, Gladymar Soto-Lopes <gs642@nova.edu<mailto:gs642@nova.edu>> wrote:

Hello Dr. Negron,

My name is Gladymar Soto-Lopes and I am a doctoral candidate from Nova Southeastern University in Florida. I am currently completing my dissertation, (Effectiveness and Impact of the Sheltered Instruction Observation Protocol on ELL Student Academic Achievement), to determine the effectiveness and impact of using the Sheltered Instruction Observation Protocol (SIOP) Model in the classroom as an approach to meet the educational needs of English Language Learners.

Additionally, I will explore how the Sheltered Instruction Approach has impacted students' academic achievement; specifically on the Florida Standards Assessment for English Language Arts test scores when used effectively in the classroom as a means to help English Language Learners become successful acquiring a second language in school.

I was fortunate to come across your dissertation, (A Study of Teacher's Perceptions Regarding the Implementation, Effectiveness, and Implications of Sheltered Instruction in an Urban School District), and noticed that the 22 open-ended question survey that was utilized in your study would afford me the opportunity to gather valuable data for my research. I am grateful to have received your verbal authorization, and I respectfully request your written authorization to use your survey in my study. Your contribution to this research is greatly appreciated.

Best Regards,  
Gladymar Soto-Lopes M.Ed.