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True Cognate Effects on Vocabulary and Reading Comprehension of English Learners with and Without Disabilities

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TRUE COGNATE EFFECTS ON VOCABULARY AND READING COMPREHENSION OF ENGLISH LEARNERS WITH AND WITHOUT DISABILITIES

DISSERTATION

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by

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ABSTRACT

TRUE COGNATE EFFECTS ON VOCABULARY

AND READING COMPREHENSION OF ENGLISH LEARNERS

WITH AND WITHOUT DISABILITIES

Rosalia F. Gallo

Barry University, 2012

Dissertation Chairperson: Clara Wolman, Ph.D.

Purpose

This study investigated whether true cognate instruction, compared to traditional reading instruction, would have an impact on the vocabulary and reading comprehension of English language learners (ELLs) with and without disabilities. True cognate instruction is a reading intervention that focuses on English words that are phonologically and semantically equivalent in Spanish and English.

Method

This quasi-experimental study was implemented in eight classrooms, four experimental and four control groups, at two schools in the upper elementary school grades. There were 122 participants in the study 65 ELLs without

disabilities and 47 ELLs with disabilities and 10 students who were not classified as ELLs. After being trained to identify true cognates in classroom textbooks, the teachers in the experimental groups implemented the true cognate instructional approach for five-weeks, while teachers in the control groups used the instructional approach recommended by the school district. The pre- and post-tests consisted of selected vocabulary and reading comprehension subtests from the Woodcock Muñoz Language Survey – Revised (WMLS-R) in English. Spanish proficiency was also assessed; however, based on preliminary findings, Spanish proficiency was not treated as a covariate in this study.

Major Findings

The results of the study indicate that true cognate instruction had a significant impact on the vocabulary and/or reading comprehension of selected participant subgroups. There was a significant interaction effect between *methodology* and *disability* on *vocabulary*, showing that students with disabilities performed better on vocabulary measures when provided with true cognate instruction, while this trend was not seen in students without disabilities. This was true particularly for picture vocabulary and oral language. There was also a significant interaction effect among the variables *methodology, disability*, and the *levels of English as a Second Language (ESOL)* on *reading comprehension*. This interaction suggests that while students with disabilities had a significant increase in reading comprehension if they were in ESOL Levels 1-4, among students without disabilities, only those who were in ESOL Level 5 or who never received ESOL instruction had a significant increase in reading comprehension.

DEDICATION

To the loves of my life, my husband, Jorge J. Gallo,

my mother, Dolores Fernández-Martorell, and

my chihuahua Chico.

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Throughout this journey there have been many individuals who have inspired and encouraged me; however, I first have to thank God for giving me the grace to complete this dream.

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THE PROBLEM

Introduction

Demographics

The demographics of the United States have changed significantly in the last several decades. According to the 2010 U. S. Census Bureau, Hispanics make up 16.3 % of the total U. S. population, representing an increase of approximately 43% from 2000 to 2010; the Hispanic population has had a fourfold increase when compared to the 10% growth rate of the total population. This increase in the Hispanic population has accounted for over half the growth of the total population in the U. S. The regional Hispanic population growth has been at 13.8% in the west and 14.3% in the south. The 2009 American Community Survey, a nationwide survey conducted through the U. S. Census Bureau which is designed to provide reliable and timely data related to such factors as demographics and economics for the nation, states, congressional districts, and counties, reported that over half (53 %) of all foreign born individuals in the United States were from Latin America (Grieco & Treverlyan, 2010). According to a previous American Community Survey from 2007, the language other than English most often spoken by those who are 5 years and older is Spanish. Spanish is spoken by 62.3% of the Hispanic population and by approximately 12% of the total U. S. population.

The number of Hispanic students in the nation's public schools increased from 17% in 2000 – 2001 to 21% in 2007-2008 (U.S. Department of Education [DOE], Institutes of Education Sciences [IES], National Center for Education Statistics [NCES], 2010). Over the years, the percentage of Hispanic students has increased in all regions of the United States. Between 2008 and 2025, these patterns of population change are expected to continue. For example, the Hispanic population is expected to grow at a faster rate than most other races or ethnicities. In 2025, about 21 percent of the population is expected to be of Hispanic ethnicity. In the 2007–08 school year, 45 percent of Hispanic students were concentrated in cities or urban areas (U. S. DOE, IES, NCES, 2010). There are now approximately 10 million Hispanic students in the nation's public schools (kindergarten – 12th grades). One in every five students in the United States is Hispanic. Additionally, in the year 2000, 82% - 84% of Hispanics in cities and towns were eligible for free and reduced lunch; these percentages were higher than those for their Hispanic counterparts in suburban (70%) and rural areas (72%).

The non-English speaking student population is the fastest growing subgroup of children among the public school student population (Donovan & Cross, 2002). There are approximately 11 million students attending U.S. public schools who speak a language other than English at home (U. S. DOE, IES, NCES, 2010); of these students, approximately 70% speak Spanish. In terms of languages spoken, of the total school-age population of children who spoke

Spanish at home, about 18% spoke English with difficulty (U. S. DOE, IES, NCES, 2010).

The prevalence of a learning disability (LD) in children who are learning English in public schools had not been consistently estimated (McCardle, Mele-McCarthy, Cuttin, Leos, & D'Emilio, 2005) until the completion of the *Descriptive Study of Service to LEP Students and LEP Students with Disabilities* in 2003 (Zehler, Fleischman, Hopstock, Pendzick, & Stephenson, 2003). This study, conducted by the U.S. Department of Education's Office of English Language Acquisition, estimated the number of English language learners (ELLs) who required special education services. According to the U.S. Department of Education, Office of Special Education and Rehabilitative Services, the estimate indicated that approximately nine percent of the total English language learner population required special education instruction (McCardle et al., 2005). Additionally, in 2010 the National Center on Education Statistics reported that as of 2007, nine percent of Hispanics were being served under one of the 13 categories of the Individuals with Disabilities Education Act (IDEA). The need for such services was concentrated in large urban areas. It should be noted that according to the study, the percentage of ELL students with disabilities in urban localities requiring special education services surpasses the national special education percentages for students who speak English (about 5%). In 2007, more than half of the total Hispanic population of students with disabilities was identified as having a learning disability (U.S. DOE, IES, NCES, 2010); this

represents a disproportionate number of Hispanic students who have a learning disability.

Federal Mandates

The dramatic demographic changes in the U. S. over the past decades have resulted in many subsequent changes in education concerning the instruction of students with disabilities and English language learners; such changes are reflected in the passing of major federal and state mandates as well as precedent-setting court cases. Federal laws, from the initial mandates of Public Law 94-142, the Education for All Handicapped Act (Smith & Neisworth, 1975), to other amendments (e.g., IDEA 1997), and the current amendments to the Individuals with Disabilities Education Act (IDEA) of 2004 (U.S. Department of Education [DOE], 2004) have had a significant impact on the provision of services and instruction of students with disabilities, including English language learners (ELLs).

The reauthorization of the Elementary and Secondary Education Act of 1965 (known as the No Child Left Behind Act ([NCLB], 2002) includes accountability requirements such as the attainment of reading proficiency by all students, including specific subgroups (e.g., ELLs, students with disabilities [SWD]) by the year 2014. An emphasis in the law on ensuring that ELLs and SWD, among other subgroups, meet adequate yearly progress (AYP) has resulted in school districts providing instructional interventions and on-going monitoring of students' academic progress (NCLB, 2002).

The alignment of IDEA (2004) to NCLB (2002) has also had a significant influence on the way students in the general education setting, including ELLs, are being identified, evaluated, and placed into special education programs. As a result of this alignment, there are now academic accountability requirements for students with disabilities, including those learning English, who require students to achieve reading proficiency through the use of research-based interventions (U.S. DOE, 2004; NCLB, 2002). These accountability requirements were exacerbated with the change in the criteria for LD eligibility (U.S. DOE, 2004). The LD eligibility criteria changed from a discrepancy model (a significant difference between intellectual ability and achievement) to one of monitoring a student's response to research-based instructional interventions (Wagner, Francis, & Morris, 2005). Early intervening services mandated under IDEA 2004 (U. S. DOE, 2004) require local education agencies (LEAs) to use funds under IDEA to develop and implement coordinated services for students in kindergarten through grade 12. The implementation of comprehensive, coordinated, and early intervening services (U. S. DOE, 2004) particularly the Response to Intervention (RtI) process (National Association of State Directors of Special Education, 2006), focuses on children from specific groups that have traditionally been placed at disproportionate levels in special education (e.g., English language learners). The implementation of RtI has resulted in the need to identify appropriate research-based interventions for ELLs with and without disabilities.

Language Acquisition and ELLs Literacy Needs

Language proficiency is the ability to function in a situation that is defined by specific cognitive and linguistic demands to a level of performance indicated by either objective criteria or normative standards (Bialystok, 2001). It is the ability to effectively and appropriately use language throughout the range of social, personal, school, and work situations (Peregoy & Boyle, 2005), which includes both basic interpersonal communication skills (BICS – social language) and cognitive academic language proficiency (CALP – academic language) (Cummins, 2009). An important component in the acquisition of academic language in school-age children is the development of literacy skills. Richmond, Robinson, and Sachs-Israel (2008), in their report prepared for the United Nations Educational, Scientific, and Cultural Organization (UNESCO), defined literacy as the "ability to identify, understand, interpret, create, communicate, compute, and use printed and written materials associated with varying contexts" (p. 18). At the core of literacy development is reading, the process of getting meaning from print, using knowledge about the written alphabet and about the sound structure of oral language for purposes of achieving understanding (Snow, Burns, & Griffin, 1998). Bialystok (2001) defines literacy as ".. the pinnacle of a young child's educational development, and it is the currency by which social and economic positions are waged; it is the central purpose of schooling" (p. 152).

The reading instruction of English language learners (ELLs) has become an important issue in educational policy and practice (Ramirez, 2000; Slavin & Cheung, 2005). There is much controversy among policymakers, researchers,

and educators about how best to ensure the reading success of ELLs. Research on the outcomes of the use of students' native language for instruction has diminished (Slavin & Cheung, 2005) and because of the critical role that language development has in the development of reading skills for ELLs (August & Shanahan, 2006; Goldenberg, 2008; Ramirez, 2000), there is a critical need to develop instructional practices for this population of students which incorporate their native language (Artiles & Ortiz, 2002; August & Shanahan, 2006; Ramirez, 2000). A student's native language can serve as a scaffold (a temporary structure that helps learners make the cognitive connections) for literacy development in English (Artiles & Ortiz, 2002; Garcia & Tyler, 2010).

Due to the rapidly growing population of students whose home language is not English, there is a challenge in the nation's k – 12 schools to address these students' educational needs (August & Shanahan, 2006; Ramirez, 2000). This is particularly important since literacy, the ability to use printed and written materials for various purposes and in varying contexts (Snow et al., 1998), is essential for all educational and economic opportunities. In the "best-evidence synthesis study" on bilingual education programs in the United States (Slavin & Cheung, 2005), it was found that most studies reviewed favored bilingual programs. The bilingual programs use the child's first language (e.g., Spanish) as a medium of instruction. August and Shanahan (2006) and Slavin and Cheung (2005) reviewed the research conducted on ELL students and concluded that there is a need for further research about the role that native language instruction can have on reading comprehension in English. Additionally, August and Shanahan

indicated that there is an even greater need for research about the delivery of instruction to ELL students with disabilities (Goldenberg, 2008); and Liu, Ortiz, Wilkinson, Robertson, and Kushner (2008) indicated that there is also a need for additional studies in the area of identifying and developing evidenced-based interventions for ELLs.

In 2002, the U. S. Department of Education's Institute of Education Sciences created a National Literacy Panel on Language-Minority and Youth (August & Shanahan, 2006). The panel had a mandate to identify, assess, and synthesize the research on the instruction of language minority students, including those with a disability. The researchers reported that although many studies were reviewed (over 3,000), those that met the research requirements of the meta-analysis were minimal (approximately 300, only one of which related to ELLs with disabilities) (August & Shanahan, 2006). Nevertheless, there were six major findings in this meta-analysis (August & Shanahan, 2006; Goldenberg, 2008). First, results indicated that instructing ELLs about the key components of reading (e.g., phonics, phonemic awareness, vocabulary) is important. Second, they pointed to the critical need for oral proficiency development in English for ELLs, which is often overlooked. Next, they found that proficiency and literacy in the first language can be used to facilitate literacy development in English. More specifically, the researchers indicated that ELLs can benefit from learning about "cognate relationships." Cognate relationships are the relationships among words from two or more languages that have similar meaning, spelling, and form, and have been inherited from the same ancestor language (Whitley, 2002).

Cognate awareness refers to the understanding of the relationship between first language words and English words; in other words, cognate relationships could serve as a precursor to reading comprehension in English (August & Shanahan, 2006). Another finding of the meta-analysis study was that individual differences (e.g., age, cognitive abilities) contribute significantly to English literacy development. The researchers pointed to promising practices such as cognitive or learning strategies which have been used with language minority students who also have learning disabilities (August & Shanahan). In addition, the research review indicated that assessments for ELLs do a poor job of determining individual strengths and weaknesses. Lastly, they reported that home language experiences have a positive impact on literacy; by contrast, there was no evidence of the impact of sociocultural variables on the literacy achievement or development of ELLs.

English Language Learners with Disabilities

The focus of literacy instruction for students with disabilities, particularly those with learning disabilities, has been to support instruction through its differentiation either in general or special education settings. The underlying principles of differentiated instruction are that students come from varying backgrounds of knowledge, readiness, language, preferences in learning, and interests. Differentiated instruction is a process approach to teaching and learning used with students of differing abilities in the same class (Hall, 2009). Although differentiated instruction (DI) has proven to be effective with monolingual students with disabilities (Hall, 2009), there is little evidenced-based

research to support that DI is equally effective with ELL students with disabilities, particularly those with LD (Zehler et al., 2003). DI typically does not address the specific academic linguistic needs of students with disabilities who are learning English and speak a language other than English at home (e. g., Spanish); nor does it necessarily take into account the manner in which these students process language, which differs from their monolingual English-speaking peers (Bialystok, 2001).

ELLs receive educational services in all categories of special education, but most of these students are identified as having a learning disability (U.S. DOE, IES, NCES, 2010; Zehler et al., 2003). Until recently, the criteria for eligibility for a student with a learning disability were based on a discrepancy model (National Center for Response to Intervention [NCRTI], 2009; Vaughn & Fuchs, 2003). The discrepancy model indicated that learning disabilities were the result of a severe discrepancy between a student's abilities (IQ) and academic achievement in reading, writing, spelling, and solving math problems that could not be explained by other physical, emotional, or mental conditions (Cortiella, 2010; Kavale, 2011). Individual states across the country defined the IQ/achievement discrepancy differently and established different eligibility criteria for identifying students with learning disabilities. This lack of congruence in the definition of a learning disability concerning psychological processes as well as the overrepresentation of minority students in special education (Barrera, 2006; Boardman & Vaughn, 2007; Kavales & Forness, 1995; Vaughn & Fuchs, 2003; Vaughn, Linan-Thompson, & Hickman, 2003) served as an impetus for the

resulting changes in the language of IDEA 2004; it includes the following statement,

> "… in determining whether a child has a learning disability (LD) a local educational agency may use a process that determines if the child responds to scientific, research-based intervention …" and additional language included indicates that the "public agency for determining eligibility may prohibit the use of a severe discrepancy," and "must permit the use of a response to scientific, research-based intervention process" (U. S. Department of Education, 2006,
> Federal Registry, pp. 46543 – 46544).

The need to address those students whose performance is monitored and who do not show academic progress in reading or math achievement has resulted in the use of the three-tiered Response to Intervention (RtI) model (Vaughn, et al., 2003). These students are identified as needing additional/supplemental interventions. Often ELLs, including those with a disability, lack the necessary academic language skills to be successful with the academic content in a classroom; thus, they are placed in one or more RtI tiers in order to be provided with supplemental interventions. However, these interventions may not always be appropriate since the children's home culture, language, and acculturation should be considered when designing and implementing any intervention for ELLs (Xu & Drame, 2008). Klingner and Artiles (2006) indicated the need for accurately identifying multiple sources of data related to an ELL's struggle with academic content prior to determining his/her lack of response to the interventions. Linan-Thompson, Vaughn, Prater, and Cirino (2006) have pointed to the need to accurately identify and place ELLs who may not be responding to RtI interventions and need special education services. Barrera (2006) points to the lack of appropriate interventions that may eliminate

the need for ELLs being referred for special education. Barrera's results indicate the need for research in identifying interventions that have a positive impact on the reading achievement of ELLs in order to reduce the inappropriate special education placements. These interventions could also be provided to ELLs with learning disabilities.

Saenz, Fuchs, and Fuchs (2005) point to the fact that the research related to ELLs with disabilities have focused only on the identification and appropriate assessment of ELLs; however, very little research has been conducted on effective teaching strategies and interventions for ELLs with disabilities. Additionally, there is a need for second language educators and special education teachers to collaborate on the development and assessment of instructional approaches and interventions for students who have learning disabilities and who are learning English (Garcia & Tyler, 2010; McCardle et al., 2005).

Common Underlying Proficiency: A Theoretical Model for Instructing English Language Learners with and without Disabilities

The need to identify appropriate instructional interventions and strategies for English language learners (ELLs), including the possible use of the first language as an instructional resource for students with and without learning disabilities, is critical (August & Shanahan, 2006; Barrera, 2006; Saenz, et al., 2005). Cummins' (1984) theoretical model of common underlying proficiency, which is used as the foundation for this study, indicates that in students with two language systems, there are cognitive and academic language skills that transfer

across both languages. The cross linguistic transfer of skills allows for students to support their second language (L2) acquisition while using their first language (L1). He indicates that there is an interdependence of language in students with two language systems (Bialystok, 2001). Language interdependence indicates that experience with either language can promote development of the proficiency underlying both languages. This language interdependence allows for students with two language systems to not only use the two languages as vehicles for their own learning but may also promote metalinguistic awareness (Cummins, 1978). Metalinguistic awareness refers to an individual's awareness of the properties of language (e.g., semantics) and his/her ability to process language through representational analysis and attentional control (Bialystok, 1991, 2001; Cummins, 1978). Children with two language systems appear to have higher developed metalinguistic skills since their linguistic understanding, particularly the relationship between words and their meanings, appears to emerge as superior (Bialystok, 2001; Cummins, 1978).

True Cognates as a Reading Intervention

Earlier research on foreign language acquisition by students with learning disabilities revealed that these students' difficulties with foreign language acquisition stem from deficiencies in one or more of three linguistic codes in the students' native language systems: phonological, semantic, and syntactic codes (Schwarz, 1997). The phonological code focuses on the sounds of the language, the syntactic code refers to the form or grammar, and the semantic code includes meaning and vocabulary. The deficiencies of these students in one of these

linguistic codes result in mild to extreme problems with specific oral and written aspects of the language being acquired. Semantics, which includes word meaning and vocabulary comprehension (McLaughlin, August, & Snow, 2000), is critical in the development of literacy skills. ELLs who experience slow vocabulary development are likely not to comprehend grade level texts like their English-only peers. These students are likely to perform poorly on assessments measuring critical literacy areas (i. e., vocabulary and reading comprehension) and are at risk of being identified as having a learning disability (August, Carlo, Dressler, & Snow, 2005). ELLs can be taught that vocabulary that is similarly spelled and has the same meaning in their first language, Spanish, can facilitate knowledge of words in the second language, English (August, Carlo, & Calderón, 2005; August, Carlo, Calderón, & Proctor, 2005; August & Shanahan, 2006; Dressler, 2000). This skill is known as cognate awareness (Malabonga, Kenyon, Carlo, August, & Louguit, 2008). Additionally, the recognition of cognates (Spanish- English) may be considered a metalinguistic skill (Proctor, August, Carlo, & Snow, 2006). The task requires that students use their awareness of their first language (Spanish) vocabulary (i.e., phonetic and definitional forms) to access the English vocabulary. This crosslinguistic transfer task requires the application of metalinguistic skills (Cummins, 1978; Bialystok, 2001; Proctor & Silverman, 2011) .

Cognate relationships across languages are based on three inter-related theories about second language acquisition: common underlying proficiency, cross-linguistic transfer, and language interdependence. Common underlying

proficiency refers to cognitive-academic language skills (e.g., reading words phonetically) that are the same across languages (Cummins, 1984). An individual can use the skill (e.g., phonics) acquired in one language (Spanish) to access and apply the same skill in the second language (English). This cross-linguistic transfer occurs with a variety of literacy skills (Cárdenas-Haga**,** Carlson, & Durodola-Pollard, 2007; Cummins, 1984; Dressler, 2000; Vrooman, 2000). Additionally, language interdependence indicates that experience with either language can promote development of the proficiency underlying both languages, given adequate motivation and exposure to both languages in school or in other environments (Cummins, 1984; Ramirez, 2000; Vrooman, 2000).

Cognate recognition has also been attributed to metalinguistic awareness beginning in the fourth grade (Nagy & Anderson, 1995). Metalinguistic awareness refers to the individual's ability to understand the nature of language rather than the ability to use language to communicate meaning, a refined awareness and control of the objective properties of language (Bialystok, 1991; Bialystok, 2001; Christensen, 1991; Nagy & Anderson, 1995). Second-language readers, who have metalinguistic awareness, are able to capitalize on the overlap between their first and second language using cognate relationships. Children with learning disabilities may encounter difficulties in making the linguistic transfer required when presented with true cognates. Most studies addressing metalinguistic awareness of students with learning disabilities (Zipke, Ehri, & Cairns, 2009) show that these students have low metalinguistic awareness and are not strategic learners. If they indeed lack this awareness,

which is crucial to learning how to read, there may be a need to explicitly teach them these metalinguistic strategies (Levy, Tennebaum, & Ornoy, 2003), including identifying words that could be true cognates (e.g., important/importante) (Proctor, August, Carlo, & Snow, 2006).

Malabonga et al. (2008) created a test, titled the Cognate Awareness Test (CAT), to assess and study the cognate awareness of students in grades 3-5. As previously mentioned, cognate awareness refers to the knowledge that individuals have about the relationship between an unfamiliar word in one language and a familiar word in another language, which can help them understand the unknown word (Cunningham & Graham, 2000). The results of each of the pilots of the CAT indicate that it does assess the construct of cognate awareness. The theory that there is a positive cross-linguistic transfer when there is sufficient vocabulary knowledge in the students' first language (Malabonga et al., 2008) was supported by the study, since the reading performance of all ELLs in the study significantly improved. Dressler (2000) also investigated cognate awareness in ELLs. She studied Spanish speaking fifth grade ELLs who had been taught to use the cognate strategy when reading in English. The students in the experimental group were more successful than those in the control group. These findings support Cummins' (2009) theory that ELLs first need to reach a threshold in their first language (socially and academically) before the skills can be transferred to their second language. Additionally, interventions that build cognate awareness can be promising in developing the vocabulary and reading comprehension of ELLs (August, Carlo, Calderón, & Proctor, 2005; Malabonga et

al., 2008). Furthermore, students with some language skills in Spanish who may be considered monoliterate in English (that is, they don't have the literacy skills in Spanish but can orally communicate in Spanish) may use their Spanish skills to identify cognates. Developing these skills can develop metalinguistic awareness, which is critical in achieving better outcomes in reading (Proctor & Silverman, 2011). Lastly, Cunningham and Graham (2000) studied the crosslinguistic transfer of 60 fifth and sixth grade English speaking children: 30 students were in Spanish immersion programs (Spanish is used as a medium of content instruction) and 30 students were not in the Spanish immersion programs. The use of cognates resulted in crosslinguistic transfer between Spanish, their second language (L2), and their first language (L1) English.

Rationale

The use of true cognates with ELLs as a reading intervention has been discussed in the research literature (August, Carlo, & Calderón, 2005; August, Carlo, Calderón, & Proctor, 2005; August, Carlo, Dressler et al., 2005; August & Shanahan, 2006; Malabonga et al, 2008; McLaughlin et al., 2000; Proctor & Mo, 2009) with potential positive results and as a promising best practice. However, there have been limited studies on the effect of this intervention on the reading and/or language skills of ELLs (August, Carlo, & Calderon, 2005; Wagner, Muse, & Tannenbaum, 2007). In addition, little research on literacy interventions (none related to true cognates) have been conducted with ELLs who also have a disability (Barrera, 2006; Goldenberg, 2008; Saenz et al., 2005). The proposed research on the use of true cognates as an instructional intervention for ELLs

with and without disabilities could provide additional insight about these students' use of their first language, cross-linguistic skills, and language interdependence. The results could possibly point to an unexplored language resource (i.e., the first/primary language such as Spanish) available to ELLs with learning disabilities to make meaning from text. The research literature has reported that students who are literate in their primary language (e.g., Spanish) appeared to have a better opportunity to use cognates as a cross-linguistic transfer (August & Shanahan, 2006; Dressler, 2002; Malabonga et al., 2008; Proctor & Mo, 2009). Students who have literacy skills in their first language (Proctor & Silverman, 2011), and even those who may only have some literacy skills in their native language, such as is prevalent among students with a learning disability, may process language differently as they have already developed processing systems to serve two linguistic systems (Bialystok, 1991). These differing ways of processing may allow them to access Spanish-English (e.g., magnífico/magnificent) cognates which they could use when reading in English as an important resource, since one half to one-third of the words in English are cognates with Spanish (10,000-20,000 words in all) (August & Shanahan, 2006; Goldenberg, 2008; Montelongo, Hernandez, Herter, & Cuello, 2011).

Importance of the Study

The study will provide the fields of special education, English as a second language, and bilingual education with much needed research related to the role of the home language, particularly in vocabulary development and reading comprehension, and to the acquisition of English skills by ELLs with and without

learning disabilities (August & Shanahan, 2006; Fuchs, Fuchs, & Vaughn, 2008; Goldenberg, 2008; Saenz et al., 2005; Slavin & Cheung, 2005). The results could provide additional information related to the use of students' first language as a medium of instruction and evidence of cross-linguistic transfer (August, Carlo, & Calderon, 2005; Cummins, 1984; Dressler, 2000) not only in ELLs, but also in ELLs with learning disabilities. Metalinguistics skills, which are critical in literacy development for all students, need to be explicitly taught to be used as strategies by students with disabilities, including those who are second language learners (Roth, Speece, Cooper, & De la Paz, 1996). It is proposed that through the use of true cognates, the metalinguistic skills of ELLs with and without disabilities in this study will improve (Dressler, 2002; Nagy, 1993). The use of true cognates as the center of the study, could provide an additional reading intervention (August et al., 2005; Malabonga et al., 2008; McLaughlin et al., 2000; Proctor & Mo, 2009) that educators can recommend to be used with ELLs in schools that are implementing the Response to Intervention model (NASDE, 2006). The implementation of true cognates as an evidenced-based reading intervention may result in reducing the number of ELL students who are referred for special education eligibility, particularly for learning disabilities, as indicated by Barrera (2006) and August and Shanahan (2006). Lastly, the use of true cognates as an instructional strategy with ELLs with learning disabilities could provide these students the necessary metalinguistic scaffold for them to use when reading text for comprehension (Artiles & Ortiz, 2002; Garcia & Tyler, 2010).

Statement of the Problem

There is a growing population of ELL students in the U.S., the majority of whom are Hispanics and speak Spanish as their first or home language (U. S. Census Bureau, 2010).There are also a number of students in the ELL population who have a disability, particularly a learning disability (U.S. DOE, IES, NCES, 2010). The overrepresentation of minority students (particularly ELLs) in special education (e.g., learning disabled), has had an impact on federal law with the passing of the No Child Left Behind (2002) school accountability measures for specific subgroups (e.g., African-Americans, ELLs). These accountability measures require that all students, including those in subgroups, attain proficiency in reading by the year 2014. In order to ensure that all the subgroups of students achieve proficiency, schools are required to implement ongoing progress monitoring of their students through the use of assessments and to provide research based interventions to those students not meeting standards. The NCLB (2002) accountability measures coupled with the Response to Intervention (RtI) model, the new process in determining eligibility for high incidence special education categories (LD and emotional/behavioral disorder [E/BD]), have resulted in the need to identify evidenced-based interventions for students having difficulty with reading (Fuchs et al., 2008; NCRTI, 2009). There has been a number of qualitative and quantitative research studies conducted on the provision of instruction to ELLs. Review of this research indicates that further research is needed in the effective use of the student's first language as a medium of instruction. This type of research is particularly more relevant for

students who lack the metalinguistic awareness to make appropriate associations between their first and second language, such as students with disabilities (Marinellie & Johnson, 2002). Furthermore, there is minimal research on evidenced-based instruction that has been successfully implemented with ELLs with learning disabilities; thus far, research studies have mainly focused on the appropriateness of the referral process for special education services of ELLs (Fuchs et al., 2008).

The proposed quasi-experimental study will investigate if the use of students' first language for instruction has an impact on the acquisition of vocabulary and reading comprehension skills in English. More specifically, the study will examine if true cognates (English words that are phonologically [similarly spelled] and semantically [mean the same thing] equivalent in Spanish and English), when used as a reading intervention, will have an impact on the acquisition of vocabulary and reading comprehension in ELLs with and without learning disabilities. The following research questions with their corresponding hypotheses will be investigated in this study:

Research Questions

1. Does the use of true cognates (Spanish-English) as an instructional reading intervention significantly improve the vocabulary development of ELLs with and without learning disabilities?
2. Does the use of true cognates (Spanish-English) as an instructional reading intervention significantly improve the reading comprehension of ELLs with and without learning disabilities?

Null Hypotheses

Ho_1: Using true cognates (Spanish-English) as an instructional reading intervention does not significantly improve the vocabulary development of ELLs with and without learning disabilities.

Ho_2: Using true cognates (Spanish-English) as an instructional reading intervention does not significantly improve significantly the reading comprehension of ELLs with and without learning disabilities.

Definitions and Terms

Attentional control. Paying attention to some aspect of language input (either a stimulus field or mental representation) that is not salient, not usual, or not expected (Bialystok, 2001).

Common underlying proficiency. Language skills acquired in one language that are used and applied to the second language (Cummins, 1984).

Cross linguistic transfer. Use of elements (e.g., phonemic awareness) from one language into another language (Austin, 2009).

Language interdependence. Experience with either language can promote development of the proficiency underlying both languages, given adequate motivation and exposure to both languages (Cummins, 1984).

Lexicon. Refers to vocabulary or stored information about the meaning and pronunciation of words (Snow et al., 1998).

L1. The student's first language (Cummins, 1984).

L2. The students second language (Cummins, 1984).

*Metalinguistics. A*n awareness of bringing into explicit consciousness linguistic forms and structures in order to consider how they relate to and produce the underlying meaning of utterances; the ability to view and analyze language as a “thing,” “process,” and “system” (Bialystok, 2001).

Morphology. The study of the structure and form of words in language(s) including inflection, derivation, and the formation of compounds (Snow et al.,1998).

Phonemic Awareness. The understanding that words are made up of smaller sounds,or phonemes (Snow et al.,1998).

Phonology. The study of speech structure in a language, it includes patterns of speech units (phonemes) and rules of pronunciation; the way sounds of the language operate (Snow et al., 1998).

Representational analysis. The ability to increasingly create mental representations of explicit and abstract linguistic information and structures (Bialystok, 2001).

Semantics. The way that language conveys meaning (Snow et al.,1998).

True cognates. Words (e.g., in English and Spanish) that are phonologically (similarly spelled) and semantically (mean the same thing) alike in two languages (e.g., Spanish and English) (Malabonga et al., 2008).

CHAPTER II

LITERATURE REVIEW

Introduction

Literacy development, reading and writing, as stated by Bialystok (2001), is the pinnacle of a young child's educational development. It is the currency by which social and economic positions are gained, and the central purpose of schooling (August & Shanahan, 2006). Language proficiency, a component of literacy, refers to the ability to effectively and appropriately use language across all contexts (social and academic) (Peregoy & Boyle, 2005), and includes basic interpersonal communication skills ([BICS] social language), and cognitive academic language proficiency ([CALP] academic language) (Cummins, 1984, 2009). School age students, including those who are learning English as their second language, must acquire social and academic language skills in order to be successful. Students in the process of acquiring a second language (e.g., English) often depend on their first language and use it to access and comprehend textual language in the second language. This interdependence with the first language can facilitate the acquisition of the second language (Artiles & Ortiz, 2002; Bialystok, 2001; Cummins, 1984, 2009; Dressler, 2000; Malabonga et al., 2008). Access to two languages and the possibility of contrasting those languages are insights that can facilitate literacy development (Durgunoglu & Oney, 2000).

The language other than English most often spoken in the United States by the school age population five years and older is Spanish (U.S. Census

Bureau, 2007). Due to the rapid growth of the student population in the United States of students whose home language is not English, but more than likely Spanish, there is an urgency to address these students' literacy needs (August & Shanahan, 2006; Fry & Gonzales, 2008; Goldenberg, 2008; U. S. Department of Education, Institute of Education Science, 2009). Furthermore, because of the critical role that language development has in reading, the role of bilingualism in the development of reading skills needs to be clearly delineated (Ramirez, 2000).

Lack of addressing the literacy needs (e.g., vocabulary development and reading comprehension) of English Language Learners (ELLs) with evidenced-based instruction could result in students being inappropriately identified as having a disability (August, Carlo, Dressler et al., 2005; Fuchs et al., 2008; Vaughn et al., 2006). The results of the meta-analysis study conducted by the U. S. Department of Education's Institute of Education Sciences, National Literacy Panel on Language-Minority and Youth (August & Shanahan, 2006) indicated that English language learners (ELLs) can take advantage of cognate relationships to develop English vocabulary as a precursor to reading comprehension (August & Shanahan, 2006). Vocabulary instruction for ELLs is critical, according to Manyak (2010). Additional studies in this area have supported the need for further research to address the needs of English language learners, particularly those with learning disabilities (Barrera, 2006; Garcia & Tyler, 2010; Goldenberg, 2008; Liu et al., 2008; Saenz et al., 2005; Slavin & Cheung, 2005). The following review of the literature provides a summary of the issues that impact the acquisition of literacy skills (vocabulary

and reading comprehension) by English language learners with and without learning disabilities. The review addresses the following issues: (a) the disproportionality of minority students in special education and the resulting federal mandates; (b) the unique needs of English language learners with and without learning disabilities; (c) specific research-based vocabulary and reading comprehension interventions used with ELLs with and without learning disabilities; (d) the common underlying proficiency theoretical framework; and (e) true cognate instruction.

Disproportionality in Special Education and Federal Mandates

Disproportionality (underrepresentation or overrepresentation) refers to the phenomenon that certain subgroups of students (e.g., African- Americans, Hispanics, English Language Learners) are represented in special education categories (e.g., learning disabilities, emotional behavior disorders) in numbers which are not in proportion to the total population of each subgroup and as compared to the majority population. This phenomenon, which has been a topic of much discussion in the field of special education (Artiles, 2009; Artiles, Kozeleski, Trent, Osher, & Ortiz, 2010; Fuchs et al., 2008; Garcia & Ortiz , 1988; Harry & Klingner, 2006;), may be attributed to poor instruction, English-only legislation, lack of language supports, instructional personnel who are not prepared to address the needs of minority students (e.g., ELLs), and lack of data collection nationwide, particularly as it relates to ELLs (Harry & Klingner, 2006; McCardle et al., 2005; Sullivan, 2011; Zehler et al., 2003).

Artiles, Rueda, Salazar, and Higareda (2005) conducted a study on the special education placements of ELLs in selected urban school districts in California. The focus of the study was to assess the representation of ELLs in special education by specific factors (e.g., grade, social class, program type); and to determine how these attributed to their placements. The researchers used databases from the 1998-1999 and 1999-2000 academic school years and some longitudinal data. They calculated a composition index, risk index, and ratio index to determine over/underrepresentations in special education based on the disaggregated factors. Although district level data indicated that English proficient students represented the majority of special education placements, further analysis indicated that ELLs were overrepresented at the secondary level when compared to ELLs at the elementary level. Additionally, ELLs were also overrepresented when compared to their English proficient peers, starting in later elementary grades (e.g., fourth grade). With respect to disability category, they found that ELLs with limited L1 and L2 were overrepresented in LD in elementary and secondary grades; however, they were underrepresented in programs for students with mental retardation. Limited abilities with L1 and L2 were also attributed to placements in the speech and language impaired disability category. With regard to the type of ELL programs that students were placed in, students in English immersion programs were more than twice as likely to be placed in special education programs that had less restrictive services; ELLs in modified English immersion (e.g., English and home language support) were more than likely to be placed in more restrictive special education programs, but at a lesser

rate than ELLs students in bilingual education programs. The majority of the ELLs placed in special education, particularly programs for students with mental retardation and learning disability, were from low-socioeconomic backgrounds. The findings suggest that these under/overrepresentations in special education programs by the disaggregated factors may be due to the language supports provided in ELL programs, particularly in the student's native language; to the lack of programs that address preliteracy at the secondary level; to the articulation between elementary and secondary ELL programs; and to their socioeconomic status that may result in placements in LD programs.

The inappropriate identification, referral, evaluation, eligibility determination, and placement procedures have led to a disproportionate number of minority students (e.g., African-Americans, English language learners) being placed particularly in high incidence special education categories (i.e.., learning disabilities, emotional behavior disorders) (Artiles, 2009; Artiles et al., 2010; Barrera, 2006; Cummins, 1984; Klingner & Artiles, 2006; Klingner et al., 2005; U. S. DOE, Center for Education and Human Services, 2009). The literature describes high-incidence disabilities, as it relates to disproportionality, as "judgmental" categories, which allude to the diagnosis of these conditions relying mostly on professional clinical decisions (Artiles et al., 2010). Additionally, these disability categories have lacked clarity in what is used as the criteria for their identification (Kavale, 2011; Kavale & Forness, 1995; Samson & Lesaux, 2009); their definitions are even further hindered by the lack of validity and reliability of the measures and the inconsistency in the assessment procedures used to

determine special education eligibility (Cummins, 1984; Fradd & Larrinaga-McGee, 1994; Garcia & Ortiz, 1988; Harry & Klingner, 2006; and Rueda & Windmueller, 2006). Along with these hindrances, the stigma of a high-incidence disability label not only negatively impacts the youngster, but it also impacts the family and ultimately the community. Lastly, for students having difficulty in school, key aspects of the school context, including administrative, curricular/instructional, and interpersonal factors, may contribute to their identification as having a disability and may contribute to the overall disproportionately high or low special education placements of minorities (Donovan & Cross, 2002).

Skiba et al. (2006) conducted a grounded theory study to explore the district/school level dynamics and processes that may contribute to special education disproportionality. They interviewed 64 school personnel (teachers, principals, school psychologists) involved in these processes. The results point to several risk factors such as low income; students' biological conditions; social/environmental/behavioral cultural mismatches; and/or accountability testing that create pressures that increase inappropriate referrals to special education; the view of special education as valuable by general education teachers, and as sometimes the only resource for students with learning and behavior problems. Skiba et al. (2006) emphasized the need for educational resources in general education and increased training of general education teachers and support personnel to provide more effective core instructional programs.

The increase in the identification of students as having a disability in grades three and above was also supported by research conducted by Samson and Lesaux (2009) as well as Artiles et al., in 2005. Samson and Lesaux used data from the Early Childhood Longitudinal Study – Kindergarten Cohort to investigate the proportional representation of language-minority students in special education. They focused on kindergarten, first grade, and third grade students. The results indicated that kindergarten and first grade language minority students were underrepresented in special education, but by third grade, language minority students were overrepresented. The results indicated that the language and literacy skill ratings of kindergarten teachers, as well as students' reading proficiency levels, were predictors of placements in special education. Teachers' ratings, based on literacy skills, were stronger predictors of special education placements then having a language minority status. Lastly, they found that language minority students in special education were similar to their monolingual English speakers; however, they were referred much later than their monolingual English speakers. The researchers indicated that the lack of identification can be due to reluctance by teachers to refer until proficiency in English is established, and teachers' lack of confidence in identifying disabilities in language minority students. Teachers may also be afraid of breaking federal law, which indicates that special education placements can not be due to language. The findings of this study point to the need to support a Response to Intervention model for ELLs that first provides high-quality, classroom-level

instruction and tailored literacy interventions before being identified for more individualized supports and services.

Results of the study conducted by Sullivan (2011) on the disproportionality in a large urban district indicate that the subject of disproportionality needs to be addressed not only as it relates to racial differences, but also as it relates to students learning English. The study examined the representation of ELLs relative to their White peers over an 8 year period (1999 – 2006) in one southwestern state using data from the state's Department of Education. Her study, in particular, pointed to the elevated risks of the placement of ELLs in high-incidence categories such as learning disabilities, intellectual disabilities, and speech-language impairments. The results indicate that there were disproportions across the state in many disability categories with emotional disorder being underrepresented throughout the districts. However, while ELLs with a disability were increasingly being provided instruction with their non-disabled peers for more than 80% of the time when compared to White peers, more ELLs were placed in settings such as resource rooms when compared to their White peers. Sullivan (2011) indicates that disproportion alone can not be used as the sole criterion for adequacy of practice. She indicates that there is a need for valid practices to occur when determining the appropriateness of the identification and services being provided to any group of students.

Rueda and Windmueller (2006) reviewed the research literature related to overrepresentation, particularly in studies conducted in 2002 and 2005 by Artiles, Rueda, Salazar, and Higareda in 11 urban districts in California with high

proportions of ELLs, high minority enrollments, and high poverty levels. A review of the placement patterns in special education categories, as well as those placed into the most prevalent disability categories, revealed an overrepresentation of ELLs in the high incidence exceptionalities (LD and E/BD). These overrepresentations emerged in Grade 5 and remained clearly visible until Grade 12. The results indicate disproportionality of ELLs, particularly in learning disabilities. This disproportionality can be due to systematic bias at some level of the educational system, achievement differences, and/or a misalignment or imbalance among the multiple levels of the teaching/learning system (Rueda & Windmueller, 2006). The existing efforts to reduce disproportionality have resulted in an increased understanding of more effective interventions for students at risk of being placed in LD programs. However, there is a need for a "multiple levels of analyses" approach (e.g., reviewing curricular program policies and procedures related to ELLs) that includes the individual, the interpersonal, and the cultural–institutional levels (Rueda & Windmueller).

Harry and Klingner (2006) conducted a grounded theory study on the overrepresentation of minority students in special education. The study investigated the placement procedures at 12 elementary schools in a large, multicultural, urban school district. The results of the study indicated that there were three main phases of the placement process that resulted in disproportionality: children's opportunity to learn prior to the referral, the decision-making process in placing students in a special education program, and the lack of quality instruction in special education. The authors' recommendations

included, among many, the need for stimulating instruction, a review of the eligibility criteria for high incidence exceptionalities, and a set performance criteria in reading and mathematics to provide data on students' responses to research-based interventions prior to referring students for special education evaluations. If these recommendations are not implemented, then it is likely that the result would be inappropriate special education placement, which may lead students on a course of instruction and a way of life that will ultimately negatively impact their individual rights to "… life, liberty and property" (Yell, 2006).

Individuals with Disabilities Education Act (IDEA) Amendments Aligned to NCLB

The IDEA amendments of 2004 had a tremendous impact on the identification, evaluation, and placement of students with disabilities. As a result of this alignment of IDEA (U. S. DOE, 2004) to NCLB (2002), new accountability requirements were mandated for all school districts. These accountability requirements indicated that all enrolled students, including those from selected subgroups (e.g., students with disabilities, English Language Learners (ELLs), African-Americans) would achieve proficiency in reading by 2014. Schools not meeting this requirement will be sanctioned due to lack of achievement based on the subgroups adequate yearly progress (AYP). The implementation of comprehensive, coordinated, and early intervening services (in the form of Response to Intervention [RtI]) to serve children who have been traditionally placed at disproportionate levels in special education were also included in IDEA 2004 (U. S. DOE, 2004). The IDEA 2004 language was specifically aligned with

NCLB (2002) since it requires research-based and early intervening services be provided. The language of IDEA 2004 also indicates , " … a child is not disabled if the determinant factor is (1) the lack of appropriate instruction in reading, including the essential components of reading as defined in Sec. 1208(3) of NCLB; (2) lack of instruction in math; or (3) limited English proficiency" (U.S. DOE, 2004). This special eligibility rule, which was also part of the 1997 IDEA amendments, is another attempt to prevent the inappropriate overidentification or disproportionate representation of racial or ethnic groups in special education. The rule focuses on the type of instruction being provided to these students prior to eligibility determination.

There have been a number of court cases before and after the inception of the Educational for All Handicapped Children Act of 1975 (Smith & Neisworth, 1975) that also addressed the identification and evaluation of minority students in special education, such as *Jose P. Ambach*,1983; *Diana v. Board of Education*,1970; and *Larry P. v. Riles,*1979 (Yell, 2006)*. Larry P. v. Riles,* 1979 set the precedent for the collection of data related to the disproportionate placement of minority groups. *Jose P. v. Ambach*, 1983*,* was a class-action lawsuit on behalf of ELLs with disabilities between the ages of five and 21. They claimed that the school district did not provide them with an appropriate education because they were not evaluated in a timely manner. The court required the district to provide the students detailed education plans including bilingual education and training for teachers. *Diana v. Board of Education*, 1970 and *Larry P. v. Riles,* 1979 were cases in California. These two cases

emphasized the disproportionately high minority enrollments in programs for students who were identified as educable mentally retarded (EMR). Both cases were decided in favor of the plaintiffs and caused dramatic changes in the identification and educational programming of EMR children (the state required all students in programs for the EMR to be reevaluated).

The alignment of IDEA 2004 to NCLB (2002) resulted in states and school districts focusing on the literacy skills of all children. There are many strengths to the accountability focus of this alignment, particularly as it relates to the disproportionate placement of minority students in special education. These strengths are: all students participate in a state assessment to demonstrate AYP, which may impact their school's performance (NCLB, 2002); the academic growth of ELLs is being monitored very closely by all school districts; and there is now documentation of a child's Response to Intervention (RtI) as a first step in determining special education eligibility (Linan-Thompson et al., 2006; NASDE, 2006; Vaughn et al., 2006). The RtI model has had an impact on the referral of minority students to special education as indicated by preliminary data (NASDE, 2008). Consequently, subgroups of children (ELLs, African-Americans), who were typically excluded from participation in state assessments and referred to special education at disproportionate levels (Artiles, 2009; Harry & Klingner, 2006; Klingner & Artiles, 2006), are now being monitored for academic achievement , including participation in state and district assessments prior to consideration for referral to special education.

Learning Disability Definition and Overrepresentation

It is important to note that the term ‘learning disability’ is defined as a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations.The term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.The definition does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities; of an intellectual and developmental disorder; of emotional disturbance; or of environmental, cultural, or economic disadvantages (Cortiella, 2010; U.S. DOE IDEA, 2004). There are, however, changes to the ways that schools can determine whether a student has a learning disability. These new practices are having a significant impact on the school site identification and eligibility procedures (National Association of State Directors of Special Education, 2008).

Use of the IQ/achievement discrepancy model, which had been instituted in 1977, has resulted in the disproportionate placements to special education of students living in poverty, students of culturally different backgrounds, or students whose native language was not English. Cortiella, 2010, Harry and Klingner (2006), Kavales and Forness (1995), and Liu et al. (2008) point to eligibility practices that subverted special education’s intent by just “locating the correct box” in order to find the correct label. Although some students were placed appropriately and benefitted from special education, at times the students

who were misdiagnosed or inappropriately labeled, “fell through the cracks” while waiting to fail before their academic needs were appropriately addressed (Harry & Klingner, 2006; Vaughn & Fuchs, 2003).

In the RtI process, students who show signs of learning difficulties are provided with a series of increasingly intensive, individualized instructional, or behavioral interventions (NCRTI, 2009; Vaughn & Fuchs, 2003; Vaughn, Linan-Thompson, & Hickman, 2003; Xu & Drame, 2008). These interventions are designed and delivered by the general education staff in collaboration with other experts, such as reading specialists and school psychologists, and are recommended by researchers (e.g., Florida Center for Reading Research). Implementation of RtI resulted in measured student progress and problem solving by school personnel. Students not responding to instruction at all three tiers are identified to determine if they are eligible to receive special education services (Vaughn et al., 2006).

Based on calls for school reform, accountability issues as stipulated in federal law (NCLB, 2002), and the provision of early intervening researched-based instruction for all at risk students through an RtI model, the LD eligibility requirements also evolved based on the results of several reports and research studies conducted by national panels, agencies and researchers related to the identification, evaluation, and placement of minority students in special education. The *1982 Placing Children in Special Education: A Strategy for Equity* report (Elementary and Middle Schools Technical Assistance Center [EMTAC], 2009) was written by a panel that was convened by the National Academy of

Science. This is one of the first reports related to disproportionality that focused on improvements in the referral process, in evaluation, and in the placement of minority students in special education. The 19*th* *Annual Report to Congress* on IDEA (1997) also cited disproportionality as an issue in special education (EMTAC, 2009). Project SEEL (Special Education Elementary Learners), a longitudinal study which was conducted in 2000, also focused on the demographics and achievement of students with disabilities [(U. S. DOE, Center for Education and Human Services, 2009)]. The findings of the study showed that there was a disproportionate number of Hispanics in programs for students with learning disabilities. Although not supported with data, the report from the President's Commission on Excellence in Special Education (2001), titled A New Era: Revitalizing Special Education for Children and Their Families, was written by experts in the field of special education and also pointed to the overrepresentation of minority students in special education. A summary of the report included statements that described special education as a system that uses an antiquated model that waits for a child to fail, and that many of the methods for identifying children with disabilities lacked validity. The commission recommended the need to implement evidence-based practices and to adopt a model that is based on prevention and intervention. Another IDEA 2004 regulation, which had an impact on the provision of education services to students with disabilities, is the change in the eligibility criteria for a learning disability (LD) (Barrera, 2006; Fuchs, Fuchs & Vaughn, 2008). Eligibility criteria for a learning disability that were once based only on an IQ/achievement

discrepancy model can now be based on a student's response to instructional interventions (NASDE, 2006; NCRTI, 2009; Vaughn & Fuchs, 2003).

Response to Intervention and English Language Learners

The IDEA (U. S. DOE, 2004) requirement that school districts monitor children's responses to intervention has resulted in states mandating that school districts include in their policies the implementation of the Response to Intervention (RtI) model when monitoring students' academic achievement. In some states, including Florida, RtI has become the process of evaluating students for specific special education categories (especially LD and EBD). The implementation of the RtI model has resulted in school districts targeting the standards and practices of instruction in all classrooms (Boardman & Vaughn, 2007; Fuchs et al., 2008; National Center for Response to Intervention, 2009). However, the implementation of the RtI model has also resulted in many districts not having ample time to prepare a "best practices" model to develop and implement the process with the students who are precisely the target of this process, minority students. The National Center for Response to Intervention (2009) reported that states and districts are at times implementing RtI without the benefit of sound information about evidenced-based tools, practices, and implementation strategies as they specifically relate to minority students. This selection can result in students demonstrating a lack of reading and math achievement not due to a disability but due to a lack of effective instruction that is not culturally or linguistically appropriate to the students' needs (Harry &

Klingner, 2006; National Center for Culturally Responsive Educational Systems, 2008); hence, once again the potential of disproportionality is created.

The accurate identification of Hispanic children at risk for a reading disability (RD) who are learning English as a second language is a difficult process (Harry & Klingner, 2006; Linan-Thompson et al., 2006; Liu et al., 2008; Vaughn et al., 2006). There are several confounds that exist in the assessment of children with potential RD among second-language learners. These confounds, such as a student's development of reading skills in the first language (Fradd & Larrinaga, 1994; Liu et al., 2008) and proficiency in the second language (Harry & Klingner, 2006), may be due in part to difficulties being attributed to second language and reading acquisition. These same confounds are the same language processes (e.g., phonological and lexical) that may lead to second-language learners being inappropriately diagnosed with a disability and placed in special education (Swanson, Saenz, & Gerber, 2004; Wagner et al., 2007). Instruction for ELLs that is not meaningful, comprehensible, or culturally, and linguistically appropriate, can result in students being referred for possible placement into special education (Artiles et al., 2010; Artiles & Ortiz, 2002; Cummins, 1984; Fradd & Larrinaga, 1994; Garcia & Ortiz, 1988; Klingner et al., 2005; Liu et al., 2008; Vaughn et al., 2006; Xu & Drame, 2008). The RtI model resulted in a resounding need for empirically researched-based instructional strategies and interventions, particularly for those who are English language learners with or without learning disabilities.

English Language Learners with and without Learning Disabilities

English Language Learners. Second language acquisition, particularly in English, is a complex process for school age youngsters. English language learners (ELLs) need to be competent in the four language processes of communication: listening, speaking, reading, and writing (Peregoy & Boyle, 2005). English acquisition is developmental and typically there are levels of proficiency that are acquired by school-age children (Fradd & Larrinaga- McGee, 1994; Krashen, 2009). Each of these four levels include three major areas: form (structure), function (use of language), and content (information about a topic) that the English language learner has to master in order to be successful with the course standards (Fradd & Larrinaga-McGee, 1994). The first proficiency level can be described as the student listening and using receptive language to demonstrate understanding through actions. The second level is when the student begins to use orally selected vocabulary and to convert phrases into sentences using appropriate verb forms. The student also uses the second language to begin to read vocabulary. Typically at this level, there are many first language interferences displayed in all social and academic language contexts. The third level consists of the second language learner speaking in short paragraphs and reading some text with comprehension. The third level is also represented by less displays of first language interference. The fourth level consists of the student being able to successfully engage in academic language within the context of a classroom setting (Fradd & Larrinaga-McGee, 1994). The fourth level is continuous since language acquisition continues to develop for an

individual as new vocabulary is introduced (Fradd & Larrinaga-McGee, 1994; Krashen, 2009). These levels are fluid and are based on the context and skills acquired in the areas of form, function, and content. Additionally, Cummins (1984) divides language into two different kinds of proficiency: basic interpersonal communication skills (BICS) (social language) and cognitive academic language proficiency (CALP) (academic language). Cummins (1984) and Bialystok (2001) indicate that students must attain academic language skills or use language to demonstrate course content knowledge through such actions as reading text with comprehension that will allow the student to generalize and apply knowledge. However, the acquisition of academic language skills or proficiency in English requires that the ELL student be provided instruction that is meaningful and comprehensible in all content areas (Krashen, 2009).

Students who are new arrivals to a school system and speak a language other than English in the home are typically administered an English proficiency measure (Peregoy & Boyle, 2005). Performance on the test indicates the level of English proficiency of the student, and in most school districts the proficiency level is identified by either a number (e.g., English for Speakers of Other Languages [ESOL] Level 1) or a descriptor (e.g., beginning; intermediate). The ELL's level determines the type of English as a second language program that is provided to the student (e.g., English immersion; transitional bilingual education program). The focus of the programs is development of English proficiency. In English immersion programs, students are taught the subject matter in their second language while they are developing the second language and learning

academic content. Transitional Bilingual Education is a program that provides native language support while the student is acquiring English. The native language support is removed once the student's English has been determined to be near native language proficiency. The options are often dependent on the type of program the school district provides for ELLs (Peregoy & Boyle, 2005). In most school districts, the students are provided English supports (i.e., ESOL/English as Second Language [ESL] Program); in some districts, native language instruction is provided until the student becomes English proficient as demonstrated on one of the English proficiency measures; while in other districts, there is combination of ESOL/ESL and bilingual education programs provided to ELLs. Typically, the student who demonstrates English proficiency is dismissed from the ESOL program. In many instances, the ELL student is prematurely exited from the program (Xu & Drame, 2008), and as a result begins to display academic difficulties, particularly in reading; typically the general education teacher would then request assistance from the school support personnel (e.g., counselor) (Garcia & Ortiz, 1988; Garcia & Ortiz, 2008). In other situations, the ELL student struggles to keep up with the content matter (Artiles & Ortiz, 2002; Garcia & Tyler, 2010; Liu et al., 2008; Xu & Drame, 2008) with the teacher suspecting the student has a learning disability.

In accordance with the accountability measures of NCLB (2002), ELLs need to perform to the same standards as their English speaking peers (Garcia & Tyler, 2010; Peregoy & Boyle, 2005). ELLs with less then a year in the U.S., including those with a disability, typically participate in the high stakes testing

requirement. As a result of the implementation of this requirement and the need to monitor the academic progress of all subgroups, ELLs, like all students, are assessed and identified for intervention services if they are considered at risk (NCRTI, 2009). Although the reason for their low performance on the reading screening assessment (Xu & Drame, 2008) may be due to a lack of academic English language proficiency, they are often placed on one of the RtI tiers. Their response to intervention is monitored with the same instruments used with other students, and in most instances, they are being provided the same interventions as their English speaking peers (Garcia & Tyler, 2010; Xu & Drame, 2008). Thus, although RtI is being implemented and the model can offer an opportunity to reduce the disproportionate representation of ELL students in special education (Xu & Drame, 2008), there are still some ELLs who mistakenly appear to have a learning disability, since they do not respond appropriately to the intervention (Fuchs, Fuchs, & Vaughn, 2008).

English Language Learners with Learning Disabilities. Although the implementation of RtI appears to have reduced the overrepresentation of ELLs in special education, there are some ELLs who have been identified correctly as having learning disabilities because they do have a disability. School age children with learning disabilities are a heterogeneous group (Artiles & Ortiz, 2002; Garcia & Tyler, 2010); their characteristics vary (Tyler, 2006). However, there are some distinct displays (e.g., dysfluencies; lack of phonemic awareness; difficulties in decoding) by students with reading-related learning disabilities (August & Shanahan, 2006) due to their inability to recognize letters or letter-

sound correspondence. Their reading tends to be slow, choppy, and dysfluent. These students may also display below grade level skills in language comprehension (Mancilla-Martinez & Lesaux, 2010) and vocabulary, or they may present difficulties with memory and retention, information processing, including the speed with which information is processed, even when language limited tasks are presented to them. Additionally, they may display limited English and Spanish receptive oral vocabulary (Denton, Wexler, Vaughn, & Bryan, 2008). ELLs with learning disabilities may display these same difficulties in their native language (Tyler, 2006).

Often older students with learning disabilities do not efficiently use the strategies they have been taught. Tyler (2006), in her dissertation, conducted a qualitative study related to the beliefs, experiences, and practices of teachers teaching reading to middle school ELLs with learning disabilities. The study took place in the state of Texas. There were five special education teachers involved in the study with a total of 12 students being the secondary focus of the study. The special education teachers all taught reading to ELLs with learning disabilities. The triangulated data gathered resulted in the development of three "working" hypothesis (Tyler, 2006). First, special education teachers lacked preparation in addressing the needs of English-language learners. The teachers addressed the language needs of ELL students with disabilities incidentally and on a trial-and-error basis. Next, the prescribed reading program shaped the reading instruction for all students. Additionally, the teacher's own preparation

program impacted their reading instruction. Finally, teachers demonstrated a one-size-fits-all approach to their reading instruction for ELLs with disabilities.

A study conducted by Denton et al. (2008) noted that ELLs who are older often have significant reading difficulties, particularly with word reading and meaning. The study consisted of 38 students in 6-8 grades (20 in the reading intervention group and 18 in the traditional instruction group) whose home language was Spanish and who were classified as ELLs. These students had been identified as non-responders to reading interventions. The treatment consisted of explicit instruction in a phonics-based reading program. The pre and post tests consisted of the Peabody Picture Vocabulary Test (PPVT); selected subtests from the Woodcock Johnson Tests of Achievement III (WJ III); the Sight Word Efficiency subtest of the Test of Word Reading Efficiency; and the Dynamic Indicators of Basic Early Literacy Skills **(**DIBELS). The PPVT was administered to all students in English and in both English and Spanish to students identified as Limited English Proficient. The Passage Comprehension, Letter Word Identification, and Word Attack subtests of the WJ III were administered. These subtests when combined are identified as the Basic Reading Cluster by the WJ III. Additionally, timed word identification was assessed with the Sight Word Efficiency subtest of the Test of Word Reading Efficiency. The DIBELS was used to assess the students' reading fluency. The treatment groups were taught by two teachers who participated in 10 hours of training on the modified phonics-based intervention. Students in the treatment group received daily explicit and systematic small-group intervention for 40 minutes over 13 weeks that consisted

of a modified version of a phonics-based remedial program. The program was enhanced with practices in English as a Second Language as well as instruction in vocabulary, fluency, and comprehension strategies. Data were analyzed through the application of a repeated measures analysis of variance (ANOVA) with one between-subject factor (assignment to condition) and one within-subject factor (time in instruction). The results indicated no statistical significance between the students receiving reading intervention group and students in the traditional instruction group. According to the researchers, an explanation for the lack of significance between both groups may have been a failure of the study to adequately address oral language development, particularly vocabulary, in the intervention. The researchers hypothesized that middle school students with the most severe reading difficulties, particularly those who are ELLs and those with limited oral vocabularies, may require a more intense intervention than that provided in this study.

Mancilla-Martinez and Lesaux (2010) in their longitudinal study related to struggling readers who are language minority and speak Spanish indicate the need to create a precise match between instruction and a child's skills. The results of the study indicate a need to provide direct, explicit, and sustained vocabulary instruction to language minority students who speak Spanish and are struggling with reading. Additionally, these struggling readers must be provided with instruction on word learning strategies (e.g., using the context to determine meaning). The study included 173 families and their youngsters from ages 4.5 to 8 years (preschool through second grade) and then later at 11 years of age (fifth

grade). The students had been in English-only classrooms. The Letter Word Identification, Picture Vocabulary, and Passage Comprehension subtests from the Woodcock Language Proficiency Battery – Revised were used to ascertain the students' performance in both English and Spanish. The Syntactic Similiarities subtest of the Test of Reading Comprehension – Third Edition was used as well as the Reading Comprehension subtest of the Gates-MacGinite Reading Tests – Fourth Edition. Using a longitudinal structural equation model of latent growth curves to determine the influence of vocabulary and word reading skills on reading comprehension, the researchers concluded that Spanish vocabulary and word reading were not significant predictors of English reading comprehension. However, the vocabulary and word reading in English were significant predictors of reading comprehension with effect sizes moderate to moderately high (r = .33 and .42, respectively). Additionally, fifth graders on average were able to read for comprehension at a second-grade level. The fifth graders' word reading skills were within the average range; however, their vocabulary skills were between the age of 8-5 and 9-0. This study, like the Denton et al. (2008) study, indicates that training in vocabulary is beneficial for ELLs with reading related disabilities.

Common Underlying Proficiency: A Theoretical Framework

The theoretical framework used for the proposed study is known as the common underlying proficiency (Cummins, 1984). Common underlying proficiency refers to cognitive-academic language skills (e.g., reading words phonetically) that are the same across languages. An individual can use the skills

(e.g., reading) acquired in one language (Spanish) to access the same skills in the second language (English). Cognitive-academic language skills in the student's first language are transferred between the first language, or native language (Spanish), and the target language, or second language (English) (Cummins, 1984). In addition two of the theoretical tenets of common underlying proficiency, selected constructs of bilingualism, particularly cross-linguistic transfer (Kroll & Tokowicz, 2001), and language interdependence will also be used to support the theoretical framework of this study. Language interdependence indicates that certain first language (L1) knowledge can be positively transferred during the process of second language (L2) acquisition (Cummins, 1984; Dressler, 2000; Malabonga et al., 2008; Ringbom, 1992; Vrooman, 2000). Lastly, metalinguistic awareness, which is critical to the reading process and refers to the individual's ability to understand the nature of language, rather than the ability to use language to communicate meaning (Bialystok, 1991; 2001;Tunmer & Cole, 1985; Zipke, Ehri, & Cairns , 2009), will also be used as a foundational framework for this study.

Metalinguistic awareness has been reported to have four components: phonological, word awareness, form, and pragmatics. An awareness of these components by all learners allows them to objectify the linguistic code independent of meaning (Roth et al.,1996). There is a hierarchical relationship between reading and metalinguistic awareness. In other words, students must acquire three (phonological, word awareness, and form) of the four components in addition to processing these language structures through their representational

analysis and attentional control skills (Bialystok, 2001) in order to become proficient readers. In the case of ELLs who are learning to read and often have difficulties, it is critical to identify and capitalize on their potential strengths (Nagy & Anderson, 1995). These strengths often depend on their metalinguistic awareness. Students with two language systems, or second language learners, have increased metalinguistic awareness skills since these skills would have been developed in their first language (Bialystok, 2001; Nagy & Anderson, 1995).

Cummins (1978) conducted a study on the effects of bilingualism on the development of children's awareness of certain properties of language and their ability to analyze linguistic input. The study, which was conducted in Ireland, consisted of 80 third graders and 26 sixth graders from four middle schools. The schools provided instruction in Irish or English; teachers rated the students' Irish language skills. The Irish language skills were based on a teacher rating scale of 1-5. Those students whose teachers rated them as a 3 participated in the study. A total of 40 third grade students met the criteria; these students were matched (e.g., IQ, sex) with 40 students from the English medium schools. There were only 26 students in the sixth grade (13 from the Irish instruction school and 13 from the English instruction school) in the study. There were three "Language Objectivity Tests" administered to the students: Meaning and Reference (assessed the child's belief in the stability of the meaning of the word); Arbitrariness of Language (can words be interchanged [cat for dog]); and Nonphysical Nature of Words (awareness of the nonphysical aspects of words). The test tasks required the students to answer questions. Lastly, empirical and

non-empirical questions were posed to the students and the answers were scored based on the students' justifications for their responses. The empirical questions assessed a children's experience with the subject matter; whereas, the non-empirical questions dealt with whether the statement was true or false. In the case of the non-empirical questions the participants were asked not to guess if they did not know whether the statement was true or false. The results on a chi-square analyses indicated no significant difference for the third graders on the meaning and reference tasks; however, a trend indicating bilingual superiority (X^2 (2) = 3.96, p = .14) emerged. At the sixth grade level, significant differences were noted (X^2 (1) = 5.85, p < .02) for this particular task. There was significance on the first item assessing the arbitrariness of language between the bilingual and monolingual students in grade 3. However, monolingual and bilingual children performed about the same with the rest of the questions. The Nonphysical Nature of Words assessment resulted in no significance differences between the bilingual and monolingual students. There were significant differences between bilingual and monolingual third grade students on the selected contradictory items (X^2 (1) = 4.02, p < .05) and on other items, there was a trend towards bilingual superiority. There were differences between the groups on the total number of nonempirical items (F(1,78) = 4.62, p < .05). These patterns of significance were noted on all the empirical items. Although Cummins (1978) reports limitations due to the measures used, the results indicated that bilingual children (English-Irish) showed a greater awareness related to word-referent relationships. The bilingual students were also better able to evaluate

the nonempirical contradictory statements. The students in Cummins study displayed an explicit awareness of linguistic forms and how they relate to and produce the underlying meaning of utterances or metalinguistics.

It has been reported that even some exposure to a second language promotes metalinguistic skills (Dressler, 2002). The cross-linguistic transfer of useful information from one language to another may be used to scaffold metalinguistic awareness. Empirical studies of skill transfers such as phonological awareness and morphological awareness between Spanish and English have resulted in increases in these skill areas among bilingual children. Metalinguistic awareness has been attributed to cognate recognition in bilingual children in fourth grade (Nagy & Anderson, 1995) as metasemantics (word awareness), one of the components of metalinguistic awareness (Roth et al., 1996). Roth et al. (1996) reviewed 11 studies conducted on the relation of difficulties with word decoding and reading comprehension to metasemantics, metasyntax/metamorphology, and narrative discourse. Metasemantics, metasyntax, and metamorphology are all considered metalinguistic skills. Phonemic awareness has been identified as a predictor of reading difficulties; however, less is known about what would be the impact on reading by the lack of other metalinguistic skills (i.e., metasemantics). The studies reviewed by Roth et al. (1996) found that metasyntax had a role in reading but there was less clarity related to metamorphology and metasemantics. Three of the studies reviewed by Roth et al. (1996) related to metasyntax and metasemantics. The first study assessed what was the relation of language awareness and cognitive variables

(i.e., memory and nonverbal intelligence) to word recognition in a group of second and fourth grade children using selected metalinguistic tasks (e.g., comprehension). Based on multiple regression analyses, the findings indicated that the combined tasks of this study, which were not related to phonological awareness, predicted word recognition. The second study was conducted with first, second, and third grade students and focused on metasyntactic skills. The children needed to correct syntactic and semantic errors in orally presented sentences. The results indicated that performance on the judgment and correction tasks were predictors of reading fluency. Lastly, the third study was conducted with first grade students and focused on several metalinguistic tasks (e.g., word segmentatioin, oral correction, detection, and explanation of intersentence inconsistencies). The results of this study revealed that metasemantics did not influence word decoding or reading comprehension. Roth et al. (1996) summarized the findings of these studies by indicating that there is a relation between selected metalinguistic skills (e.g., awareness of syntax) and reading. The studies are not conclusive about the role of metasemantics (e.g., awareness of word meanings) in reading development. Additionally, vocabulary knowledge is essential in reading in the higher elementary grades, and it would be most appropriate to investigate the role of semantics in those grades as children develop their reading skills.

When learning to read, ELLs can capitalize on the overlaps between their first and second language such as those overlaps found in cognate relationships. Nagy and Anderson (1995) indicated that it is the youngest, the disadvantaged,

and least able children who will benefit the most from instruction that helps them become aware of the written system and its relationship to spoken language.

Cummins (1984) along with other researchers (August & Shanahan, 2006; Carlo et al., 2004; Dressler, 2002) indicate that based on the common underlying proficiency theory, there is an academic reason for use of the first language as a medium of instruction with students who are academically at risk or have a disability. The most important skills that transfer from one language to another are conceptual skills. These conceptual skills are typically related to the lexicon or vocabulary that the student acquired in the native language. Focusing on the L1 and L2 connection, similarities found in cognate pairs will result in enhancing a student's metalinguistic awareness and ultimately may transfer to a most critical literacy area – reading comprehension (Dressler, 2002).

True cognates are words that are similar in spelling, sounds, and meaning in the student's first language (Spanish) and in the student's second language (English). Instruction used to develop the vocabulary and reading comprehension skills of English language learners with and without disabilities has the following as its theoretical underpinnings: common underlying proficiency, cross-linguistic transfer, and language interdependence. The use of true cognates in reading instruction enables the ELLs with and without disabilities to comprehend text by focusing and using vocabulary that are familiar in their native language. For example, in Spanish the word hospital has the same meaning and spelling as in English (hospital/hospital), and these cognates are therefore identical; other true

cognate words have very similar spelling and meaning (important/importante); and still others are very dissimilar (surprise/sorpresa) (Montelongo et al., 2011).

It is proposed that the use of true cognate instruction, both identical and similar, (Montelongo et al., 2011) as the intervention of this study will increase the vocabulary and reading comprehension skills (dependent variables) of ELLs with and without learning disabilities. A graphic representation of the theoretical framework for this study is presented in Figure 1. The graphic displays a representation of the common underlying proficiency theory as it relates to this study's variables. The independent variable is the use of true cognates for reading instruction. Vocabulary development and reading comprehension in English are the dependent variables. The student's level of vocabulary and reading comprehension in Spanish and English proficiency level (ESOL) are the confounding variables, since these factors may impact the student's ability to use his/her vocabulary skills in Spanish and English.

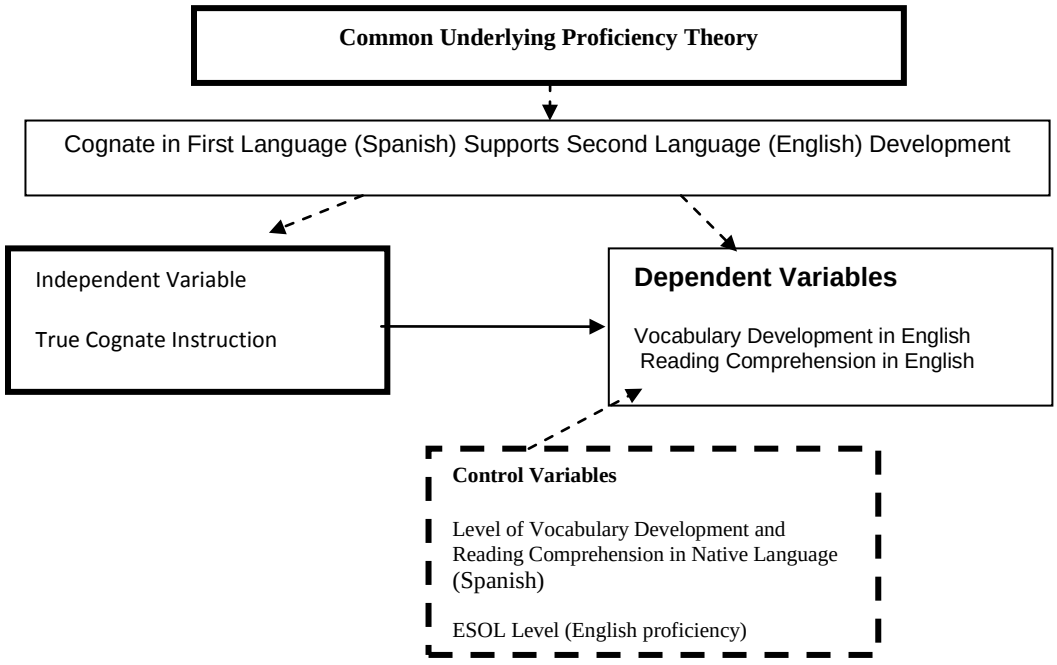

Figure 1. Common underlying proficiency theory as it relates to the variables in the study.

Use of Native Language for Instruction

The use of the first language as a medium of instruction has been politically and philosophically controversial, but studied worldwide. In the United States, for example, the debate has been whether ELLs should be instructed in their native language (Artiles & Ortiz, 2002). Although a growing body of research points to the potential benefits (Artiles & Ortiz, 2002; Bialystok, 2001; Cummins, 1984; Linan-Thompson et al., 2006; Vaughn et al., 2006), there are a number of commonly held assertions about bilingual education and the use of Spanish for instruction that run counter to research findings (Crawford, 1998). Some of these assertions include those identified by Rossell & Baker (1996). They found that after reviewing 300 studies related to bilingual education that used Spanish as a medium of instruction, only 72 met the criteria as an experimental design. Of these,

they determined that a mere 22% supported the superiority of transitional programs over English-only instruction in reading, 9% in math, and 7% in language. Moreover, they concluded that “TBE [transitional bilingual education] is never better than structured immersion” in English. TBE refers to a type of English as a second language program where native language support is provided while the student is learning English. The native language support is removed once the student acquires English. Structured immersion uses only English as the language of instruction. In structured immersion programs, second language acquisition techniques are used for instruction; however, there is no home language support. There has been some support for the use of structured immersion programs that provide quality instruction. The use of English as the only medium of instruction has been supported by state referendums such as the Unz Amendment in California (Unz & Tuchman, 1998). However, recent studies have found that the dual language programs often foster “parallel monolingualism” rather than bilingual proficiency; thus, the debate has now shifted from the benefits of bilingual education or the use of the native language for instruction to such areas as the need to create bilingual interactional spaces for students (Martin-Beltran, 2009). These spaces (e.g., selected places in schools/classrooms) facilitate the students’ use of their native language, and therefore, socioculturally provide the context for the students to feel comfortable and accepted. Notwithstanding the political controversy, and the current focus on the context and content of programs in which the native language is used for instruction, there is a preponderance of studies that support the use of students’ first language by students learning English.

In 1938, Malherbe conducted a survey of approximately 19,000 South African students from Afrikaans and English backgrounds who were enrolled in different types of schools (as cited in Chapter 6, Cummins, 1984). The purpose of the study was to compare the effects of bilingual versus monolingual schools. Intelligence level and home language were kept constant and only the delivery of instruction was compared. The findings showed that English was learned if it was used as a medium of instruction; the proficiency in their native language was not affected by having the two languages represented; and the most significant result, contrary to the theory, was that bilingual instruction was too difficult for students who were “less bright.” Malherbe’s results (1938, as cited in Chapter 6, Cummins, 1984) indicated that “…the children with below normal intelligence in the bilingual schools did better school work all around than those in the monolingual schools.”

For minority students who are academically at risk, a monolingual immersion program is unlikely to significantly reverse the pattern of underachievement; and for English language learners with learning disabilities, the use of the first language as a medium for instruction can be a valuable tool and strategy that can be used to transfer skills to their second language (Artiles & Ortiz, 2002; Cummins, 1984; Garcia & Tyler, 2008; Maldonado,1977). There is considerable evidence to support the finding that academic progress is facilitated by programs that strongly reinforce students' cultural identity and promote the L1 and literacy development (Cummins, 1984; Slavin & Cheung, 2005).

Bialystok (1991) reports on the “well-designed” study conducted by Gonzalez with sixth-grade Hispanic immigrant children in 1986 who were provided instruction in the same bilingual program. Two groups of students participated: 34 students who were born and schooled in Mexico before emigrating to the United States, and thirty-eight who were born in Mexico but emigrated before beginning school. The results indicated a moderate correlation ($r = 0.55$, $p < 0.01$), between Spanish and English reading comprehension tests for both groups. According to Bialystok (1991), the results indicated that the academic foundation developed by the Mexican schooled students transferred to the acquisition of English academic skills. Bialystok (1991) also noted that studies of first language transfer indicate that transfer occurs even when they have different writing systems. Bialystok (1991) reported on a study that was conducted in New York City with Japanese students who were enrolled in the public school system and in Japanese Saturday schools. The results indicated that there was a significant ($p<0.01$) relationship between Japanese and English proficiency. The English proficiency of students was higher for those students with high proficiency in Japanese.

Slavin and Cheung (2005) conducted a “best-evidence synthesis study” on the quantitative and qualitative research conducted on effective reading programs for English language learners. This study concentrated on studies that met minimal methodological standards (e.g., studies with significant test differences less than ES = +/- 1.0 were included if adjustments were made). The study included 16 studies that focused on a comparison of bilingual education

versus English-only instruction; 11 studies related to reading programs for ELLs; 10 studies focused on reading programs for ELLs in grades 2-5; and 4 studies concentrated on secondary students. The studies in each of the groups met the criteria established by the researchers. Slavin and Cheung (2005) indicated that there is a need for additional research related to effective reading instruction for English language learners. Overall, the studies point to the use of Spanish as being beneficial when providing reading instruction to ELLs, particularly when bilingual strategies are used; that is, Spanish and English are paired to teach reading. Another finding is that the language of instruction is not the only important feature of teaching reading to ELLs. Quality of instruction is as important as language of instruction. Also, several of these highly effective programs combined cooperative learning and cognitive strategy instruction. Additionally, direct teaching of English vocabulary can support the reading achievement of ELLs.

Research-Based Vocabulary and Reading Comprehension Interventions for ELLs with and without Disabilities

Research-Based Interventions for ELLs. David Ramirez (2000) was commissioned by the U.S. Department of Education, Office of Bilingual Education and Minority Languages Affairs (OBEMLA) to synthesize position papers related to English Language Learners and reading. The results of his research on the position papers related to ELLs and reading indicated that the amount of research on bilingual speakers was quite limited.

Gersten and Baker in 2000, using a qualitative multivocal method, synthesized the results of 24 studies (8 group studies on single subject, and 15 descriptive studies) and identified a set of instructional guidelines for teaching ELLs. The qualitative multivocal method of inquiry assesses documents using rigorous qualitative procedures. Perceptions from a variety of informants are used to obtain perspectives about the phenomenon, particularly when there are limited systematic studies on the topic, as is the case in research related to effective instructional practices for ELLs. The study resulted in several general practices and guidelines that included (a) building and using vocabulary as a curricular anchor; (b) using visuals to reinforce concepts and vocabulary; (c) implementing cooperative learning and peer-tutoring strategies; (d) using native language strategically; and (e) modulating cognitive and language demands. Lastly, as a result of the study's findings, the instructional framework identified several areas that had implications for improving practices. These implications included: the need to study the language versus academic growth in ELLs; need to provide a good English-language development program, particularly for special education students; the need to ensure a significant increase in the numbers of studies related to quality interventions for ELLs, including specific studies involving ELLs with disabilities; the need to conduct well-designed and valid studies for ELLs; and the need to use work groups in defining best practices.

The findings of the rigorous meta-analysis conducted by the National Literacy Panel on Language Minority and Youth (August & Shanahan, 2006) indicated that instructing ELLs on the key components of reading: phonics,

phonemic awareness, vocabulary, fluency, and comprehension is important. The study also included oral proficiency as being important when instructing ELLs. The meta-analysis also indicated that literacy in the first language can be used to facilitate literacy development in the second language. Although there is little research, ELLs can use cognate relationships, between their first language and English to comprehend English words while reading text for comprehension (August & Shanahan, 2006).

Vaughn et al. (2006) studied the effects of a Spanish supplemental reading intervention program on reading outcomes in Spanish and oral language skills in English and Spanish of first grade English language learners (ELLs). The study was conducted in Texas, and although not investigating language transfer, implemented a reading intervention program selected for its explicit and systematic instruction that is often recommended for struggling readers. The intervention was implemented in small groups (3-5 students), five days a week for 50 minutes each day from October - May. The pre and posttests consisted of the Woodcock Language Proficiency Battery in English and Spanish. The posttest results for the Spanish treatment group yielded significant effect sizes for the experimental group, which had received the reading intervention in Spanish. In phonological awareness, there was a large effect size (+.72) for students in the Spanish treatment group. Additionally, there was also a large effect size in the area of critical reading area of word attack (*d*=+.85) for the treatment group. There was also an increase in the area of listening comprehension with a moderate effect size (*d*=+.43) for the treatment group. No significant results were

attained for the English-only group; results across all skills areas were minimal or nonsignificant. The effect size for the Spanish group in reading comprehension was large (+.85). A one-year follow-up study on the same students who received the supplemental reading intervention indicated the Spanish group continued to demonstrate a higher performance score (median *d*=.53) when compared to the English group (median *d*=.40). Additionally, some direct cross-linguistic tranfers were noted in both languages (Cirino et al., 2009).

A student's vocabulary development, particularly for those learning English, is critical and strongly related to his/her reading proficiency and comprehension (Beck & McKeown, 2007; Maynak, 2010). According to Stanovich (1986), lack of vocabulary knowledge impedes a student's ability to comprehend text. Although some vocabulary is learned incidentally through the process of encountering words, as indicated or through oral conversations (Beck & McKeown, 2007; Swanborn & de Glopper, 1999), the probability of learning words through first encounters is lower for younger readers and even more difficult for ELLs. Additionally, for students in the intermediate grades (fifth grade) who are less-skilled readers using the context to facilitate word knowledge, a widely-used strategy, does not facilitate word meaning (Beck & McKeown, 2007). Carlo et al. (2005) and Nagy et al. (1993) point to the need for ELLs to be provided new vocabulary through direct instruction, through incidental learning, and through the use of strategies that result in inferred meanings when ELLs encounter unknown words. These strategies include the use of cognates and the relationships between Spanish and English. The University of Wyoming was

funded by the Institute of Education Sciences to conduct a three-year funded study on vocabulary instruction for English Language Learners. The study (Maynak, 2010) consists of the implementation of a multifaceted comprehensive vocabulary instructional program (referred to as MCVIP) in a Rocky Mountain region made up of 70% ELLs. The study, which began in 2010, is being implemented with two fourth and two fifth grade teachers. Maynak (2010) reported some important early findings as a result of interviews and observations. The findings indicate that the implementation of the MCVIP created a "robust word consciousness culture enthusiasm … for learning words" (Maynak, 2010, p. 144), with ELLs exhibiting a sense of power over vocabulary words and knowledge of how to use the cognate strategy to infer word meaning.

The study conducted by Carlo et al. (2004) on the impact of an English vocabulary-enrichment intervention included 254 bilingual and monolingual children from nine fifth-grade classrooms in three states: California, Virginia, and Massachusetts. The demographics of the participants consisted of Mexican-Americans in California; Puerto Rican and Dominican students in Massachusetts; and students from the Caribbean and Central America in Virginia. There were 10 treatment classes and 6 comparison classrooms. The intervention consisted of 15 weeks of instruction, 30-45 minutes per week, four days a week. The students were pre/post tested with researcher-developed tests related to specific areas of literacy (reading comprehension, word mastery, word association tasks, and morphology) and with the Peabody Picture Vocabulary Test forms L and M. The fifteen lessons, which were centered on the theme of immigration, were provided

by the researchers. The variations in the settings were of some concern to the researchers; however, the results were robust. The results of a multivariate analysis of variance test indicated that the performance of ELLs and English Only (EO) fifth grade students improved through the provision, among other strategies, of a challenging curriculum that focused on the academic words, and the cross-linguistic aspects of word meanings. It should be noted that three of the fifteen lessons dealt with cognate relations (Wagner et al., 2007).

Lugo-Neris, Jackson, and Goldstein (2010) conducted a study to examine whether English-only vocabulary instruction or English vocabulary instruction enhanced with Spanish-bridging strategies produced greater word learning in young (ages 4-6) Spanish-speaking children learning English. The study was implemented for two weeks with twenty-two Spanish-speaking children, during a two-week summer education program for migrant families in a southeastern state. The pre/posttests used were researcher-developed measures of target vocabulary and the Peabody Picture Vocabulary Test (Spanish and English) – Third Edition. The intervention, which was conducted by the researchers, consisted of two groups: those receiving word expansion using English only, and those provided with English reading and word expansions in Spanish during shared storybook reading sessions. The vocabulary words were explained in the target language at the point of occurrence in the text. The results demonstrated a significant interaction between the language of instruction and the expressive definitions as demonstrated by the results of the ANOVAs with an observed power of .63. Lugo-Neris et al., (2010) in their discussion indicated that the

results are consistent with Cummin's notion of common underlying proficiency and that positive transfer of knowledge between L1 and L2 in word meaning occurred.

Although cross-linguistic vocabulary skills have shown promise in the instruction of ELLs, Nagy (1993) indicates that students must recognize the pairs of words as cognates and understand their significance. He further indicates that if cognates exist in text, it does not mean that a student will be able to apply the skill as suggested by Ringbom (1992) in his study of Swedish and Finnish students. Ringbom (1992) indicated that Finnish students who spoke Swedish, performed better on English reading comprehension tests than those that did not speak Swedish, since the words in Swedish use a similar typology to that used in English. Research is needed to assess the relative effectiveness of alternative instructional strategies (e.g., use of true cognates) and methods in vocabulary development (Ramirez, 2000).

Research-Based Interventions for ELLs with Learning Disabilities. Recently, the focus of literacy instruction for students with disabilities, particularly for those with LD, has been to support their instruction through accommodations and/or modifications to the curriculum within educational settings (special and general education). There are research-based (Fuchs, Fuchs, & Stecker, 2010) differentiated strategies (e.g., cooperative learning, peer assisted language learning) that support reading instruction for all students within the general education setting, including those students with learning disabilities. Additionally, although limited, there have been studies conducted with ELLs with learning

disabilities (Barrera, 2006; Maldonado, 1977; Saenz et al., 2005) in order to identify specific strategies that show some promising practices; however, most studies have focused on the use of English as the medium of instruction.

Maldonado (1977) conducted a study involving English language learners with learning disabilities in Houston, Texas. The three-year study included 20 second and third graders who were assigned to one of two groups. One group was identified as the bilingual group (experimental) and the other group was identified as the English only group (control). During the first year, of the three-year period, the bilingual group was first taught predominantly in Spanish with 45-minutes in English using second language strategies ; instruction was conducted half in English and half in Spanish the second year; and in year three instruction was only in English. The English only group was taught in English throughout the three year period. The effect size at posttest using the California Test of Basic Skills (CTBS) was +2.21 in favor of the experimental group.

Barrera (2006) conducted a qualitative and quantitative study which was implemented in three phases during the course of three years with Mexican-American secondary students from southwestern Minnesota and south Texas. Barrera (2006) used Curriculum Based Dynamic Assessment (CBDA) to answer two research questions: Could CBDA help differentiate between the work of students with limited English proficiency (LEP) and those identified with LD? And what are the characteristics of CBDA work samples of second language learners who are suspected of having learning disabilities? There were 38 general and special education teachers recruited to conduct the evaluation of 114 work

samples from three groups of Mexican American students: 1) second language learners with a disability, 2) second language learners without a disability, and 3) bilingual students considered high achievers. The dynamic assessment methodology consisted of asking the 83 students to take notes as they typically might during a lesson. Next, the students were taught how to write notes in their journals as they learned content-area vocabulary. This instruction was conducted for a two-week period. On the last day of the two week period, the students were asked to use the journal note-taking technique without instruction. The teachers were provided with a two-hour training session on the work sample assessment process. It should be noted that the teachers were trained to accept the native language (e.g., words, sentences) as an appropriate response. There were four measures analyzed using multiple regression and multivariate analyses: procedural, qualitative, quantitative, and global. Additionally, a predictive analysis of the teachers' assessments was included in this study. The results of the quantitative measures yielded the most significant differences between groups, particularly groups 1 (ELLs with disabilities) and 2 (ELLs without disabilities). This indicated that ELLs with and without disabilities were able to acquire the journal note-taking technique. There was also a predictive relationship between the teacher ratings and student group. The teacher's assessment of how the students with disabilities would perform was a good predictor of how the groups would perform. Students with disabilities in this study were allowed to use their native language to write sentences. This study supports the need for additional research related to the use of the native language by ELLs with disabilities.

Peer-Assisted Learning Strategies (PALS), which is a reciprocal classwide peer-tutoring strategy, was used by Saenz, Fuchs, and Fuchs (2005) to determine its effects on the reading performance of ELLs with and without learning disabilities. This study which was conducted in Texas, consisted of 132 native Spanish-speaking ELLs in Grades 3 – 6 and 12 general education reading teachers. Classrooms were selected based on the student populations of ELLs: ELLs with LD, and those students not identified as ELLs or LD. There were PALS experimental classrooms, which included the training of the teachers and students, and control classrooms. Students were placed based on achievement levels within the PALS classrooms. The experimental classrooms used PALS during reading instruction three times a week for 35 minutes each session. The implementation took place over a period of 15 weeks. Treatment fidelity observations were conducted throughout the implementation of PALS. The Comprehensive Reading Assessment Battery (CRAB) was used to determine reading achievement. Lastly, teachers and students were asked to complete a questionnaire on the benefits of using PALS. The pre and post CRAB performance of the students in the PALS experimental classrooms and comparison classrooms by student types (ELLs, ELLs with LD, and those students not identified as ELLs or LD) were conducted using assessed analyses of variance (ANOVA) statistics to compare the groups. The results indicated that teachers and students responded favorably to the implementation of PALS. There were also significant results in reading comprehension for all students, including the area of fluency for ELLs with LD. Thus, the study indicated that

PALS is an effective strategy to use to increase the reading comprehension of all students in Grades 3 -6, particularly ELLs with LD. Additionally, it supports the present study on training students with learning disabilities in Grades 4 and 5 to use a strategy (PALS) when reading text.

ELLs may be classified as needing special education services under varied categories, but they are most often identified as having learning disabilities (McCardle et al., 2005; Zehler et al., 2003). ELLs who experience slow vocabulary development are not likely to comprehend grade level text as well as as their English-only peers (McLaughlin et al., 2000). These students are likely to perform poorly on assessments measuring vocabulary development and are at risk of being identified as having learning disabilities (August, Carlo, Dressler et al., 2005; Cummins, 1984). Students with learning disabilities also have difficulty with metalinguistic skills (Marinellie & Johnson, 2002).

Research on the acquistion of a foreign language by students with learning disabilities indicate that difficulties stem from deficiencies in one or more of three linguistic codes: phonological, semantical, and syntactical in the student's native language system (Schwarz, 1997). These deficiencies result in mild to extreme problems with specific oral and written aspects of the language being acquired (Schwarz, 1997). Awareness of these linguistic codes, which is part of the metalinguistic development (Bialystok, 2001), can result in students improving their literacy skills. Training in the use of metalinguistic strategies has resulted in students being remediated in such areas as using complex sentences. This was evident in the study in spelling conducted by Hirschman in

2000. She attempted to remediate spelling weaknesses in two groups of children (mean ages 9-4 and 10-6 [typical ages of fourth and fifth graders]) who had specific language impairments (SLI). During a period of 12 months, the students received metalinguistic training related to the use of complex sentences for approximately 55 half-hour sessions. The results indicated that the experimental groups increased at both the written and oral levels, as compared with SLI control groups. The control group showed minimal change for the same time period. A similar study, conducted by Levy, Tennebaum, and Ornoy in 2003, researched the metalinguistic abilities of children with intellectual impairments related to oral language repair behavior. The study consisted of four students whose home language was Hebrew. The data was collected during naturalistic adult-child conversations. During these conversations, exchanges of the following types occurred: (a) the child said something; (b) the adult expressed lack of understanding of what had been said through an explicit request for clarification, which was either specific (SR) or neutral (NR); then (c) the child responded. The recorded results indicated that metalinguistic competence as reflected in children's abilities to locate errors in their own speech were similar to what was observed in typically developing children of equivalent language levels. These results pointed to the ability to train students with disabilities on metalinguistic strategies.

Marinellie and Johnson (2002) studied the definitional skills of students with language impairments. Definition skills are critical to academic success and literacy development. There were fifteen students with language impairments in

grades 3-5 in the study. The students were not from English language backgrounds. Definitional skills are considered metalinguistic skills since the student must have knowledge of how to define words (Marinellie & Johnson, 2002). The knowledge of appropriate categorical terms, knowing characteristics of a word that distinguishes it from other words in the same category, and the dependency on retrieving stored words and concepts to complete the definition involved are the metalinguistic skills required in identifying the definition of a word. Students with language impairments scored significantly lower as demonstrated on an independent *t* -test (t [14] = -3.24, $p < .01$) than their school age peers on the tests related to the definitions of common high-frequency nouns. The results of the study indicated that students with language impairments need interventions that require them to use metalinguistic awareness, such as those related to defining vocabulary words (Marinellie & Johnson, 2002).

Although research has been conducted related to interventions that would be effective with students with disabilities, and some research exists on the types of interventions recommended as being effective with ELLs (August & Stranahan, 2006; Carlo et al., 2005; Gersten & Baker, 2000), there has been limited research on how these interventions apply to ELLs with learning disabilities (Barrera, 2006; Saenz, Fuchs, & Fuchs, 2005). According to Garcia and Tyler (2010) and Artiles & Ortiz (2002), meaningful and comprehensible instruction for ELLs with LD must be culturally and linguistically relevant and also responsive to their disability. Adaptations that mediate cognitive and linguistic difficulties, as

well as cultural or linguistic difficulties, through the use of a variety of instructional scaffolds (e.g., use of native language) will support the acquisition of reading skills in ELLs with LD (Garcia & Tyler, 2010).

Need for Additional Research

Saenz et al., (2005) point to the fact that the research related to ELLs with disabilities has focused on the identification and appropriate assessment of ELL students; however, very little research has been conducted on effective teaching strategies and interventions for ELLs with disabilities. Barrera (2006) further indicates as a result of his research that there is a need for more research to identify interventions that have a positive impact on the reading achievement of ELLs in order to reduce the number of inappropriate special education placements while increasing the achievement of ELLs with disabilities.

True Cognate Instruction

Vocabulary is inarguably a critical factor in building proficiency in reading (Bravo, Hiebert, & Pearson, 2005; Carlo, 2004; Snow et al., 1998; Wagner et al., 2005). Few things have greater impact on how well one listens, speaks, reads, and writes than the breadth (number of words known) and depth (knowledge of meaning, morphology, etc.) of one's vocabulary knowledge (Carlo et al., 2004; Green, 2004).The vocabulary of written language is much more extensive and diverse than the vocabulary of oral language (Hayes, Wolfer, & Wolfe, 1996). Vocabulary knowledge includes breadth and depth (Carlo et al., 2005). Words have two dimensions, a *label* (breadth) and the *concept*(s) or meaning(s) behind the label (depth) (Green, 2004). Awareness and knowledge of words is complex, and includes an understanding of the morphology, the syntactical, and semantic

associations (Carlo et al., 2004). Often English language learners, especially if they are orally proficient and literate in their first language, already know the equivalent concept in their native language for the new English words they encounter (Carlo, 1994). They also may know both the concept and the label in the form of a cognate (Green, 2004). They may be aware that they have Spanish knowledge of some English words they do not know. There is a need to provide ELLs with disabilities with these same concepts. A metalinguistic strategy can be taught using true cognates for instruction (Dressler, 2000; Nagy & Anderson, 1995; Proctor & Silverman, 2011).

A student's first language has proven to be effective in instruction if the first language shares cognates with English. Cognates, or true cognates (Carlo et al., 2004; Proctor & Mo, 2009), can be identified across contents and texts, even those in the reading curriculum of elementary schools. However, Hispanic ELLs, particularly those with LD, when encountering words they do not know, in many instances, do not know they have knowledge of these words in L1 (Montelongo et al., 2011). The process of recognizing cognates, which is a metalinguistic skill (Bialystok, 2001; Dressler, 2000; Marienellie & Johnson, 2001; Nagy & Anderson, 1995), may need to be taught; it is not innate. Montelongo et al. (2011) indicate that cognates can be divided into three distinct categories based on their spelling and meaning: identical cognates [radio/radio; idea/idea]); moderately similar (important/importante, transportation/transportación); and very dissimilar (surprise/sorpresa, cat/gato). Dressler (2000) recommends that words

that are the most similar (phonologically transparent) be used when teaching true cognate as an intervention.

There are words that are cognates but do not frequently appear in children's texts (edifice/edificio). Additionally, there are false cognates (words that are similarly spelled but do not mean the same thing) such as globe/globo. These non-cognates could create confusion for the second language learner; therefore, it is important that teachers or program developers identify true cognates in advance of instruction (Montelongo et al., 2011; Wagner et al. 2007). There are many more true cognates (over 20,000) in the lexicon between Spanish and English so that these non-cognates should not be the reason for not implementing the intervention (August & Shanahan, 2006; Montelongo et al., 2011; Wagner et al. 2007).

Bravo, Hiebert, and Pearson (2005) examined a set of linguistic resources that bilingual Latino students bring to the task of learning English— the shared cognates of Spanish and English. Moll, Amanti, Neff, and Gonzalez, (1992) labeled these shared cognates "funds of knowledge", and further stated that they can be used to bridge the community within the classroom. Bravo et al. (2005) conducted an extensive study, which included a prima facie test of the prevalence of Spanish and English cognates in science texts. They determined that three out of four science words resulted in a cognate. The researchers concluded that using cognates would give Spanish speakers a strategic advantage (a high-frequency Spanish word paired with a low frequency English

word), and that making the presence of cognates explicit to Spanish-speaking students would appear to be a worthwhile experience in classrooms.

Carlo et al. (2004) conducted a quasi-experimental study on the implementation of the Vocabulary Improvement Program with fifth graders in three states (Virginia, Massachusetts, and California) and although it was not specifically focused on cognates, the set of target words included cognates and three out of the fifteen days of the intervention were solely focused on cognates. Students in the study during the presentation of lessons on cognates were provided information on cognates in the text they read (Bravo et al., 2005). The English language learners who received the intervention consistently outperformed their peers in the control group, as determined by pre/posttest performance on the Peabody Picture Vocabulary Test. Additionally, even though Carlo et al. (2004) did not choose texts based on the presence of cognates, approximately 68% of the challenging and targeted vocabulary in the trade books and newspaper articles used in the intervention consisted of cognates (Bravo et al., 2005).

August, Carlo, and Calderon (2005) conducted a study to determine if the development of an aspect of linguistic knowledge in Spanish is causally linked to development of that aspect in English; and therefore, whether instruction in language transfer can directly affect reading proficiency in English. The study was conducted with 160 third and fifth grade bilingual (Spanish-English) students in south Florida. The students were randomly assigned to experimental (six – week cognate awareness) or control (curriculum for Florida Comprehensive

Assessment Test [FCAT] preparedness) groups. The intervention in the experimental group consisted of three units of eight thematic-based-lessons which were provided four times a week for one hour after school. The students were pretested with the Spanish and English versions of listening comprehension, picture vocabulary, letter word identification, and reading comprehension of the Woodcock Language Proficiency Battery Revised as well as researcher-developed tests in English and Spanish in the area of vocabulary mastery, particularly the tests assessing Spanish and English morphology. The post intervention testing consisted of other tests developed by the researchers: Extract the Base Test in English and Spanish, and the Cognate Awareness Test. The results were analyzed using Analysis of Covariance (ANCOVA), controlling for individual differences at pretest. The results indicated that students in both third and fifth grades and in both the experimental and control groups were able to apply knowledge of words in Spanish when required to comprehend the meaning of unfamiliar words in English. However, students who were exposed to the cognate curriculum learned more of the target cognates than the students who were exposed to the FCAT preparation curriculum.

Conversely, Garcia (1991) used quantitative and qualitative methodology to compare the reading test performance of 51 Spanish-speaking bilingual children and 53 monolingual English speaking (Anglo) children enrolled in fourth and fifth grade classrooms. Garcia (1991) used a mixed methods model to study the role of several factors (e.g., first language literacy development) that influenced the reading test performance of ELLs. The quantitative approach

consisted of administering a vocabulary test consisting of 64 items requiring the students to determine if the word was correctly used in the sentence, a prior knowledge test containing 48 questions related to six expository passages, and a reading comprehension test made up of 54 questions from various commercial based tests. The qualitative approach consisted of an open-ended interview that was conducted with 18 of the participants. The interviews took approximately 12 hours or approximately 45 minutes for each student. The questions predominantly dealt with their approach to understanding the test items. The results suggested that the bilingual children knew less about the topic of the passage and this lack of knowledge impacted their reading comprehension performance. The interview questions found that time was also a critical factor for the Spanish speaking students completion of the comprehension test. The Hispanic students needed more time when reading English text for comprehension; however, the student's ability to read the text in Spanish was not factored into the analysis. The interview data also revealed that unknown vocabulary had a significant effect on their performance on the test items. The qualitative data, which consisted of an interview with the students, provided data supporting a student's use of vocabulary in Spanish to identify words in English.

Dressler (2000) in her study investigated cognate awareness in a sample of fifth-grade Spanish speaking ELLs who had been taught cognate relationships as a strategy when reading English. The students were more successful in inferring meaning from text than those in the control group. The cognate relationships were determined by the phonological similarities between Spanish

and English cognates. Additionally, the results indicate that it is important to determine the student's information in Spanish. She indicated that students who are only orally proficient in Spanish, can also draw connections between cognate pairs. Typically, students with LD have oral language abilities in their first language but are not literate in their home language (Garcia & Tyler, 2010).

Pedagogically, the two year study conducted by Malabonga et al. (2008) that resulted in the creation of the Cognate Awareness Test (CAT) supports the theory that there is positive cross-linguistic transfer of cognates for Spanish speaking students with sufficient vocabulary knowledge in their first language. Also, the results indicate that a certain level of Spanish is needed in order for it to help children with English word meaning. There were 173 Spanish-speaking ELLs in the fourth grade, who were part of a larger study, and were part of the reliability and construct validity of the CAT. The validity and reliability of the CAT was assessed using the students' performance on the Woodcock Language Proficiency Battery (WLPB) - Picture Vocabulary subtests in English and Spanish. The high performance scores attained on both the Spanish and English pre/posttests of the WLPB resulted in similarly high scores on the CAT. Although the study resulted in the reported reliability and validity for the CAT, Malabonga et al. (2008) indicate that caution should be used when generalizing the results since the cognates used on the CAT are those used with adults.

Proctor and Mo (2009) conducted a study of 30 fourth grade Spanish-English bilingual students in two classrooms in a medium-sized school district in southern California over a four-week intervention period that was designed to

promote vocabulary knowledge and reading comprehension. The Cognate Awareness Test Malabonga and the Gates-MacGinite Reading Comprehension Test (MacGinite, MacGinite, Dreyer, Hughes, 2006) were administered. The results on a bivariate scatterplot and on a test displaying statistically significant interaction between language status and comprehension indicated that cognate presence positively influenced the overall reading comprehension performance of bilingual students when compared to their monolingual peers. The interaction between the comprehension score and language status for bilingual versus monolingual students was significant ($p < .05$); thus, being bilingual predicted the correct identification of cognates when compared to their monolingual English peers. However, the performance for both bilinguals and monolinguals at lower levels of English comprehension was similar.

Summary

Although there has been an increase in the U. S. Hispanic population, particularly at the school-age level, and there are current federal mandates (U.S. DOE, 2004; NCLB, 2002) mandating that subgroups of students (e.g., ELLs, students with disabilities) achieve proficiency through the use of research-based interventions, there have been limited empirical studies on reading interventions for ELLs; in addition, minimal research has been conducted on ELLs with disabilities. The use of true cognates with ELLs as a reading intervention and as a possible metalinguistic strategy has been discussed in the research literature (August, Carlo, & Calderón, 2005; August, Carlo, Calderón, & Proctor, 2005; August & Shanahan, 2006; Bravo et al., 2005; Dressler, 2002; Malabonga et al.,

2008; McLaughlin et al., 2000; Nagy, 1993; Proctor & Mo, 2009); and the results of these studies have been positive and have identified true cognate instruction as a promising best practice. However, little research has been conducted on interventions with ELLs with disabilities (August & Shanahan, 2006; Barrera, 2006; Goldenberg, 2008; Saenz et al., 2005); and therefore, the proposed research on the use of true cognates as an instructional intervention with ELLs and ELLs with disabilities will provide additional research that is much-needed in the field.

CHAPTER III

METHODOLOGY

Design of the Study

This study used a quasi-experimental design that included an experimental group (true cognate instruction) and a control group (traditional instruction) (Gay, Mills, & Airaisan, 2009). Within the quasi-experimental designs, the non-equivalent control group design was the appropriate model for this study. The non-equivalent control design includes intact groups, not individuals, being randomly assigned to the treatment. The groups are pretested, administered a treatment, and posttested. The research questions and null hypotheses were the basis for the methodology utilized in this study. Table 1 describes the nonequivalent control group design model (pretest, intervention, posttest) used in this study.

Table 1

Quasi-Experimental Design - Non Equivalent Control Group Model:
Effects of True Cognate Instruction

Groups	Pre Test	Intervention	Post Test
Treatment	WMLS-R English/Spanish	True Cognate	WMLS-R English Tests
Control	WMLS-R English/Spanish	Traditional Instruction	WMLS-R English Tests

Note. WMLS-R (Woodcock Muñoz Language Survey-Revised).

Research Context

Two elementary schools provided the context for this research. The two schools invited to participate were from a large urban school district. This

school district is made up of a number of communities that are considered ethnic enclaves, which are neighborhoods that retain some cultural and linguistic distinction from the surrounding area (Wilson & Portes, 1980). The schools invited to participate were also from two distinct geographic locations in that urban district, east and west, and both locations are considered “Hispanic ethnic enclaves”. The schools were compatible in terms of their demographic characteristics (i.e., percentage of Hispanic students, Spanish as the language spoken by most of the students, the number of English Language Learners [ELL] with and without disabilities, and socio-economic status). The names of the schools were identified by letters (e.g., Elementary School A) to protect the confidentiality of the school, students, and community. An alternative elementary school with similar characteristics would have been invited to participate in the study if one of the schools declined to participate; however, both schools originally selected agreed to be part of the study.

A description of the populations of the schools at the time of the study, Elementary School A and Elementary School B, is provided in this paragraph. Elementary School A (east county school) is located in a community which is 98% Hispanic. Elementary School A has approximately 925 students and Hispanics comprise 96.9% of the student population, with less than 1% African Americans, 2% White non-Hispanics, and less than 1% Asians. There are approximately 525 students at Elementary School A who are considered ELLs and of those, approximately 60 are identified as having a disability, and 22 are categorized as having learning disabilities (LD). Additionally, 89% of the students

are on free and reduced lunch. Elementary School B (west county school) is located in a community which is 95.3% Hispanic. Elementary School B has approximately 1080 students of which 95% are Hispanics, 3% are White non-Hispanics, less than 1% are African-Americans, 1% are classified as Asians and less than 1% are identified as Multiracials. There are approximately 425 students who are classified as ELL; from that number, there are 59 students with disabilities; and specifically, 20 students with learning disabilities (LD). Additionally, 70% of the student population is on free and reduced lunch.

Research Participants

The study included 47 (39%) ELLs (English for Speakers of Other Languages [ESOL] Levels 1 – 5) with disabilities (e.g., LD) and 65 (53%) ELLs without disabilities, as well as a few (*n* = 10, 8%) non-ELL students. Spanish was the home language for the majority of the sample (*n* = 116, 95%). ELLs are classified as ESOL Levels 1 – 5 (Miami-Dade County Public Schools, Division of World Languages and Bilingual Education Manual, 2008) in order to receive their ESOL instruction. These levels are based on their English proficiency in listening, speaking, reading, and writing. Level 1 is the beginning level, level 2 is the low intermediate level, level 3 is high intermediate level and level 4 is proficient level. Students at ESOL Level 5 are considered proficient and are no longer receiving ESOL instruction and can, at any time within two years after exiting the ESOL program, be reclassified as ESOL students. Reclassification means that the students would be identified as ESOL students and provided with ESOL

instruction. Those students, within that two year period, are still acquiring academic English language skills.

The only criterion for being excluded from the current study was not being identified as Hispanic and not having Spanish as their home language. This criterion was used to assure the homogeneity of the sample with respect to their home language. From the original sample selected to participate in this study (*n* = 116), only one student did not meet the criterion for participation in the study. The data collected on this student was excluded from the analysis because the student was non-Hispanic, non-ESOL, and English was her home language.

Due to the limited number of students with disabilities who were identified as having a learning disability (LD) in the classrooms included in this study (*n* = 21 in the experimental and *n* = 7 in the control group), students with disabilities who had a mild disability other than LD in those classrooms were also included in the study. These students included a few students classified as Other Health Impaired (*n* = 10, five in the experimental group and five in the control group), and a few students with Speech/Language Impairments (*n* = 4, three in the experimental group and one in the control group). In addition, due to the limited number of students with disabilities being part of the control group (*n* = 13), additional students with disabilities from other fourth and fifth grade classes at each of the participating schools were included in the study (*n* = 7, six with LD and one with Intellectual Disabilities). Thus, the total number of participants in this study was 122, 49 (40%) students with disabilities and 73 (60%) students without disabilities.

Table 2 describes the overall characteristics of the participants in the study. As described in Table 2, there were a total of 122 participants in the study with 70 (about 57%) being male and 52 (about 43%) females. The majority of the students who participated in the study spoke Spanish at home (*n* = 116, 95%). Most of the students were enrolled in the ESOL Program and classified as ESOL Levels 1-4 (*n* = 64, 53%) or had been previously enrolled in the ESOL Program (ESOL Level 5) (*n* = 48, 39%), while a few were never enrolled in this program (*n* = 10, 8%). Students at the different ESOL levels were similarly distributed between the true cognate instruction group and the traditional reading program group, as later presented in Table 3. There were 49 students (40%) identified as having a disability, and 10 (20%) of those students had a secondary disability. In most cases, the secondary disability consisted of a Speech and/or Language Impairment. From the students who had a disability (*n* = 49), most (*n* = 47, 39% of the sample) were also ELL. Figure 2 is a representation of the total sample in the study by ESOL and Disability status, as discussed in Table 2. As visually described in this figure, the majority of the students were classified as ESOL Levels 1-5 and were students with or without disabilities *(n* = 65, 53 % and *n* = 47, 39%, respectively), which was the group targeted by the study. The non-ESOL students with and without disabilities in the study consisted of only eight (6%) without disabilities and two (2%) with disabilities.

Table 2

Characteristics of the Sample

Characteristic	Frequency	%
Participants	122	100%
Gender		
Male	70	57%
Female	52	43%
Home Language		
Spanish	116	95%
English	5	4%
Spanish/English	1	1%
ESOL		
YES	112	92%
NO	10	8%
ESOL Levels		
1	21	17%
2	14	11%
3	18	15%
4	11	9%
5	48	39%
Non-ESOL	10	8%
Disability		
Yes	49	40%
No	73	60%
Secondary Disability	10	20%
ESOL 1-5 and Non-Disability	65	53%
ESOL 1-5 and Disability	47	39%
Non ESOL and Non-Disability	8	6%
Non ESOL and Disability	2	2%

Note. Percentages were rounded up.

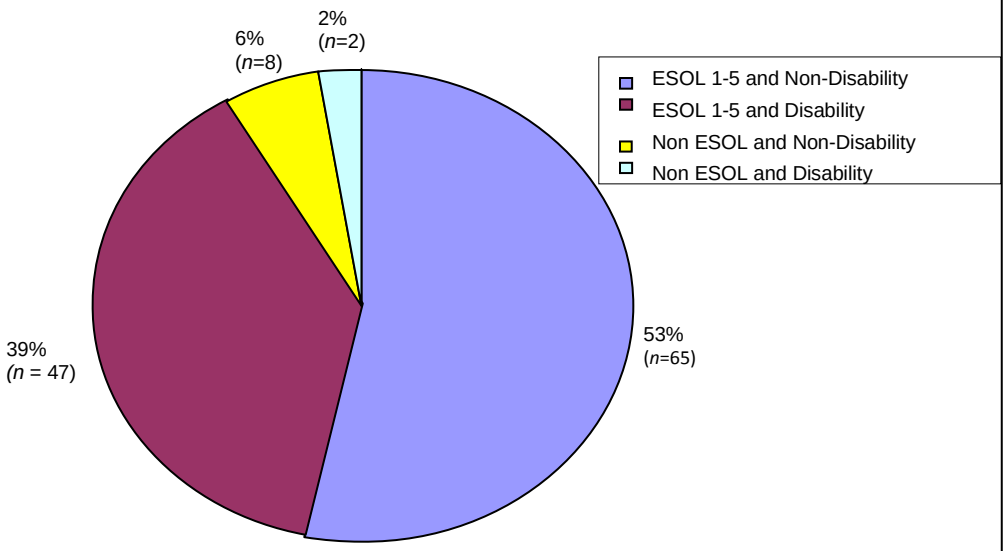

Figure 2. Percentage of English Language Learners (ESOL Levels 1-5) by Disability Status.

Table 3 describes the participant sample by methodology group. Further analysis of the distribution of the participants between the two instructional groups, as described in Table 3, indicate that there were more participants in the true cognate instruction group (*n* = 72, 59%) than in the traditional instruction group (*n* = 50, 41%). Both groups consisted predominantly of ESOL students, including those at ESOL Level 5 (*n* = 112, 92%). There were 30 (40%) students with disabilities in the experimental group and 19 (38%) in the control group. The majority of these students were identified as LD (*n* = 34, 69%). From those, 22 (73%) were in the experimental group and 12 (63%) were in the control group. There were 10 (20%) students classified as Other Health Impaired; from these

students, five (17%) were in the experimental group and five (26%) were in the control group. A few students with disabilities in the study were identified as having Other Disabilities, which included Speech Impairment, Language Impairment and Intellectual Disabilities (*n* = 3, 10% in the experimental group, and *n* = 2, 10% in the control group).

Table 3

Participants' Characteristics by Instructional Methodology

Measures	True Cognate		Traditional	
	n		*n*	
Participants	72	59%	50	41%
Gender				
Male	47	65%	23	46%
Female	25	35%	27	54%
Home Language				
Spanish	69	96%	47	94%
English	3	4%	2	4%
Spanish/English	0	0%	1	2%
ESOL				
YES	65	90%	47	94%
NO	7	10%	3	6%
ESOL Levels				
1	8	11%	13	26%
2	11	15%	3	6%
3	10	14%	8	16%
4	7	10%	4	8%
5	29	40%	19	38%
Non-ESOL	7	10%	3	6%
Disability				
Yes	30	42%	19	38%
No	42	58%	31	62%
Secondary Disability	6	8%	4	8%
Primary Disability	30	41%	19	38%
Specific Learning Disability	22	73%	12	63%
Other Health Impaired	5	17%	5	26%
Other Disabilities	3	10%	2	11%
ESOL and No-Disability	36	50%	29	58%
ESOL and Disability	29	41%	18	36%
Non-ESOL and Disability	1	1%	1	2%
Non-ESOL and No-Disability	6	8%	2	4%

Note. Percentages were rounded up.

ESOL Instruction for ELL

The ESOL program for ELL students with and without disabilities consists of ESOL instruction provided as part of the reading and language arts block (90 minutes a day) and Spanish-S instruction (language arts and reading in Spanish) for 150 minutes a week (30 minutes a day). ESOL instruction (language arts and reading) is provided within the general education or special education classroom. This study was conducted with students with and without disabilities receiving ESOL instruction in the general education classroom, with the exception of two students who were in the control group. The two students who did not receive their ESOL instruction in the general education class were provided instruction using the same reading curriculum and interventions as other students in the control group; however, the instruction was conducted in a special education resource room.

The participants at Elementary Schools A and B were in fourth and fifth grades. In addition to the ESOL instruction, the students selected for the study were enrolled or had previously participated in the Spanish for Spanish Speakers program (Miami-Dade County Public Schools, Division of World Languages and Bilingual Education Manual, 2008). This program provides instruction in Spanish to ELL students or students whose home language is Spanish. The ELL students are provided Spanish in order to maintain their native language skills as they acquire English. The non-ELL students are provided Spanish instruction to further develop their home language skills.

Instrumentation

The instrument used in this study is the *Woodcock Muñoz Language Survey- Revised (WMLS-R),* English and Spanish forms. The *WMLS-R* English and Spanish forms were developed by Richard W. Woodcock, Ana F. Muñoz-Sandoval, Mary L. Ruef, Griselda Guajardo Alvarado, and Fredrick A. Schrank (Schrank, Wendling, Alvarado, & Woodcock, 2001). The *WMLS-R* (Spanish and English forms) and other similar tests developed by Woodcock and others (e.g., Woodcock Language Proficiency Battery) have been used in numerous studies (De la Colina, Leavell, Cuellar, Hollier, & Espiscopo, 2009), including a study about the development of a true cognate assessment instrument (Malabonga et al., 2008) and a study about the implementation of true cognate instruction (August, Carlo, & Calderon, 2005) to demonstrate growth by the participants.

The *WMLS-R* is a reliable and valid instrument to measure growth in English or Spanish according to the calculated scores identified in the manual. The median test reliability ranged from .76 to .97 and .88 to .98 for the cluster scores. The *WMLS-R* protocol generates a wide range of extensive and varied quantitative data (Schrank et al., 2005). There are single test scores as well as cluster scores when the tests are combined. It should be noted that the basis for all scores on the *WMLS-R* is the *W* scale (growth scale), which can be used to measure growth or change over time (Schrank et al., 2005).

The *WMLS-R* norms were developed for all age levels, from preschool through geriatric age. Norms for the English forms were obtained from over

8,000 participants in the U.S. and Spanish calibration data were obtained in over 1,000 participants inside and outside the U.S. in order to equate the Spanish test scores to the English scores (Schrank et al., 2005).

The *WMLS-R* , which can be used to assess Cognitive Academic Language Proficiency skills (Cummins, 2009), are sets of individually administered tests that provide a broad sampling of proficiency in oral language, language comprehension, reading, and writing. Both the *WMLS-R* English and Spanish forms consist of seven tests: Picture Vocabulary, Verbal Analogies, Letter-Word Identification, Dictation, Understanding Directions, Story Recall, and Passage Comprehension. Each of these subtests takes approximately 5 minutes to administer.

Only the *WMLS-R* Picture Vocabulary Test, Verbal Analogies Test, and the Passage Comprehension Test in English and Spanish were used for the purpose of this study. These tests evaluate the following skills: language development and lexical knowledge (Picture Vocabulary Test), ability to reason using lexical knowledge (Verbal Analogies Test), and understanding of text read (Passage Comprehension Test). The Picture Vocabulary Test requires the individual to orally identify the object, action, etc. in the picture. The Verbal Analogies test requires the individual to compare words and identify the word that completes an analogy. The Passage Comprehension Test requires the individual to read sentences or small passages and identify the missing word that completes a passage.

The pretests in this study, which took approximately five minutes each to administer or a total of 30 minutes for the six subtests, consisted of the *Woodcock Muñoz Language Survey* - English and Spanish editions of each of the following subtests: Picture Vocabulary Test, Verbal Analogies Test, and the Passage Comprehension Test. An Oral Language cluster score was derived from the results obtained from the Picture Vocabulary and Verbal Analogies subtests. The posttest included only the English editions of the Picture Vocabulary Test, Verbal Analogies Test, and Passage Comprehension Test; in other words, the Spanish subtests were not utilized in the posttests. The total administration time for the posttests was approximately 15 minutes.

Procedures

Recruitment Procedure

A convenience sampling was utilized in this study. The recruitment of the participants consisted of each school principal (schools A and B) recommending two fourth and two fifth grade classes that included ELLs with and without disabilities; thus, eight classes participated in the study. More than 90% (*n* = 116) of the students in those classes spoke Spanish as the home language. Prior to conducting the study, the researcher asked the school principals to provide class lists to the researcher to verify that the student population approximated the population of interest for the study. Each student who participated in the study was assigned a number for the purpose of data analyses and for the purpose of matching the pre and post test scores. After the principals' recommendations of the classes, the researcher was introduced to the teachers (general education

and special education, as appropriate) by the principal. The researcher explained the study and addressed any concerns or questions the teachers had about the study. The teachers were then given the parental consent forms to be distributed to the students.

Parental and teacher consent forms (Appendix A and B) and student assent forms (Appendix C) were distributed prior to the implementation of the study. The consent forms were translated into Spanish (Appendix D and E) to facilitate parental understanding of the process. Thus, an English and a Spanish version of the parental consent forms were sent to the students' homes. If a parent and/or child did not want to participate in the study, assessment data were not collected about that child. Due to the limited number of students with disabilities being part of the control group (*n* =13), additional students with disabilities were included as part of the control group from other fourth and fifth grade classes at each of the schools. The additional 7 participants included were those whose parents signed consent forms to participate in the study. Two of the additional participants were provided ESOL instruction in a resource room.

The four-fourth and four-fifth grade teachers who participated in the study were general education elementary school teachers who were ESOL endorsed (completed 300 hours of professional development related to ESOL instruction through the school system or completed five university courses in the area of teaching English Language Learners). Additionally, three special education teachers who were providing instruction in the same classrooms, either through a co-teaching or support facilitation model, were invited to collaborate with the

study. Co-teaching refers to two instructors (general education and special education) teaching together for the complete instructional block of time or for the full day, while support facilitation refers to the special education teacher providing instruction to students with disabilities in the general education classroom for a period of time (e.g., thirty minutes) in a core content (e.g., language arts/reading). Although knowledge of Spanish was not required to implement the true cognate strategy, all the teachers who volunteered to participate in the study were proficient in both languages, English and Spanish.

Teacher Training

Before implementing the intervention, teachers were trained by the researcher about the study's true cognate instructional model. The teacher training was conducted in a one three-hour long session. The training took place on a professional development day, as recommended by the school principals. Teachers were instructed as to what is a true cognate (i.e., English words that have comparable Spanish words that are spelled the same or similarly and mean the same thing). The teachers were informed that for the purposes of this study there would be three procedural steps required to implement true cognates as a reading strategy.

There were several training tasks that were conducted prior to reviewing the three-step true cognate strategy to be implemented in the study. The teachers were first trained to identify cognates in a given text (e.g., newspaper article). The researcher modeled the process of identifying true cognates from a selected newspaper article. The teachers were provided with newspapers in

English and were asked to find true cognates, first independently and then in a small group. This training task was repeated using a newspaper in Spanish. A newspaper was used since the literature indicates that cognates are frequently used in this genre (Carlo et al., 2004). Another true cognate teacher training task consisted of the teachers being given the list of true cognates, created by the researcher but based on one of the stories from the reading series used in the classroom. Using the textbooks from the classroom reading series and the list of cognates from one of the stories, the teachers were trained to locate the true cognates (e.g.,illegal/ilegal; magnificent/magnífico; converse/conversar; idea/idea). The English words in the reading text that corresponded to the Spanish words (true cognates) provided in the list created by the researcher assisted the teachers in becoming familiar with the location of the English true cognate vocabulary in the text. After familiarizing the teachers with the use of the true cognate lists to identify the words in stories in the reading series, they were trained about how to introduce true cognates as a strategy to the students. The teachers were trained to do so by telling their students that even before they start reading the story they already know many of the English words based on their knowledge of Spanish.

The researcher then trained the teachers how to use the three-step true cognate strategy to be implemented in the study. The three-step implementation process includes: preplanning (the teacher using the true cognate list provided by the researcher to become familiar with the location of the true cognate words in the study), introducing the true cognate words to the students (letting the

students know that before they start reading the story they already know words in the story), and identifying the cognates and their definitions while chorally reading the story with the student. The three steps were presented to the teachers via a Power Point presentation. Each of the steps were carefully delineated by the researcher.

The researcher then conducted a question and answer discussion with the teachers related to the implementation of the true cognate three-step process. The teachers' appeared to understand the strategy and were interested in its implementation. The Power Point presentation was provided to the teachers as a resource during the implementation.

The researcher explained to the teachers that this three-step process should continue throughout the implementation period (i.e., five weeks) whenever reading texts were introduced or reviewed with the students. The teachers were also told that they would be implementing the intervention as part of the students' instruction during their reading and language arts block, three times a week for five weeks. Teachers were told that they would receive the true cognate lists (Appendix F) via electronic mail two weeks prior to reading a particular story. The provision of the true cognate lists via electronic mail occurred until the conclusion of the study.

Pre/Post Test Administration

The pretest consisted of all students being individually administered both the English and Spanish forms of the Picture Vocabulary, Verbal Analogies, and Passage Comprehension Tests of the *WMLS-R*. The posttest consisted of

individually administering the English only forms of those tests. The tests were administered by the researcher or by a research assistant who was a former special educator and was familiar with standardized assessment techniques. The research assistant assisted the researcher with only the administration of the tests. Both the researcher and the research assistant speak, read, and write in English and Spanish.

The teachers informed the researcher and research assistant as to the most appropriate time for the administration of the tests. Each subtest, as previously indicated, took approximately five minutes to administer. During the pretest, each student participating in the study was removed from the class for a period of no more than thirty five minutes (30 minutes for administration of the six subtests, three in English and three in Spanish, and five minutes to walk to and from the classroom). The posttests consisted of the English tests only so the amount of time that the student was removed during the posttest consisted of no more than twenty minutes (5 minutes for each of three tests and five minutes walking to and from the classroom).

The area for the administration of the *WMLS-R* was in general free from distraction and interruptions, although on one occasion the administration was conducted in the hallway. However, caution was taken to conduct the assessments when there were minimal disruptions. Prior to the assessment, the students' last names and identification numbers for the study were written in the front of the students' test protocol for identification purposes and statistical

analyses. The research assistant signed a confidentiality agreement to ensure that all data and student information would be kept confidential.

Experimental and Control Group

The eight classrooms (four from each school) selected by the school principals were randomly assigned by the researcher as the experimental (true cognate) and control group (traditional reading instruction). The experimental and control groups continued to use the same reading curriculum, textbooks and interventions being used regularly in the classroom.

Experimental Group. The students in the experimental group, similarly to those in the control group, were individually administered the Picture Vocabulary subtest, the Verbal Analogies subtest, and the Passage Comprehension subtest of the *WMLS-R* English and Spanish forms by the researcher or the research assistant, as previously described.

The experimental group was provided with the true cognate intervention three times a week for a period of five weeks by the trained teachers (general education and special education) during the ninety-minute reading and language arts period (ESOL instruction). The teachers initiated the implementation of true cognate instruction after all the students had been administered the pretests. The three-step true cognate intervention model for this study consisted of the following: (a) the teacher locating and reviewing the true cognates in the story using the list provided by the researcher; (b) introducing the true cognate concept to the students, and identifying and discussing the definitions of some of the true cognates in the story; and (c) chorally reading the story with the students,

stopping the reading of the text when a student raised his/her hand to identify a cognate, and engaging in a discussion related to the true cognate.

The three-step process was implemented by the teachers in the classrooms as follows. In the first step, prior to the implementation of the true cognate intervention, the teacher reviewed the list of true cognates provided by the researcher and identified the location of the true cognates in the story. In the second step, using whole group instruction, the teacher introduced the concept of true cognate when initiating and reviewing the story in the textbook. The teacher also introduced the concept of true cognates by telling the students that before they read the story they may already know some words in the story because there are words in English that are spelled similarly and mean the same in Spanish. The teacher also told the students that these similar English and Spanish words are known as true cognates. The teacher selected samples of true cognates in the story, provided previously by the researcher, and the students pointed and read the words. In step three, the teacher asked students to chorally read the story with her and when they recognized a true cognate the students raised their hands. As they were reading the story and students raised their hands, the teacher stopped reading the story and discussed why the word is a true cognate and provided the students its meaning**.**

Control Group. The students in the control group were all assessed using the same instrument as the students in the experimental group (i.e., WMLS-R – Spanish and English forms). The control group students used the same reading curriculum and instructional interventions as the experimental group; however,

the true cognate intervention was not implemented with the control group. The students in the control group were provided with the regular textbooks and interventions as specified by the school site. The reading instruction in the control classes consisted of the traditional instruction, including a reading series used for reading instruction, interventions provided by the school district, and computerized reading software that the students use regularly.

Fidelity of Implementation

The researcher ensured that there was fidelity in the implementation of the intervention, by conducting periodic classroom visits throughout the implementation period. During these unscheduled periodic visits, the researcher ensured that the teachers were utilizing the true cognate strategy in the same way and following the three-step procedural process. It should be noted that one teacher, after the third week of implementation modified the first step by asking the students to identify the true cognates first by themselves. It was evident that the students were able to perform this task. Additionally, one of the teachers did not implement the instruction for one week but made up the sessions the following week.

CHAPTER IV

RESULTS

This study focused on the effects of true cognate instruction on the reading comprehension and vocabulary development of English language learners (ELLs) with and without disabilities. The study consisted of a five-week intervention that included Methodology (true cognate versus traditional instruction) as the independent variable and two dependent variables, Reading Comprehension and Vocabulary Development. Reading Comprehension was assessed by the Passage Comprehension subtest from the Woodcock Muñoz Language Survey-Revised (WMLS-R) in English. Vocabulary Development in English was assessed by two subtests, Picture Vocabulary and Verbal Analogies. Students' performance on Picture Vocabulary and Verbal Analogies subtests were combined to yield an Oral Language Cluster score. Additionally, the participants' performance on the Picture Vocabulary, Verbal Analogies, Oral Language Cluster and Passage Comprehension in Spanish were analyzed to assess whether there was a need to control for Spanish proficiency. Independent variables pertaining to educational characteristics, including Disability (yes or no) and ESOL Level (1-5), were also used in the analyses.

The initial participant sample in this study consisted of 116 participants. However, one participant was excluded from the group because she did not match the rest of the sample. The student was non-Hispanic, not classified as ESOL, and English was her home language. In accordance with the methodology, students who did not meet the criterion of being Hispanic and

having Spanish as the home language would be excluded from the study; thus, the participant was excluded. In addition, due to the limited number of students with disabilities being part of the control group, additional students with disabilities (*n* = 7) were included from other fourth and fifth grade classes at each of the schools. Thus, the final total sample in the study on which the following analyses were based, was *n* = 122.

Preliminary Analyses

Preliminary analyses were conducted to assess the distribution of scores on the dependent variables at the initiation of the study. The preliminary analyses consisted of evaluating the distribution of the standard scores and conducting three independent samples *t* -tests. In order to create a balance as to Type I and Type II errors, the study used the alpha level .05 of significance (95% confidence interval) for all analyses conducted in the study. This level was also used to address the one-tailed research questions of this study.

Figures 3 – 6, which consist of histograms, display the mean distribution of the following variables at the pretest stage: Passage Comprehension, Picture Vocabulary, Verbal Analogies, and Oral Language Cluster in English. The graphics indicate that scores were predominantly normally distributed for all the dependent measures. The standard score distribution for Picture Vocabulary and Oral Language, depicted in Figures 4 and 6 respectively, appeared to indicate some variation.

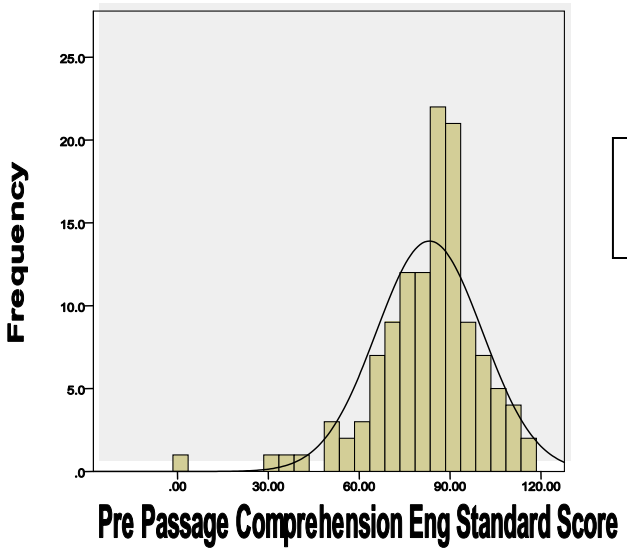

Figure 3. Mean Distribution for Passage Comprehension.

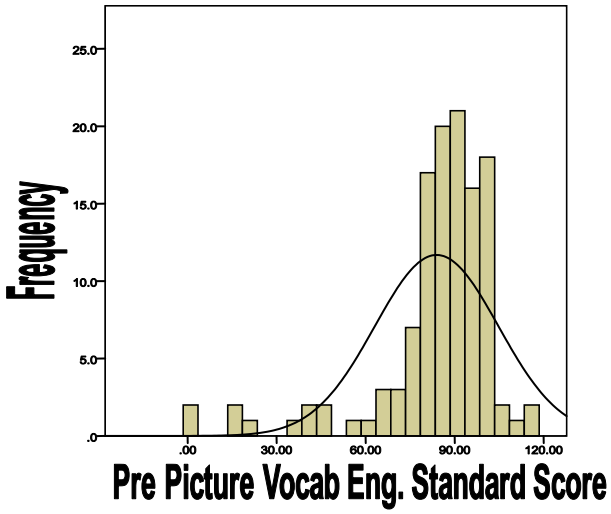

Figure 4. Mean Distribution for Picture Vocabulary.

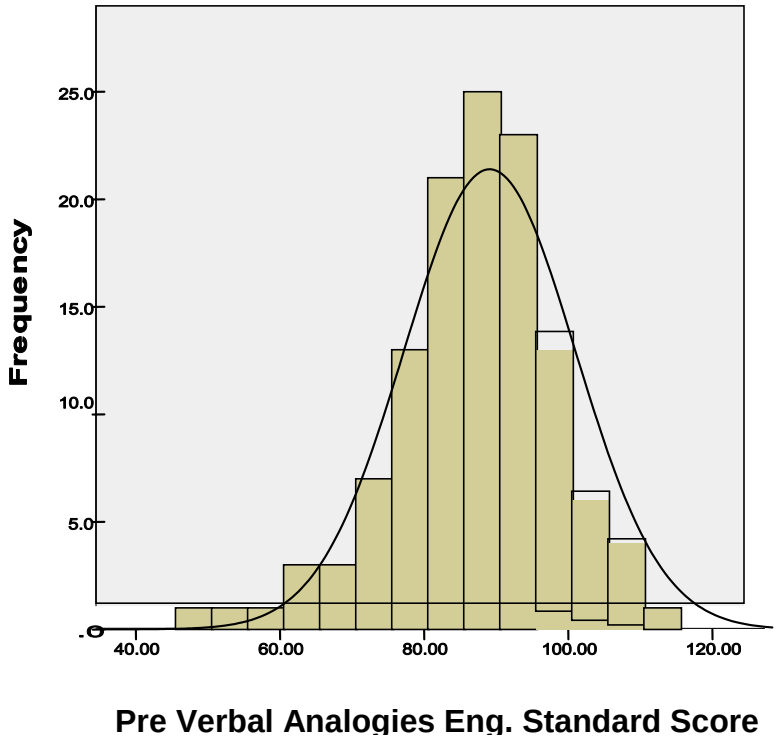

Figure 5. Mean Distribution for Verbal Analogies.

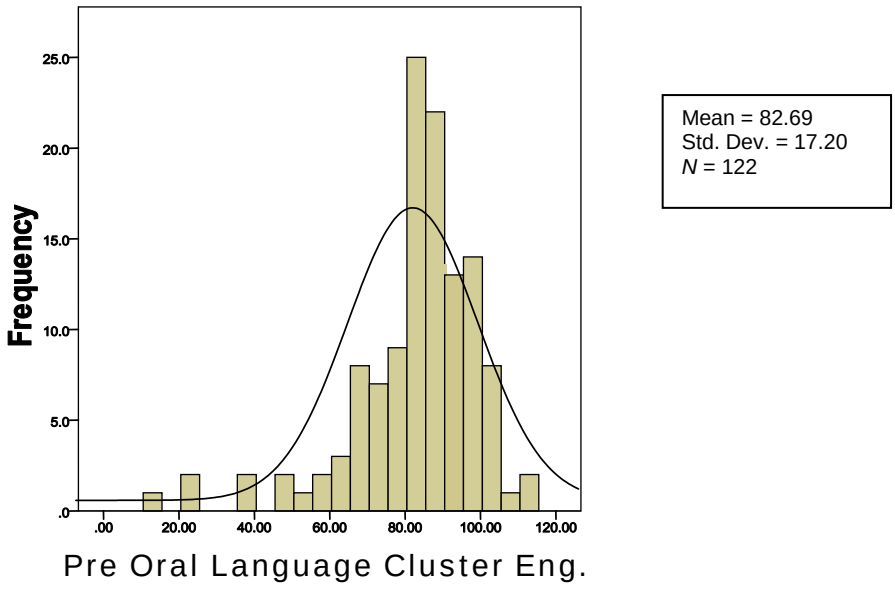

Figure 6. Mean Distribution for Oral Language Cluster.

Independent samples *t* -tests were conducted to determine whether there were differences at the pre-test stage between the methodology groups on each of the dependent variables (Picture Vocabulary, Verbal Analogies, Oral Language Cluster and Passage Comprehension). Means and standard deviations for each of the dependent variables, by Methodology at the pretest stage, are presented in Table 4. Results indicate that the standard score means for the true cognate and traditional groups differed significantly for each of the

dependent variables: Picture Vocabulary (*M* = 88.90, *SD* = 13.79 and *M* = 76.80, *SD* = 26.42, respectively), *t*(120) = -2.312, *p* < .001; Verbal Analogies *(M* = 89.82, *SD* = 10.33 and *M* = 82.56, *SD* = 11.49, respectively), *t*(120) = -3.655, *p* < .000; Oral Language Cluster (*M* = 87.38, *SD* =12.91 and *M* = 75.94, *SD* =20.27, respectively), *t*(120) = -3.806, *p* < .000; and Passage Comprehension (*M* = 86.29, *SD* =17.62 and *M* = 78.92, *SD* =16.40, respectively), *t*(120) = -2.312, *p* < .023. As it can be seen in the results of the pretest scores, children in the true cognate group performed significantly better than children in the traditional group.

Table 4

Means and Standard Deviations for the Dependent Variables (Pretest) by Methodology

	Methodology			
	True Cognate		Traditional	
Dependent Variable	*n*	*M (SD)*	*n*	*M (SD)*
Picture Vocabulary	72	88.90(13.79)	50	76.80 (26.42)
Verbal Analogies	72	89.82 (10.33)	50	82.56 (11.49)
Oral Language	72	87.38 (12.91)	50	75.94(20.27)
Passage Comprehension	72	86.29 (17.62)	50	78.92(16.40)

The independent samples *t*-tests conducted to assess differences on the dependent variables by Methodology, indicated significant differences among groups; thus, additional independent samples *t*-tests were conducted. The tests consisted of identifying possible differences on the dependent variables at the

pretest stage by Methodology separately for students with disabilities and for students without disabilities.

Table 5 presents the means and standard deviations for all the dependent variables by Methodology and Disability at the initiation of the study. The results indicate that there were significant differences among the means by Methodology (true cognate and traditional) for students without disabilities on each of the dependent variables at the initiation of the study: Picture Vocabulary (*M* = 90.5, *SD* = 14.91 and *M* = 69.81, *SD* = 31.05, respectively), *t(71)* = - 3.776, *p* = .000; Verbal Analogies (*M* = 91.62, *SD* = 10.56 and *M* = 80.97, *SD* = 11.32, respectively), *t*(71) = - 4.131, *p* = .000; Oral Language Cluster *(M* = 89.57, *SD* = 14.00 and *M* = 71.1, *SD* = 23.02, respectively), *t*(71) = - 4.249, *p* = .000; and Passage Comprehension (*M* = 88.74, *SD* = 13.93 and *M* = 77.10, *SD* = 17.71, respectively), *t*(71) = -2.660, *p* = .010. These differences were evident for all the dependent variables for students without disabilities. Levene's homogeneity of variance could be assumed for Passage Comprehension, *F*(71, 67.20) = .188, *p* = .666 and for Verbal Analogies, *F(71, 62.17)* = .861, *p*= .357, but not for Picture Vocabulary, *F* (71, 40.23) = 21.566, *p* = .000 and Oral Language Cluster, *F*(71, 46.109) = 9.130, *p* = .003.

The performance of students with disabilities at the initiation of the study did not differ significantly by Methodology (true cognate and traditional), as shown by the following results: Picture Vocabulary (*M* = 86.67, *SD* = 11.93 and *M* = 88.21, *SD* = 8.52, respectively), *t*(47) = .490, *p* = .627; Verbal Analogies (*M* = 87.3, *SD* = 9.59 and *M* = 85.16, *SD* = 11.42, respectively), *t*(47) = -.707,

p = .483; Oral Language Cluster *(M* = 84.3, *SD* = 10.67 and *M* = 83.84, *SD* =11.35, respectively), *t*(47) = -.143, *p* = .887; and Passage Comprehension (*M* = 82.67, *SD* = 15.03 and *M* = 81.90, *SD* = 13.92, respectively), *t* (47) = -.180, *p* = .858. Also, Levene's assumption of homogeneity of variance could be accepted for students with disabilities for each of the dependent variables: Picture Vocabulary, *F*(47, 46.22) = 1.717, *p* = .197, Verbal Analogies, *F*(47, 33.52) =.288, *p* = .594, Oral Language, *F*(47, 36.7) = .278, *p* = .601, and Passage Comprehension, *F*(47, 40.63) = .139, *p* =.711.

Table 5

Means and Standard Deviations
of Dependent Variables (Pretest) by Methodology and Disability Status

	Disability							
	Yes				No			
	Methodology				Methodology			
Dependent Variable	True Cognate		Traditional		True Cognate		Traditional	
	n	*M (SD)*	*n*	*M (SD)*	*n*	*M (SD)*	*n*	*M (SD)*
Picture Vocabulary SS	30	86.67(11.93)	19	88.21(8.52)	42	90.5 (14.19)	31	69.81(31.04)
Verbal Analogies SS	30	87.3 (9.59)	19	85.16 (11.42)	42	91.62 (10.56)	31	80.97(11.39)
Oral Language Cluster SS	30	84.3 (10.67)	19	83.84 (11.35)	42	89.57 (14.00)	31	71.1(23.02)
Passage Comprehension SS	30	82.67(15.03)	19	81.90 (13.92)	42	88.74(19.03)	31	77.10 (17.71)

Overall, there were differences between students in the true cognate group versus the traditional group at the pretest level. However, when analyzing the data by disability status an interesting finding emerged. Students without disabilities in the true cognate group performed significantly better than students in the traditional group for all the dependent variables, while no significant differences were found in the performance of students with disabilities by Methodology across dependent variables. The results indicate that for students with disabilities, the pretest mean scores for all the dependent variables were not significantly different, regardless of their methodology group. These results indicate that at the initiation of the study, the English language skills of students without disabilities in the true cognate instruction group were more developed than those of the traditional instruction group. However, the English proficiency levels of students with disabilities at the initiation of the study did not differ for the true cognate and traditional instructional groups.

A third set of independent samples *t*-tests was conducted to determine whether differences existed by Methodology and Spanish proficiency. Means and standard deviations for all the dependent variables by Methodology and Spanish proficiency at the pretest level are reported in Table 6. There were no significant differences on the Spanish proficiency standard scores between students in the true cognate group and students in the traditional group. Thus, Spanish proficiency was not treated as a covariate, as previously planned.

Table 6

Means and Standard Deviations for Spanish Proficiency Variables (Pretest) by Methodology

	True Cognate		Traditional	
Dependent Variable	*n*	*M (SD)*	*n*	*M (SD)*
Picture Vocabulary SS	72	67.72 (25.57)	50	75.56 (19.03)
Verbal Analogies SS	72	78.86 (14.42)	50	78.82 (11.89)
Oral Language Cluster SS	72	68.49 (21.79)	50	71.1 (19.12)
Passage Comprehension SS	72	65.40 (23.08)	50	67.42 (22.62)

Although Spanish proficiency was not influential, it was decided to focus on ESOL levels as an independent variable, due to its importance in the process of English language acquisition described in the literature (August & Shanahan, 2006; Krashen, 2009; Xu & Drame, 2008). ESOL level in this study refers to the level of English proficiency of the participants.

Further tests conducted investigated the main questions and hypotheses of the study. These questions are: (1) Does the use of true cognates (Spanish-English) as an instructional reading intervention significantly improve the vocabulary development of ELLs with and without disabilities?, and (2) Does the use of true cognates (Spanish-English) as an instructional reading intervention significantly improve the reading comprehension of ELLs with and without disabilities? The following inferential analyses were used to determine if the hypotheses would be accepted or rejected.

Main Statistical Analyses

Transformation of Data and Scores.

Gain Score Analysis (GSA) is used to analyze the growth between pre and post test measures (Rachor & Cizek, 1996). GSA can be used to evaluate the dependent variable in analysis of variance (ANOVA) when comparing two or more groups, was used in this study. Gain scores were calculated from the standard score results for each of the dependent variables, which included pre and posttest results of the Picture Vocabulary, Verbal Analogies, Oral Language Cluster, and Passage Comprehension subtests of the WMLS-R in English. The gain scores refer to the individual change in scores from pretest to posttest. GSA is recommended for use in statistical analyses when the assessment is standardized and the reliability coefficient of the pre and post test scores are robust (high) (Rachor & Cizek, 1996). The Woodcock Muñoz Language Survey is used in many educational studies as the assessment to measure differences in English and Spanish proficiency and it is highly reliable. The cluster scores median test reliability from the combined tests range from .76 to .97 and .88 and .98 (Alvarado, Ruef, & Schrank, 2005; Schrank et. al., 2001).

ESOL levels recoded. The variable English for Speakers of Other Languages (ESOL) Levels was recoded into two groups, based on the distribution of the sample across ESOL levels. Table 7 presents the frequencies or number of students by ESOL level and Methodology. The recoded groups resulted in one group consisting of students at ESOL Levels 1 thru 4 (*n* = 36 in

true cognate and *n*= 28 in traditional instruction), and another group consisting of students at ESOL Level 5 and those who were never classified as ESOL (*n*= 36 in true cognate group and *n* = 22 in traditional instruction group). The new variable was renamed ESOL.

Table 7

ESOL Levels by Methodology Group

ESOL	Methodology	
	True Cognate	Traditional
	n	*n*
ESOL Level 1	8	13
ESOL Level 2	11	3
ESOL Level 3	10	8
ESOL Level 4	7	4
ESOL Level 5	29	19
Non ESOL	7	3
Total	72	50

Effect Size Calculation. Effect sizes were calculated Cohen's *d* (Cohen, 1988) to measure the strength of the growth on the results of each statistical measure through the analysis of the partial eta-squared (*ηp2*), results for each dependent measure. The criteria for Cohen's *d* are as follows: 0.2 and below = small effect size; 0.3 through 0.7 = medium effect size; 0.8 and above = large effect size.

Tests of Hypotheses

Two analyses were conducted to test each of the hypothesis in this study, a Multivariate Analysis of Variance (MANOVA) and an Analysis of Variance (ANOVA). MANOVA was used to test the first hypothesis. The null hypothesis

postulates that true cognate instruction does not significantly improve the vocabulary development of ELLs with and without disabilities. The results of the Woodcock Picture Vocabulary and Verbal Analogies subtests can be used individually to determine differences in the acquisition of vocabulary for those specific areas; however, the results of these two subtests can also be combined and calculated as an Oral Language cluster score (Alvarado et al., 2005; Schrank et al., 2001). The scores for Picture Vocabulary, Verbal Analogies and the Oral Language cluster were all used in the analysis of Vocabulary Development in this study. These measures have all been shown to be developmentally and conceptually correlated (Alvarado et al., 2005). The MANOVA was used since there were three dependent variables, Picture Vocabulary, Verbal Analogies, and Oral Language Cluster, assessing Vocabulary Development. Additionally, the MANOVA allowed for the analyses of the effects of the interactions between Methodology and other variables of interest (i.e., ESOL and Disability) on each of these dependent measures.

The ANOVA was used to test the second hypothesis. The second null hypothesis postulates that true cognate instruction does not significantly improve the reading comprehension of ELLs with and without disabilities. An ANOVA was used to assess the differences between and within group variances by Methodology, Disability and ESOL level on the dependent measure Passage Comprehension.

Hypothesis I. A three-way Multivariate Analysis of Variance (MANOVA) was conducted to evaluate differences on the three dependent measures

pertaining to Vocabulary Development: Picture Vocabulary, Verbal Analogies, and Oral Language Cluster. The independent variables were Methodology, Disability, and ESOL level. To corroborate the association between the three dependent variables, Pearson product-moment correlation analyses of the distribution of gain scores between each of these measures (Picture Vocabulary, Verbal Analogies subtest, Oral Language Cluster English) were conducted. The correlations among these measures were, overall, high and statistically significant. Picture Vocabulary gain scores were minimally correlated with Verbal Analogies but highly correlated with Oral Language *(r* =.244, p < .05; *r* =.836, *p* < .050, respectively); Verbal Analogies gain scores were highly correlated with Oral Language (*r* =.730, *p* < .05); Oral Language Cluster was highly correlated with Verbal Analogies and Picture Vocabulary. The MANOVA used the gain scores on the three dependent measures to determine whether significant differences existed between the two methodology groups and the effects of the interactions with ESOL and Disability. The MANOVA results using Wilk's Lambda on a two-tailed test was used. Means and standard deviations for the gain scores for each of the dependent variables are presented in Table 8. This table presents the mean scores by Methodology and Disability, since ESOL was not an influential variable as suggested by Table 9. The results indicate that there were apparent differences between the mean gain scores of students with disabilities who were in the true cognate group compared with those in the traditional group on the three measures, including Picture Vocabulary (*M* = 5.3, *SD* = 10.69 and *M* = -

1.21, *SD* = 12.23, respectively), Verbal Analogies (*M* = 5.8, *SD* = 10.34 and *M* = 4.0, *SD* = 7.87, respectively) and Oral Language Cluster (*M* = 6.87, *SD* = 9.76 and *M* = 1.89, *SD* = 10.82, respectively). With respect to students without disabilities, no apparent differences seemed to exist between the students in the true cognate and traditional group for Picture Vocabulary (*M* = 7.60, *SD* = 10.34 and *M* = 7.45, *SD* = 15.26, respectively), Verbal Analogies (*M* = 8.17, *SD* = 8.75 and *M* = 6.9, *SD* = 9.57, respectively) and Oral Language (*M* = 9.26, *SD* = 8.85 and *M* = 8.61, *SD* =11.11, respectively). Please note that the mean gain scores on Picture Vocabulary (*M* = -1.21, *SD* = 12.23) for students with disabilities in the traditional instruction group was negative, indicating a decline in the scores from pre to posttest on Picture Vocabulary.

Table 8

Means and Standard Deviations for Vocabulary Gain Scores by Methodology and Disability Status

	Disability			
	Yes		No	
	Methodology		Methodology	
Dependent Variable	True Cognate *M (SD)*	Traditional *M (SD)*	True Cognate *M (SD)*	Traditional *M (SD)*
Picture Vocabulary GS	5.3 (10.69)	-1.21(12.23)	7.60 (10.34)	7.45 (15.26
Verbal Analogies GS	5.8 (10.34)	4 (7.86)	8.17 (8.75)	6.9 (9.57)
Oral Language Cluster GS	6.87 (9.76)	1.89 (10.82)	9.26 (8.85)	8.61 (11.11)

Note. Gain Score = GS.

When looking at the statistical significance of those differences, as observed in Table 9, overall, there were no statistically significant differences

between the methodology groups on the dependent variables. However, the results do show statistically significant differences between students with and without disabilities, $F(6, 112) = 3.30$, $p = .023$. Additionally, the results approached statistical significance for the interaction effect between Disability and Methodology, $F(6, 232) = 2.017$, $p = .064$, on a two-tailed test. However, since this study used directional research questions, the results were statistically significant considering a one tailed test, $p = .032$. The interaction results suggest that students with disabilities performed better on vocabulary measures when provided with true cognate instruction, although this trend was not observed in students without disabilities. Using Cohen's table of effect sizes, it appears that true cognate instruction does have a small effect on the English language vocabulary skills of students with disabilities, as $\eta p2 = .050$.

Table 9

Three-Way Multivariate Analysis of Variance (MANOVA): Differences for Interaction by Methodology

	Test	Value	*F*	Sig.	*ηp2*	Observed Power
Methodology	Wilk's Lambda	0.0978	0.853	0.468	0.022	0.231
Disability	Wilk's Lambda	0.919	3.301	0.023	0.081	0.74
ESOL	Wilk's Lambda	0.979	0.807	0.493	0.021	0.22
MethodologyxESOL	Wilk's Lambda	0.979	0.804	0.525	0.02	0.219
MethodologyxDisability	Wilk's Lambda	0.903	2.017	0.064	0.05	0.729
Methodologyx DisabilityxESOL	Wilk's Lambda	0.994	0.214	0.886	0.006	0.089

Follow up tests of significance were conducted to determine separately if there were differences between the gain scores on each of the dependent measures (Picture Vocabulary, Verbal Analogies, Oral Language cluster) by Methodology, ESOL and Disability. A preliminary analysis evaluating the homogeneity of variances assumption, using Levene's test, indicated no significance differences in variances among the three dependent measures: Picture Vocabulary, $F(3, 118) = 2.019$, $p = .115$), Verbal Analogies, $F(3, 118) = .680$, $p = .566$), and Oral Language Cluster, $F(3, 118) = 1.687$, $p = .174$). The assumption of homogeneity of variance across the measures was accepted.

Results presented in Table 10 indicate that there were no significant differences on each of the dependent variables by Methodology.

Table 10

MANOVA Results by Methodology

Dependent Variable	SS	*df*	Mean Square	Sig.	*ηp2*
Picture Vocabulary GS	311.744	1	311.744	0.148	0.018
Verbal Analogies GS	66.074	1	66.074	0.381	0.007
Oral Language GS	222.448	1	222.448	0.138	0.019

Note. GS = Gain Score.

However, as described in Table 11, there was a significant interaction effect between Methodology and Disability on Picture Vocabulary and Oral Language Cluster, $F(2, 118) = 3.315$, $p = .040$ and $F(2, 118) = 3.167$, $p = .046$, respectively. The interaction between Methodology and Disability suggests that students with disabilities in the true cognate group performed better than students with disabilities in the traditional group, while students without disabilities did not differ by methodology group on Picture Vocabulary and Oral Language.

Table 11

MANOVA Results: Interactions between Methodology and Disability

Dependent Variable	SS	*df*	Mean Square	Sig.	*ηp2*
Picture Vocabulary GS	976.077	2	488.038	0.040	0.053
Verbal Analogies GS	197.31	2	98.655	0.319	0.019
Oral Language GS	632.076	2	316.038	0.046	0.051

Note. GS = Gain Score.

Figures 7 and 8 are visual representations of the interactions between Methodology and Disability on Picture Vocabulary and Oral Language.

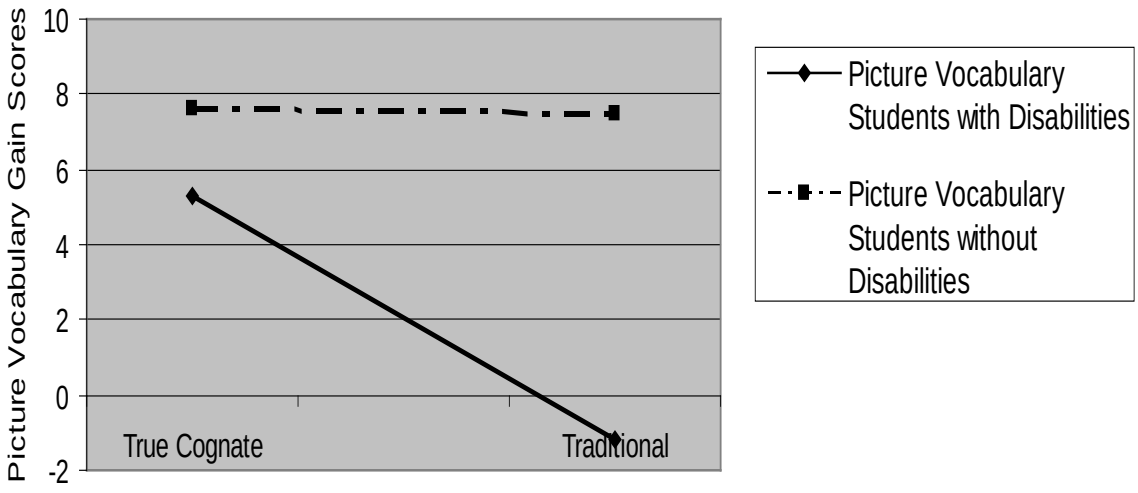

Figure 7. Interaction effects between Methodology and Disability on Picture Vocabulary Gain Scores.

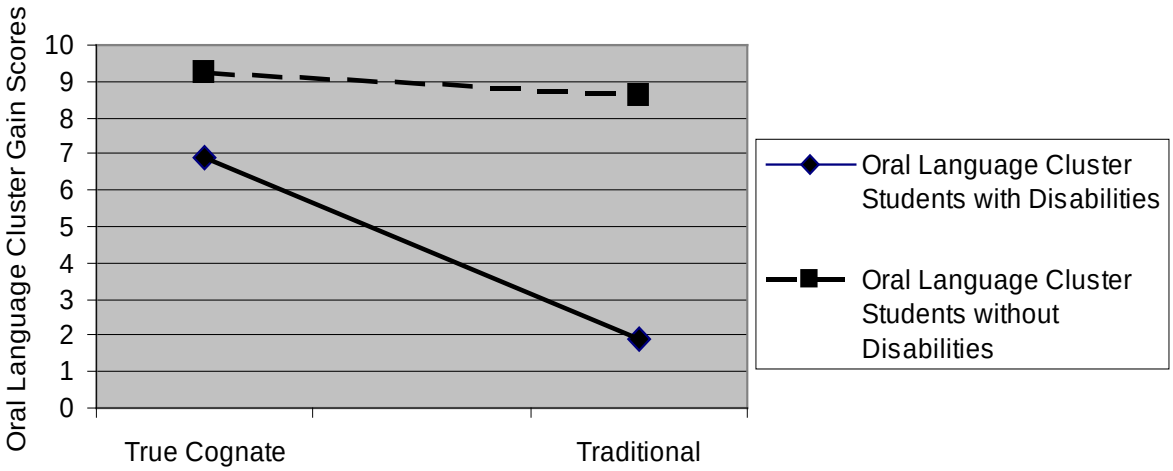

Figure 8. Interaction effects between Methodology and Disability on Oral Language Cluster Gain Scores.

To test the first hypothesis, the MANOVA was used to determine if using true cognates (Spanish-English) as an instructional reading intervention significantly improved the vocabulary development of ELLs with and without disabilities. Results indicated that, overall, the vocabulary of students with disabilities who participated in the true cognate intervention increased more than the vocabulary of children with disabilities who were part of the traditional reading instruction group. This difference, however, was not noted for students without disabilities. This was particularly true regarding two measures, Picture Vocabulary and Oral Language. Thus, the first hypothesis was rejected, only as it relates to students with disabilities.

Hypothesis II. A three-way Analysis of Variance (ANOVA) was conducted to evaluate the effects and the interactions between Disability, ESOL and Methodology on the dependent variable Reading Comprehension. This analysis addressed the second hypothesis of this study. Table 12 presents the means and standard deviations of students' gain scores on Passage Comprehension by Methodology; while Table 14 presents the means and standard deviations of students' gains scores on Passage Comprehension by Methodology, ESOL, and Disability. Although it seems evident in Table 12 that, overall, there were differences between the comprehension means of the true cognate and traditional groups (M = 9.78, SD = 1.57 and M = 4.68, SD = 1.83, respectively), Table 13 presents the ANOVA results for Methodology and the significance of those differences. A preliminary analysis evaluating the homogeneity of variances assumption, using Levene's test, indicated no significance differences in variances among groups,

F (7,114) = 1.655, p = .127.

Table 12

Means and Standard Deviations on Passage Comprehension Gain Scores by Methodology

Methodology	*M*	*SD*
True Cognate Instruction	*9.779*	*1.567*
Traditional Instruction	4.678	1.834

The results by Methodology were significantly different, $F(1, 113) = 4.495$, $p = .036$. True cognate instruction compared to the traditional instruction had an impact on the reading comprehension of all students in the study.

Table 13

Three-Way Analysis of Variance : Main Effect of Methodology on Passage Comprehension

Reading Comprehension	*df*	*SS*	*F*	Sig.	*ηp2*
Between Groups	1	701.615	4.495	0.036	0.038
Within Groups	113	17836.827			
Total	122	30104			

The results on Table 14 indicate that for students without a disability and at the higher English proficiency levels (ESOL Level 5 and non-ESOL), true cognate instruction had an impact on Passage Comprehension, as reflected on the mean gain scores for students in the true cognate and traditional groups *(M* = 9.65, *SD* = 10.04 and *M* = 1.85, *SD* =14.01, respectively). Further analysis of the differences between the means indicate that true cognate instruction had a greater impact than the traditional instruction on the reading comprehension of students with disabilities who were also classified as ESOL (Levels 1-4) (*M* = 15, *SD* = 13.05 and *M* = 2.7, *SD* = 10.41, respectively).

Table 14

Mean and Standard Deviations for Passage Comprehension Gain Scores by Methodology, ESOL Level and Disability

	Methodology			
	True Cognate		Traditional	
	Disability		Disability	
ESOL	Yes	No	Yes	No
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*
ESOL Level 1-4	15 (13.05)	12.56(19.11)	2.7(10.41)	12.06(9.84)
ESOL Level 5 and non-ESOL	1.9 (5.99)	9.65(10.03)	2.11(12.79)	1.85(14.01)

Table 15 indicates that the effects of the interaction between Methodology, Disability and ESOL was significant, F (6, 114) = 2.506, p = .026, ηp2 = .117. True cognate instruction had an impact on the reading comprehension of students with and without disabilities who also had a classification of ESOL. True cognate instruction appears to affect the reading comprehension of ELLs with disabilities. However, the standard deviations were high, indicating a large variation in students' reading gain scores.

Table 15

Three-Way Analysis of Variance: Summary of Effects of the Interactions between Methodology, Disability, and ESOL

Reading Comprehension	*df*	SS	MS	F	Sig.	ηp2
Between Groups	6	235.147	392	2.506	0.026	0.117
Within Groups	114	17846.48	157			
Total	122	30104				

Figures 9 and 10 provide a graphic representation of the interaction effects on Passage Comprehension. Figure 9 represents the interaction between Methodology and Disability for English proficient students (ESOL Level 5 and non-ESOL), while Figure 10 represents the interaction between Methodology and Disability for ELL students (ESOL Levels 1-4). Figure 9 indicates that for students without a disability already proficient in English (ESOL Level 5 and non-ESOL) reading comprehension improved significantly more through true cognate instruction than traditional instruction. In contrast, there was no improvement on reading comprehension for students with disabilities proficient in English (ESOL Level 5 or non-ESOL), in both methodology groups. Figure 10 indicates that reading comprehension improved significantly more in students with disabilities still classified as learning English (ESOL Levels 1-4) who were in the true cognate group compared to those in the traditional instruction group. These findings, along with the findings of preliminary Independent *t* -Tests that indicated that students with disabilities in both methodology groups began the study with similar levels of English proficiency, as assessed by the dependent variables,

suggest that the reading comprehension of ELL students with disabilities did benefit from the use of true cognate instruction.

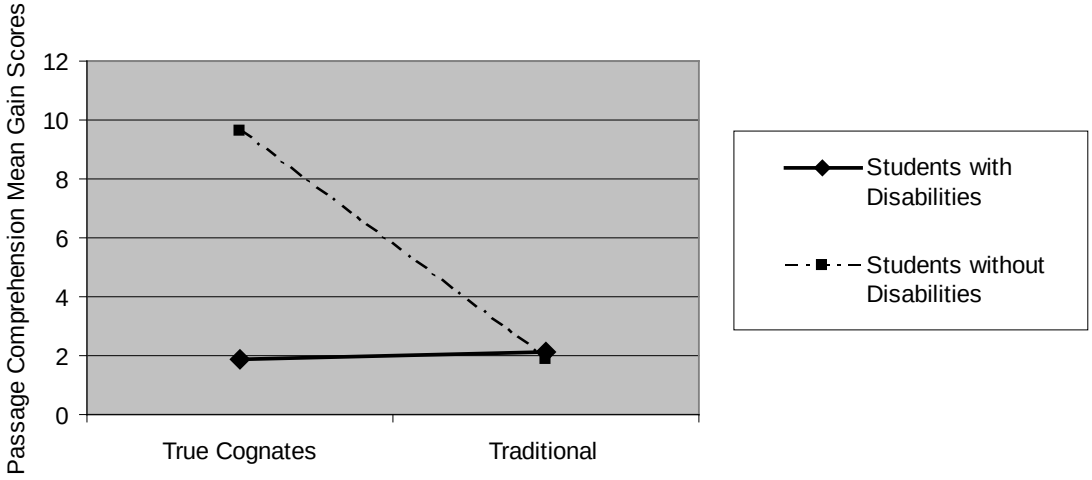

Figure 9. Interaction effects between Methodology and Disability on Passage Comprehension gain scores; students classified at ESOL Level 5 and non-ESOL.

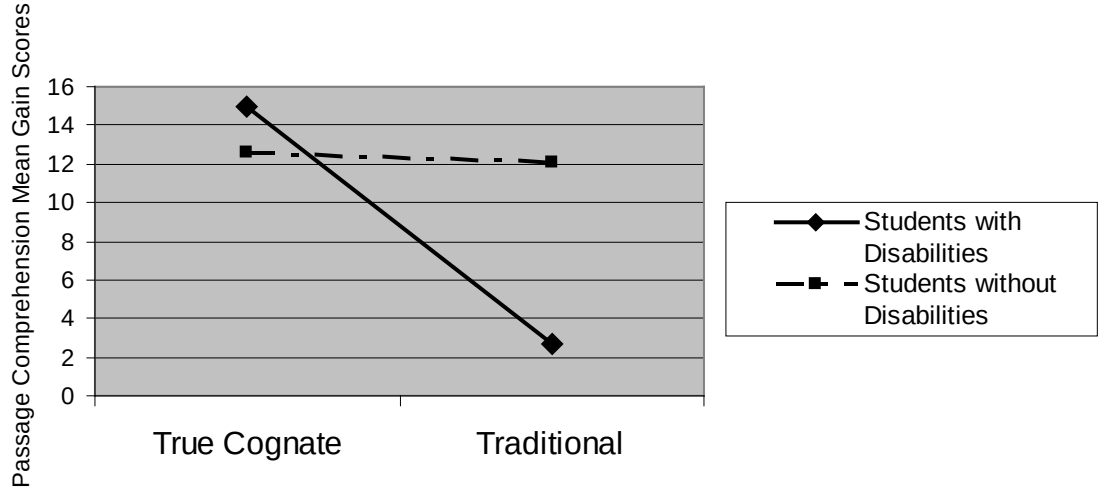

Figure 10. Interaction effects between Methodology and Disability on Passage Comprehension gain scores; students classified at ESOL Levels 1-4.

True cognate instruction had an effect on the reading comprehension of students without disabilities whose ESOL Level is 5 or who were never classified as ESOL; however, for English language learners (ESOL Levels 1-4) with disabilities, true cognate instruction had the greatest gains. These results indicate that the second null hypothesis can be rejected.

CHAPTER V

DISCUSSION

The purpose of this quasi-experimental study was to investigate the effect of a vocabulary intervention strategy that used the student's native language and English, on the vocabulary development and reading comprehension of ELLs with and without learning disabilities. The study examined the influence of true cognate instruction, words in English and Spanish that are phonologically similar and semantically exactly the same (Malabonga et al., 2008), on the vocabulary and reading comprehension of fourth and fifth grade ELLs with and without disabilities. A summary of the study, discussion of findings, limitations, recommendations for future research and conclusions are presented in this chapter.

Summary of the Study

The study was implemented to answer two research questions: (a) Does true cognate instruction significantly improve the vocabulary development of ELLs with and without disabilities? and (b) Does true cognate instruction significantly improve the reading comprehension of ELLs with and without disabilities? The five-week study was conducted with eight classrooms (four- fourth grades and four- fifth grades) in two urban schools. The independent variable was type of instruction or Methodology (true cognate and traditional instruction) and the dependent variables were Vocabulary and Reading Comprehension. The collaborating teachers were trained to implement the true cognate strategy during ESOL (reading and language arts) instructional time.

The implementation of the three-step strategy designed for this study occurred three times a week for five weeks. Use of true cognate instruction in this study consisted of teachers locating the true cognates in the story to be read by the student using a true cognate list provided by the researcher, identifying the words during reading instruction, and when chorally reading the story having students identify the true cognates to discuss their meaning.

Discussion of Findings

Overview of Findings

The results of this study indicate that selected groups of ELLs with and without disabilities in the true cognate experimental group increased significantly more than other groups in their vocabulary and/or their reading comprehension scores. The groups that showed a significantly higher increase in any of the dependent variables as a result of the true cognate intervention were students with disabilities, students with disabilities at ESOL Levels 1-4, and students without disabilities at ESOL Level 5 as well as non-ESOL. The vocabulary knowledge of students with disabilities, who were mostly ELLs, increased more as a result of the use of the true cognate intervention. Additionally, two different groups, students with disabilities at ESOL Levels 1-4 as well as students without disabilities who were English proficient (ESOL Level 5 and non-ESOL) improved more in their reading comprehension scores, compared to their counterparts in the control condition.

Regarding hypothesis I, the findings showed an interaction effect between Methodology and Disability, indicating that the vocabulary of students with disabilities improved significantly more when provided true cognate instruction,

while this trend was not shown in students without disabilities. Students with disabilities exposed to the true cognate intervention demonstrated vocabulary growth particularly in the areas of picture vocabulary and oral language. The increase in vocabulary knowledge suggests that the explicit and implicit instruction in vocabulary involved in the true cognate instruction can facilitate the acquisition of literacy skills in English for students with disabilities.

With respect to hypothesis II, the interaction between Methodology, Disability and ESOL suggests that, overall, the reading comprehension of all students with and without disabilities improved significantly through the use of the true cognate strategy. More specifically, the implementation of true cognate instruction resulted in ELLs with disabilities at ESOL Levels 1-4 and students without disabilities at ESOL Level 5 and those never identified as ESOL, demonstrating significant improvements in reading comprehension. Students with disabilities at ESOL Level 5 and students without disabilities at ESOL Levels 1-4 did not show such a big improvement in reading comprehension when true cognate was used for instruction.

Another overall finding in this study was that Spanish proficiency did not have an impact on students' ability to use the true cognate strategy, suggesting that students who are less proficient in Spanish can be taught to use the strategy when reading. Also, since training students to identify true cognates resulted in significant improvements in vocabulary and reading comprehension for certain subgroups of the targeted sample, this implies that the training through true cognate instruction helped these groups of students to become aware of their

first language as a resource. More specifically, students with disabilities at ESOL Levels 1-4, students without disabilities at ESOL Level 5 and non-ESOL students, appeared to use this language awareness as a resource tool to make meaning from text.

The results of this study support August's et al.'s (2005) results regarding the critical role that vocabulary plays in the development of literacy skills in ELLs. August et al. (2005) identified important strategies that have proven to be effective to develop the vocabulary and reading comprehension of ELLs. These strategies include capitalizing on students' first language; teaching students the labels for words through direct instruction using a hierarchical framework of words such as Beck and McKeown's (2007) word tiers; and providing review and practice through read-alouds. The true cognate instruction designed for this study implemented many of the recommended strategies by August et al. (2005), and resulted in significant improvements in vocabulary and reading comprehension for selected subgroups of students.

Discussion of Findings Related to Vocabulary

The overall results indicate that the vocabulary of students with disabilities who were provided true cognate instruction increased significantly more than those provided with the traditional instruction, regardless of their Spanish proficiency and ESOL level. However, for students without disabilities there were no significant increases in their vocabulary, regardless of their ESOL level or Spanish proficiency.

Students with Disabilities and Vocabulary Knowledge. Vocabulary knowledge was assessed by three measures, Picture Vocabulary, Verbal Analogies, and Oral Language. The interaction effect between Methodology and Disability indicated that students with disabilities significantly increased their scores in the areas of Picture Vocabulary (lexical knowledge) and Oral Language, but not in Verbal Analogies. Oral language was assessed by the Woodcock Muñoz Language Survey – Revised (WMLS-R), the instrument used in this study. The Oral Language cluster consists of a combination of the scores from the Picture Vocabulary (naming pictures) and Verbal Analogies (identifying the correct word in order to complete the analogy) subtests.

The Picture Vocabulary measure requires that students identify the names of pictures in typical vocabulary found in students' environment. The skill consists of students looking at a picture and orally identifying its name. The process requires that students use both their experiences with the picture and their long and short term memory to retrieve the word to label the picture. Recognizing and identifying words for pictures is the least complex mental process involved in the development of Cognitive Academic Language Proficiency (CALP) skills (Alvarado et al., 2005). Nevertheless, these skills are critical for the development of higher level literacy skills, such as reading comprehension. At the early stages of second language acquisition (ESOL Levels 1-2), ELLs develop oral language skills in the second language by first naming things in their environment (Fradd & Larrinaga, 1994; Krashen, 2009; Peregoy & Boyle, 2005;). ELLs name things or actions that are first familiar to them and then begin to name things or situations

that are unknown. ELLs at ESOL Levels 1-4 are continuously developing English language skills, including vocabulary. The naming of objects is the first expressive language skill to emerge for ELLs, including those with disabilities. The results of the study indicate that for students with disabilities true cognate instruction appeared to significantly contribute to their picture vocabulary development. The students with disabilities in the study appeared to be able to use the taught strategy to increase their ability to name objects in their environment. Although ESOL was not an influential variable in the area of vocabulary, all but two of the students with disabilities in the study were identified as ESOL Levels 1-5. Based on the results, it appears that for students with disabilities who are learning English, true cognate instruction can facilitate their acquisition of vocabulary. Thus, through true cognate instruction, students with disabilities displayed an increase in the vocabulary skills required in identifying words for pictorial representations. The development of these specific skills may also be attributed to several factors which are consequential to the study. First, the intervention, as implemented in the study, was more closely related to the picture vocabulary task than the verbal analogies task by explicitly focusing on the vocabulary related to a story. In many instances the stories in the text contained pictures of the targeted true cognate vocabulary. The picture vocabulary assessment and the true cognate strategy focused on single words; it is easier for students to create mental images of one word than several words, as it is required by verbal analogies. In addition, the use of their first language when presenting the true cognate vocabulary may have allowed students with

disabilities to use their own awareness of their home language to identify vocabulary in English, as required by the picture vocabulary task. Teaching explicitly this metalinguistic skill, may have contributed to their performance on this measure.

Results indicated that there was also an interaction effect between Methodology and Disability in the area of Oral Language, suggesting that while students with disabilities improved more on this skill while being exposed to true cognate instruction, students without disabilities did not show the same trend. Oral Language in the assessment measure used for this study was comprised of the scores from both the Picture Vocabulary and Verbal Analogies subtests. The significant improvement of students with disabilities on Picture Vocabulary contributed to the significant interaction effect found on Oral Language. As previously suggested, developmentally, the ability to name pictures precedes the ability to differentiate between the relationships in words (Alvarado et al., 2005). An improvement in picture identification is part of oral language development and critical to the process of developing more advanced CALP skills, as those required to solve verbal analogies.

There were no significant differences between students with disabilities who were instructed with the true cognate or traditional instruction when requested to solve verbal analogies. Verbal analogies are comprised of four words that are associated by an element(s). The verbal analogy measure in this study required the student to read the words and identify the missing word in the four-word analogy. The learner must have the ability to read the four words,

determine the relationships between the words and identify the missing vocabulary that would complete the analogy. The ability to solve verbal analogies requires that the learner have significantly developed Cognitive Academic Language Proficiency (CALP) (Cummins, 1984) skills in order to solve the analogy at a proficient level. Although both measures, Picture Vocabulary and Verbal Analogies, require certain levels of CALP skills, the CALP skills required for picture vocabulary and verbal analogies measures are different. The skill to name objects such as is required by the Picture Vocabulary subtest, is at a more concrete level than verbal analogies, which is more abstract. It is easier to influence concrete levels of language, particularly if using a short-term intervention, as it was the case in this study. The vocabulary skills required to solve verbal analogies involve highly developed cognitive academic oral language skills in the form of lexical and semantical knowledge in English. ELLs with and without disabilities are in the process of developing those CALP skills; hence, the lack of improvement found in this study specifically regarding this vocabulary skill. Lastly, in general, students with disabilities often display difficulties with the skills required to solve analogies, due to their difficulties with language associations and inferences (Garcia & Tyler, 2010).

ELLs with Disabilities and Use of First Language for Vocabulary Development. The true cognate intervention used Spanish and its association with English to affect students' vocabulary in English; however, Spanish proficiency was not a confounding variable in this study. The use of Spanish in the intervention and the results of the empirical literature related to effective

instructional interventions (August & Shanahan, 2006; Gersten & Baker, 2000) support the use of the student's home language to affect the language skills of students with and without disabilities. ELLs, including those with disabilities, can benefit from the strategic use of their first language (Gersten & Baker, 2000) as a learning scaffold (Artiles & Ortiz, 2002) in the acquisition of English. ELLs with disabilities can benefit from the use of their native language to support literacy skill development in English, as suggested by Maldonado's (1977) three-year study with bilingual special education students. The ELLs students with disabilities in Maldonado's (1977) study were transitioning from Spanish to English and demonstrated significant achievement gains. Bilingual students with disabilities who may be considered monoliterate in English and can only orally communicate or have some receptive language skills in Spanish, may use these skills to identify vocabulary. These students may only have some basic oral skills in their native language (Dressler, 2002; Proctor & Silverman, 2011), yet these skills can be significant enough to help them make meaning from the vocabulary in English, if similar words are first provided in their native language. This idea is supported by the literature that indicates that bilingual children appear to have the linguistic knowledge to understand the nature of the relationship between words and their meanings (Bialystok, 2001).

ELLs with Disabilities and Explicit Training in Vocabulary. There are multiple ways to implement true cognates as an approach to reading texts. In some studies, true cognate awareness training was used as part of a vocabulary improvement program (Carlos et al., 2005), while in others true cognate training

consisted of students reading internet-based texts with true cognate prompts provided by an interventionist (Proctor & Mo, 2009). The ELLs with disabilities in this study appeared to benefit from teacher directed and explicit instruction in the presentation of true cognate vocabulary found in their reading textbooks (Proctor & Mo, 2009; Wagner et al., 2007). The design of the implementation of true cognate instruction facilitated the focus of the instruction on the stories' vocabulary. The three-step design included teachers locating the true cognates in the stories using a prepared list of cognates related to the story, reviewing the location of the true cognates in the stories with the students, and chorally reading the story while having students raise their hands when they came across a true cognate and holding a discussion related to the meaning of the word. Mancilla-Martinez and Lesaux (2010) indicated that ELLs may display below grade level skills in language comprehension. In order to increase their comprehension they need explicit and direct vocabulary instruction (Mancilla-Martinez & Lesaux, 2010) in strategies that scaffold their learning (Artiles & Ortiz, 2002). Beck and McKeown (2007) suggest that higher level vocabulary words than those found in a classroom reading series should be taught to students in order to develop their vocabulary skills; however, the results of this study suggest that for students with disabilities who are learning English, the use of the true cognate vocabulary from the school textbooks can provide the scaffold to increase these students' vocabulary skills in English.

ELLs without Disabilities and non-ESOL students and Vocabulary Development. There were no significant differences on the dependent variables,

Picture Vocabulary, Verbal Analogies, and Oral Language for students without disabilities. The vocabulary development in English by students without disabilities in the true cognate group at the onset of the study were significantly more developed than the control group. These students already had the necessary vocabulary developed, in contrast to the ELLs students with disabilities, who did not have the necessary vocabulary in English and needed the training for its growth. The English proficiency of students without disabilities in the true cognate group for each of the dependent variables related to vocabulary was already developed to demonstrate growth on the vocabulary measures. Those students would have needed a more substantial improvement compared to the control group, to attain a bigger gain than students in that group.

Discussion of Findings Related to Reading Comprehension

The overall results suggest that the reading comprehension scores of certain groups of students improved more than other groups through the use of the true cognate strategy implemented in the study. The interaction effect between Methodology, Disability and ESOL indicated that ELLs with disabilities who were at ESOL Levels 1-4, and ELLs without disabilities at ESOL Levels 5 and non-ESOL, demonstrated a significant and higher increase in reading comprehension as a result of true cognate instruction. In other words, the methodology had a different effect based on both, disability status and ESOL.

ELLs (ESOL Levels 1-4) Students with Disabilities. The effect of the interaction between Methodology, Disability, and ESOL indicated that students with disabilities who were at ESOL Levels 1-4 was the subgroup demonstrating

the most significant gains in reading comprehension after being exposed to the true cognate instruction. This finding appears to be attributed to several factors as a result of the implementation of true cognate instruction in this study. First, this performance supports the literature that indicates that in the early levels of second language acquisition, developing first language vocabulary may be important, so that the association between L1 and L2 can be extensively used for instruction (Cummins, 1984; Reilly, 2005). Although first language development was not a focus in this study and proficiency in Spanish was not a confounding variable, the use of students' native language to support their reading comprehension by accessing single vocabulary words may have contributed to the their improvement in reading comprehension.

Next, the use of students' own textbooks stories and the continuous repetition of the strategy by the teachers through direct and explicit instruction during reading may also have provided the ELLs with disabilities a familiar scaffold (Artiles & Ortiz, 2002; Wagner et al., 2007), and may have contributed to the ELLs with disabilities' use of the true cognate strategy. This familiarity appeared to allow these students to repeatedly use the strategy throughout the intervention period. The repetition of the strategy using students' own texts may have resulted in the strategy being internalized so that students were able to apply the instructional technique and increase their reading performance, even with unfamiliar material, such as the Passage Comprehension test.

ELLs with disabilities can be described as having language skills in English that are in the process of being developed. The intense and explicit

vocabulary instruction, the use of the first language, and the interactive discussion related to the meaning of words during the choral reading of the story, which was the design of the true cognate strategy used in this study, facilitated the development of these students' English language skills. Vocabulary knowledge and reading comprehension in English appeared to improve in ELLs (ESOL Levels 1-4) with disabilities due to the implementation of the true cognate strategy.

ELLs (ESOL Level 5) without disabilities and non-ESOL students. Students without disabilities at ESOL Level 5 and those who were never identified as ESOL but whose home language was Spanish, demonstrated a significant increase in reading comprehension. The characteristic of this subgroup without disabilities is that they are proficient in English. First, as discussed in Chapter 4, at the initiation of the study these students' English proficiency was more developed than the control group on all of the dependent measures, including Passage Comprehension. This difference in performance may have somewhat contributed to the further improvement in this group. However, the performance of these students is supported by other research conducted on this topic. According to the literature, former ELLs and students who were never identified as ESOL but whose home language is Spanish, may have direct access to meaning through their first language and second language, and may use this cross-linguistic transfer to make meaning from text (Bialystok, 2001; Carlo et al., 2005; Cummins, 1984). Additionally, these students may have more developed metalinguistic skills since they have certain levels of proficiency

in either language (English and Spanish) (Cummins, 1978). Metalinguistics is a critical skill in the acquisition of reading (Proctor & Silverman, 2011). The teaching of the true cognate strategy may have reinforced and strengthened a metalinguistic skill that these students already had or that they had a tendency to use. Consequently, although these students had the predisposition to display increases in reading comprehension, the use of true cognate instruction may have facilitated that improvement.

Metalinguistic Skills and ELLs with and without Disabilities

The use of true cognate as a strategy during reading instruction seems to help develop or strengthen metalinguistic skills (Dressler, 2000; Nagy, 1993; Proctor & Silverman, 2011). Explicitly teaching to identify cognates using the language skills they already posses in their native language, Spanish, can develop or strengthen metalinguistic awareness, which is critical for reading achievement (Proctor & Silverman, 2011). The true cognate intervention strategy, as implemented in this study, used a metalinguistic approach by requiring ELLs with and without disabilities to be cognitively aware of their own vocabulary, as an object of language that could be identified through the support of their first language. The improvement in students' performance in this study may be associated to the metalinguistic skills and awareness required in the use of true cognates to make meaning of the text.

Limitations

Although the study was effective for a number of ELLs with disabilities, there were a number of confines that impacted the study. These limitations

include several issues, including the composition of the students with disabilities' subgroup, the English performance of students without disabilities' at the beginning of the study, the use of a convenience sample, the length of the intervention, and the Spanish proficiency of the sample participants. All these issues need to be considered. Although the study's limitations are subsequently individually discussed, they also need to be considered as a whole when determining the implications of the study for further implementation of the true cognate strategy and future research.

Upon analyzing the data it was found that the English performance of students without disabilities was considerably more developed at the time of the pretest when compared to ELLs with disabilities, which is an expected result. But, overall, there were significant differences between the means of the methodology groups (true cognate and traditional). When further looking at the data, these differences were found for each of the dependent variables at the initiation of the study for students without disabilities. This may have contributed to the significant improvement in the reading performance of ELLs (ESOL Level 5) and non-ESOL students without disabilities since from the initiation of the study their reading comprehension was significantly more developed. However, initial differences were not found by type of methodology between students with disabilities.

Another limitation of this study was the selection of the sample. The use of convenience sampling (Gay, Mills, & Airasian, 2009), which is very common as the selection process for educational research, could have impacted the

composition of the groups in this study. The classrooms selected to implement the study were based on the principals' choice. Although every effort was made to find comparable classrooms with equal distributions of students, students' English proficiency levels were not assessed prior to the implementation of the study. Hence, the results that indicated that students without disabilities had higher proficiency levels in English in the true cognate group at the initiation of the study is a reflection of the use of convenience groups in this study. This is a strong limitation to be considered in the generalization of the results of this study.

Convenience sampling may have had an impact on the composition of the sample of students with disabilities. Although originally the focus of the study was on students with Learning Disabilities, the classrooms selected for the study did not have enough students with that special education classification, so additional students with other mild disabilities (Other Health Impaired and Speech/Language Impaired) were included in the study in both the experimental and control groups. Generalizations of the findings need to be done with caution with respect to the group of students with learning disabilities.

Another issue related to the use of convenience sampling was the limited number of students with disabilities identified in the control classes. There was a need to identify additional students with disabilities in other fourth and fifth grade classes for the control group. Although the students were selected from classrooms within the same school and all the classrooms were implementing the traditional curriculum, as discussed in Chapter 3, the additional students selected were from other classrooms. There was little contact with those

teachers and classroom contexts and this may have contributed to the lower performance of these students.

Although the Spanish proficiency of the students was not a deterrent for participation in the study, an initial analysis of the performance of the ELLs with disabilities on the Spanish assessments could have probably indicated that some students may not have had that language developed enough to participate in the study. A cut off score or an exclusion criterion based on lack of Spanish proficiency was not used in this study. Regardless of this limitation, it should be noted that Spanish proficiency was not an influential variable in this study, and as a result it was not used as a covariate, as originally planned.

Given that the number of students with disabilities in the experimental and control group differed, the growth in reading comprehension in the experimental group could be questionable. The students with disabilities at ESOL Levels 1-4 were a total of 20 in the true cognate group and 10 in the traditional reading group. Nevertheless, the significance and effect size were impressive for that group, even if students with disabilities were unequally distributed in the two groups of this study.

Once the ESOL levels were recoded into the two groups, ESOL Levels 1-4 and ESOL Level 5 and non-ESOL, respectively, it was evident that all students with disabilities, with the exception of two, were classified as ESOL Levels 1-5. However, there were more students classified as non-ESOL without a disability in the control group. In other words, these students without disabilities were never identified as needing to acquire English proficiency. They were

monolingual English speakers with Spanish as their home language. This discrepancy in the sample may have contributed to the differences in performance between the two groups, ELLs without disabilities at ESOL Levels 1-5 and non-ESOL and ELLs with disabilities at ESOL Levels 1-4, on the dependent measures.

Another limitation was the length of time of the intervention. Although the results showed statistical significance, and even the results for one of the dependent variables had a moderate effect size for the experimental group, the intervention was conducted for five weeks only. Implementing the study for additional weeks would have possibly resulted in other groups of students showing growth on the dependent measures

Another issue is related to the instrumentation utilized in this study. The Woodcock Muñoz Language Survey-Revised (WMLS-R), which was used as the assessment measure, is a highly reliable and valid measure of English and Spanish proficiency of particular academic language skills (e.g., Passage Comprehension). However, in order to determine if the ELLs with and without disabilities did acquire true cognates conceptually, the use of a true cognate awareness test, such as The Cognate Awareness Test developed by Malanbonga et al. (2008) in addition to the Woodcock would have verified the acquisition of cognates. Additionally, this would have ensured that the students in the sample had indeed acquired the true cognate skill and were able to generalize it with other measures.

Fidelity of observations were conducted at least three times during the intervention; however, since true cognate was implemented as a strategy during students' ESOL instructional time, there should have been additional fidelity checks conducted by an observer other than the researcher. The fidelity reviews could have also had the three step true cognate intervention in a checklist and identified the steps that needed to be improved to ensure that the strategy was accurately being implemented. Additionally, the observations could have been video recorded for feedback to the teachers and for documentation purposes.

Lastly, the use of a vocabulary rubric such as Beck and McKeown's (2007) vocabulary tiers or Bravo et al. (2005) true cognate levels for the selection of the vocabulary to be used in the implementation of the study could have provided better parameters than selecting words based on their phonological transparency. This could have resulted in additional type of vocabulary being presented to the students and it may have had an impact on the performance of the students.

Implications for Instruction

The results of the study provide numerous implications for instruction for educators at all levels, administrators, teachers and support personnel. These implications can have an impact on such areas as professional development for teachers, programming for students, and more importantly the reading instruction of ELLs with and without disabilities.

First, teachers, particularly those who work with ELLs, need to be provided training related to the need for direct and explicit vocabulary instruction. Through

training they need to become aware that vocabulary development is essential to the reading comprehension of ELLs, particularly those who are struggling with reading, such as students with disabilities. Teachers, whether in general education or special education, need to be aware that these students, unlike their English only speaking peers who may have already acquired words at a concrete level, need to be taught basic words such as those identified in Beck and McKeown's (2007) word tiers. Teachers also need to focus every lesson on the key vocabulary and initially use pictures, as suggested in the findings of this study. The use of key vocabulary should include, when possible, the use of true cognates in any content that is being taught. The true cognates related to the lesson should be pre-prepared by the teachers so that they are known to the teacher prior to the lesson and they can be taught explicitly as part of the lesson.

Notwithstanding schools that may provide dual language programs with the intention of developing fully bilingual individuals, in schools where only the teacher or a paraprofessional who speak the native language are available, the students' first language should be used strategically with ELLs with and without disabilities to increase their vocabulary and reading comprehension. General education and special education teachers need to be aware that the use of students' native language is a viable resource tool for the students to use. The educators can be encouraged to use it as part of their daily lessons to facilitate an increase in reading comprehension.

In school districts with programs that provide instruction in the home language, there should be an emphasis on the development of vocabulary in the

native language in the early school years. An increase in vocabulary facilitates the acquisition of reading comprehension in later years, even if the student is identified as having a disability. Additionally, students may be trained to have an awareness of their home language and its use in their own literacy development.

The reading instruction of ELLs with and without disabilities at the intermediate grade levels and in secondary schools should emphasize vocabulary. Vocabulary instruction needs to be explicit and implicit through interactive choral reading exercises using the text. This type of instruction should be provided to older students who are learning English in every content area. Additionally, true cognates should be identified from the students' texts so that they can be used by the teachers when instructing, as it was evident by the results of this study.

Vocabulary instruction, including the use of true cognates, has to be discussed at Response to Intervention (RtI) problem solving team meetings related to ELLs with and without disabilities. Based on the results of this study, explicit and direct vocabulary instruction has a significant impact on the vocabulary and reading comprehension of these students. A possible recommendation at RtI meetings may be to use true cognates as a reading intervention for those ELLs with and without disabilities who are struggling with reading comprehension.

Although the need to control for Spanish proficiency was ruled out as a result of the preliminary analyses, of importance to the instruction of ELLs with disabilities is that for those students in this study identified as having a Learning

Disability, the mean scores for Spanish were somewhat below the average range of performance for Passage Comprehension (*M* = 72.65, *SD* = 10.52). The same trend was noted in students with Other Health Impairments (*M* = 80.90, *SD* = 5.5). These data suggest that a measure of an ELLs student with disabilities' Spanish proficiency would advise the teacher to what extent this language could be used as a tool by the students when reading text for comprehension.

Recommendations for Future Research

ELLs with disabilities are probably the most literate disadvantaged students of the school age population in the U. S. (Artiles & Ortiz, 2002). True cognate awareness is a strategy that can be used in different contexts within academic settings. There is a need for additional research related to ELLs with disabilities that educators, particularly those working with students from diverse language backgrounds, must consider in the future.

Further research of how true cognate instruction appears to develop metalinguistic skills through the use of two language systems by bilingual students with and without disabilities should be considered. These students would already have been identified as being proficient in English; however, the students' Spanish proficiency needs to be assessed to ensure that students are proficient in both languages since research supports the use of both language systems to make meaning from text (Proctor & Silverman, 2011). There was evidence in the results of this study to support the need to further investigate this area.

Next, there is a need to continue the research related to interventions and strategies that are easy to implement yet effective for instructing ELLs with and without disabilities, particularly for those who are struggling with reading. Consideration should be given to those strategies and interventions that provide explicit instruction, provide continuous practice, and can be used within the existing classroom curriculum, as was the case in the design of this study. These instructional structures, which are supported by the literature (August et al., 2005; Gersten, 2000) appear to be part of the success of the true cognate instructional design that was implemented in this study.

Conclusions

There has been empirical research related to true cognates and bilingual students and ELLs and the results support their importance when instructing these students. Recent literature and empirical research related to students with disabilities has focused on the training of students with disabilities in the use of learning strategies to increase the students' capacity to apply the taught strategy in all content areas (Barrera, 2006; Saenz et al., 2005). The application of a new strategy can help students with disabilities to have access to the general curriculum in many content areas. Additionally, the limited evidenced-based research related to interventions and strategies that are effective with ELLs with disabilities has all pointed to the need for additional research to be conducted on effective classroom strategies and interventions that are effective for these specific groups of students. The implementation of true cognates can be used as a possible strategy to be used in all content areas with ELLs with and without

disabilities. The use of true cognate and the manner in which it was implemented in this study has added to the literature related to learning strategies that are effective for use with students with disabilities who are also ELLs.

Direct deliberate instruction in the use of vocabulary (Beck & McKeown, 2007), including the use of true cognates, does impact the vocabulary and reading comprehension of English learners with and without disabilities**.** True cognate instruction as it was implemented by this study, identifying the cognate vocabulary in the passages, identifying the targeted cognates for the students, and then having students identify the true cognates and their meaning as they were chorally reading the stories, allowed students with the most limited vocabulary in English, ELLs with disabilities, to access and comprehend vocabulary in their textbooks. Each of these steps are highly regarded as appropriate strategies to teach vocabulary and increase the comprehension in ELLs (August et al., 2005; Wagner et al., 2007). ELLs with and without disabilities already have language skills in their native language that can be helpful, even though in some students with disabilities these skills may be at a receptive level (Garcia & Tyler, 2010). The use of students' native language for instruction, as presented in the true cognate strategy in this study, can be used as a strategic scaffold (Artiles & Ortiz, 2002; Gersten & Baker, 2000) for learning, and can result in increases in students' awareness of their first language as a resource tool that they can use to make meaning and sense of the language of texts.

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APPENDIX A

Barry University
Parental Informed Consent Form

Your child's participation in a research project is requested. The title of the study is *"Effects of True Cognate Instruction on the Vocabulary Development and Reading Comprehension of English Language Learners with and without Disabilities".* The research is being conducted by Rosalia F. Gallo, a doctoral student in the Exceptional Student Education Department at Barry University, and is seeking information that will be useful in the field of education, specifically vocabulary development and reading comprehension. The goals of the research are to investigate the effects of true cognate instruction (words in Spanish and English that are spelled and mean the same thing) on the vocabulary and reading comprehension of students; and if the use of Spanish as a medium of instruction supports vocabulary and reading comprehension in English. In accordance with these goals, the following procedures will be used: using the regular reading curriculum, accessing your child's school records, and having teachers instruct students to identify true cognates in the stories in their textbook. It is anticipated that the number of participants will be 120 from four classes from two schools.

If you decide to allow your child to participate in this research, he/she will be asked to do the following: each individual student will be administered a short vocabulary and reading comprehension test in both English and Spanish. Then, the teachers will use the new reading strategy for five weeks. The teaching will consist on focusing on the use of true cognates (words in Spanish and English that are spelled and mean the same thing**)** found in their reading passages. After five weeks, only the English short vocabulary and reading comprehension tests will be used again to assess if changes occurred in English during this time.A research assistant will match each student's pre and post test scores with a number that will be the same number that appears in the consent form. While some students will be in classes that will receive true cognate instruction during their regular reading instruction time, other students will be in classes that will receive regular reading instruction. Both groups will use the curriculum and books they typically use in their classroom. If the new strategy proves to be effective, all teachers in the school will be trained with the new strategy so that they can use it in their classes. If you decide not to allow your child to participate in this study, your child will remain in class while the teacher implements the instruction; however, he/she will not be administered the vocabulary or reading comprehension test and data will not be collected about your child.

Your consent to allow your son/daughter to be a research participant is strictly voluntary and should you decline to allow your child to participate or should he/she choose to drop out at any time during the study, there will be no adverse effects on your child's grades or his/her relationship with his/her teachers.

There are no known risks in participating in this reading comprehension study. Although there are no direct benefits to your child, his/her participation in this study may help our understanding of the type of instruction that will support

the reading and vocabulary comprehension of students learning English.

As a research participant, information your child provides will be held in confidence to the extent permitted by law. Any published results of the research will refer to group averages only and no names will be used in the study. Data will be kept in a locked file in the researcher's office (Rosalia F. Gallo). Your signed consent form will be kept separate from the data. All data will be destroyed after five years.

If you have any questions or concerns regarding the study or your participation in the study, you may contact any of the following people: Rosalia F. Gallo at 305-221-3696 my supervisors, Dr. Judy Harris Looby at (305) 899-3709, or Dr. Clara Wolman, at (305) 899-3737 or the Chair of the Institutional Review Board at Barry University, Barbara Cook at (305)899-3020. If you are satisfied with the information provided and are willing to participate in this research, please signify your consent by signing this consent form.

Voluntary Consent

I acknowledge that I have been informed of the nature and purposes of this experiment by _____ that I have read and understand the information presented above, and that I have received a copy of this form for my records.

_____ I give permission for my son/daughter to participate in the study.

_____ I do not give permission for my son/daughter to participate in the study.

Name of Participant: _____ Name of Parent: _____

_____ _____ _____ _____

Signature of Participant Date Signature of Parent: Date:

Name of Researcher*:* _____

_____ _____ No.:_____

Signature of Researcher Date

APPENDIX B

Barry University
Teachers' Confidentiality Agreement

As an instructor in the research study *Effects of True Cognate Instruction on the Vocabulary Development and Reading Comprehension of English Language Learners with and without Disabilities*, I understand that I will have access to confidential information about the study. By signing this statement, I am indicating my understanding of my obligation to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about study participants are completely confidential.
- I agree not to divulge, publish, or otherwise make known to unauthorized persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the study.
- I understand that all information about the study obtained or accessed by me in the course of my work is confidential. I agree not to divulge or otherwise make known to unauthorized persons any of this information unless specifically authorized to do so by office protocol or by a supervisor acting in response to applicable protocol or court order, or otherwise, as required by law.
- I understand that I am not to read information and records concerning the study, nor ask questions about the study but only to the extent and for the purpose of performing my assigned duties on this research project.
- I agree to notify my supervisor immediately should I become aware of an actual breach of confidentiality.

_____	_____	_____
Signature	Date	Printed Name
_____	_____	_____
Signature	Date	Printed Name

APPENDIX C

Barry University
Assent Form

I am doing a research study that includes children like you. If you participate in this study, you will be asked to do the following: you will be given short vocabulary and reading comprehension tests in English and Spanish. Then, your teacher will teach you how to use true cognates (words that mean the same in Spanish and English) when you read stories in your textbook for five weeks. After five weeks, you will be given the same tests in English only to see if your vocabulary and reading comprehension have improved.

While some students will be in classes that will receive the new method, other students will be in classes that will receive only the regular reading instruction. Both groups will use the same textbooks. If you decide not to participate in this study, you will stay in class and will be taught by the teacher as the rest of class and you will not be assessed in vocabulary or reading comprehension. If you participate or do not participate, this will not affect your class grade; your name will not be used for any purpose.

I have explained the study to you and I need to know whether you are willing to be a part of the study. Please check one of the sentences below and sign your name so that I can be certain whether you want to be in the study or not. Thank you.

____ I **am willing** to be a part of the research study that has been explained to me by the researcher whose name appears below.

____ I **am not willing** to be a part of the research study that has been explained to me by the researcher whose name appears below.

_____ _____
Signature of Child *Date*

_____ _____
Signature of Researcher *Date*

_____ _____
Signature of Witness *Date*

APPENDIX D

Barry University
Forma del Consentimiento Informado para Padres

Se le pide que participe en un proyecto de investigación. El titulo de la investigación es *"Effects of True Cognate Instruction on the Vocabulary Development and Reading Comprehension of English Language Learners with and without Disabilities***" (***"El efecto de la instrucción "True Cognate" (palabras que se deletrean y tienen el mismo significado en inglés y español) en el desarrollo del vocabulario y en la comprensión de la lectura en los estudiantes con y sin discapacidades de aprendizaje que estan aprendiendo ingles).* Esta investigación se llevará a cabo por Rosalia F. Gallo, estudiante de un doctorado en pedagogía en el departamento de educación especial de la Universidad de Barry, y proporcionara información que le sera util a la rama de educación, particularmente en lo que es el desarrollo de vocabulario y compresión de lectura en estudiantes que estan aprendiendo el inglés. La meta del estudio es investigar el efecto de la instrucción "True Cognate" (palabras que se deletrean y tienen el mismo significado en inglés y español) en el desarrollo del vocabulario y en la comprensión de la lectura en los estudiantes con y sin discapacidades de aprendizaje que están aprendiendo inglés, y si el uso del español como medio de instrucción apoya el desarrollo del vocabulario y la comprensión de la lectura en inglés. De acuerdo con estas metas, los siguientes procedimientos se llevarán a cabo: se usará el currículo de lectura establecido en cada clase, se tendra acceso a el expediente de su hijo/hija, y los maestros enseñarán a los estudiantes cómo indentificar las palabras que son "true cognate"*(palabras que se deletrean y tienen el mismo significado en inglés y español)* en los cuentos de los libros de lectura. Se anticipa que 120 estudiantes en aproximadamente ocho clases de dos escuelas participarán en el estudio.

Por favor lea esta forma y pregunte cualquier pregunta antes de dar el consentimiento a que su hijo o hija participe en esta investigación. Si usted decide dejar que su hijo/hija participe en el estudio, se le pedirá a él/ella que haga lo siguiente: a cada estudiante se le suministrará unos exámenes breve de comprensión de lectura y de vocabulario en inglés y español. La maestra entonces por cinco semanas enseñará la nueva estrategia de lectura a los estudiantes. Después de las cinco semanas, los exámenes de comprensión y de vocabulario en inglés solamente se le volvera a suministrar. Un asistente del estudio le pondra a los examenes (pre/pos) el mismo numero del formulario de consentimiento. Algunos estudiantes estan en clases donde la nueva estrategia de lectura será implementada, otros están ubicados en clases donde recibirn instrucción de lectura sin la nueva estrategia. Los dos grupos de estudiantes usarán el currículo y libros de lectura que usan en sus clases. Si la nueva estrategia se prueba que es efectiva para desarollar el vocabulario y la

comprensión en inglés, los maestros de toda la escuela serán instruido en la nueva estrategia para que la usen en sus clases.

Su consentimiento de dejar que su hijo/hija participe en esta investigación es voluntario y si usted no da el consentimiento o en cualquier momento rehusa de dicho consentimiento o su hijo/hija decide no participar en este estudio no habra ningun efecto negativo en sus calificaciones o en su relación con sus maestros.

No hay ningún riesgo en participar en esta investigación de comprensión de lectura y desarrollo del vocabulario. Aunque no hay beneficios directo a su hijo/hija, su participación ayudara a nuestro entendimiento del tipo de estrategias que benefician a los estudiantes que estan aprendiendo el inglés.

Como participante de este estudio, la información que provee su hijo o hija sera mantenida en confianza basado en lo que permite la ley. Los resultados publicados de este estudio, consistiran de varios promedios de calificación en grupos y sus nombres no seran publicados en el estudio. La data sera conservada en un archivo serrado con llave en la oficina de la investigadora (Rosalia F. Gallo). La forma de consentimiento firmada por usted se mantendra separada de la data. Toda la data sera destruida después de cinco años.

Si tiene alguna pregunta o concernimientos relacionados con este estudio o su participación en este estudio, por favor ponerse en contacto conmigo, Rosalia F. Gallo, al 305-221-3696, o mis supervisoras las Dra. Judy Harris-Looby al 305-899-3709 or la Dra. Clara Wohlman, al 305-899-3737, o la persona de contacto de la Junta de Repaso Institucional de la Universidad de Barry, la Sra. Barbara Cook, al 305-899-3020. Si usted esta satisfecho con la información que se le a proporcionado y esta dispuesto a participar en este estudio, por favor de su consentimiento firmando esta forma.

Consentimiento Voluntario

Yo reconozco que he sido informado sobre la esencia y el propósito de esta investigación por _____y he leido y entiendo la información que fue presentada previa, y que recibí una copia de esta forma para mis archivos.

_____Yo doy el consentimiento voluntario para que mi hijo/hija participe en esta investigación y recibido una copia de la descripción de la investigación

_____Yo no doy el consentimiento voluntario para que mi hijo/hija participe en esta investigación y recibido una copia de la descripción de la investigación

Nombre del Participante: _____Nombre del Padre:_____

_____ _____ _____ _____

Firma del Participante Fecha Firma del Padre Fecha

Nombre del Investigador: _____ No.:_____

_____ _____

Firma del Participante Fecha

APPENDIX E

Barry University
Forma de Asentimiento

Estoy llevando a cabo un estudio que incluye niños como tú. Si tú participas en este estudio, se te pedirá que hagas lo siguiente: se te dará un examen breve de vocabulario y comprensión de lectura en inglés y español.

Entonces tu maestra por cinco semanas te enseñara como usar la estrategia “true cognate” para identificar palabras que se pronuncian y que tienen la misma definición en inglés y español mientras leas los cuentos en el libro de lectura. Después de las cinco semanas, se te dará los exámenes en inglés nadamás para ver si tu vocabulario y comprensión de lectura se han mejorado.

Algunos estudiantes estarán en clases que recibirán el nuevo método, otros estudiantes estarán en clases que recibirán la instrucción regular de la lectura. Los dos grupos usarán el mismo libro de lectura. Si tú decides que no quieres participar en el estudio, te quedarás en la clase y la maestra te enseñará como a los otros estudiantes y no se evaluará tu vocabulario y compresión de lectura. Si participas o no participas, no afectara tus calificaciones en la clase; los resultados los usará el investigador para su estudio y los nombres no se usarán.

Te expliqué el estudio y necesito saber si tú quieres ser parte de este estudio. Por favor de marcar unas de las siguientes oraciones y pon tu firma en el espacio para estar segura de que tu quieres ser parte de esta investigación. Gracias.

_____ Estoy dispuesto a ser parte del estudio que se me ha esplicado a mí por el investigador el cual el nombre aparece abajo.

_____ No estoy dispuesto a ser parte del estudio que se me ha esplicado a mí por el investigador el cual el nombre aparece abajo.

_____ _____
Firma del Niñó o Niña Fecha

_____ _____
Firma del Investigador Fecha

_____ _____
Firma del Testigo Fecha

APPENDIX F Reading Series Grade 5 Story – Sample True Cognate List		
Page	**English Word**	**Spanish Word**
139	**confident**	**confidente**
	practicing	**practicar**
	private	**privado**
	compete	**competir**
	anticipating	**anticipar**
	perfection	**perfeción**
	disastrously	**desastroso**
	nationals	**nacional**
	experience	**experiencia**
	impatiently	**impaciente**
	olympics	**olympiadas**
	american	**americana**
	triple	**triple**
	chance	**chance**
	nationals	**nacional**
	competition	**competición**
	conference	**conferencia**
	ignored	**ignorado**

APPENDIX F Reading Series Grade 5 Story – Sample True Cognate List		
139	**impatient**	**impaciente**
	moment	**momento**
140	**program**	**programa**
	panel	**panel**
	problem	**problema**
	expected	**expectación**
	part	**parte**
	respect	**respeto**
	resist	**resistir**
	irresistible	**iresistible**
	furious	**furioso**
141	**calm**	**calma**
	finally	**finalmente**
	idea	**idea**
	artistic	**artistico**
	transform	**transformar**
142	**elegant**	**elegante**
	music	**musica**
	perfectionist	**perfecionista**

APPENDIX F Reading Series Grade 5 Story – Sample True Cognate List		
	aspect	aspecto
	idea	idea
143	discipline	Disciplina
144	talented	Talent
	compared	comparar
	artistry	artistic
	elegance	elegancia
	special	especial
	triple	triple
	program	programa
	Simple	simple
144	determined	determinar
	Naturally	natural
	music	musica
	arena	arena
	minutes	minutos
	important	importante
	elements	elementos
	deduct	deducir

APPENDIX F Reading Series Grade 5 Story – Sample True Cognate List		
145	interrupt	interrumpir
	program	programa
	balance	balance
	flexibility	flexibilidad
145	Order	orden
	triple	triple
	part	parte
	difficult	Dificil
	athlete	atleta
	triple	triple
	combination	combinación
	quadruple	quadruple
	artist	artista
147	practice	Practicar
	session	sesión
	flexible	flexible
	momentum	momento
	choreographer	coreógrafo
	program	programas
	competition	competir

APPENDIX F Reading Series Grade 5 Story – Sample True Cognate List		
	exhibition	**exhibición**
148	**actual**	**actual**
	distributed	**distribuir**
	problem	**problema**
	impossible	**imposible**
	usually	**usual**
	gradually	**gradual**
	real	**real**
	TV	**TV**
	amateur	**amateo**
	eligible	**elegible**
	compete	**competir**
	olympics	**Olimpiada**
	professional	**profesional**
	exhibitions	**exhibiciones**
	eligible	**eligible**
150	**cost**	**costo**
	competition	**competición**
	activity	**actividad**
	regular	**regular**

APPENDIX F Reading Series Grade 5 Story – Sample True Cognate List		
	difficult	**dificil**
	important	**importante**
	images	**imagen**
	real	**real**