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The Use of Cognates as a Vocabulary Strategy for Hispanic  
Biliterate Students

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BARRY UNIVERSITY

THE USE OF COGNATES AS A VOCABULARY STRATEGY FOR HISPANIC  
BILITERATE STUDENTS

By

Claudia M. Arce, M.S.

A DIRECTED RESEARCH PROJECT

Submitted to the Faculty of

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## Dedicatoria

Este proyecto representa la culminación de un capítulo más en mi desarrollo como mujer profesional. Es por esta y muchas más razones que este proyecto se lo dedico a Carlos y Magali Arce, mis padres; quienes dejaron todo atrás en Perú, sacrificando carreras profesionales, amistades, y mucho más para brindarme todas las oportunidades que ellos no pudieron tener. Gracias por que siempre me dan fuerza para enfrentar los retos que se me presentan.

## Abstract

The purpose of this study was to examine the effectiveness of cognates as a vocabulary strategy among Hispanic immigrant children who are learning English as a second language. The use of cognates as a reading strategy for Hispanic biliterate and bilingual students has been well documented in the literature. Cognates are words in two languages with clear similarities in orthography and meaning, as well as minor or predictable changes in meaning and spelling. Participants were first generation Hispanic students ( $N = 15$ ) enrolled in a predominantly Hispanic South Florida middle school. The students were given a pretest to examine their familiarity with cognate words. Then, the students were given explicit and direct instruction on the meaning of English-Spanish cognates, and how this strategy may be use for academic purposes. Furthermore, the students were given ample opportunity to practice the skill, and questions related to the use of the cognate strategy were clarified before participants were given a post test. A paired sample  $t$ -test showed a significant pre to post test increase in the total number of English-Spanish cognate words answered correctly. These results are similar to the study conducted by Nagy et al. (1993), which found that most Hispanic bilingual and biliterate students were able to recognize cognates when given simple and explicit instructions.

In a society where scientific and technological advances have become increasingly demanding, an individual's ability to read and comprehend written text will determine his or her level of professional and social achievement in many areas. The American educational system currently faces the challenge of providing young individuals with academic competencies, including superb reading and writing skills, that will enable them to compete in a global scale. Research-based intensive reading programs (e.g. Voyager Passport) have been implemented in school districts to improve reading abilities among their student populations. Federal regulations such as the No Child Left Behind Act requires states that receive federal funds responsible to develop academic assessments in language arts, mathematics and science to monitor whether students are achieving reading proficiency commensurate to their grade level (Abedi, 2004). The No Child Left Behind Act posits that states must report adequate yearly progress for students under the following categories: 1) economically disadvantaged students, 2) students from major racial and ethnic groups, 3) students with disabilities, and 4) students with limited English proficiency, or LEP students (Abedi, 2004).

The American educational system is responsible for providing access to education to a widely diverse student population. Within the past 20 years, there has been a continuous influx of immigrants into the United States. Immigration has not only affected the social and economic stratification of American society, but it has had a significant influence on educational outcomes. According to Farver, Eppe, and Ballon (2004), approximately 180 million nonimmigrant aliens entered the United States in the year 2005, and 13% of the immigrants who stayed in the United States permanently trace their native origins to Latin America. In a study conducted by

Gunn, Biglan, Smolkowski, and Ary (2000), it was reported that Hispanic immigrant children have become the largest ESL population within the public school population and are particularly at risk for reading problems. Today, Hispanics have been labeled the fastest growing minority population in the United States, and it has been estimated that by the year 2030 (Fitzgerald, 1995), one fourth of school-age children will be of Hispanic descent (Farver, Eppe, & Ballon, 2004).

Hispanic Immigrants who migrate with school-age children face multiple challenges, including adaptation into new cultural parameters, acquiring oral proficiency in a new language, and becoming accustomed to different school and social environments. Previous studies have shown that Hispanic students enter the educational system with diverse needs and expectations, and different levels of oral language and academic proficiency (Jimenez, Earnest, & Pearson, 1996; Miramontes, 1990; Proctor, Carlo, August, & Snow, 2005). In terms of reading proficiency, the combination of factors such as a migrant's socioeconomic status, level of parental education, oral command in a second language, and oral proficiency in the native language may account for the reading difficulties experienced by Hispanic students (Gottardo, 2002).

There is a persistent gap between the reading performance of Hispanic and non-Hispanic students (Carlo, et al., 2004), and Hispanics' overall educational attainments appear to be marked by a pattern of underachievement (Ceballo, 2004). In comparison to European American and African American groups, the performance of Hispanic students on measures of reading ability has demonstrated that they consistently score below their appropriate age-level and grade-level. Among minority groups, Spanish-



speaking students are referred to reading remedial programs in disproportionate numbers, and their placement into exceptional student education programs has increased to 51% of those referred for various learning disabilities (Lansford, Deater-Deckard, & Bornstein, 2007). Several studies have reported that it may be difficult for educators to deduct whether the reading difficulties of Spanish-speaking students stem from low levels of linguistic proficiency or an authentic reading or learning disability (Durgunoglu, 2002). In recent years, a trend has developed among educators that show them exercising more caution in identifying and diagnosing ESL students with an apparent reading disability before a certain level of language proficiency has been reached (Durgunoglu, 2002). In addition, the quality of ESL reading programs and teachers trained in ESL issues are factors that have been mentioned as possible contributors to the lower reading performance of Spanish-Speaking students.

Furthermore, in a literature review about cognitive reading processes conducted by Fitzgerald (1995), it was found that a majority of ESL students are served through Chapter I reading programs instead of Chapter VII programs. Chapter I programs have been specifically designed to serve students labeled as learning disabled (Gunn, Biglan, Smolkowski, & Ary, 2000) and do not always count with teachers trained on ESL issues such as language acquisition and second-language reading development. In contrast, Chapter VII programs have been especially designed to provide bilingual education programs as well as reading programs for ESL learners.

Several studies have linked Hispanic students' poor academic outcomes to limited vocabulary acquisition and deficient reading comprehension skills. A study conducted by Carlo et al. (2004) found that Hispanic bilingual students often fail to

acquire age-appropriate vocabulary proficiency and reading comprehension skills in their second language. Because these students have not been able to develop good reading comprehension strategies by the time they reach the upper elementary grades, access to challenging academic courses and even access to post secondary education may be hindered. Therefore, the development of effective programs for Hispanic bilingual students should focus on the development of explicit reading strategies aimed at developing vocabulary proficiency and effective reading comprehension skills.

### The Development of Reading Skills

#### *The Basic Elements of Reading*

The acquisition of reading skills is far more complex than the development of oral language. Several researchers (Berg & Stegelman, 2003; Foorman, Breier, & Fletcher, 2003) have noted that children must first become aware of the sound structure of language and its relationship to alphabetic letters. In monolingual reading development, children must develop a conscious awareness of the phonemes in speech to be able to blend and segment sounds with different words. Consequently, phonological awareness has received significant attention as the single best predictor of reading outcomes.

In addition to phonemic awareness, word decoding, vocabulary knowledge, and reading fluency have also been identified as basic elements of the reading process. Berg and Stegelman (2003) reported that early difficulties in word decoding are directly linked to poor phonological awareness. Furthermore, students who do not possess effective strategies of word decoding consistently struggle to attain an optimal

level of reading fluency (Vadasy, Sanders, & Peyton, 2005). These children spend more time attempting to decode words than reading and comprehending whole text (Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanami, 2003). Moreover, reading fluency is related to the reader's level of word decoding and word recognition. Fluent readers possess a high level of automaticity in word decoding and recognition when reading from a text, which leads to better reading comprehension. Proficient reading comprehension may be conceptualized as the final step in the acquisition of reading skills. Hence, reading comprehension occurs in all basic levels of the reading process (Manset-Williamson, & Nelson, 2005).

#### *Implications for Second-Language Literacy Development*

For Hispanic children who are learning a second language, phonological awareness and vocabulary knowledge have been identified as the main predictors of reading outcomes (Verhoeven, 2000). Decoding skills, fluency, and comprehension are skills also needed to effectively read Spanish and English text. Furthermore, Spanish and English literacy development follows a similar pattern (Gottardo, 2002). Both Spanish and English are language derivatives of Latin and share the same orthographic alphabet. Therefore, background knowledge of Spanish literacy skills should facilitate and augment English reading comprehension skills (Proctor, August, Carlo, & Snow, 2006).

The process of becoming biliterate may present several problems for Hispanic students and their reading outcomes. Jimenez et al. (1996) reported that literacy proficiency in a second language is difficult to achieve. One of the problems highlighted by Jimenez was the lack of background knowledge and vocabulary

knowledge exhibited during reading comprehension tasks by Hispanic second language learners. These students had difficulty in interpreting vocabulary in text passages. It appears that Hispanic second language learners demonstrate lack of depth of word knowledge for frequently occurring words (Carlo et al., 2004). In addition to lack of vocabulary depth and breadth, second language learners may frequently encounter difficulties grasping linguistic patterns and using metalinguistic cues during reading comprehension tasks (Verhoeven, 2000).

It appears that vocabulary knowledge is the main factor affecting the oral and literacy English proficiency of Hispanic second language learners. Many studies have reported that Hispanic students who have a solid background in Spanish reading and writing would highly benefit from reading strategies that help them use background knowledge of their native language to facilitate the process of acquiring reading skills in the second language (Carlo et al., 2004; Carlisle, Beeman, Hull, & Spharim, 1999; Damaraju, 2002; Jimenez et al., 1996; Nagy, Earnest, Durgunoglu, & Hancin-Bhatt, 1993; Padron, 1985; Proctor, August, Carlo, & Snow, 2006).

#### *The Impact of Second Language Acquisition on Literacy Development*

Second language acquisition occurs as a gradual process in which mixed speech containing the words of both languages is used interchangeably (Cummins & Gulutsan, 1975). Eventually, the two languages become differentiated from each other and emerge as autonomous and independent applications of words. Learning a second language requires that language must be viewed as an object of thought (Carlisle, Beeman, Hull, & Spharim, 1999). Second language acquisition is not an automatic process; instead, it is a cognitive process in which an individual is able to analyze and

repeat sounds, utterances, and words within a context that provides meaning. The goal of second language learners is to gain equal levels of oral language proficiency in two languages.

In the United States, the majority of Hispanic children may be considered bilinguals. These children have been exposed to Spanish and English from an early age, and they may use Spanish and English in unique and varied ways (Miramontes, 1990). There are two types of bilinguals and these differences play a significant role in the acquisition of reading skills (Chacon, 1994; Damaraju, 2002; Padron, 1985). Compound bilinguals are those individuals who have acquired two languages simultaneously through exposure in their environment. Second-generation and third-generation Hispanic children may be considered compound bilinguals because they usually acquire English and Spanish simultaneously through exposure in their home environment. According to Chacon, compound bilinguals store all linguistic information into a single representational store. That is, compound bilinguals only develop one set of cognitive representations for both languages. For compound bilinguals, development of oral proficiency becomes interdependent on the development of both languages. The ability to interchange two languages at any given time allows compound bilinguals to display more cognitive flexibility than monolinguals (Damaraju, 2002).

Coordinate bilinguals differ from compound bilinguals in that coordinate bilinguals acquire a second language in a separate context such as work, school, and migration to another country (Chacon, 1994; Damaraju, 2002). Coordinate bilingualism may be defined as the acquisition of a second language independently

from the native language (Chacon, 1994). In coordinate bilingualism, an individual is able to develop separate representational stores for each language. Damaraju (2002) found that coordinate bilingualism follows the same pattern of development as the native language. Coordinate bilinguals are considered true bilinguals, since they are able to demonstrate excellent command in two languages with minimal interference (Chacon, 1994). Hispanic immigrant children may be considered coordinate bilinguals. They acquire second language proficiency through their interactions in an independent context such as the school environment. They are able to continue to maintain their native language through their social transactions with the home and family environment, and they are also able to acquire the same level of oral proficiency in a second language through their interactions with the external environment with peers and teachers (Damaraju, 2002).

#### *Implications for Bilingual Education*

For Hispanic children, the development of bilingual abilities has many advantages. In general, bilinguals may possess more flexible cognitive capabilities than monolinguals that help accommodate a second language structure (Carlisle et al, 1999; Proctor, August, Carlo, & Snow, 2006; Proctor, Carlo, August, & Snow, 2005). Numerous studies have examined the relationship between second language learning and cognitive and metalinguistic functions reporting that bilinguals demonstrate more advanced phonological memory abilities than monolinguals, which has been related to second-language vocabulary acquisition and reading development (Damajaru, 2002; Durgunoglu, 2002; Gottardo, 2002; Gunn et al. 2005; Swanson, Saez, Gerber, & Leafstedt, 2004). Furthermore, Jimenez et al. (1996) argued that learning a second

language may help children and adults to become more aware of their metalinguistic capabilities through the process of conscious introspection. This process aids second language learners to become experts at regulating their own cognitive processes to differentiate between both languages.

Bilingual children may display greater cognitive flexibility than monolingual children and have more symbolic and linguistic representations of their environments. However, a crucial problem affecting Hispanic bilingual children is their level of proficiency in their two languages and its effect on reading achievement. Hispanic bilingual children may be at risk for reading failure because they enter school with unequal levels of oral proficiency in Spanish and English (Carlisle et al. 1999; Jimenez et al., 1996; Lansford et al., 2007; Miramontes, 1990; Ordonez, et al., 2002; Proctor et al., 2006; Proctor et al., 2005; Verhoeven, 2000). Poor language proficiency (Gunn et al., 2005; Miramontes, 1990), lack of vocabulary knowledge in the native language (Proctor et al., 2006; Rolla et al.2006), poor phonemic awareness and decoding skills (Ordonez, et al. 2002), low levels of biliteracy (Carlisle et al., 1999), lack of exposure to reading material in the home environment, and poor parental vocabulary knowledge (Gottardo, 2002) are all factors related to low reading achievement among Hispanic bilingual students.

### The Use of Cognates as a Vocabulary and Reading Strategy

#### *The Importance of Linguistic Transfer*

There is strong empirical evidence suggesting that phonological awareness skills developed in one language transfer to reading ability in a second language, and the

advantage increases when the languages use similar writing systems (Bialystok, Luk, & Kwan, 2005; Jongejan, Verhoeven, & Siegel, 2007). Because English and Spanish share striking lexical, semantic, and orthographic similarities, Hispanic children learning a second language such as English may turn to their knowledge of the first language to decode the forms, functions, and meanings of the target language (Carlisle et al., 1999). According to numerous studies, *transfer* (Carlo, August, Dressler, & Snow, 2005; Cunningham & Graham, 2000), which may be defined as a cognitive and lexical influence resulting from similarities and differences between a native language and any other secondarily learned language, has been identified as one of the most important processes in second language acquisition. Furthermore, literacy proficiency in the native language may be conceptualized as a major source of transfer that it is best predicted by a student's ability to recognize 1) a phonology-orthography component representing English spelling-sound correspondences, 2) meaning-making strategies representing English vocabulary and reading comprehension knowledge, and 3) a metalinguistic understanding of linguistic symbolism (Durgunoglu, 2002). Transfer allows second language learners to mediate the process of acquiring and increasing their vocabulary knowledge and reading comprehension skills in a second language such as English, while capitalizing on the oral and syntactic similarities of both language systems.

### *The Influence of Cognate Knowledge*

In the case of Hispanic immigrant children, their previously acquired Spanish literacy skills may serve as an unremarkable source of potential for literacy development in the target language (i.e. English). The phonological and orthographic



similarities between Spanish and English may increase the possibility for transfer of vocabulary and reading comprehension skills to occur (August et al., 2005). Hence, cognate knowledge may serve as a remarkably useful strategy to help Spanish literate students to maximize their knowledge of English vocabulary knowledge and reading comprehension skills.

Cognates may be defined as words that are both orthographically and semantically identical or similar in two languages, such as English and Spanish (August et al., 2005; Bravo, Hiebert, & Pearson, 2005; Costa, Santesteban, & Cano, 2005; Fitzgerald, 1995; Jimenez et al., 1996; Proctor et al., 2005), and that may also contain minor or predictable changes in meaning and spelling (Nagy et al., 1993). For instance, the Spanish words *similar* and *animal* possess direct English cognates (e.g. *similar*, *animal*), sharing equal meaning and orthographic properties. Cognates are words related through ties to a common ancestral language (Jimenez et al., 1996). Bravo et al. (2007) explained that while Spanish belongs to the family of Romance languages and English finds its roots in the family of Germanic languages, the influence of Latin-based words remained in the form of vocabulary for both languages. English and Spanish are language derivatives of Greek and Latin, and many words exclusively used within academic and professional English language circles are used with a high frequency in Spanish. Cognates account for as much as half of the active vocabulary of an educated English speaking person, which includes an average 10,000 to 15,000 words (August et al., 2005; Nash, 1997).

Several investigations have documented the influence of cognates on English reading skills and vocabulary development. A study conducted by Nagy et al. (1993)

examined the extent to which Hispanic biliterate students in the upper elementary grades were able to transfer their Spanish vocabulary knowledge to reading in English through the use of cognate knowledge. Furthermore, Nagy et al. sought to determine whether lexical knowledge in a first language transfers to a second language; and whether lexical knowledge is related to a student's awareness of cognate relationships. They hypothesized that English vocabulary would be substantially augmented once the students recognized the relationship between Spanish and English cognates. Results for this study found an interaction between Spanish vocabulary knowledge and recognition of cognate relationships, suggesting that the transfer of Spanish vocabulary to English reading may be dependent upon the recognition of the English word as a cognate. Another study conducted by Hancin-Bhatt and Nagy (1994) found that Hispanic biliterate students recognized the relationship between cognate stems in suffixed words, suggesting a possible language transfer of English morphology rules (August et al., 2005).

A more recent study conducted by Bravo et al., (2005) sought to identify and classify Spanish-English cognates within a specific science curriculum. The researchers conducted a linguistic analysis to establish a critical science vocabulary list, identify the frequency of Spanish-English words, and to develop a cognate classification format. Based on their findings, the researchers concluded that three out of four words found in a science curriculum belonged to the family of Spanish-English cognates, suggesting that developing an explicit cognate instruction strategy may be highly beneficial to Hispanic biliterate students.

The use of cognates as a vocabulary and reading strategy for Hispanic biliterate students began to receive empirical attention during the early 1990's. In an earlier study conducted by Jimenez et al. (1996) that examined the reading strategies of bilingual Hispanic students who demonstrated well developed Spanish reading and writing skills found that they frequently used their knowledge of Spanish to comprehend difficult English text. Furthermore, Carlisle et al. (1999) observed that second language learners have a tendency to use the grammatical structure and linguistic categories of their first language to support their knowledge of the second language. Moreover, Proctor et al. (2005) suggested that depending on the degree of orthographic similarity between two languages, orthographic knowledge in the native language can play a significant role on second language word recognition and lexical processing.

In sum, the literature aimed at investigating the use of cognates as a reading strategy has demonstrated that Hispanic biliterate students are aware of the similarities between both Spanish and English. However, there are few mentions of reading interventions that explicitly teach students to search for cognates during reading tasks. Future research is needed to address the conditions under which instruction on cognate awareness may enhance reading comprehension among Hispanic second language learners (Nagy et al., 1993).

#### Rationale for the Proposed Study

The critical role of vocabulary development and how it impacts subsequent reading comprehension skills is a well-documented educational issue (Fitzgerald, 1995; Ordonez et. al, 2002; Proctor et al., 2006; Proctor et al., 2005). The efficacy of a

wealth of vocabulary interventions and the gains made by students receiving such vocabulary strategies has received much attention. However, a majority of research studies have primarily focused on the efficacy and gains made by monolingual children receiving such vocabulary interventions (Carlo et. al, 2004). The present study aimed at expanding the ongoing research related to the use of cognates as a vocabulary strategy for Hispanic biliterate students. The rationale for the proposed study lies in that for the case of Hispanic biliterate students, reading ability in their native language needs to be recognized as a significant strength that has the potential to help students increase their oral and written vocabulary knowledge in other languages such as English. Hence, the purpose of this study was to examine whether a vocabulary intervention that provides explicit instruction of cognate knowledge strategies will increase English vocabulary for Hispanic biliterate students.

H1: A cognate vocabulary strategy will increase Hispanic biliterate students' English-Spanish cognate knowledge.

## Method

### *Participants*

Fifteen Hispanic students enrolled in a predominantly Hispanic South Florida middle school (12 girls and 3 boys) volunteered to participate in this study. The age of the participants ranged from 11 to 14 years of age (mean age = 12 years). Of the students, three were sixth graders, six were seventh graders, and six were eighth graders. Among the students, the mean length of residency in the US was 4.1 years, with a SD of 2.1 years.

On a questionnaire used to gather background information, all the students indicated that they were currently participating in an ESOL program (mean ESOL level = 2.93). The students were first-generation Hispanic students fluent in Spanish who were born outside the United States, who received a minimum of a third grade education in their native country, and who first learned to read and write in their native language. Within the sample, 53.3% of the students reported that they preferred to speak Spanish on the daily basis, 13.3% reported that they preferred to speak English, and 33.3% reported that they preferred to speak both languages. When asked about their preferred language for reading purposes, approximately 67% of the students indicated that they preferred to read in English, and reported reading in English at least 2 hours per day at school and at home. Approximately 34% of the students indicated that they preferred to read in Spanish at least 2 hours per day at school and at home. When asked about their preferred language for writing purposes, 26% of the students reported that they preferred to write in English at least 2 hours per day at school and at home, and 54% reported that they preferred to write in Spanish at least 2 hours per day

at school and at home. Approximately 20% reported that they preferred to write in both languages at least 2 hours per day at school and at home.

### *Measures and Procedure*

The present study was submitted to the Barry University Institutional Review Board as well as the Miami-Dade County Public Schools Institutional Review Board prior to its commencement. Once permission to conduct the study had been obtained from Barry University and Miami-Dade County Public Schools, a letter was sent to principals with a high enrollment of ESOL students (See Appendix D). The letters asked the principals for permission to conduct the study within their schools. Once permission was obtained from the principal, sixth, seventh and eighth grade teachers were asked to participate in the study by passing out consent letters during a two week period, and asking the children to take the letter home for parental signature (See Appendix E, F, and G). The parent letter asked for permission for their child to participate in the study. Once parent permission was obtained, students were informed of the study and their participation was solicited by their teacher. Students were asked to return their parent consent letters to their teacher, who kept the letters in a locked cabinet inside her office to protect the students' privacy and confidentiality.

Those students who obtained parental permission were privately asked for verbal assent by their teacher, and an assent form that was available in Spanish and English was distributed to be signed on the day of the intervention. Furthermore, one-way translations of all consent and assent letters written in Spanish were conducted by the examiner and reviewed by two educators currently employed in a South Florida school district to corroborate the validity of the translations.

*Informational Survey:*

Participants were asked to complete an 18-item survey that included questions related to their demographic and background information, length of residency in the United States, information pertaining to education received in their native country, and reading, writing, and language preferences (See Appendix A and B for specific items). The examiner distributed a copy of the Informational survey to the participants once they have arrived to the designated intervention site. The Informational survey was made available in Spanish and English. The examiner instructed the participants to write their designated student identification number on the upper-left corner of the survey and to complete a copy of the Informational survey in the language in which they felt most comfortable. The Informational survey took approximately 10 minutes to be completed. The surveys were collected by the examiner and placed inside a manila envelope to protect the privacy and confidentiality of the information disclosed by the participants.

*English-Spanish Cognates Multiple Choice Test:*

The English-Spanish Cognates Multiple Choice Test (see Appendix C for specific items) was distributed by the examiner to each participant as a pretest and a posttest to measure the effectiveness of the intervention to be delivered. The English-Spanish Cognates Multiple Choice Test consisted of 30 test items that participants completed in approximately 10 minutes. Based on the work of Nagy et al. (1993), the multiple choice test contained 24 target English-Spanish cognate pairs and 6 noncognates/false cognate words. Participants were asked to choose an answer from a multiple choice format that included 1) a Spanish cognate, 2) a Spanish noncognate/false Spanish

cognate, 3) an orthographically similar Spanish word, and 4) a none of the above choice. The 24 target multiple choice items that correspond to the Spanish-English cognate pairs were chosen from a pool of cognate words utilized by Nagy et al. (1993), Cunningham and Graham (2000) and Nash's Dictionary of Spanish Cognates. Furthermore, each item assessed a student's degree of familiarity with Spanish and English vocabulary based on a cognate classification scheme designed by Bravo, Hiebert, and Pearson (2005), which utilizes high frequency vocabulary lists found in the middle school science and social studies general curriculum.

*Cognate Knowledge Intervention:*

The Cognate Knowledge intervention consisted of delivering direct and explicit instruction of Spanish-English cognate pairs in a developmentally appropriate language. Prior to delivering this intervention, the examiner asked the participants whether they preferred to receive the Cognate Knowledge intervention in English or Spanish. Therefore, the Cognate Knowledge intervention was delivered by the examiner in Spanish as all the students indicated that they felt more comfortable in their native language.

The following intervention took approximately 20-minutes to be delivered. As a first step, the examiner activated the students' background knowledge by discussing the similarities between the English and Spanish languages. For example, the examiner discussed how the English and Spanish languages are derivatives of Latin and Greek, and asked the students to provide examples of other languages that sound similarly. Then, the students were asked if they were familiar with cognates and how to use this strategy to improve their English vocabulary. After the students discussed



their responses, the examiner proceeded to provide a definition of the meaning of Spanish-English cognates that included the shared semantic and orthographic similarities of both languages, while providing English-Spanish pair samples such as *animal/animal*, *radio/radio*, and *similar/similar*. Furthermore, a definition of noncognates/false cognates was provided to alert participants to the existence of such type of vocabulary.

In accordance with the work of August, Carlo, Dressler, and Snow (2005), the examiner wrote a set of five cognate words (See Appendix C) on the board and demonstrated how to recognize the semantic and orthographic correspondence between Spanish and English by explicitly pointing out the characteristics of root words and suffixes in both languages (e.g. *tion/ción*, *ity/idad*, *ing/endo*, *ly/mente*) with cognate pairs such as *capacidad/capacity*, and *iluminacion/illumination* (see Appendix C). Moreover, participants were provided with additional examples to practice the skill prior to the administration of the posttests measures. The students received feedback on how to utilize the cognate strategy effectively, and how to identify false cognate pairs. Moreover, the English-Spanish Cognates Multiple Choice Test was distributed as a posttest measure. After the Cognate Knowledge intervention had been delivered, the *English-Spanish Cognates Multiple Choice Test* was administered as a posttest measure. Once students completed the posttest measure, they were given the opportunity to review their performance and ask further questions and clarification related to the use of the intervention.

## Results

The purpose of this study was to examine the effect of a direct vocabulary intervention that was designed to increase cognate knowledge in Hispanic biliterate students. Table 1 shows the means, and standard deviations of all study variables (see Table 1). A paired sample *t*-test was computed to evaluate whether students who participated in the cognate knowledge intervention increased their cognate knowledge. Significant pre to post test results were found on a paired sample *t*-test concerning English-Spanish cognates with a significant ( $p = .000$ ) mean level increase in the total number of English-Spanish cognate words correctly answered (Pre test:  $M=15.9$ ,  $SD=2.52$ , Post test:  $M=20.06$ ,  $SD=4.63$ ).

Table 1

### *Descriptive Statistics*

Variable	Mean	SD
Age	12	.845
Grade	7.2	.774
ESOL Level	2.93	1.48
Time in US	4.13	2.19
Daily hours read in Spanish	1.53	.915
Daily hours read in English	2.00	1.77
Daily hours write in Spanish	2.00	1.60
Daily hours write in English	3.26	2.08

## Discussion

As previously mentioned the critical role of vocabulary development and how it impacts subsequent reading comprehension skills is a well-documented educational

issue (Fitzgerald, 1995; Ordonez, 2002; Proctor et al., 2006; Proctor et al., 2005) for the monolingual and bilingual student population. In regards to the second language learner and bilingual populations, reading strategies that utilize cognate knowledge to help students increase their cognate knowledge and lay the groundwork for increased overall English literacy skills and academic performance.

The purpose of this study was to examine the use of a cognate knowledge strategy among first generation Hispanic bilingual, biliterate students in a predominantly urban Hispanic South Florida middle school. Results showed that most of the students who participated in the intervention demonstrated a significant increase in their ability to recognize English-Spanish cognate relationships at post test when provided with a simple strategy that included direct and explicit instruction. The intervention seemed effective in helping students to actively recognize the relationships between English-Spanish cognates as well as the presence of false cognates. These results are similar to the study conducted by Nagy et al. (1993), which found that most Hispanic bilingual biliterate students were able to recognize cognates when given simple and explicit instructions. As noted by Bravo et al. (2005), metacognitive reading strategies, such as cognate identification, may be more effective when presented in a simple, direct, and explicit manner within the curriculum. Indeed, a significant factor included in the intervention involved a metacognitive reading component, which served to activate the students' prior and background knowledge related to Romance languages, while discussing the shared orthographic and semantic similarities and differences between the English and Spanish languages. Furthermore, it should be noted that the study was presented in Spanish, as the majority of the students who participated

in this intervention reported being second language learners who felt more comfortable in their native language. Therefore, it appears that reading strategies that involve a cognate identification component may be effectively utilized to increase English vocabulary for second language learners.

Two of the most salient limitations to this study includes the sample size ( $n = 15$ ) and the lack of a no intervention comparison group. Furthermore, the homogeneity of the sample may hinder the generalizability of these results. Most of the participants were young immigrants who had completed at least a third grade education prior to their arrival to the United States. Additionally, most of the participants reported their time of residency in the United States as less than four years, which may indicate that these young students continue to be in the process of acquiring English as a second language for academic and social purposes. Future studies should include a larger sample size that includes measures of academic performance in both languages, as well as current levels of language dominance.

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Appendix A  
Student Informational Survey

I.D #: \_\_\_\_\_

Age: \_\_\_\_\_

School: \_\_\_\_\_

Grade: \_\_\_\_\_

ESOL level: \_\_\_\_\_

Class Type: \_\_\_\_\_

Country of Origin: \_\_\_\_\_

Length of residency in the United States:

0-6 months     6 – 1 yr.     1- 1½ yr.     1½-2 yr.     2-2½ yr.     2½-3 yr.     >3yrs.

What was the last school grade you completed in your country of origin?

\_\_\_\_\_

What academic courses did you take at school in your country of origin?

Language Arts     Math     Social Studies     Science     Foreign language: \_\_\_\_\_  
(please specify)

What language is primarily spoken in your home?

\_\_\_\_\_

In what language do you prefer to communicate?

\_\_\_\_\_

In what language do you prefer to read?

\_\_\_\_\_

In what language do you prefer to write?

\_\_\_\_\_

On the daily basis, how often do you read (books, newspapers, magazines, internet, etc.) in your native language at school and home?

- 1-2 hours   
  1-2 hours   
  2-3 hours   
  3-4 hours   
  4-5 hours   
  5-6 hours   
  >6 hours

On the daily basis, How often do you read (books, newspapers, magazines, internet, etc.) in your second language in school and home?

- 1-2 hours   
  1-2 hours   
  2-3 hours   
  3-4 hours   
  4-5 hours   
  5-6 hours   
  >6 hours

On the daily basis, How often do you write in your native language in school and home?

- 1-2 hours   
  1-2 hours   
  2-3 hours   
  3-4 hours   
  4-5 hours   
  5-6 hours   
  >6 hours

On the daily basis, how often do you write in your second language in school and home?

- 1-2 hours   
  1-2 hours   
  2-3 hours   
  3-4 hours   
  4-5 hours   
  5-6 hours   
  >6 hours

Appendix B  
Student Informational Survey  
(Cuestionario Estudiantil)

I.D #: \_\_\_\_\_

Edad: \_\_\_\_\_

Colegio: \_\_\_\_\_

Grado: \_\_\_\_\_

Nivel de ESOL: \_\_\_\_\_

Clase: \_\_\_\_\_

Pais de origen: \_\_\_\_\_

Indica cuanto tiempo has vivido en los Estados Unidos:

- 0-6 meses    6 – 1 año    1- 1½ años    1½-2 años.    2-2½ años    2½-3 años    >3 años

Indica cual fue el último grado escolar que completaste en tu pais de origen?

\_\_\_\_\_

Indica cuales cursos escolares completaste en tu pais de origen?

- Lenguaje    Matemáticas    Ciencias Sociales    Ciencias    Idiomas: \_\_\_\_\_  
(Especifica)

Que idioma se habla en tu hogar?

\_\_\_\_\_

En que idioma prefieres comunicarte/conversar?

\_\_\_\_\_

En que idioma prefieres leer?

\_\_\_\_\_

En que idioma prefieres escribir?

\_\_\_\_\_

Diariamente, cuanto tiempo dedicas a leer (libros, periódicos, revistas, internet, etc.) en tu primer idioma en el colegio y el hogar?

<1-2 horas     1-2 horas     2-3 horas     3-4 horas     4-5 horas     5-6 horas     >6 horas

Diariamente, cuanto tiempo dedicas a leer (libros, periódicos, revistas, internet, etc.) en tu segundo idioma en el colegio y el hogar?

<1-2 horas     1-2 horas     2-3 horas     3-4 horas     4-5 horas     5-6 horas     >6 horas

Diariamente, cuanto tiempo dedicas a escribir en tu primer idioma en el colegio y el hogar?

<1-2 horas     1-2 horas     2-3 horas     3-4 horas     4-5 horas     5-6 horas     >6 horas

Diariamente, cuanto tiempo dedicas a escribir en tu segundo idioma en el colegio y el hogar?

<1-2 horas     1-2 horas     2-3 horas     3-4 horas     4-5 horas     5-6 horas     >6 horas

Appendix C  
Cognate Knowledge (Pre/Posttest)

1. Grave

- Grave
- Gravar
- Gravitar
- None of the above

2. ARBOR

- Arboleda
- Arbol
- Arbolar
- None of the above

3. ABUNDANT

- Abultar
- Abundar
- Abundante
- None of the above

4. VITREOUS

- Vitreola
- Vidrieria
- Vidrio
- None of the above

5. AMICABLE

- Masticable
- Amigable
- Amistad
- None of the above

6. GLOBE

- Globo
- Globo Terraqueo
- Globular
- None of the above

7. VERDANT

- Verde
- Verdad
- Verdeante
- None of the above

8. TRANSPORT

- Transportar
- Transbordar
- Traspasar
- None of the above

9. DISEMBARKED

- Desembargo
- Desembarrar
- Desembarcar
- None of the above

10. DORMANT

- Dormitorio
- Dormilon
- Durmiente
- None of the above

11. INFIRM

- Informe
- Enfermo
- Inferir
- None of the above



12. LIBRARY

- Libreria
- Biblioteca
- Librero
- None of the above

13. SCRIBE

- Escribir
- Escribano
- Escritor
- None of the above

14. COORDINATE

- Coordinacion
- Ordenado
- Coordinada
- None of the above

15. SUBTRAHEND

- Sustraendo
- Sustanciar
- Sustituyendo
- None of the above

16. CEMETERY

- Cementoso
- Cemento
- Cementerio
- None of the above

17. CARPET

- Carpeta
- Alfombra
- Carpa
- None of the above

18. REASON

- Razon
- Racionalismo
- Reaccion
- None of the above

19. PRESIDE

- Presidio
- Presentimiento
- Presidir
- None of the above

20. EMBARRASSED

- Avergonzado (a)
- Embarrar
- Embarazada
- None of the above

21. OFFICIATE

- Oficioso
- Oficiar
- Oficial
- None of the above

22. SIMILAR

- Similar
- Parecido
- Simular
- None of the above

23. EQUAL

- Igual
- Igualar
- Igualdad
- None of the above

24. ANIMAL

- Aniquilar
- Animalada
- Animal
- None of the above

25. SUPPORT

- Apoyo
- Soporte
- Soportar
- None of the above

26. POSSIBLE

- Posibilidad
- Posicion
- Posible
- None of the above

27. REALIZE

- Realizar
- Darse cuenta
- Notar
- None of the above

28. OPPORTUNITY

- Oportunesco
- Oportunidad
- Oportunadamente
- None of the above

29. AGILE

- Agil
- Agilitar
- Agitar
- None of the above

30. CONFIDE

- Confiar
- Confiscar
- Confidencia
- None of the above

Practice Skill Vocabulary List

- a. ILLUMINATION
- b. IMAGINATION
- c. PERSONALITY
- d. CAPACITY
- e. CIRCULATING
- f. EXHIBITING
- g. FIDELITY
- h. OBLIGE
- i. PROHIBIT
- j. DECEPTION (false cognate)
- k. EMOTIONAL

**Appendix D**  
**Barry University**  
**Consent Form to School Principal**

Dear Principal,

Please allow me to introduce myself. My name is Claudia M. Arce and I am currently a school psychology graduate student at Barry University. Currently, I am in the process of conducting research and the title of my study is “the use of cognates as a vocabulary strategy for Hispanic biliterate students”. The purpose of this study is to examine a specific vocabulary strategy that involves Spanish-English cognates, which are words that share similar meaning and spelling in both languages, and how such strategy may help Hispanic students who can read and write in their native language to increase their English vocabulary. I am interested in inviting your middle school to participate in this research project during the spring of 2008. We anticipate 30 middle school students to take part in this strategy.

For the purpose of this study, teachers will be asked to solicit volunteers from amongst their students to participate in this study and to send parent consent forms asking for parental permission. In addition, teachers will be asked to allocate approximately 50 minutes from their class time one time only. Students will be asked to complete a student informational survey, a pretest and posttest measure, and to participate of a Cognate Knowledge lesson one time only.

There are no known risks associated with students’ involvement in this study. The teachers and students’ participation in this study is completely voluntary. Any information provided by the students will be held in confidence to the extent permitted by the law. Although there is no direct benefit to you, your school’s participation in this study will help our understanding of how to help Hispanic students to increase their English vocabulary by using their Spanish reading and writing skills. Should you have any questions or concerns in regards to participation in this study, do not hesitate to contact me at (305)778-0561, or Dr. Agnes Shine at (305)899-3991, or Mrs. Nildy Polanco, Barry University Institutional Review Board contact person, at (305)899-3020.

\_\_\_\_\_ Yes, I am interested in participating in this research project and consent to allow 7<sup>th</sup>/8<sup>th</sup>/9<sup>th</sup> grade teachers and students participate.

\_\_\_\_\_ No, I am not interested in participating in this research project and do not consent to have 7<sup>th</sup>/8<sup>th</sup>/9<sup>th</sup> grade teachers and students participate.

I thank you for your participation. Please return this letter in the self-addressed, stamped envelope provided.

Sincerely,

Claudia M. Arce, M.S.  
 School Psychology Graduate Student,  
 Barry University

**Appendix E**  
**Barry University Teacher Consent Form**

Dear Teacher,

Your participation in a research project is requested. I am a graduate student of school psychology at Barry University and I am in the process of conducting research under the supervision of Dr. Agnes Shine. The title of my study is “The Use of Cognates as a Vocabulary Strategy for Hispanic Biliterate Students” which seeks to examine a specific vocabulary strategy that involves Spanish-English cognates, which are words that share similar meaning and spelling in both languages, and how such strategy may help Hispanic students who can read and write in their native language increase their English vocabulary.

If you decide to participate in this research, you will be asked to recruit Hispanic students who are fluent in Spanish and who know how to read and write in their native language. In addition, you will be asked to send a parent consent form asking for parent permission and to allot approximately 50 minutes of your class time, one time only to allow students to complete a student informational survey, pretest and posttests measures, and to participate of a Cognate Knowledge lesson. We anticipate 30 middle school students to take part of this intervention. Your consent to participate in this study is strictly voluntary and should you decline to participate or should you choose to drop out at any time during the study, there will be no adverse effects on your employment.

There are no known risks to you for taking part in this study. Although there are no direct benefits to you, your participation in this study may help our understanding of how to help Hispanic students to increase and improve their English vocabulary by using their Spanish reading and writing skills. As a research participant, information provided will be kept anonymous, that is, no names or other identifiers will be collected on any of the instruments used. Data will be kept in a locked file in the researcher’s office. If you choose to participate in this study, please inform your school principal of your intention and return this letter in the self-addressed, stamped envelope provided. By completing and returning this survey you have shown your agreement to participate in the study.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Claudia M. Arce at (305) 778-0561, my supervisor, Dr. Agnes Shine at (305) 899-3991, or the Institutional Review Board point of contact, Ms. Nildy Polanco, at (305) 899-3020.

\_\_\_\_\_ Yes, I am interested in participating in this research project.

\_\_\_\_\_ No, I am not interested in participating in this research project.

**Appendix F**  
**Barry University Parent Consent Form**

Dear Parent or Guardian:

I am a graduate student at Barry University and I am conducting a research project that involves a vocabulary lesson with Spanish-English cognates, which are words that share similar meaning and spelling in both languages (for example, vocabulary/vocabulario, study/estudiar). I would like to invite your child to participate in a vocabulary lesson to examine how students who are learning a second language may benefit from this strategy. We ask that you read this form and ask any questions you may have before agreeing to allow your child to participate.

Please note that participating is strictly voluntary and your decision whether or not to allow your child to participate will not result in any negative consequences. If you allow your child to be a part of this lesson, he or she will be asked to complete a survey and participate in a vocabulary lesson that will take approximately 50 minutes. This is strictly voluntary and if your child decides not to do it or should he or she want to drop out at any time during the lesson, there will be no bad effects on your child's grades.

There are no known risks in being part of this study. A potential benefit from being part of this study lies in that this vocabulary lesson may help our understanding of how Hispanic students who are learning English as a second language may improve their English vocabulary by using their first language reading and writing skills.

Any information you provide will be held in confidence to the extent permitted by law. Your child will not be asked to provide his or her first and last names. If results of the research are printed, it will refer to group averages only and no names will be used. Data will be kept in a locked file in the researcher's office and it will be destroyed one year after the study has been completed. If you have any questions regarding the study, you may call me, Claudia M. Arce at (305)778-0561, or my advisor, Dr. Agnes Shine at (305) 899-3991, or the Institutional Review Board point of contact, Mrs. Nildy Polanco at (305) 899-3020.

I have read the above information and consent to allow my child

\_\_\_\_\_ to participate in this study.

\_\_\_\_\_  
(Signature of Parent)

\_\_\_\_\_  
(Date)

**Appendix G**  
**Barry University Parent Consent Form**

Querido Padre de Familia:

Soy una alumna de la Escuela de Graduados en Barry University y me gustaría invitar a su hijo(a) a participar en una lección de vocabulario que incluye palabras con similitudes ortográficas (por ejemplo, vocabulario/vocabulary, estudiar/study). El propósito de esta lección será examinar como estudiantes que saben escribir y leer en Español aplican sus conocimientos en Español para incrementar y mejorar su vocabulario en Inglés. Le pedimos por favor, que lea la siguiente forma y que dirija cualquier pregunta acerca de este estudio antes de dar su consentimiento.

La participación en este estudio es estrictamente voluntaria y su decisión de participar o no participar, no resultara en ninguna consecuencia negativa. Si usted decide permitirle a su hijo(a) participar en este estudio, él o ella podrán completar un cuestionario y también podrán tomar parte de la lección de vocabulario que será llevada a cabo en la escuela y tomara aproximadamente unos 50 minutos. La participación es estrictamente voluntaria, y en caso de que su hijo(a) decida no tomar parte de la lección, o decida retirarse súbitamente por cualquier razón, no habrá ningún impacto negativo en las calificaciones de su hijo(a).

No hay ningún riesgo en ser parte de este estudio. Al tomar parte de este estudio, el potencial de esta lección es que nos podrá ayudar a entender cómo es que los estudiantes Hispanos que están aprendiendo un segundo idioma pueden utilizar sus destrezas en la lectura y escritura aprendidas en su primer idioma para incrementar y mejorar su vocabulario en un segundo idioma.

Cualquier información proporcionada por su hijo(a) será mantenida confidencialmente hasta el punto permitido por las leyes. El nombre y apellido de su hijo(a) no serán requeridos. Si los resultados de este estudio fueran publicados, solo se referirá a promedios grupales y ningún nombre será mencionado. Cualquier otro dato proporcionado será mantenido bajo en forma confidencial en la oficina de la investigadora y destruidos un año después que el estudio haya sido completado. Si usted tiene alguna inquietud o pregunta sobre este estudio, puede contactar a Claudia M. Arce al (305)778-0561, o a la Dr. Agnes Shine al (305)899-3991, Sra. Nildy Polanco, Barry University Institutional Review Board al (305)899-3020.

Muchas gracias por su atención,

Yo, \_\_\_\_\_ he leído y entendido la información  
antes mencionada y doy mi consentimiento para que mi hijo(a)  
\_\_\_\_\_ participe en este estudio.



\_\_\_\_\_  
(Firma)\_\_\_\_\_  
(Fecha)

**Barry University**  
**ASSENT FORM (AGES 11-14)**

Dear Student,

I am a graduate student at Barry University conducting a research project that involves a vocabulary lesson with cognates, which are words that share similar meaning and spelling in both languages (for example, vocabulary/vocabulario, study/estudiar). I would like to invite you to participate in this vocabulary lesson to examine how it may help other students who are learning English as a second language

If you decide to be a part of this lesson, you will be asked to complete a survey, and to participate in a vocabulary lesson that will take approximately 50 minutes. This is strictly voluntary and if you decide not to do it or should you want to drop out at any time during the lesson, there will be no bad effects on you.

There are no risks in being part of this study. A potential benefit from being part of this study lies in that this vocabulary lesson may help our understanding of how Hispanic students who are learning English as a second language may improve their English vocabulary by using their first language reading and writing skills.

Any information you provide will be held in confidence to the extent permitted by law. If results of the research are printed, it will refer to group averages only and no names will be used. Data will be kept in a locked file in the researcher's office. Your signed assent will be kept separate from the data. All data will be destroyed one year after completion of this study.

If you have any questions regarding the study, you may call me, Claudia M. Arce at (305)778-0561, or my advisor, Dr. Agnes Shine at (305) 899-3991, or the Barry University Institutional Review Board point of contact, Mrs. Nildy Polanco at (305)899- 3020). If you are satisfied with the information provided and are willing to be a part of this research, please sign below. By signing below, you acknowledge receipt of this assent form.

**Voluntary Consent**

**I have been informed what this experiment is about by \_\_\_\_\_.** I have **read** and understand the information presented **above**, and I have received a copy of this form.

---

\_\_\_\_ I am willing to be a part of the research study.

\_\_\_\_ I am not willing to be a part of the research study.

\_\_\_\_\_  
*Signature of Researcher*\_\_\_\_\_  
*Date*\_\_\_\_\_  
*Signature of Child*\_\_\_\_\_  
*Date*

**Barry University  
ASSENT FORM (AGES 11-14)**

Querido Estudiante,

Soy una alumna de la escuela de graduados en Barry University y me gustaría pedir tu participación en una lección de vocabulario que incluye palabras con similitudes ortográficas (por ejemplo, vocabulario/vocabulary, estudiar/study). El propósito de esta lección será examinar como estudiantes que saben escribir y leer en Español aplican sus conocimientos en Español para incrementar y mejorar su vocabulario en Ingles.

Si decides participar en este estudio, te pediremos que completes un cuestionario y que participes de la lección de vocabulario que será llevada a cabo en tu escuela. Esta tomara aproximadamente 50 minutos. La participación es estrictamente voluntaria, y si decides no tomar parte en el estudio, o decides por cualquier razón que quieres retirar tu participación, no habrá ningún impacto negativo en tus calificaciones.

No hay ningún riesgo en ser parte de esta lección. Al tomar parte de esta lección, nos podrás ayudar a entender cómo es que los estudiantes Hispanos que están aprendiendo un segundo idioma pueden utilizar sus conocimientos en Español para incrementar y mejorar su vocabulario Ingles.

Cualquier información que nos proporcionen será mantenida confidencialmente hasta el punto permitido por las leyes. Tus nombres y apellidos no serán requeridos. Si los resultados de este estudio fueran publicados, solo se referirá a promedios grupales y ningún nombre será mencionado. Cualquier otro dato proporcionado será mantenido bajo en forma confidencial en la oficina de la investigadora y destruidos un año después que el estudio haya sido completado. Tu asentimiento firmado será mantenido separado de otros datos. Si tienes alguna inquietud o pregunta sobre este estudio, puedes contactar a Claudia M. Arce al (305)778-0561, o a la Dr. Agnes Shine al (305)899-3991, o Sra. Nildy Polanco, Barry University Institutional Review Board al (305)899-3020.

**Consentimiento Voluntario:**

He sido informado(a) de lo que se trata este experimento por \_\_\_\_\_.  
He leído y entendido la información presentada, y he recibido una copio de esta forma.

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\_\_\_\_\_ Yo estoy dispuesto(a) a participar en este estudio.

\_\_\_\_\_ Yo no estoy dispuesto(a) a participar en este estudio.

\_\_\_\_\_  
(Firma de la Investigadora)

\_\_\_\_\_  
(Fecha)

