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## Synculturation: The residual variable of bilingualism

Claudia Coronado  
*University of Texas-Pan American*

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SYNCULTURATION: THE RESIDUAL VARIABLE OF  
BILINGUALISM

A thesis

by

CLAUDIA CORONADO

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SYNCULTURATION: THE RESIDUAL VARIABLE OF  
BILINGUALISM

Thesis  
By  
CLAUDIA CORONADO

Approved as of style and content:

---

José A. Ruiz-Escalante, Ed. D.  
Chair of the Committee

---

Leo Gómez, Ph. D.  
Member of the Committee

---

Jennifer J. Esquierdo, Ph. D.  
Member of the Committee

---

Zulmaris Diaz, Ph. D.  
Member of the Committee

May 2009

## ABSTRACT

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The language acquisition system is intricate; bilingualism is the meta-synthetic process of culture elements, linguistic components and cognitive abilities. Proficiency in a second language is not only the recognition of environmental elements in that language, but an ability that requires the mutation of different components. We cannot perceive the phenomenon of bilingualism in a linguistic isolated perspective. The purpose of the study was to find the interconnectedness of linguistic proficiency, cultural elements, and cognitive development. The cognitive advantages associated with balanced bilingualism should not be uniquely explained by the isolation of language proficiency. The referential packages of the cultural synthesis provide critical denotations in profundity of a concept by providing different perceptions. The process of synculturation becomes the spectrum of rationale and evaluation that the sensorial system apprehends to construct meaning.

## DEDICATION

El pináculo de este ciclo ha marcado una etapa de nuevos conocimientos y replanteamientos de paradigmas, que dedico primordialmente a Dios quien alimentó mi alma y forjó mi ser.

El precursor de este arduo camino fue mi padre Sergio Coronado, quien me ha inspirado a descubrir nuevos paradigmas del mundo. También quiero dedicarle esta tesis a mi madre Sandra Malacara que ha consolidado cada paso que doy con su inmenso amor y comprensión. Finalmente, dedico este logro a mis hermanas Ana Karen, Leslie y Shelsy quienes constituyen mi armazón de fortaleza y mi hermano Sergio quien ha sido mi guerrero de sueños.

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The arduous path into culminating this thesis entailed sacrifices and continuous exertion. It is of great satisfaction to express my gratitude for the contributions of time and knowledge to those involved in the process of completing the thesis.

Originally, our dreams do not have limits. Guidance is indispensable in order to defy inflicted barriers that prevent achieving the impossible. Without the inquiry instinct and precise advice from Dr. Coronado, concluding this investigation would be impalpable. Es por usted que se redimensionaron los signos a través de una mutación perspectual que guió el camino que siguió esta investigación.

The extensive discussions in Dr. Ruiz-Escalante's class expanded my educational knowledge and instilled in me advocacy for bilingual education. Mentoring me in this investigative process transpired my passion to discover educational paradigms that would lead to the transformation of pedagogical practices for bilingual learners. Dr. Gómez' reformative passion for change induced my enthusiasm to promote equity for *all* students. The theoretical and philosophical references provided by your intellect and in depth elucidation regarding bilingualism complemented the quality of this intellectual work.

Also, I want to demonstrate my gratitude to Dr. Diaz for providing me the liberty to express my ideas and explore bilingualism divergently. The genesis of this investigation occurred during the inquiry process you awoke in me. Introducing the art of conducting an investigation is an intricate act. I attribute this accomplishment to Dr

Esquierdo's knowledge and Dr Anderson's advice in the procedural process of the investigation.

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## CHAPTER I

### INTRODUCTION

#### Background of the problem

The learner is the most important link in processing, using and generating knowledge to acquire a second language. The acquisition of the second language is a phenomenon that occurs through the sensorial system and it implies new and previous knowledge, remote memories, genetic information and paradigms.

The acquisition of a second language is the process that delimits elements of perception by interpreting the world to which the individual is being assimilated, the sensorial system apprehends them, and paradigms use the elements to explain the world. The linguistic assimilation phenomenon has been accompanied by loss of ancestral language and culture caused by the domination of English in the broader society (Wiley & Valdez, 2001). Linguistic assimilation is evident in that only 12% of second generation individuals have been reported to have poor proficiency in English (Portes & Zhou, 1993). The rapidity of the language shift in the second generation is initiated by the societal constraining and linguistic attitudes of superiority English (Portes & Zhou, 1993).

The political issues associated with language have supported the hegemony of English in the society. The result has been the justification of restrictive immigration policies that encourage language shift and promote English as the primary language of instruction to second language learners (Durkin, 1998; Ovando, 2003). Educational reforms continue targeting the ideology of success through assimilation at the expense of the native language. The siege faced by bilingual education has been confirmed by the opposition to the use native language as a medium of instruction and to incorporate the native culture to the curriculum. Most bilingual programs in the United States are remedial or compensatory programs, since the primary objective is to assimilate the student to the dominant language (Worthy & Ruiz-Galindo, 2006). Under these programs, the native language is not fully developed and main purpose is to achieve full assimilation and mainstream bilingual learners in an English-only context with minimal support from native language. Many of the remedial bilingual programs have their academic instruction in the second language (L2), and the students' mother tongue is usually not valued. Remedial models are based on the paradigm that the native language (L1) is a problem or a barrier that needs to be corrected and the integration of the native culture prevents to homogenize society (Gomez & Ruiz-Escalante, 2005).

In pursuit of educational equity to all students, society must accept that the maintenance of the native language and fostering of bilingualism and biculturalism results in personal and societal advantages in economic, political, social and education sector (Tse, 2001). Language shift may affect adversely several aspects of an individual

such as cultural identity and cognition. The denial of developing the native language is rejecting the knowledge that has already been acquired by the individual.

#### Statement of the problem

Language becomes critical in many cognitive processes since it serves as a representational and expressional instrument of conceptual knowledge. It also shapes cultural identity by differentiating the individual from the social framework and giving him/her the opportunity to show individuality and a distinct characterization and uniqueness. “The relation between language and cultural identity are tied to linguistic and other self-defining practices” (Schechter & Bayley, 2002, pp. 52). The amalgamation of language and culture has a major influence in the formation of an individual.

The phenomenon of the acquisition of the second language is the precursor to the initiation of the assimilation process. The language shift is the assimilation process in permanently replacing the native language with the second language being acquired. Language serves as the cultural shield in the dynamic process of developing cognitive abilities. The complexity of the problem may have an effect on cultural identity, cognitive processes and psychological distress. The recurrent problem of the assimilation process is exhibited in the ideologies and politics that affect the paradigms of the pedagogical practices used in schools. Bilingual learners encounter social, cultural and linguistic barriers with curriculum. Currently, educational systems promote the perspective of the native language as a cognitive limitation. Ovando (2003) defies this idea by affirming that full cognitive development occurs in classrooms that build on students’ linguistic foundation rather than destroying them. Moreover, societal straining



also exists in the effort to promote native language and culture maintenance. Language policy restrictionism of the native language and the promotion of English are the general ideology accelerating the language shift and cultural assimilation.

Pedagogical issues in second language acquisition accentuate uniquely the linguistic aspects. The constant debate in bilingual education has centered on short term language achievement, and the purpose for the extent of instruction in the native language (Gomez & Ruiz-Escalante, 2001). However, bilingualism is an intricate phenomenon that cannot be perceived in a linguistic isolated discernment. According to Cummins (1995), the extent to which the native language and culture is incorporated to the curriculum will empower minority language students and constitutes a predictor of their academic success. The symbiotic relationship between culture and language has an impact on cognition on the academic success of bilingual learners.

Cognitive development reflects linguistic functioning and cultural mechanisms. Vygotsky (Banks, 2004) proposed that the child's cognitive schema is linguistically and culturally bound. He believed that educational practices that ignored the native language and culture will hinder students' cognitive growth. The inextricably unification of language, culture and cognition provides a framework to comprehend the complexity of bilingualism. It is implausible that language factuality in isolation is the module of cognitive development (Bialystok, 2001). The isolation of the linguistic, cultural and cognitive elements perpetuates a distorted perception of the process in the acquisition of a second language. Gonzalez (1996) conducted a study with thirty bilingual students to unify language, culture and cognitive through bilinguals' semantic conceptualizing. She

concluded that cognitive, cultural, and linguistic variables influence one another for the construction of verbal and non-verbal concepts on bilingual children. The study revealed the presence on a double representational process for concept formation. In addition, Bialystok (2001) empirical findings about the cognition of bilingual children reported their advantage in selective attention, inhibit misleading cues, analysis of representational figures and problem solving.

#### Purpose of the study

The objective of the quantitative study was to investigate an existent relationship between language proficiency, cultural elements, and cognition in undergraduate students in South Texas.

#### Research questions

1. What is the relation between second language proficiency and the individual's native culture?
2. What characteristics of cognition are affected by native language proficiency and second language proficiency?
3. How are cultural elements affected by bilingualism?

#### Theoretical Framework

No language develops externally from its physical and social context. Garcia (2005) argues that relative to native monolingual acquisition research, little systematic investigation has been available regarding children who are acquiring more than one language during the early part of their lives. Cummins (1986) reveals that bilingual education is the vehicle for communicative proficiency and academic proficiency that

underlies both L1 and L2 literacy development. In addition, he explains that in general, the first type of language proficiency that bilingual learners accomplish is known as the Basic Communication Interpersonal Skills (BICS). BICS are usually acquired within 2-3 years, and they are the basic social interaction skills related to informal conversations that are context embedded. However, BICS is not cognitively demanding and does not require the critical thinking necessary for academic success. On the other hand, he also explains that children must achieve Cognitive Academic Language Proficiency (CALP) in order to achieve the cognitive demands of classroom instruction. Cummins defied the beliefs that learning in the native language impeded acquisition of the second language. Thus, the transfer of cognitive abilities and academic language can be occur from L1 to L2, making the L2's cognitive development dependent of the acquisition of L1. However, negative effects can occur if the child is negated the opportunity to fully develop the native language because the transfer of skills will not occur. "Instruction through minority language has been effective in promoting proficiency in both languages" (Cummins, 1986, p. 29).

According to Krashen (2002), there are two independent systems of second language performance: the acquired system and the learned system. The acquired system or 'acquisition' is the product of a subconscious process very similar to the process children undergo when they acquire their first language. It requires meaningful interaction in the target language, natural communication, and the speakers are concentrated not in the form of their utterances, but in the communicative act. The learned system or 'learning' is the product of formal instruction and it comprises of a

process which results in conscious knowledge about the language, for example knowledge of grammar rules. The acquisition of a language is preferable in the pedagogical field than learning a language.

Culture learning accompanies language learning. Students cannot master a new language until they have mastered the cultural context in which the new language occurs (Cavallaro, 2005). Unconsciously, the acquisition of a language entices the adoption of new elements of a different culture. Furthermore, cultural maintenance can occur through the teaching of community languages as part of L1 maintenance for academic development (Cavallaro, 2005). The maintenance of the native language beguiles the acquisition of academic discourse and strengthening of the ethnic identity. An adverse effect can occur if a culture is forced into an individual. The assimilation to a new culture can cause great change in an individual forcing the disregard of native and familiar culture patterns which can produce loss of cultural identity, cultural shock, marginality and disorientation (Damen, 1987).

The constant struggle between cultural assimilation and language shift has caused many students to face discrepancies in the educational system. The great debate on bilingual education extends and focuses on the discussion of the different programs, pedagogical beliefs and curriculum. Nevertheless, bilinguals programs such as dual language models develop high levels of bilingualism, biliteracy, and cross-cultural awareness among participating students (Gomez, Freeman, & Freeman, 2005). These programs aspire to promote bilingualism and biculturalism, without sacrificing students' native language to achieve minority language students' success. The goals of dual

language programs are to provide high-quality instruction by utilizing the native language and culture, as the minority language learner develops the second language. According to Howard and Christian (2002), a dual language program represents a dynamic form of education that holds great promise for developing high levels of academic achievement through the usage of the native culture and language.

#### Definition of terms

- Culture: is the paradigm of the symbolic and abstract aspects of learned behavioral patterns in a society. Henslin (2000) equates culture as “the lens through which we perceive and evaluate what is going on around us” (p. 35).
- Language shift: the loss of language proficiency or a decreasing use of that language in different domains (Baker, 2001)
- Cognition: the potential of an individual of “perspecting,” storing, and relating the signals of the environment with the purpose of interpreting it and to live in it (Coronado, 2009).
- Perspecting: the alternative ordering of environmental signs referenced by cognitive abilities of the subjects to interpret themselves and their impact on the exterior (Coronado, 2009).
- Bilingual Education: The use of two languages, one of which is English, as mediums of instruction for the same pupil population in a well organized which encompasses all or parts of curriculum and includes the study of history and culture associated with the mother tongue (Gomez & Ruiz-Escalante, 2005, p.97).

- L1: a person's native language, which was learned first according to social and cultural context. Also known as mother tongue.
- L2: the second language that will be acquired by the minority language individual.
- Acculturation: the process that occurs when cultural characteristics of a group are changed because of the interaction with another cultural group (Banks, 1999). Cultural elements of the dominant group are adopted and integrated with aspects of the native culture.
- Assimilation: the belief that cultural groups should replace their heritage culture and language to acquire the dominant group's perspective of life (Baker, 2002). The characteristics of the ethnic groups are deserted to adopt a new language, culture, values and behavior of the dominant group.
- Bilingual learner: "students whose language and culture differ from those in the school and wider society" (Cummins, 1995, p. 104). Bilingual learners acquire academic knowledge through pedagogical practices in two languages.
- Synculturation: the term was created to describe the fusion of the cultures that occurs as the individual dominates the new cultural paradigms being acquired. There is no transition from one culture to another. While individuals acquire elements of a second culture, there is a synthesis of both cultures. A new integrated culture arises as residual variable

### Limitation

A limitation encountered in the study is found in the self-rating of language proficiency. In measuring language competence based on the individual self-rating, problems emerge with vulnerability to exaggeration based on social desirability and knowledge of self-awareness (Baker, 2002). Another limitation is encountered in the correlation between the language proficiency caused by a possible language shift and cognition. The investigation does not take into consideration factors such as social class, educational opportunities, exponential perceptions and environment. The result should not be obfuscated as a universal effect (Vygosty, 2001).

## CHAPTER II

### REVIEW OF LITERATURE

#### Language shift

Language is a dynamic occurrence in constant change that shapes the lives of all human beings. The language assimilation phenomenon appears to be occurring at a rapid rate. Language shift has been a common form to assimilate to the new society. Immigrant communities tend to shift from the immigrant language to English within two or three generations (Schechter & Bayley, 2002). The language shift occurs when an individual substitutes the native language for the second language. The immigrant generations are capable of dominating literacy skills in the native language, or achieving full bilingualism. However, patterns of language shifts have shown subsequent generations to become English monolinguals. The shift appears to be rapid and in most cases, it is final (Lieberson & Curry, 1971).

#### *The family interrelation effect*

Language emerges from the social interactions occurring around a person. The environment and the linguistic stimulus an individual experiences will affect linguistic assimilation. The maintenance of a language depends on the exposure the individual to the language that is desired to be maintained. Parents are the main source of linguistic input (Schechter & Bayley, 2002). Linguistic assimilation will be influenced



by the extent of minority language used at home and with the family members; therefore, the maintenance of the native language is associated with the parents' decision to transmit it to their children (Stevens, 1985). However Kow Yip Cheng (2003) argues that the decision relies on the mother. Since the mother has predominantly the childbearing role, children are probably more likely to speak the language the mother has decided. Moreover, the involvement of external family members is also a factor influencing a language shift. Nonconsecutive generation can live together causing an influence in the language that will prevail in the consequent generations; therefore, it cannot be assumed that language shift takes place in a linear fashion (Ishizawa, 2004).

The consistency in the maintenance of the native language at home will define the rate by which a language shift will occur. Linguistic input at home is decisive for maintaining the minority language. Furthermore, parents' perspectives of bilingualism and its impact in the future are influential in defining the maintenance or loss of the minority language. Worthy and Rodriguez (2006) concluded in their study that immigrant parents believed that English proficiency and bilingualism were keys to social and economic advancement. Parents are inclined to believe that English proficiency will guarantee better employment opportunities. Thus, an emphasis on English acquisition diminishes the maintenance of the minority language, which leads to the acceleration of language shift.

### *Language Attitudes*

The language shift is impacted by the language attitudes. As the rapidity of assimilation increases, the language attitude undergoes numerous changes in orientation.

The language attitudes towards the minority language diverge according to the individual. For a number of individuals, minority language symbolizes identity and uniqueness, while others view it as the barrier of assimilation. The pessimistic attitude of the individual will contribute to the loss of the minority language. A predominant tacit assumption among minority language speakers is that full linguistic assimilation is necessary to attain opportunities for socioeconomic mobility. (Alba, Logan, Lutz, & Stults, 2002). The minority language will be sacrificed in order to acquire the language in the assumption that linguistic assimilation will lead to social and economical achievements. For this reason, parents may fear their children will suffer if they do not learn the official language of the country. This attitude will accelerate the language shift as more individuals will become assimilated to fulfill the assumption.

Moreover, the language attitudes are transmitted to subsequent generations, preserving the assumption that success is achieved through assimilation. The predominant language attitude towards minority language is creating a linguistic division. The scrutiny by which minority language is judged has dramatically accelerated the loss of the minority language. Although population models have estimated the increment of Hispanics in the country; 4.5 million people of the population will cease to speak Spanish (Velmant, 1990). In order to change the velocity of the intergenerational language shift, the language attitude must be transformed to a constructive nature. The erosion and deterioration of a minority language is a shameful waste of potential (Worthy & Rodriguez-Galindo, 2006).

### *Societal Straining*

The societal straining is also impacting the deterioration of the minority language by emphasizing rapid assimilation movement. An acute phenomenon occurring in immigrant communities is the change of linguistic tools due to cultural, political and social conditions (Kuncha & Bathula, 2004). The conditions of a community may lead a population to gradually adopt another language as dominant. An individual will be pressured to linguistically assimilate to the norm defined by the community. Since the assumption that predominates in this decade is the emphasis on English acquisition, the environment surrounding minority language speakers will be dominated by English. Even though parents have the major linguistic input, the external linguistic input will be subjugated by English. The minority language will become submissive to the setting that encloses the individual. The pressures to speak exclusively English are sufficiently strong that parental endogamy is not sufficient to preserve the minority language (Alba, Logan, Lutz & Stults, 2002). Thus, to countervail the effects of assimilation, the minority language has to be present in the environment of an individual so that it can be revitalized.

Furthermore, the demographical conditions of the community will have an effect on a language shift. According to Urciuoli (1995), borders emerge in the metonymy of language and origin category. In borderline regions, the minority language is preserve for more generations. The proportion of immigrants tends to be the greatest composition in a borderline population. The absolute number of immigrant influences the inclination to maintain the minority language. The linguistic composition of the demographic area

affects the environment of the generation where the language shift might occur. The magnitude of minority language diversity within the region will impact the deterioration of the language (Lieberson & Curry, 1971). With different minority languages, the population will seek to define a form of communication among them. The societal pressures for English dominance will govern over linguistic diversity. The environmental factors influencing the linguistic proficiency of an individual will greatly affect a language shift.

#### *Language as an investment*

The development of a language is dependent on the benefits that the speaker will receive by speaking the language. Potowski (2004) describes the term “investment” in language as the symbolic and material resources that learners will acquire to access other assets that were previously unavailable to them (p. 77). The individual will utilize a language according to the advantages acquired by the investment. Social, educational, and monetary advantages are a few of the benefits from language investment. The facets of the individual will determine the language investment. Furthermore, Velman (1988) argues that the age of arrival of an immigrant is a crucial factor in determining the deterioration of the minority language. He concluded that the younger the person at the time of arrival, the more extensive the language shift. The explanation lies in the importance of language investment in education. Students will receive more benefits from assimilating to the new culture since academics rely on the language. They will be extensively exposed to the English language in school settings. Social interactions and networks will also contribute to the decline the usage of the minority language.

Eventually, learners will be more proficient in English and proficiency the native language will decay. Therefore, English would become the dominant language of the learner, making it the “personal language” (Velman, 1988, p. 560). The language investment directly impacts the rapid rate by which the linguistic assimilation is occurring.

### Culture

The proliferation of the conceptualization of culture in education has impacted directly pedagogical paradigms. The plethora of definitions associated to the word culture diverges into dissimilar beliefs, where the subjectivity associated with the term does not allow the amalgamation of ethos into one complex theory. The term has evolved from an antidote to scientific racism to the root of educational failure (Gonzalez, Moll, & Amanti, 2005). In education, culture has been the unifying concept of the students’ frame of perceptions and beliefs.

#### *The conceptualization of culture*

Culture is the paradigm of the symbolic and abstract aspects of learned behavioral patterns in a society. The conceptualization of this intricate paradigm explains the conglomeration of people, their beliefs, and behaviors within a society. Henslin equates culture as “the lens through which we perceive and evaluate what is going on around us” (2002, p. 35).

Culture is a mysterious concept that represents the roots of how we perceive the world. Thus, culture influences the mutation of perspectives an individual experiences by activating cognitive mechanisms that connect to the learned behavioral patterns.

According to McLauren (1998), culture represents “the particular way in which a social group lives out and makes sense of its given circumstances and conditions of life.” (p. 175). It delineates human interaction and reflects the way we live. Civilization utilizes culture as a form of perception and interpretation of learned behaviors. The populace transports social encounters and behaviors, shaped by the culture of origin that was adopted since infancy (Coronado, 2008). Moreover, culture is ubiquitous and can easily influence societal interactions. The undeniable effect culture has on individuals is reflected in the tenet that all human beings are culture bearers (Damen, 1987).

Culture establishes structures for cognitive and psychological behaviors that influence the aspects of everyday situations. According to Kumaravadivelu (2008), culture functions as a prism in which to see the rationale for behavior and measurement to evaluate it. Culture dictates the subconscious thought for the foundation of ethnic identity and societal interrelationships. If the concept of culture were inexistent, it would constrain the extant behavioral correlations within a society.

#### *Postmodernism: critiques to culture*

Within the postmodern perspective, discussions of culture led to the exploration of its deficit of conceptualization (Gonzalez, Moll, & Amanti, 2005). The deficit of the concept lies on the theoretical misuse of the term to describe the diversity of identities. Culture has been used to justify educational failure and creating a structural system. Gonzalez (2005) describes the concept of culture emphasized in schools as a force that obligates individuals into prefabricated molds. As seen by postmodernism, culture sets boundaries to standardize behavior among the populace. The elusive nature of the

concept differs with other theories. Gonzalez suggests that an alternative perspective to the processes of everyday life is the concept of funds of knowledge. Moll (1990) defines funds of knowledge as the cultural artifacts and bodies of knowledge that lie beneath household activities. Thus, culture represents the theoretical concept of the relationship between accumulated funds of knowledge of a group of people. Culture symbolizes the holistic view of the functional connection between funds of knowledge. Deconstructing the conceptualization of culture is annihilating the simplification of the explanation to diverse behavior.

#### Language and culture: a symbiotic interaction

The nature of the symbiotic relationship has been an enigma for anthropologists and linguist. Damen (1986) believes that even though the nature of the connection between language and culture remains a mystery, the binding tie is secure and cannot be disregarded. The connective strands establish systematic codes to interpret symbols and perceptions. The systematic codes that emanated from the amalgamation of language and culture act as extension of one another, each complementing the others in the process of message taking (Lapoint, 1990). The interdependent relationship between language and culture is mutually beneficial to both, where they constantly influence each other in the process of decoding ideas.

#### *Interrelation between language and culture*

Language patterns can provide access unconsciously to cultural patterns (Sherzer, 1987). Intrinsically, language and culture are intertwined, influencing each other constantly. Thus, language and culture have a systematic interdependent relationship: the

acquisition of language is tied to cultural context, and the acquisition of language occurs through culture (Hoffman, 1989). A connection exists between language and the cultural elements, showed in the language used; therefore, language can function as a reflector of cultural patterns. Moreover, language and culture have an “indexical relationship,” where the language associated with the culture is best to express the values and interests of the culture, registering cultural meaning, and indexing social context of speech (Fishman, 1996; Lapoint, 1990, pp. 154).

Language has an important role as a symbolic representation of culture. It is the mirror of the cultural attitudes, interrelated ideas and ethnic identity. As a result, culture defines the connotations and attributes associated with it in a specific language. The development of language affects cultural patterns of cognitions that are explicitly coded in language (Kuo & Lai, 2006). Language structure creates and defines the cultural perception of the realities of people (Damen, 1987), realities which are culturally constructed as systematic codes. Language is formed to present ideas that can change depending on the cultural elements influencing at the moment (Kuo & Lai, 2006).

#### Acculturation

Language is the carrier of culture; therefore, if a person is not in contact with the heritage language, culture can become an outsider (Cavallaro, 2005). The acquisition of language entails the adoption of certain elements of the culture associated with it. Unconsciously, the individual will begin replacing existing patterns of behavior. Acculturation is the process that occurs when cultural characteristics of a group are changed because of the interaction with another cultural group (Banks, 1999). Cultural



elements of the dominant group are adopted and integrated with aspects of the native culture. Acculturation of minority groups might occur through the process of language shift (Cavallaro, 2005). A language shift may lead to substitute special characteristics in a culture to adopt those in the dominant culture. Without the language associated with the culture, the existing strands will mutate and encompass a variability of learned behavioral patterns. People can appropriate or disregard certain elements of culture in the production of cultural identity (Gonzalez, Moll, & Amanti, 2005).

In the process of interacting with another group, the progression of acculturation may lead to assimilation, as the complete replacement of the native culture occurs. Albeit culture is existent, a forced acculturation through the acquisition of a new language may cause a deficit in cultural identity by silently obligating assimilation. The sociocultural variations will delineate the vantage point of perception, which will instigate affective dissimilarities and incongruity in the identity. Assimilation may lead to destroying the natural process of internalizing the knowledge and beliefs of a specific ethos. Thus, individuals who maintain intimate links with their culture of origin through language exposure and other forms of cultural participation are thought to experience less acculturation and more ethnic identification (Hoffman, 1989).

### Sapir-Whorf Hypothesis

The cultural implications of linguistic differences have been conjectured in the Sapir-Whorf hypothesis by anthropologist Franz Boas and his student Benjamin Whorf (Damen, 1987). The Sapir-Whorf hypothesis is a theoretical statement concerning the connection between language, thought, and culture. The existing linguistic diversity led

Whorf to propose the categories and distinctions of each language enshrine a way of perceiving, analyzing, and acting in the world. (Boroditsky, 2003). The hypothesis is the statement to diversify perceptions depending on the language spoken. Language affects the structure of individual discernment, which influences empirical behaviors. Sapir claimed that an intellectual system embodied in each language shapes thought of its speakers in a quite general way (Kay & Kempton, 1984). If the language differs, the speaker's perceptions and actions will differ even in similar situations.

Sapir (1949) sustained that “no two languages are ever sufficiently similar to be considered as representing the same social reality (p. 49).” Different aspects of reality are dependent on the variety of languages spoken. The woven interaction between language and thought affects culture, reflected in behavior. The way we behave is conditioned and constrained by the language being used (Kumaravadivelu, 2008; Shertzer 1987). Albeit the Sapir-Whorf hypothesis validity is in discussion, the interrelation between language and thought dictates the cognitive mechanisms associated with culture.

#### The cognition in language and culture

Early research on language acquisition created the myth of cognitive deficit due to bilingualism. The generalized belief was that one language was occupying the space in the brain assigned to the other language leading to cognitive deficit and confusion. Bilingual children were believed to be confused since they were incapable of cognitively performing in either language. Rather, there is possibility that bilingualism provides cognitive advantages over monolinguals by providing mental flexibility and facility in concept formation (Baker, 2001; Cummins, 1977).

Cognitive abilities are an adaption process that extends by constructing mental structures which can be applied to those in the environment (Piaget, 1952). The acquisition of a second language is the expansion of the linguistic system in language processing. The interconnection between two languages allows a wider range of expression and discernment. Bilingual children seemed to increase their metalinguistic awareness ability as a result of the comparison of linguistic structures and symbolic meaning of two languages (Gonzalez, 1995; Baker, 2001). Bilingualism can be seen as the expression of an idea in different varieties, leading to metalinguistic consciousness and different perceptions of the world.

Language is the representation of meaning and cognition deals with the problematic of symbolization (ed. Malive & Duquette, 1991). The bilingual individual decodes the ideas and constricts them in the cognitive system. A universal representational system will be created that coincides with both languages (Gonzalez, 1995). Bilingual children are influenced by cultural variables and symbolic concepts of sociocultural conventions. Research has compared bilinguals' cognitive processes to monolinguals in a variety of measures. Leopold (1939) suggested that bilingualism is related to cognitive processes such as categorization and creativity. Individuals who speak more than one language have additional perceptions of one idea, facilitating creativity.

Bilingual children are regarded as imaginative and divergent thinkers (Baker, 2001). This hypothesis lies on the flexibility of ideas due to the variances between the two languages. The terminology known in both languages is compressed to form an

assortment of forms to express an idea. Furthermore, a connection across languages exists with the subconscious process of transferring concepts simultaneously in both languages. The individual is constantly comparing the grammatical and linguistic systems of the two languages. Thus, the bilingual individual has diversified the linguistic abilities that are manifested in mental aptitudes.

Cummins (1977) proposed the threshold theory that states that linguistic competence must be obtained in both languages to avoid cognitive deficit. If the individual does not develop the native language or second language, a cognitive detrimental effect will be faced. Negative effects on the student's cognitive development can be caused by educational practices that ignore a student's native language and culture (Garcia, 2004). Language and culture are constrained mutually by the process of cognitive structures. The cognitive process of conceptualizing the world reflects the cultural milieu of the individual (Gonzalez, 1995).

## CHAPTER III

### METHODOLOGY

#### The Quantitative Paradigm

The chapter will present a synopsis of the genesis and structure of the research study. The methodology of this investigation underlies the analytic statistical perspectives which permit the examination of the data in different points of reference. The systematic investigation has as a focus the correlation of variables related with cultural behavioral pattern, intergenerational language shift, and cognition. The purpose of this study is to find a possible interrelation between the variables of language proficiency, culture and cognition to predict future pedagogical practices.

1. What is the relation between second language proficiency and the individual's native culture?
2. What characteristics of cognition are affected by native language proficiency and second language proficiency?
3. How are cultural elements affected by language proficiency?

### The Researcher's Role

My roles as a researcher was to collect, examine, verify if the data was reliable, and make the statistical analysis among variables. As a researcher, I also classified the data according to participants and the variables that were used.

### Data Sources

The subjects in the research study were undergraduate students who attend a university in South Texas. The population of the university is 17,000 students with highest enrollment percentage of Hispanics among Texas public school ([www.panam.edu](http://www.panam.edu)). The university is located in Edinburg, Texas on the border with Mexico. The region is biculturally rich and the population is predominantly of Mexican origin.

The study included 250 undergraduate students, specializing in English, Psychology, Business, Biology and Bilingual Education. The analyzed data were selected on a randomization system for validity purposes. In this study, numbers were assigned to the surveys so that the coding system would be implemented for data analysis. Surveys with odd numbers were selected to be utilized in the statistical analysis, which constituted of 110 surveys.

### Data Collection

After the categorization and selection of items were finished, a pilot test was conducted with 25 students from a similar population from which the final sample for this research study was selected. The 25 subjects completed the survey to determine linguistic

familiarity, ensure no ambiguity in the item questions, test the adequacy of the item questions, and to determine reliability in the instrument. The data collected was analyzed by utilizing the statistical program NCSS. Three item questions were eliminated because they were affecting adversely the Cronbachs Alpha and the homogeneity of the survey. If the reliability coefficient is the .80 to .90, the instrument is associated with reliability and stability because the error of variance has been eliminated (Robinson & Stafford, 2006). The item analysis of the survey revealed a Cronbachs alpha of 0.831354, within the range of a reliable instrument.

The data of this study was collected by means of a survey titled Language, Knowledge and Cognition, which was developed in the spring 2009. The survey is divided three different axes: language, culture and cognition. The language axis measured the attitudes demonstrated by the subjects towards their language proficiency in English and Spanish. The cultural axis measured the attitudes demonstrated by the subjects towards the symbolic and abstract aspects of learned behavior, beliefs, living styles, and funds of knowledge. The cognition axis measured the attitudes demonstrated by the subjects toward their ability to synthesize, analyze, apply and evaluate information in real life situations.

For the development of the question in the culture axis, an interview was conducted with 20 individuals. The casual dialogue consisted of questions defining the constituents of the minority culture. The responses were desegregated to analyze the variables that were potentially functional for the study. The frequency of the response determined the variables included in the survey.

The variables in the instrument to find a relationship between language, culture and cognition were answered on a scale from 1 to 5. The organization of the instrument is as follows: introduction, demographic information, language proficiency, cultural characteristics and cognitive abilities. The demographic information includes age, sex, and religion. The language proficiency section differentiated oral proficiency, written proficiency and reading proficiency in English and Spanish. The language proficiency section was answered on a scale of 1 to 5, where one meant “not proficient” and five “proficient.” The next sections were cultural characteristics and cognitive abilities. The level one represented “never”; this answer reflected that the specific variable did not describe the context of the subject. Level two showed that the variable “seldom” related the atmosphere of the subject. Level three constituted that only “sometimes” the variable was applicable to the subjects. Level four showed that “often” the variable described the characteristics of the subjects. Finally, level five represented that the variable “always” detailed the situations lived by the subject (see appendix)

The survey is composed of 33 variables that were answered vertically utilizing the scale previously mentioned. The instrument permitted to observe the way in which students from the university interact with the environment, and their language interaction with culture and cognition.

### Data Analysis

The study employed a quantitative methodology of data collection and analysis. The study analyzed the phenomenon from a univariable perspective, in order to describe the phenomenon attributes. The data was evaluated with a factorial analysis to integrate



correlation of variables that were interrelated. In addition, the data was analyzed to find possible correlations between the elements that sustain the researched phenomenon. Multiple regressions analysis was utilized to characterize the depending variables to formulate new models. The statistical software utilized for the study was the statistical program called *SPSS* and *Mini-Tab*.

Linguistic, cultural and cognitive variables proposed

### **General Information**

**Gender:** the variable differentiated the gender of the participants.

**Level of education:** the variable exposed the level of education of participants.

**Religion:** the variable specifies the religion of the participant.

**Age:** the variable distinguishes the age of the participant.

### **Language Proficiency**

**Spanish/ English proficiency:** the variable defined three characteristics and level of proficiency in reading, writing and speaking in both languages.

### **Culture**

**Details in a conversation:** the variable distinguished the behavioral patter in the Mexican culture of using unnecessary details in a conversation, also called speaking in circles.

**Close family ties:** the variable depicted the close relationship between the subjects and family members.

**Spanish music:** the variable measured the exposure of the participant to Spanish through musical perspectives.

**Expression of sentiments:** the variable exteriorized the behavioral pattern of Mexican people to demonstrate one's sentiments to others.

**Matriarchy:** the variable specified the significance of the female figure in managing the household and the family members' advantages.

**Economic responsibility:** the variable distinguished the differences in the Mexican cultural belief of imposing the economic responsibility on the male figure and the American cultural belief was that the responsibility is shared by both head household.

**Independency:** the variable inquires in the personal values of dependency. In the American culture, the mature individual is autonomous and independent of the family ties.

**Professional success:** the variable delineates the American behavioral pattern of prioritizing professional success. It differs from the Mexican cultural idea of prioritizing the family nucleus over any other matter.

**Decision making:** this variable contrasts the decision making process of the American culture and the Mexican culture. The Mexican culture's subjectiveness in the decision making process is seen by the influence of emotion and based on inner experiences. On the other hand, the American culture's decision making process is based on facts and more object

**Reuse of items:** the variable illustrated the Mexican belief of reusing an item several times before being disregarded.

**Parental dependence:** variable examined the deviation in cultural ideas regarding parental dependence.

### **Cognition**

**Synthesis:** having the ability to combine different parts to formulate a new general concept and making conclusions.

**Analysis:** distinguishing and separating the parts of the whole to discover the principles and elements related.

**Application:** capacity of an individual to utilize knowledge in everyday situations.

**Evaluation:** aptitude to make inferences and making judgments.

### Ethical Considerations

The rights followed by this study are those stated on the Belmont Report. Surveys were completed anonymously to assure confidentiality and participants completed the survey with their consent and by no means will this information be used against any participant. Upon arriving at the survey session, participants were provided with a copy of the informed consent document to read and the completion of survey signified consent to participate in the study. The consent form document included a description of the study, insignificant risk associated, and a statement assuring participation as voluntary.

## CHAPTER IV

### ANALYSIS

#### Introduction

This chapter provides a structured perspective of analyzed data and the results of the statistical descriptive study in the relationship between language, culture and cognition. The objective of the quantitative study is to discover an existing relationship between the influence of the intergenerational language shift, cultural characteristics and cognitive aptitudes.

#### Statistical Analysis

The statistical analysis of this study was completed by utilizing two statistical programs: *Mini-tab* and *Statisca*. The study employed a quantitative methodology of data analysis. The instrument was composed of 33 variables that descriptively illustrate different aspects of the phenomenon. The analysis of the variables of the phenomenon was concluded from a univariable perspective, factorial analysis, correlations and multiple regressions.

The data were analyzed to discover the juxtaposition of variables. The factorial analysis permitted to see the phenomenon in a different context, which articulated the investigation idiosyncratically. Thurstone (1965) describes factorial analysis as consists in the analysis the process of intercorrelations for the discovery of some general factor that is common to all of the variables included in the study. In this study, the integrational

process that categorizes interrelated variables depended on their numerical value on a scale from 0 to 10. The method was employed to integrate different variables utilizing the frequency of the subjects' responses of their attitudes towards language proficiency, cultural characteristics, and cognitive attitudes. The thirty-three variables were examined through a factorial analysis utilizing the program *Statistica*.

The data analysis for the determination of variables utilized the factorial analysis of  $r^2$ , with a reliability of .083%  $r > 0.28$ . As a result, eleven different factors were obtained. The following tables and graphs correspond to the integration of variables through a factorial analysis. For the purpose of the study, only five factors will be utilized since they represent 45% of the phenomenon. The first two tables present the factors that structured the researched phenomenon. Furthermore, a graph of the factors and the Eigen value is included.

Correlation analysis was conducted to indicate the relation of the factor with random variables. However, correlation does not establish causality (Robinson & Sttaford, 2006). Establishing a correlation between two variables is not a sufficient condition to establish a causal relationship since indirect variables might be unknown. Variables that may contribute to the identified factors were analyzed through multiple linear regressions. The objective is to find variables that can best predict phenomena associated with the integration of linguistic proficiency, cultural elements and cognition. The dependent variables of this research study were those in the linguistic proficiency axis. Furthermore, the purpose of conducting chi squared analysis was to present empirical validation of the research. Only the results that exceed the .05 significance level were included.

Graph 1

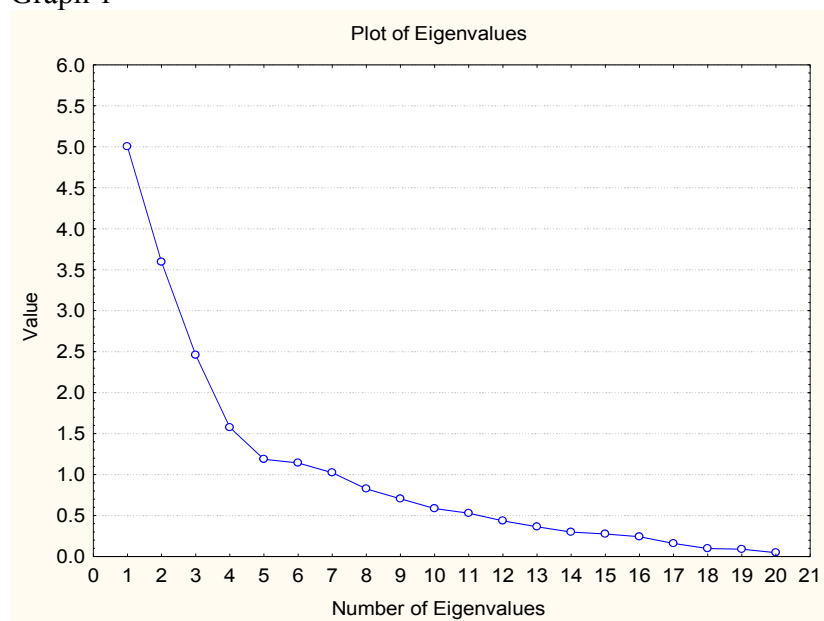


Table 1

## Eigenvalues

*Extraction: Principal components*

	Eigenval	% total Variance	Cumul. Eigenval	Cumul. %
1	5.349714	15.73445	5.34971	15.73445
2	3.898415	11.46593	9.24813	27.20038
3	2.888540	8.49570	12.13667	35.69608
4	1.930674	5.67845	14.06734	41.37454
5	1.722616	5.06652	15.78996	46.44106
6	1.665345	4.89807	17.45530	51.33913
7	1.558751	4.58456	19.01406	55.92369
8	1.299170	3.82109	20.31323	59.74478
9	1.245202	3.66236	21.55843	63.40714
10	1.117004	3.28531	22.67543	66.69244
11	1.100292	3.23615	23.77572	69.92860

*Factor 1: The erosion of minority language and the elements impacted*

The first factor in Table 2 is formed by variables that measured the abilities prevailing in individuals who have abandoned proficiency in Spanish or the minority language. Table 1 shows that this factor had the greatest presence in the study, since it explicates 15.73% of the phenomenon. The erosion of minority language had an impact on cognitive abilities and cultural characteristics.

Proficiency in the minority language decreased in all linguistic domains. An absence of proficiency exists in reading, writing and speaking, and listening. Reading ability was the variable that was most adversely affected by minority language erosion. The deterioration of linguistic proficiency in Spanish had an adverse relationship with the development of cognitive abilities. Cummins (1977) suggested that a linguistic competence level must be attained in order to avoid cognitive deficit. Limited proficiency in the minority language affected the cognitive abilities of analytical functioning, synthesis and evaluation processes. A significant decrease in all cognitive variables is evident in Table 2. These cognitive aptitudes could be seen in the acts of creating items with few elements, sustaining an argument to defend a point of view, relating two ideas, separating the elements of a concept, simplifying complex ideas, expressing ideas in different ways and converting two ideas into one. As the deterioration of the minority language occurs, cognitive abilities decrease. Sacrificing proficiency in the native language entails the decrease of growth of cognitive abilities.

The results present characteristics of a possible language shift experienced by the participants. It is inferred that the native language is Spanish due to the levels of proficiency of the participants. High percentage of participants (87%, n=92)

Table 2  
*Factor 1: The Erosion of Minority Language and the Elements Impacted*

VARIABLE	NAME	WEIGHT
V3	Reading proficiency Spanish	-0.703
V28	Separate the elements of a concept	-0.676
V9	Listen to music in Spanish	-0.659
V1	Oral proficiency Spanish	-0.643
V2	Writing proficiency in Spanish	-0.619
V29	Explanation of an idea in different ways	-0.542
V30	Convert two ideas into one	-0.514
V27	Simplify complex concepts	-0.502
V25	Produced new products with used materials	-0.49
V23	Sustain an argument to defend point of view	-0.471
V21	Relate two or more ideas	-0.439
V11	The house should be managed by a female	-0.405
V17	Explanations are based on facts	-0.386
V15	Professional success is priority for family strength	-0.384
V26	Execute different skills.	-0.381
V32	Birthplace	-0.368
V10	Demonstrate feelings to others.	-0.356
V20	Rely on parents' advice	-0.326
V19	Celebrate passionately	-0.317
V8	Close family ties	-0.314
V22	Decode strange images	-0.299
V24	Utilize few elements to create an item.	-0.282
V12	Economic responsibility lies on male.	-0.28



demonstrated to have competent language proficiency in the minority language. However, the participants did not fully develop proficiency in Spanish; therefore, the subjects presented signs of having low levels of cognitive development in the minority language. The participants displayed characteristic of limited bilingualism with low levels of proficiency in Spanish and displayed negative cognitive effects (Cummins, 1977). Thus, connections across languages were discontinued and the constant comparison between the two linguistic systems was impeded. The rapid disruption of the development of the minority language caused by the language shift prevented the participants to gain positive cognitive advantages.

Cultural elements were also impacted by the abandonment of the minority language. Schumann (1978) theorized that the acquisition of a second language is part of a more general process of acculturation. The language shift manifestation also included the incorporation of new cultural paradigms. The minority culture was transformed due the acculturation process initiated by the language shift. As a result, a shift in language may lead to a shift in cultural identity. Cultural identity strongly tied to the minority language is a factor in the linguistic assimilation process and the quantity of cognitive growth. Furthermore, the deterioration of the native language was related to the birthplace of the participants. The language shift was influenced by the extent by which the minority language was used. Since the participants' environment was predominantly dominated by the majority language, the minority language became submissive due to the setting that enclosed the participants.

Table 3 exhibits the correlation between the erosion of minority language proficiency and cultural characteristics. Regardless of the abandonment of the native

Table 3  
*Relations of the Erosion of Minority Language and the Elements Impacted*

	V4	V5	V6	V7	V8	V13	V14	V16	V18	V31
Oral proficiency in Spanish.					.25					
Writing proficiency in Spanish.	-.30				.26					
Reading proficiency in Spanish.					.28					
Listen to music in Spanish.	-.38	-.28	-.32							
Demonstrate feelings to others.										
The house management by a female.					.37					
Economic responsibility lies on male.										
Professional success is priority for family strength.										
Explanations are based on facts								.30		
Celebrate passionately.										
Rely on parents' advice.					.36					
Relate two or more ideas.									.30	
Decode strange images.										
Sustain an argument to defend point of view.										
Utilize few elements to create an item.										
Produced new products with used materials.										
Execute different skills.										
Simplify complex concepts.										
Separate the elements of a concept.									.30	
Explanation of an idea in different ways.										
Convert two ideas into one.										
Birthplace	-.33		-.29							
V4_ Oral proficiency in English						V13_ Economic responsibility lies on both				
V5_ Writing proficiency in English						V14_ Independency step for adulthood.				
V6_ Reading proficiency in English						V16_ Explanations are based on belief				
V7_ Details enrich a conversation						V18_ Items are used several time				
V8_ Close family ties						V31_ Gender				

language, certain characteristics of the native culture are maintained. A language shift does not obligate participants to total assimilation to the dominant culture. The language shift did not have an effect on cultural characteristics interrelated to other people. An acculturation process occurs when the individuals adapted to the dominant culture, while maintaining elements of the native culture.

Albeit the maintenance of the minority language was minimal, it had a cultural effect on the participants. Maintenance of language proficiency in Spanish promotes the preservation of the cultural characteristic of having close family ties. The table suggests that cultural characteristic of maintaining close family ties is correlated to the linguistic development of the minority language. Thus, language proficiency supports the preservation of cultural characteristics. An interconnectedness effect occurs with culture, where the impact of one cultural element will affect other elements. The cultural characteristic of having close family ties is interrelated to the beliefs of the management of the household and relying on parents' advice. Language proficiency will directly impact cultural aspects associated with the family.

Additionally, the construction of knowledge is culturally mediated. The maintenance of the native culture can have an effect on cognition. Participants practicing the cultural act of reusing an item affected the cognitive growth of the relation of two or more ideas and separating the elements of a concept. Mental flexibility is essential to analyze an item and interconnect ideas to decipher a form to reuse an item

Table 4 presents the elements that permit to predict the erosion of the minority language. A significant decrease in English proficiency is indispensable for the minority language to coexist with the second language. The language shift forced the abandonment

of the minority language; therefore, second language proficiency decrease would permit balanced bilingualism. The absence of the minority language is associated to the birthplace. Societal straining inflicts individuals to linguistically assimilate, impacting the shift to the dominant language. The linguistic input and environment of the individual will affect the language maintenance. The setting that encloses the individual will oblige the submission of the minority language.

Table 4  
*Elements that Permit to Predict the Erosion of Minority Language and the Elements Impacted*

<b>Independent Variable</b>	<b>Regression Coefficient</b>	<b>Standard Error</b>	<b>T-Value</b>	<b>Prob Level</b>	<b>Decision (5%)</b>	<b>Power (5%)</b>
Oral proficiency in English	-0.234	0.146	-1.604	0.112	Accept Ho	0.355
Writing proficiency in English	0.146	0.132	1.106	0.27	Accept Ho	0.194
Reading proficiency in English	-5.973	0.171	-0.349	0.727	Accept Ho	0.063
Details enrich a conversation	4.348	4.861	0.894	0.373	Accept Ho	0.143
Close family ties	0.192	6.216	3.100	0.002	Reject Ho	0.866
Economic responsibility lies on both	3.720	0.056	0.655	0.513	Accept Ho	0.099
Independency step for adulthood	2.260	4.445	0.508	0.612	Accept Ho	0.079
Explanations are based on belief	6.611	6.583	1.004	0.317	Accept Ho	0.168
Items are used several time	7.950	4.520	1.759	0.081	Accept Ho	0.41
Birthplace	8.637	0.101	0.085	0.932	Accept Ho	0.050
Age	3.632	6.025	0.602	0.548	Accept Ho	0.091
R-Squared 0.221						

On the other hand, an increment in practicing characteristics of the minority culture such as utilizing subjectiveness, enriching conversation with details, and reusing items will allow the maintenance of the minority language. Culture is the perception utilized by the language to describe the world. An association of cultural action and language is created. The indexical function of language proficiency is intertwined with the preservation of language and culture. Thus, cultural elements sustain language development and maintenance.

*Factor 2: Transference of L1 to L2 and its cognitive effects*

The second factor (Table 5) revealed the relationship between L1, L2 and the cognitive skills. The factorial analysis demonstrated that as individuals transfer their knowledge across language, their cognitive abilities increase. Thus, the native language could be utilized as an instrument to strengthen cognitive abilities that would eventually be transferred to another language (Cummins, 2001).

The participants demonstrated high levels of language proficiency in second language. Cognitive abilities of analysis, synthesis and application were correlated the existence of proficiency in both languages. Though an absence in the minority language exists, this entails that it previously existed. An accentuation of the English language could have caused the erosion of the minority language. Erosion of the native language occurred after the transference of cognitive abilities.

The transference of cognitive abilities occurs when the concepts are acquired in the native language and are applied in the second language. Cognitive abilities were potentialized when the individuals solidified the concept in the native language and then transferred that knowledge to the second language. However, the accentuation of one

language tends to gear towards English proficiency, coinciding with the previous results of a language shift. The siege on native language development affected the rapidity of linguistic assimilation. Limited proficiency in Spanish was caused by the shift in language due to societal straining.

Table 5

*Factor 2: L1's transference to L2 and its cognitive implication.*

<b>VARIABLE</b>	<b>NAME</b>	<b>WEIGHT</b>
V4	Oral proficiency in English.	0.609
V6	Reading proficiency in English.	0.555
V27	Simplify complex concepts.	0.528
V26	Execute different skills.	0.525
V5	Writing proficiency in English.	0.512
V22	Decode strange images.	0.448
V28	Separate the elements of a concept.	0.412
V21	Relate two or more ideas.	0.377
V29	Explanation of an idea in different ways.	0.375
V24	Utilize few elements to create an item.	0.326
V25	Produced new products with used materials.	0.32
V3	Reading proficiency in Spanish.	-0.464
V9	Listen to music in Spanish.	-0.484
V2	Writing proficiency in Spanish.	-0.53
V1	Oral proficiency in Spanish	-0.543

Furthermore, the accentuation of the second language affected proficiency skills in Spanish that could have been dominated previously. Reading and writing proficiency in the native language significantly decreased as English proficiency increased. The process of developing reading and writing skills is continuous. If the process is interrupted, an incomplete acquisition of the minority language will transfer when shifting to the majority language, causing an adverse effect in cognition.

The relations involved with the transference of the native language to the second language and its cognitive implication are shown in table 6. Cognitive development reflects linguistic functioning and cultural mechanisms. The transference of concepts from one language to another is related to culture. Cultural characteristics are transferred along with cognitive abilities. The participants' cultural characteristics were reinforced and maintained when the transference occurred. The participants adapted the maintained aspects of the native culture to the second acquired.

When transferring the cognitive abilities of producing a new item, executing different skills, simplifying and separating elements of a concept from L1 to L2, the cognitive abilities of converting two ideas into one are increased. Cognition is affected by the degree of concepts transported across languages. The extent of cognitive development in the native language will determine the cognitive growth in the second language. Minority language proficiency is correlated with the ability to express an idea in different ways.

Furthermore, the cognitive and cultural transference of knowledge from one language to another is interrelated. The transference of cultural characteristics can stimulate the development of cognitive abilities. Culture allows for mutation in

Table 6  
*Correlations the L1's Transference to L2 and its Cognitive Implication.*

	V1	V2	V3	V4	V5	V6	V9	V21	V22	V24	V25	V26	V7	V28	V29	
Details enrich a conversation																
Close family ties														.28		
Demonstrate feelings to others.																
The house should be managed by a female.																
Economic responsibility lies on male.																
Economic responsibility lies on both.																
Independency step for adulthood.																
Professional success is priority for family strength.		.30		.30				.31								
Explanations are based on belief.																
Items are used several times.									.29						.29	
Celebrate passionately.									.30						.30	
Rely on parents' advice.																
Sustain an argument to defend point of view.																
Express ideas in different ways.			.28	.36											.30	
Convert two ideas into one											.38	.28	.37	.44	.51	
Age																
V1_ Reading proficiency in Spanish								V21_ Relate two or more ideas								V29_ Explanation of an idea
V2_ Writing proficiency in Spanish								V22_ Decode strange images								
V3_ Oral proficiency in Spanish								V24_ Utilize few elements to create an item								
V4_ Reading proficiency in English								V25_ Produced new products with used materials								
V5_ Writing proficiency in English								V26_ Execute different skills								
V6_ Reading proficiency in English								V27_ Simplify complex concepts								
V9_ Listen to music in Spanish								V28_ Separate the elements of a concept in different ways.								



perception to occur through the sensorial system, which potentializes cognitive abilities (Coronado, 2009). Culture structures mental systems that allow the individuals to decode the environment. It is through culture that the participants became cognizant of representational meaning and constructed different perceptions by the receptors of the sensorial system. Reusing items and celebrating passionately stimulates cognitive growth in separating the elements of a concept. The minority culture activates cognitive mechanisms that promote the ability of analysis.

The transference of knowledge from L1 to L2 in the participants occurred initially in reading, shown in table 7. Eventually, the participants transferred their knowledge in writing and oral proficiency to the second language. Reading transition can easily occur due to the extensive similarities between the grammatical structures of English and Spanish. Reading proficiency is correlated with writing proficiency; therefore, reading will positively enhance the transference of writing skills. The participants' attitudes demonstrated that oral proficiency of the native language is the last proficiency to be transferred.

As second language proficiency increased, the Spanish proficiency was sacrificed. The accentuation of the second language led to the deterioration of the native language. The erosion of writing proficiency in Spanish occurred more hastily than any other. Delimitation of cognitive abilities can be caused by limited linguistic proficiency in either language. The greater the linguistic assimilation, the major negative impact will be perceived in the development of synthesis, analytical, and evaluative skills.

Table 7  
*Attributes of L1's Transference to L2 and its Cognitive Implication*

	Valid N	Mean	Median	Range	Variance	Std.Dev.	Skewness	Kurtosis
READ_EN6	105	4.780952	5.000000	2.000000	.230403	.480003	-2.14045	3.95374
WRIT_EN5	105	4.714286	5.000000	2.000000	.282967	.531946	-1.71439	2.10188
ORAL_EN4	105	4.704762	5.000000	2.000000	.325458	.570489	-1.81178	2.29421
DIF_SK26	105	4.238095	4.000000	3.000000	.529304	.727533	-.55330	-.37464
DIF_WA29	105	4.171429	4.000000	2.000000	.528022	.726651	-.27516	-1.0566
SIMPLI27	105	4.000000	4.000000	3.000000	.519231	.720577	-.47157	.31201
ORA_SPA1	105	3.790476	4.000000	4.000000	1.628755	1.276227	-.67225	-.74737
READ_SP3	105	3.771429	4.000000	4.000000	1.889560	1.374613	-.75473	-.74546
SEPARA28	105	3.771429	4.000000	3.000000	.581868	.762803	-.24846	-.18642
DEC_IM22	105	3.495238	4.000000	4.000000	.925458	.962007	-.74592	.76807
MUSI_SP9	105	3.466667	4.000000	4.000000	2.174359	1.474571	-.37376	-1.3115
TWO_ID21	105	3.466667	3.000000	4.000000	.905128	.951382	-.51744	.51571
NEW_IT25	105	3.447619	3.000000	4.000000	.961172	.980394	-.25643	-.25756
WRIT_SP2	105	3.323810	3.000000	4.000000	1.913370	1.383246	-.24766	-1.2124
ITE_EL24	105	3.257143	3.000000	4.000000	.808242	.899023	-.04896	.10697

The prediction of L1's transference to L2 and its cognitive implication is affected by cultural attitudes (Table 8). Culture can be segmented in order to comprehend the relationship of its characteristics. Transition across languages is explained by the decrease of communicative cultural practices. The rejection to utilize details in a conversation, basing explanations on beliefs and relying on parents' advice facilitates transition across languages. The communicative cultural practices promote the preservation of the minority language. Hence, the decline of communicative cultural practices of the minority culture will affect the transition of concepts to the second language since an evident accentuation in that language exists.

Equally, the increment of cultural practices associated with the family facilitates conceptual transition. Increasing the practices of close family ties, prioritizing professional success to strengthen the family and assigning the management of household on the female figure contributes to L1's transference to L2 and its effects on cognition. The interaction of cultural family action impact the form cognitive development occurs. The cultural artifacts and knowledge that lie beneath household activity is known as funds of knowledge (Moll, 1990). The knowledge is transmitted through cultural nets of different social and personal experiences. The individualistic nature of funds of knowledge provides an explanation to the correlation between household cultural activity and cognition. Family input is crucial in impacting previous knowledge that becomes the basis for the interpretation of new knowledge and expansion of cognitive abilities in both languages.

Table 8  
*Elements that Permit to Predict L1's Transference to L2 and its Cognitive Implication*

<b>Independent Variable</b>	<b>Regression Coefficient</b>	<b>Standard Error</b>	<b>T-Value (Ho: B=0)</b>	<b>Prob Level</b>	<b>Decision (5%)</b>	<b>Power (5%)</b>
Professional success is priority for family strength.	9.485	3.940	0.240	0.810	Accept Ho	0.056
Close family ties	7.516	5.852	1.284	0.202	Accept Ho	0.245
Birthplace	7.487	9.722	0.770	0.443	Accept Ho	0.118
The house should be managed by a female.	6.002	4.481	1.339	0.183	Accept Ho	0.263
Celebrate passionately.	4.274	4.489	0.095	0.924	Accept Ho	0.051
Economic responsibility lies on both.	2.506	4.856	0.516	0.607	Accept Ho	0.080
Economic responsibility lies on male.	2.310	3.890	0.594	0.554	Accept Ho	0.090
Convert two ideas into one.	0.188	4.842	3.900	0.000	Reject Ho	0.971
Sustain an argument to defend point c	0.181	4.658	3.902	0.000	Reject Ho	0.971
Explanations are based on facts	0.128	5.057	2.544	0.012	Reject Ho	0.711
Items are used several times.	0.100	3.888	2.584	0.011	Reject Ho	0.724
Age	-1.677	5.398	-0.310	0.756	Accept Ho	0.060
Independency step for adulthood.	-2.226	4.098	-0.543	0.588	Accept Ho	0.083
Gender	-2.652	9.305	-0.285	0.776	Accept Ho	0.059
Demonstrate feelings to others.	-2.708	4.168	-0.649	0.517	Accept Ho	0.098
Details enrich a conversation.	-5.246	4.309	-0.121	0.903	Accept Ho	0.051
Explanations are based on belief.	-7.854	0.058	-1.344	0.182	Accept Ho	0.264
Rely on parents' advice.	-9.352	3.700	-0.252	0.801	Accept Ho	0.057

R-Squared 0.470357

*Factor 3: Cultural elements that sustain the development of second language*

The third factor integrated the cultural elements that sustain the acquisition of second language (Table 9). Certain elements of the minority culture can sustain the development of the second language proficiency. The skills of reading, writing, and oral proficiency in English are influenced by communicative cultural practices and cultural elements of family relations. Language is the oral channel to illustrate a culture. Therefore, communicative cultural practices such as using details to enrich a conversation and sustaining an argument promote the development of the second language. Additionally, the management of the household, having close family ties and relying on parents' advice will also influence proficiency of the second language.

Table 9

*Factor 3: Cultural Elements that Sustain the Development of Second Language.*

<b>VARIABLE</b>	<b>NAME</b>	<b>WEIGHT</b>
V6	Reading proficiency in English.	0.527
V5	Writing proficiency in English.	0.523
V8	Close family ties.	0.509
V4	Oral proficiency in English.	0.466
V19	Celebrate passionately.	0.417
V7	Details enrich a conversation.	0.392
V20	Rely on parents' advice.	0.391
V31	Gender	0.373
V15	Professional success is priority for family strength.	0.363
V10	Demonstrate feelings to others.	0.352
V11	The house should be managed by a female.	0.352
V23	Sustain an argument to defend point of view.	0.288
V25	Produced new products with used materials.	-0.268
V18	Items are used several times.	-0.278
V24	Utilize few elements to create an item.	-0.307
V26	Execute different skills.	-0.312
V27	Simplify complex concepts.	-0.331

The acquisition of a second language impacts the cognitive abilities of synthesis and analysis. The negative weight of the cognitive variables implicate that they depend on language for growth. Cognitive development depends on the acquisition of another language. Language proficiency is interrelated with the abilities of synthesizing and analyzing.

Table 10 depicts the correlations in the existing relation between cultural elements and second language development. Relying on parents' advice will facilitate the continuance of other cultural elements that influence second language development. Therefore, cultural elements that are interrelated affect the acquisition of another language.

Cultural elements are the sustenance cognitive aptitudes. Participants who prioritized professional success and demonstrated feelings could synthesize two ideas, simplify and separate concepts, and decode strange images. In addition, the cognitive abilities sustained by culture were correlated to creating new products, executing different skills and simplifying a concept. The cognitive representations were constructed on cultural experiences. Culture became the avenue to construct new knowledge, observed in the creation of new products and ideas.

The participants are inclined to maintain the cultural elements related to maintaining close family ties. Numerous cultural elements revolve around the belief of perceiving the family as a nucleus of the society and the importance its management. Additionally, family cultural aspects had an effect on the participants' external form of celebration and their ability of demonstrating sentiments to other people.

Table 10  
*Correlation of Cultural Elements that Sustain the Development of Second Language*

	V4	V5	V6	V7	V8	V10	V11	V15	V18	V19	V23	V24	V25	V26	V27
Oral proficiency in Spanish.															
Writing proficiency in Spanish.					.28										
Reading proficiency in Spanish.					.29		.31			.34					
Listen to music in Spanish.	-.40	-.29	-.33				.30								
Economic responsibility lies on male.															
Economic responsibility lies on both.															
Independency step for adulthood.							.28								
Explanations are based on belief.															
Explanations are based on facts															
Rely on parents' advice.					.38	.32	.29		.33						
Relate two or more ideas									.32			.32		.38	
Decode strange images.									.26			.28		.35	

Separate the elements of a concept.	.31	.30	.35	.39	.47	.73
Explanation of an idea in different ways.	.27	.27			.44	.42
Convert two ideas into one.	.28				.37	.27
Gender						
Birthplace	-.35	-.29				
Religion						

V4\_ Oral proficiency in English  
V5\_ Writing proficiency in English.  
V6\_ Reading proficiency in English  
V7\_ Details enrich a conversation  
V8\_ Close family ties.  
V10\_ Demonstrate feelings to others.  
V11\_ The house should be managed by a female.  
V27\_ Simplify complex concepts

V15\_ New products with used materials  
V18\_ Professional success is priority for family strength.  
V19\_ Celebrate passionately.  
V23\_ Sustain an argument to defend point of view.  
V24\_ Utilize few elements to create an item.  
V25\_ Produced new products with used materials.  
V26\_ Execute different skills.



The linguistic attributes of the cultural elements influenced the reading, writing, and oral proficiency in English. The connection between cultural experiences and linguistic proficiency structures the acquisition of the second language. Language is a cultural mediator as it emerges from the social interactions occurring around a person. Maintaining close family ties was correlated with development of Spanish proficiency since parents are the main source of linguistic input in that language.

Table 11

*Attributes of the Cultural Elements that Sustain the Development of Second Language*

	Valid N	Mean	Median	Range	Variance	Std.Dev.	Skewness	Kurtosis
READ_EN6	105	4.7810	5.0000	2.000000	.230403	.480003	-2.14045	3.95374
WRIT_EN5	105	4.7143	5.0000	2.000000	.282967	.531946	-1.71439	2.10188
ORAL_EN4	105	4.7048	5.0000	2.000000	.325458	.570489	-1.81178	2.29421
CLOS_FA8	105	4.5524	5.0000	3.000000	.595788	.771873	-1.71322	2.20277
DIF_SK26	105	4.2381	4.0000	3.000000	.529304	.727533	-.55330	-.37464
ARGUME23	105	4.1238	4.0000	4.000000	.782601	.884647	-.84142	.45279
SIMPLI27	105	4.0000	4.0000	3.000000	.519231	.720577	-.47157	.31201
CELEBR19	105	3.9905	4.0000	4.000000	.951832	.975619	-.86736	.41740
PRO_SU15	105	3.8857	4.0000	4.000000	1.159890	1.076982	-.89834	.45647
DETAILS7	105	3.8381	4.0000	4.000000	.886996	.941805	-.44293	-.03330
IT_REU18	105	3.8286	4.0000	4.000000	.989560	.994767	-.60287	.13884
SHO_FE10	105	3.5524	4.0000	4.000000	1.230403	1.109235	-.32857	-.63228
PAR_AD20	105	3.4952	4.0000	4.000000	1.463919	1.209925	-.33730	-.88121
NEW_IT25	105	3.4476	3.0000	4.000000	.961172	.980394	-.25643	-.25756
ITE_EL24	105	3.2571	3.0000	4.000000	.808242	.899023	-.04896	.10697
HOUFE11	105	3.0952	3.0000	4.000000	1.029304	1.014546	.08752	.05178

Proficiency in the second language increases as more cultural elements of the native language are maintained. Culture serves as the representational system that influences the way second language will be developed. Maintaining close family ties is the cultural element with the greatest impact on development of English proficiency in all domains. Funds of knowledge and transference of concept explicate the influence of culture in the development of language.

Table 12 shows some of the variables that permit to predict the cultural elements that sustain the development of second language. The individuals in this study show that the writing and oral proficiency in Spanish decrease along with listening music in Spanish, in order to develop their second language. There are three elements from cultural responsibility that need to grow in order to sustain the development of the second language. Beliefs of independency for adulthood, economic responsibility on male or economic responsibility on both will influence proficiency in the second language.

The cognitive processes emerge according to the systematic cultural awareness. Cognitive abilities that utilize culture as a medium of developing second language are a predictor of this factor. The abilities of separating the elements of a concept, explaining it in different ways, and converting them into one provide the necessary elements to acquire another language. Thus, cognitive abilities of analysis and synthesis that are culturally mediated sustain second language development.

Table 12

*Elements that Permit to Predict the Cultural Elements that Sustain the Development of Second Language.*

<b>Independent Variable</b>	<b>Regressio Coefficien</b>	<b>Standard Error</b>	<b>T-Value (Ho: B=0)</b>	<b>Prob Level</b>	<b>Decision (5%)</b>	<b>Power (5%)</b>
Separate the elements of a concept.	7.171	5.203	1.378	0.171	Accept Ho	0.275
Explanation of an idea in different ways.	6.702	5.160	1.298	0.197	Accept Ho	0.250
Independency step for adulthood.	6.399	3.008	2.126	0.036	Reject Ho	0.557
Economic responsibility lies on male.	6.357	2.829	2.246	0.027	Reject Ho	0.603
Economic responsibility lies on both.	5.762	3.609	1.596	0.113	Accept Ho	0.351
Decode strange images.	4.933	3.654	1.350	0.180	Accept Ho	0.266
Explanations are based on facts	4.012	3.947	1.016	0.312	Accept Ho	0.171
Convert two ideas into one.	3.157	4.250	0.742	0.459	Accept Ho	0.113
Explanations are based on belief.	2.428	4.468	0.543	0.588	Accept Ho	0.083
Reading proficiency in Spanish.	0.117	4.289	2.738	0.007	Reject Ho	0.772
Relate two or more ideas.	0.044	3.895	1.152	0.252	Accept Ho	0.207
Birthplace	-0.118	7.392	-1.600	0.113	Accept Ho	0.353
Oral proficiency in Spanish.	-1.725	3.431	-0.502	0.616	Accept Ho	0.078
Writing proficiency in Spanish.	-7.081	4.095	-1.729	0.087	Accept Ho	0.401
Gender	-7.71	6.946	-1.110	0.269	Accept Ho	0.195
Listen to music in Spanish.	-9.492	2.882	-0.329	0.742	Accept Ho	0.062

R-Squared 0.476

*Factor 4: The synthesis of the elements sustaining languages and its residual process.*

Table 13 shows the integration of the elements that sustain language and the residual process. The majority of the participants that became proficient in both languages changed their paradigms of the native culture. The acquisition of a second language entails the attainment of its cultural characteristics.

The individual is faced with the dilemma of mutating native cultural aspects for those in the second language. Thus, bilingualism is confronted with a synculturation process of uniting the paradigms of both cultures. As bilingual proficiency increased, the cultural aspects related to the matriarchic form of living shifted. The participants' attitudes towards the management of the household were discontinued.

Table 13

*Factor 4: The Synthesis of Elements Sustaining Languages and its Residual Process.*

<b>VARIABLE</b>	<b>NAME</b>	<b>WEIGHT</b>
<b>V5</b>	Writing proficiency in English.	0.434
<b>V6</b>	Reading proficiency in English.	0.416
<b>V2</b>	Writing proficiency in Spanish.	0.414
<b>V3</b>	Reading proficiency in Spanish.	0.373
<b>V1</b>	Oral proficiency in Spanish.	0.357
<b>V4</b>	Oral proficiency in English.	0.355
<b>V11</b>	The house should be managed by a female.	-0.283
<b>V19</b>	Celebrate passionately.	-0.287
<b>V16</b>	Explanations are based on belief.	-0.38
<b>V20</b>	Rely on parents' advice.	-0.413
<b>V10</b>	Demonstrate feelings to others.	-0.476

Bilingualism is defined with the incorporation of two cultures. By acquiring another language, aspects of the native culture were synthesized with those in the second culture. Acquiring a second language is a general process of cultural transformation since language is a dominant characteristic of its culture. As a change occurred through the acquisition of another language in household management ideals, dependability on parents' opinion became obsolete and the participants became more objective. Their objectiveness led to prevent expressing sentiments. Thus, bilingual individuals are confronted with an inevitable alteration of cultural paradigms, initiated by the process the acquisition of a second language.

As a synthesis of the elements sustaining the languages occurs, cultural elements from both languages are amalgamated (table 14). English proficiency is impregnated with cultural characteristics that lead to the substitution of certain aspects of the minority culture.

Since language is a prevailing characteristic of culture, language will define the cultural paradigms of the individual. If minimal proficiency of the minority language exists, it will influence the maintenance of the minority culture. The participants demonstrated that their proficiency in the minority language was sufficient to prevent absolute cultural assimilation. The extent of acculturation was defined by proficiency in the second language. As the individual became bilingual, the process of synculturation transpired. A confrontation with the synthesis of the elements interrelated to the development of both languages occurred through culture. Bilingualism is the dominant factor in synthesizing cultures. As the participants adopted new cultural characteristic, the minority culture mutated with the process of second language acquisition.



When one characteristic of the minority culture transforms, interrelated cultural elements transform congruently. Cultural elements associated with the household activity and manner of explaining an occurrence are connected. As the participants became more objective and transformed their beliefs of a matriarchic household and dependability on parents' advice, the form of explaining their ideas changed and they adjusted their ideas of the effects of professional success and the family ties. As cultural elements mutate, it delineates discernment and diversifies the decoding of stimuli. The process of synculturation allows multiple angles of perception by utilizing different cultural elements to interpret the environment.

Cognitive processes are also synthesized in the development of bilingualism. Reading proficiency in the minority language is correlated with the cognitive ability of sustaining an argument and explaining an idea in different ways. The cognitive processes previously acquired are synthesized with existent ones. Cognitive processes become a synthesized progression towards bilingualism.

The societal straining is also impacting the deterioration of the minority language by emphasizing rapid linguistic assimilation (Table 15). Language integration accentuated proficiency in the second language. The participants are more dominant in English proficiency than Spanish proficiency. English proficiency has the capability of accelerating the language shift and assimilation progression.

Table 15  
*Attributes of the Synthesis of Elements that sustain Languages and its Residual Process.*

	Valid N	Mean	Median	Range	Variance	Std.Dev.	Skewness	Kurtosis
READ_EN6	105	4.780952	5.000000	2.000000	.230403	.480003	-2.14045	3.95374
WRIT_EN5	105	4.714286	5.000000	2.000000	.282967	.531946	-1.71439	2.10188
ORAL_EN4	105	4.704762	5.000000	2.000000	.325458	.570489	-1.81178	2.29421
EX_BEL16	105	4.295238	4.000000	2.000000	.498535	.706070	-.49078	-.87940
CELEBR19	105	3.990476	4.000000	4.000000	.951832	.975619	-.86736	.41740
ORA_SPA1	105	3.790476	4.000000	4.000000	1.628755	1.276227	-.67225	-.74737
READ_SP3	105	3.771429	4.000000	4.000000	1.889560	1.374613	-.75473	-.74546
SHO_FE10	105	3.552381	4.000000	4.000000	1.230403	1.109235	-.32857	-.63228
PAR_AD20	105	3.495238	4.000000	4.000000	1.463919	1.209925	-.33730	-.88121
WRIT_SP2	105	3.323810	3.000000	4.000000	1.913370	1.383246	-.24766	-1.21240
HOUFE11	105	3.095238	3.000000	4.000000	1.029304	1.014546	.08752	.05178

The linguistic confrontation reduced its dynamic interaction of the native culture. Linguistic proficiency is affected by the culture impregnated in the language. Thus, cultural interaction delineates language and the perception of the individual. Since the integration of language processes is occurring, the new elements of the second language are uniting with those in the native language. The decrease of elements in the native culture is explained by the amalgamation of new cultural elements.

There is no synthesis without differentiation. The elements that allow predicting the synthesis of the elements sustaining languages are shown in table 16. The development of proficiency in both languages is influenced by the transformation of cultural elements and cognitive abilities.



A transformation of cultural elements exists in the integration of languages. The participants' beliefs of economic responsibility and the reuse of items increases as the languages are incorporated. The cultural elements interrelated with economic responsibility are a predictor to achieve bilingualism. The variables of prioritizing economic professional success and male's economic accountability influence language proficiency. The perpetual interaction between culture and language delineates the transformations that individuals will experience.

A delimitation of language must be in existence before the synthesis occurs. The cognitive abilities to explain an idea in different ways objectively and separating elements facilitate the synthesis of the elements sustaining bilingualism. Individualizing elements systemizes the process of synthesis for an effective interconnection. The abilities of separating elements from a whole concept, and integrating them in a different manner, primarily sustain the metamorphosis of languages.

Table 16

*Elements that Permit to Predict the Synthesis of Elements Sustaining Languages and its residual process.*

<b>Independent Variable</b>	<b>Regression Coefficient</b>	<b>Standard Error</b>	<b>T-Value (Ho: B=0)</b>	<b>Prob Level</b>	<b>Decision (5%)</b>	<b>Power (5%)</b>
Separate the elements of a concept.	7.957	6.740	1.180	0.241	Accept Ho	0.214
Economic responsibility lies on male.	6.296	3.104	2.027	0.045	Reject Ho	0.517
Items are used several times.	6.132	3.309	0.185	0.853	Accept Ho	0.053
Convert two ideas into one.	4.469	4.656	0.960	0.339	Accept Ho	0.157
Decode strange images.	4.009	4.061	0.987	0.326	Accept Ho	0.164

<b>Independent Variable</b>	<b>Regression Coefficient</b>	<b>Standard Error</b>	<b>T-Value (Ho: B=0)</b>	<b>Prob Level</b>	<b>Decision (5%)</b>	<b>Power (5%)</b>
Professional success is priority for family strength.	3.749	3.189	1.175	0.243	Accept Ho	0.213
Explanation of an idea in different ways.	3.342	5.685	0.588	0.558	Accept Ho	0.089
Economic responsibility lies on both.	2.332	3.808	0.612	0.541	Accept Ho	0.092
Utilize few elements to create an item.	2.285	3.937	0.580	0.563	Accept Ho	0.088
Age	1.206	4.574	2.638	0.009	Reject Ho	0.741
Close family ties.	0.175	4.324	4.052	0.000	Reject Ho	0.979
Listen to music in Spanish.	0.138	2.462	5.643	0.000	Reject Ho	0.999
Sustain an argument to defend point of view.	0.116	3.987	2.921	0.004	Reject Ho	0.823
Relate two or more ideas.	0.061	4.207	1.463	0.147	Accept Ho	0.304
Details enrich a conversation.	0.057	3.492	1.642	0.104	Accept Ho	0.368
Birthplace	-0.108	7.952	-1.363	0.176	Accept Ho	0.270
Gender	-0.143	7.687	-1.870	0.065	Accept Ho	0.455
Simplify complex concepts.	-0.154	7.025	-2.197	0.030	Reject Ho	0.584
Independency step for adulthood.	-1.031	3.184	-0.323	0.746	Accept Ho	0.061
Produced new products with used materials.	-1.629	4.199	-0.388	0.698	Accept Ho	0.067
Explanations are based on facts	-2.024	4.257	-0.047	0.962	Accept Ho	0.050
Execute different skills.	-4.181	0.060	-0.692	0.490	Accept Ho	0.105
R-Squared 0.699826						

*Factor 5: Synculturation*

The last factor in table 17 integrates elements associated with the phenomenon of synculturation. Synculturation is a residual process of bilingualism where the elements of two cultures are integrated and synthesized. The extent by which competence in both languages occurs determines the level of synculturation. The characteristics from the minority culture evolve with the acquisition of a second language and its cultural elements.

Unification of cultural elements is a process that delineates behavior. The fusion of the cultures occurs as the individual dominates the new cultural paradigms being acquired. As the participants' beliefs of the connection between adulthood and independency changed, they sought to be closer to their religion. Furthermore, the participant unified the cultural elements of imposing the management of the household in the female figure and becoming objective. The participants also adopted the custom of integrating activities into only one.

Table 17  
*Factor 5: Synculturation*

<b>VARIABLE</b>	<b>NAME</b>	<b>WEIGHT</b>
<b>V14</b>	Independency step for adulthood.	0.501
<b>V33</b>	Religion	0.497
<b>V11</b>	The house should be managed by a female.	0.29
<b>V10</b>	Demonstrate feelings to others.	-0.292
<b>V13</b>	Economic responsibility lies on both.	-0.292
<b>V30</b>	Convert two ideas into one.	-0.299
<b>V34</b>	Age	-0.302
<b>V16</b>	Explanations are based on belief.	-0.375
<b>V31</b>	Gender	-0.428

Conversely, the process of synculturation included alterations of cultural practices to adopt the new ones. As the participants moved towards independency, they prevented themselves from demonstrating their feelings to others. The incorporation of both cultures favorably influences each other in a symbiotic relationship of constant interaction.

In the synculturation process, certain relationships of the minority culture were veiled (Table 18). As a new culture is being acquired, previous cultural elements are integrated with the new adopted ones. Cultural variations are dynamically transforming to integrate all cultural aspects attained. As the participants transition to a synculturation process, the cultural characteristics of celebrating passionately and relying on parents' advice were transformed to beliefs of independency. The idea of the female figure managing the household is connected with maintaining close family ties, celebrate passionately and rely on parents' advice. In a matriarchy, the female figure has the opportunity of instilling in the children the moral custom of maintaining close family ties. The synculturation process cultural elements are fused but not in an individualistic method; rather, a holistic system is employed where all components are integrated in their entirety.

Furthermore, the impediment of the synculturation process to occur by forcing cultural assimilation also affected the growth of cognitive abilities. When the participants rejected the custom of combining several activities into one, they adversely affected the development of analyzing a concept, diversifying an explanation and producing new product.





The attributes of the synculturation process are demonstrated in table 19. The participants synthesized the minority culture with the dominant culture in the element of acquiring the belief of sharing the economic responsibility. The acquisition of this belief was influenced by their objectiveness in decision making.

The average age of the participants is 25 years old. Approximately by this age, the participants integrated the independency paradigm and management of the family unit. As the participants become autonomous, they began to demonstrate their feelings to other and combine activities. In the synculturation process, previous cultural elements are adapted to new cultural elements being acquired.

There is no transition from one culture to another. While individuals go through the second cultural elements, there is a synthesis of both cultures. A new integrated culture arises as residual variable. Three axes participate to sustain the phenomenon: factors from the first and second culture, and elements from the cognition system.

Table 19

*Attributes of the Synculturation phenomenon*

	Valid	Mean	Median	Range	Variance	SD	Skewness	Kurtosis
N								
AGE34	105	25.4000	22.0000	34.00000	56.31923	7.504614	1.64134	1.82370
ECOBOT13	105	4.3905	5.0000	3.00000	.66337	.814475	-1.05348	.01660
EX_BEL16	105	4.2952	4.0000	2.00000	.49853	.706070	-.49078	-.87940
INDEPE14	105	4.2000	4.0000	4.00000	1.00769	1.003839	-1.40235	1.92180
TWOINO30	105	3.8190	4.0000	3.00000	.68810	.829515	-.06062	-.80213
SHO_FE10	105	3.5524	4.0000	4.00000	1.23040	1.109235	-.32857	-.63228
HOUFE11	105	3.0952	3.0000	4.00000	1.02930	1.014546	.08752	.05178

Table 20 shows the elements that predict the synculturation process. This phenomenon integrates elements from the two cultures shown in this study. In the synculturation process, opposite cultural elements unite. The variable of explanation based on belief must decrease for the development of the element of explanations based on facts and beliefs of economic responsibility are also modified. Conversational cultural aspects set the environment for the synthesis of cultures. The synculturation was predicted by the reliance on parents, explanations based on facts, details enrichment conversation and professional success.

In addition, the synculturation process integrates language skills from English and Spanish. The elements that sustained language proficiency are amalgamated by the process of synculturation. Evidence is seen in the mutation of oral proficiency in Spanish to permit the integration of oral proficiency in English. The same phenomenon occurs with reading proficiency in Spanish that has transformed to permit the amalgamation of skills in English proficiency. However, an opposite occurrence transpired with writing proficiency. Writing proficiency in English dominated in the cultural synthesis with writing proficiency in Spanish.

Finally, the cognitive skills that sustained the languages were synthesized by the phenomenon of synculturation. A transmutation of the cognitive abilities of utilizing few elements to create an item and analysis of a concept must occur for the synculturation process to occur. Conversational cultural elements are interconnected with the cognitive ability related to discourse such as sustaining an argument and explanation of an idea in different way to impact the phenomenon. The development of the cognitive skill of simplifying a concept permits the synthesis of culture.



Table 20  
*Elements that Permit to Predict a Phenomenon of Synculturation*

<b>Independent Variable</b>	<b>Regression Coefficient</b>	<b>Standard Error</b>	<b>T-Value (Ho: B=0)</b>	<b>Prob Level</b>	<b>Decision (5%)</b>	<b>Power (5%)</b>
Oral proficiency in Spanish.	-4.905	4.992	-0.098	0.921	Accept Ho	0.051
Writing proficiency in Spanish.	6.914	5.678	1.217	0.226	Accept Ho	0.225
Reading proficiency in Spanish.	-0.100	5.768	-1.745	0.084	Accept Ho	0.407
Oral proficiency in English.	0.133	0.134	0.992	0.323	Accept Ho	0.165
Writing proficiency in English.	-0.167	0.119	-1.392	0.167	Accept Ho	0.279
Reading proficiency in English.	3.531	0.149	0.237	0.813	Accept Ho	0.056
Details enrich a conversation.	7.134	0.042	1.688	0.095	Accept Ho	0.385
Close family ties.	0.128	5.606	2.299	0.024	Reject Ho	0.622
Listen to music in Spanish.	1.707	4.076	0.418	0.676	Accept Ho	0.069
Economic responsibility lies on male.	5.408	3.917	0.138	0.890	Accept Ho	0.052
Professional success is priority for family strength.	7.969	4.043	1.970	0.052	Accept Ho	0.494
Explanations are based on facts	5.824	5.082	1.146	0.255	Accept Ho	0.204
Items are used several times.	-2.964	4.108	-0.721	0.472	Accept Ho	0.109
Celebrate passionately.	9.884	4.313	2.291	0.024	Reject Ho	0.619
Rely on parents' advice.	6.630	3.899	0.170	0.865	Accept Ho	0.053
Relate two or more ideas.	0.034	5.436	0.626	0.533	Accept Ho	0.094
Decode strange images.	3.253	4.941	0.658	0.512	Accept Ho	0.099
Sustain an argument to defend point of view.	3.566	5.104	0.698	0.486	Accept Ho	0.106
Utilize few elements to create an item.	-7.743	4.851	-1.596	0.114	Accept Ho	0.351
Produced new products with used materials.	0.110	5.105	2.170	0.032	Reject Ho	0.573
Execute different skills.	-0.120	7.749	-1.560	0.122	Accept Ho	0.338
Simplify complex concepts.	4.410	9.158	0.481	0.631	Accept Ho	0.076
Separate the elements of a concept.	-3.352	8.566	-0.391	0.696	Accept Ho	0.067
Explanation of an idea in different ways.	6.241	6.922	0.901	0.369	Accept Ho	0.144
Convert two ideas into one.	0.181	5.715	3.184	0.002	Reject Ho	0.882

R-Squared 0.529

*Chi Square Analysis*

Table 19 and 20 shows both languages being sustained by the same cultural elements. The process of synculturation is observed in the existence of the same cultural elements in both languages. The cultural processes in the participants had been synthesized and transpired in both languages. Irrespective of the culture in which the person is operating, an integrated source of cultural elements exists.

Parents are not only the main source of linguistic input, but also cultural input. The matriarchal structure of the household permits the mother to predominantly define the enculturation of the children in the family. In this role, the mother had the potential to inculcate in the individuals reliance on parents for advice. Furthermore, the economic responsibilities can transform due to the synculturation process. The economic responsibility is adapted to different ideologies as another culture is being acquired. Thus, the cultural elements are fused so they do not function separately. Both cultures operate through the same processing system.

Table 21  
*Chi Square Spanish*

		<b>X2</b>	<b>Df</b>	<b>P</b>
<b>Spanish</b>	Details in a conversation		92	
<b>Spanish</b>	Close family ties			
<b>Spanish</b>	Listen music in Spanish			
<b>Spanish</b>	Show feelings			
<b>Spanish</b>	House managed by female	108.0333		.000076
<b>Spanish</b>	Economic responsibility male	104.9833		.000160
<b>Spanish</b>	Economic responsibility both			
<b>Spanish</b>	Independency for adulthood			
<b>Spanish</b>	Professional success strengthen family			
<b>Spanish</b>	Explanation guided by beliefs			
<b>Spanish</b>	Explanation guided by facts			
<b>Spanish</b>	Items used several times	76.56667		.051904
<b>Spanish</b>	Passionately celebrate			
<b>Spanish</b>	Rely on parents' advice	113.1000		.000021

Table 22  
*Chi Square*

		<b>X2</b>	<b>Df</b>	<b>P</b>
<b>English</b>	Details in a conversation		58	
<b>English</b>	Close family ties			
<b>English</b>	Listen music in Spanish			
<b>English</b>	Show feelings			
<b>English</b>	House managed by female	132.9833		.000000
<b>English</b>	Economic responsibility male	116.0333		.000010
<b>English</b>	Economic responsibility both			
<b>English</b>	Independency for adulthood			
<b>English</b>	Professional success strengthen family			
<b>English</b>	Explanation guided by beliefs			
<b>English</b>	Explanation guided by facts			
<b>English</b>	Items used several times			
<b>English</b>	Passionately celebrate			
<b>English</b>	Rely on parents' advice	120.1333		.000003

## CHAPTER V

### CONCLUSIONS

#### Introduction

The chapter will present a summary of the purpose and structure of the study, as well as the discoveries and empirical validation of the interconnectedness between language, culture and cognition. Conclusions are discussed based on the function, characteristics, depiction and results of the researched phenomenon. Finally, suggestions for transformational action in the spectrum of the process of synculturation will be offered.

#### Major Findings

The language acquisition system is intricate; bilingualism is the meta-synthesis process of cultural elements, linguistic components and cognitive abilities. Proficiency in a second language is not only the world recognition in that language, but an ability that requires the mutation of different components. We cannot perceive this phenomenon in an isolated perspective.

The first phenomenon, which is sustained by bilingualism, is the process of synthesizing the cultures that are embedded in the languages. As the two cultures are in constant interaction, a cultural metamorphosis of paradigms transpires called synculturation. Incorporating new cultural elements transforms the distribution of ethos

of the individual. An interconnectedness of the cultural elements coexists within the individual. A unique representational system derives from the process of synculturation. Cultural variations dynamically evolve that permits a perceptual plasticity. The degree to which an individual obtains linguistic proficiency in all domains in both languages will define the degree of synculturation. In the synculturation process, cultural devices become the receptor of stimuli and are construed malleably. Thus, informational processing skills are utilized in the parameter of the cultural unison.

The environmental elements are apprehended by the sensorial system and decoded by the individual through the synculturation. The duality of cultures permits experiential diversification which fosters adaptation and perceptual mutation. The connotation of the synculturation process should not be interpreted as the ultimate perception of reality but rather a reconstruction of representational systems based on an experiential approach.

The ability of a bilingual individual to experience a mutation in perception affects the development of cognition. According to Coronado (2009), cognition is the potential that owns an individual of perspecting, storing and relating environment signals in order to decode and influence the milieu. The process of synculturation influences the mutation of perspectives an individual experiences by activating cognitive mechanisms that creates multiple realities. The referential packages of the cultural synthesis provide critical denotations in profundity and in different perceptions. The paradigm of an absolute verisimilitude will dissipate, to be replaced by plasticity in reality.

The next component that underlies bilingualism is the synthesized process of cognition sustained by the language domains of reading, writing, listening and speaking

abilities. The cognitive processes diverge according to the systematic linguistic development. A confrontation of the cognition in the linguistic processes occurs when an individual is acquiring a second language. The linguistic boundaries of the grammatical structures are destroyed when bilingualism is achieved. When synthesis of both processes languages transpires, a reconstruction of meaning and cognitive processes occurs. Empirical validation of linguistic processes synthesis is perceived in the phenomenon of alternating languages within a conversation, called code-switching. The acquisition of two languages may result in the convergence of linguistic attributes and structures of both languages (Garcia, 2004).

The last axis that upholds the language processes of synthesis is a change in the way we structure our cognitive abilities. As the language is part of the culture and culture is the way the individuals perceive the world, they experiment a change of their perspectives. After the synculturation, the individuals perceive a new world. To sustain this phenomenon, the individuals' cognitive abilities also experience a change. In the Vygotskian perception, higher mental functions are mediated by cultural experiences (Cole & Wertsch, 1996). As an individual is capable of transforming and interconnecting cultural elements, a reconstruction of cognitive structures will occur. A synthesis of cultural elements provides plasticity in discernment which potentializes cognitive abilities.

### Discussion

It is not my intent to pose a universal effect of the psychological processes of bilingual learners. Rather, I want to integrate the phenomenon of synculturation to the

cognitive and linguistic processes. Typically, data on cognitive development has been separated from the cultural circumstances of the individual (Werstck, 1985).

Human cognition is the process of mental representation by cultural experiences and linguistic structural aspects of our minds (Garcia, 2004). The meta-synthesis process that manifest in the bilingual mind elucidates for the synthesis of cognitive, linguistic and cultural development. Eventually, synculturation will delineate the reception of the environment to create mental representations.

Bilingualism entails continual interaction of cultural elements that are fused by the metalinguistic processes of their mind. In the Vigostkian perspective, mental functioning is fundamentally transformed and shaped by cultural mediators (Cole & Wertsch, 1996). Synculturation produces generated patterns of meaning that allows multiple relativities of a milieu. Perception is profoundly modified by the symbolic forms effectuated by the bi-direction construct of culture. “The internalization of cultural forms of behavior involves the reconstruction of psychological activities” (Vygostky, 1978). Reconstructing culture through the synthesis of its elements potentializes cognitive and linguistic synthesis. The mental actions to synthesize the processes achieve automaticity as an individual becomes bilingual.

Substantiation of the synculturation process is the rhetorical ability to intuitively self-regulate different languages, cultural differences and thinking processes called transcultural repositioning (Guerra, 2004). However, the process does not involve adapting to situation but the capability of envisioning consciously the infusion of cultures. Culture is the medium through which an individual construct knowledge through social processes and interactions. (Cole & Wertsch, 1996). The ability to



transpose across culture facilitates the construction of new paradigms and mutates perception.

The cultural paradigm that predominates is that cultures cannot coexist. In bilingual individuals, cultures are separated as two different realms where an interconnectedness is nonexistent. However, theories of linguistic proficiency may possibly be applicable to the process of synculturation. Cummins developed the “Common Underlying Proficiency Theory”, which illustrates that L1 and L2 reside in the same part of the brain and cognitive development in both is mutual since they reinforce each other (Gomez & Ruiz-Escalante, 2005 p. 23). The CUP theory could be pertinent to the process of the synthesis of cultures. Cultural elements could reside in the same location integrated with language and processed cognitively in an analogous manner. Furthermore, the cognitive advantages associated with balanced bilingualism should not be uniquely explained by the isolation of language proficiency or culture. The process of synculturation could be a residual variable of bilingualism and cognitive advantages.

#### Proposition of action and transformation

The elements of a transformational framework of the paradigm in the spectrum of synculturation are presented. This proposal is based on the results of the present investigation.

The paradigm of culture as a construction of superficial vanity and aesthetic connotation must transform. A redimension of the conceptualization of culture is necessary for its pedagogical purposes, where stereotypical methodologies are eliminated. Former ideologies of the functionality of culture must be transformed. Culture is the prism of rationale and evaluation that the sensorial system apprehends to

construct meaning. I pretend to disarticulate the stagnant paradigm of the fallacious and abused conceptualization of culture.

The synculturation process and its advantages should be embraced in the educational system by integrating cultures to demonstrate multiple perspectives to a concept. Banks (1993) proposes a pedagogical level of social action that requires a reconstruction of curriculum to different cultural perspectives. In the level of social action, the individuals are capable of discerning, making decisions, and taking action to solve social problematic.

Furthermore, embracing the synthesis of both cultures as unison will enable the bilingual learner. In his empowerment framework, Cummins (2000) suggests that a bilingual learner can be empowered or disabled to the extent to which minority language and culture is incorporated to the curriculum. Empowering individuals provides them with the control of their knowledge acquisition and construction of new paradigms , potentializing cognitive development.

In the new spectrum, the bilingual learner acquires a diversified notion of different perspectives. The boundaries to an absolute truth are destroyed by the process of synculturation, which permits multiple realities.

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## APPENDIX

## INFORMED CONSENT DOCUMENT

Study title: Language, culture, and cognition

This research is being conducted by Claudia Coronado from the University of Texas – Pan American/UTPA in partial fulfillment of a Master’s Thesis. Her Thesis Chair is Dr. José Ruiz-Escalante ([ruizj@utpa.edu](mailto:ruizj@utpa.edu), 956-381-3440) from the Curriculum and Instruction department.

The research study aims to investigate the relationship between language, culture, and cognitive abilities. The survey should take about 10 minutes to complete.

If you would prefer not to participate in this study, simply return the blank survey. Your responses are anonymous; you should not include any identifying information on this survey. We ask that you try to answer all questions. However, if there are any questions that you would prefer to skip, simply leave the answer blank. You must be at least 18 years old to participate. *If you are not 18 or older, please inform the researcher and do not complete the survey.*

Researcher contact information:      Name: Claudia Coronado  
Title: Graduate Student  
Dept: Curriculum and Instruction  
The University of Texas-Pan American  
Phone: 956-381-3440  
Email: [cbcoronado@yahoo.com](mailto:cbcoronado@yahoo.com)

This research has been reviewed by the Institutional Review Board for the Protection of Human Subjects (IRB). If you have any questions about your rights as a participant, or if you feel that your rights have been violated, please contact the IRB at 956-384-5004 or [irb@utpa.edu](mailto:irb@utpa.edu)

*Please keep this sheet for your reference.*



## *Language, Culture, and Cognition*

### Demographic Information

Mark an X on the information that is applicable to you

**Gender:** Male  Female

**Birthplace :** US  Foreign country  years in the US \_\_\_\_\_

**Religion:** \_\_\_\_\_

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

### Language proficiency

*Read the following statements. Circle a number from a scale from 1 to 5 to define your language proficiency.*

**1**  
Non-proficient

**5**  
Proficient

1. Oral proficiency in Spanish.	1	2	3	4	5
2. Writing proficiency in Spanish.	1	2	3	4	5
3. Reading proficiency in Spanish	1	2	3	4	5
4. Oral proficiency in English.	1	2	3	4	5
5. Writing proficiency in English.	1	2	3	4	5
6. Reading proficiency in English.	1	2	3	4	5

*Read the following statements. Circle a number from a scale from 1 to 5 to define, **how are you related to these statements?***

**1**                      **2**                      **3**                      **4**                      **5**  
Never                  Seldom              Sometimes          Often                  Always

7. Details are necessary to enrich the conversation.	1	2	3	4	5
8. You have close family ties. (father, siblings, etc).	1	2	3	4	5

9. You listen to music in Spanish.	1	2	3	4	5
10. It is common to show your feelings to others.	1	2	3	4	5
11. The house must be managed by the female figure.	1	2	3	4	5
12. The economic responsibility lies on the male figure.	1	2	3	4	5
13. The economic responsibility must be shared by both.	1	2	3	4	5
14. Being independent is the first step to adulthood.	1	2	3	4	5
15. Professional success is a priority to strengthen the family.	1	2	3	4	5
16. The explanations to your decisions are guided by your own beliefs.	1	2	3	4	5
17. The explanations to your decisions are based on facts.	1	2	3	4	5
18. Purchased items are used several times.	1	2	3	4	5
19. You passionately celebrate special occasions.	1	2	3	4	5
20. You rely on your parents for advice.	1	2	3	4	5
21. You find any relationship that exists between two or more ideas.	1	2	3	4	5
22. You have the ability to decode strange images and make sense out of them.	1	2	3	4	5
23. You sustain an argument to defend your point of view.	1	2	3	4	5
24. You produce an item with few elements.	1	2	3	4	5
25. You produce new products by utilizing used materials.	1	2	3	4	5
26. You have the ability to execute different skills.	1	2	3	4	5
27. You have the ability to simplify complex ideas.	1	2	3	4	5
28. You distinguish and separate the elements of a concept.	1	2	3	4	5

29. You express an idea in different ways.	1	2	3	4	5
30. You convert two different ideas into one.	1	2	3	4	5

## Reliability Section

Variable	Mean	Standard Deviation	Total Mean	Total Std.Dev.	Coef Alpha	Corr Total	Other Items
C1	4.294117	0.7717437	115.2353	10.88881	0.8179	0.6457	-0.1343
C2	4.176471	0.7276069	115.3529	10.96552	0.8204	0.5792	-1.4791
C3	4.529412	0.6242643	115	11.00568	0.8207	0.6186	-1.4291
C4	4.588235	0.6183469	114.9412	11.31078	0.8321	0.1214	-0.4710
C5	4.470588	0.5144957	115.0588	11.32735	0.8318	0.1236	-2.2109
C6	4.588235	0.5072997	114.9412	11.30526	0.8309	0.1699	-2.5717
C7	3.588235	1.227743	115.9412	10.85398	0.8245	0.4014	0.1682
C8	4.529412	0.7998161	115	11.18593	0.8297	0.2375	-0.9845
C9	4.294117	0.8488747	115.2353	11.23905	0.8323	0.1561	-0.0449
C10	3.588235	0.9393364	115.9412	11.16059	0.8308	0.2181	0.4346
C11	3.352941	1.169464	116.1765	10.7775	0.8203	0.4956	0.5824
C12	3.588235	1.175735	115.9412	10.94572	0.8270	0.3428	0.2645
C15	3.764706	1.147247	115.7647	10.84856	0.8226	0.4422	0.5818
C16	4.058824	1.088037	115.4706	11.36397	0.8405	-0.0125	0.3261
C17	4.058824	0.6586528	115.4706	11.4024	0.8358	-0.0289	-3.9620
C18	3.882353	1.111438	115.6471	10.9427	0.8256	0.3715	0.6427
C19	3.470588	1.178858	116.0588	11.14939	0.8346	0.1642	0.4540
C21	3.764706	1.25147	115.7647	10.87732	0.8259	0.3722	0.6090
C22	3.823529	1.236694	115.7059	10.66399	0.8171	0.5598	0.6043
C23	3.764706	0.9701425	115.7647	11.1833	0.8321	0.1847	-0.9738
C24	3.764706	0.9701425	115.7647	11.08788	0.8286	0.2850	-1.3823
C25	3.764706	0.8313702	115.7647	10.90602	0.8194	0.5725	-0.3223
C26	3.705882	0.8488747	115.8235	11.11438	0.8277	0.3055	0.2572
C27	3.823529	0.7276069	115.7059	11.07793	0.8247	0.4196	0.0054
C28	3.588235	1.175735	115.9412	10.69153	0.8169	0.5697	0.6299
C29	4.235294	0.5622957	115.2941	11.17343	0.8265	0.3862	-0.5310
C30	4.058824	0.747545	115.4706	11.11934	0.8265	0.3499	-4.4854
C31	4.117647	0.9926198	115.4118	10.79386	0.8175	0.5844	-0.1318
C32	4.176471	0.7276069	115.3529	11.00535	0.8219	0.5225	-0.8865
C33	4.117647	0.6002451	115.4118	11.20858	0.8282	0.2989	-3.2855
Total			119.5294	11.4024	0.8314		

Cronbachs Alpha 0.831354 Std. Cronbachs Alpha 0.835648

Factor Loadings (Unrotated) (thesis2.sta)  
Extraction: Principal components

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11
ORA_SPA1	-.643	-.543	.054	.357	.009	.085	.029	.091	.0982	.063	.065
WRIT_SP2	-.619	-.530	.031	.414	.075	.023	-.028	.007	-.0352	.057	.106
READ_SP3	-.703	-.464	.048	.373	-.068	.033	.037	.069	.0273	.102	.037
ORAL_EN4	.229	.609	.466	.355	-.138	.083	-.011	.174	.0589	.013	.119
WRIT_EN5	.113	.512	.523	.434	-.065	.023	-.056	.164	-.0633	-.027	.159
READ_EN6	.165	.555	.527	.416	-.105	.048	-.006	.142	.0794	.031	.103
DETAILS7	-.102	.041	.392	.050	.220	.342	.151	-.163	.1367	-.085	-.453
CLOS_FA8	-.314	-.117	.509	.013	.165	-.043	-.151	-.068	-.1760	.457	-.216
MUSI_SP9	-.659	-.484	-.075	.118	.022	.005	.160	-.056	.0566	.059	.147
SHO_FE10	-.356	-.029	.352	-.476	-.292	-.119	.093	.323	.0840	-.151	.044
HOUE11	-.405	-.135	.352	-.283	.290	-.081	.006	.023	-.3178	-.195	-.121
ECO_MA12	-.280	.142	.108	-.158	.258	.465	.356	-.119	.3403	.001	.206
ECOBOT13	-.171	.183	.185	-.032	-.292	.139	-.265	-.040	.2041	.242	-.514
INDEPE14	-.065	.037	.251	.112	.501	.025	-.451	-.114	-.0894	-.468	-.105
PRO_SU15	-.384	-.233	.363	-.187	.018	.009	-.087	.026	.2765	-.299	.140
EX_BEL16	-.138	.096	.237	-.380	-.375	.182	-.131	-.395	-.2197	.198	.145
EX_FAC17	-.386	.235	.111	-.163	-.033	.541	-.237	-.136	.0022	-.065	.284
IT_REU18	-.231	.201	-.278	.072	-.089	-.133	-.470	.012	.4903	-.052	-.065
CELEBR19	-.317	.065	.417	-.287	.016	-.181	.221	.157	.2918	-.130	-.196
PAR_AD20	-.326	.168	.391	-.413	.227	-.163	.072	.079	.0531	.410	.188
TWO_ID21	-.439	.377	-.040	-.134	.205	-.277	-.422	-.145	.1109	.202	.215
DEC_IM22	-.299	.448	-.123	-.040	.220	-.556	-.087	.016	.0411	-.136	.135
ARGUME23	-.471	.129	.288	.244	.021	-.127	.121	-.083	-.2776	-.101	-.010
ITE_EL24	-.282	.326	-.307	.074	.171	-.017	.100	.500	-.1032	.159	-.178
NEW_IT25	-.490	.320	-.268	-.147	.076	.067	-.103	.356	-.2317	.111	-.144
DIF_SK26	-.381	.525	-.312	.021	.104	.225	.164	-.190	-.0654	-.072	-.195
SIMPLI27	-.502	.528	-.331	.115	-.077	.020	-.004	-.306	-.0914	-.039	-.028
SEPARA28	-.676	.412	-.263	.130	-.084	-.033	-.004	-.167	-.0338	.027	.042
DIF_WA29	-.542	.375	-.039	-.003	-.234	-.046	.325	-.096	-.0633	-.190	-.144
TWOINO30	-.514	.217	-.180	-.084	-.299	-.048	.265	.164	-.0587	-.151	.079
GENDER31	-.072	-.249	.373	.030	-.428	-.367	-.083	-.227	-.3099	-.144	-.071
BIRTH32	-.368	-.269	-.103	-.071	.112	.172	-.374	.209	-.0814	-.062	-.082
RELIGI33	.256	.188	.055	-.065	.497	.116	.175	.019	-.2923	.047	.135
AGE34	-.053	-.033	-.073	-.162	-.302	.476	-.338	.374	-.2750	-.135	.107
Expl.Var	5.350	3.898	2.889	1.931	1.723	1.665	1.559	1.299	1.2452	1.117	1.100
Prp.Totl	.157	.115	.085	.057	.051	.049	.046	.038	.0366	.033	.032

## CORRELATION

	ORA_S PA1	WRIT _SP2	READ _SP3	ORAL _EN4	WRIT _EN5	READ _EN6	DETA ILS7	CLOS _FA8	MUSI _SP9	SHO _FE10	HOU FE11	ECO _MA12
ORA_S PA1	1.00	.86	.84	-.28	-.16	-.21	.13	.24	.72	.15	.19	.15
WRIT_ SP2	.86	1.00	.83	-.32	-.12	-.22	.05	.28	.66	.08	.25	.09
READ _SP3	.84	.83	1.00	-.24	-.14	-.17	.06	.29	.70	.10	.23	.10
ORAL _EN4	-.28	-.32	-.24	1.00	.72	.79	.16	.03	-.40	.03	-.12	.06
WRIT_ EN5	-.16	-.12	-.14	.72	1.00	.73	.13	.13	-.29	-.04	-.04	-.03
READ _EN6	-.21	-.22	-.17	.79	.73	1.00	.12	.10	-.33	-.02	-.10	.04
DETA ILS7	.13	.05	.06	.16	.13	.12	1.00	.21	-.03	.08	.21	.20
CLOS_ FA8	.24	.28	.29	.03	.13	.10	.21	1.00	.15	.13	.34	.03
MUSI_ SP9	.72	.66	.70	-.40	-.29	-.33	-.03	.15	1.00	.17	.26	.14
SHO_F E10	.15	.08	.10	.03	-.04	-.02	.08	.13	.17	1.00	.31	.11
HOUF E11	.19	.25	.23	-.12	-.04	-.10	.21	.34	.26	.31	1.00	.11
ECO_ MA12	.15	.09	.10	.06	-.03	.04	.20	.03	.14	.11	.11	1.00
ECOB OT13	.03	-.04	.05	.12	.10	.14	.12	.19	-.02	.12	-.03	.02
INDEP E14	.03	.09	-.04	.05	.14	.11	.15	.11	-.02	-.09	.28	.02
PRO_S U15	.29	.22	.31	-.12	-.01	-.08	.16	.19	.30	.34	.21	.12
EX_BE L16	-.08	-.08	-.04	.06	-.02	-.00	.05	.16	.03	.22	.11	.08
EX_FA C17	.11	.08	.08	.04	.14	.08	.13	.05	.17	.13	.09	.31
IT_RE U18	.05	.05	.08	.03	-.09	.02	-.05	-.04	.02	.04	-.16	-.04
CELEB R19	.08	.03	.14	.04	.04	.09	.13	.18	.13	.40	.29	.20
PAR_A D20	.02	-.02	.06	.02	.08	.10	.06	.38	.09	.32	.29	.25
TWO_I D21	.06	.09	.07	.02	.06	.03	-.04	.14	.05	.10	.12	.04
DEC_I M22	-.05	-.03	-.03	.09	.13	.04	-.16	-.06	-.03	.08	.15	.03
ARGU ME23	.23	.27	.34	.11	.18	.16	.06	.22	.21	.11	.18	.06
ITE_E L24	.06	.04	.07	.07	-.02	.00	-.02	-.05	.02	.04	-.06	.03
NEW_I T25	.08	.05	.16	-.08	.02	-.08	-.03	.05	.19	.13	.20	.03
DIF_S K26	-.07	-.05	.04	-.01	.04	.05	.11	-.06	-.02	-.13	.01	.27
SIMPL I27	-.01	.06	.11	.09	.04	-.01	-.05	-.03	.13	-.05	.02	.17
SEPAR A28	.20	.24	.29	.04	-.01	.04	-.00	.06	.28	.10	.11	.14
DIF_W A29	.16	.10	.18	.04	.07	.10	.10	.05	.17	.27	.11	.18

TWOI NO30	.17	.10	.21	-.06	.03	-.03	-.05	-.05	.27	.28	.12	.13
GEND ER31	-.14	-.16	-.17	.03	-.05	-.02	-.01	-.20	-.06	-.23	-.13	.27
BIRTH 32	.30	.29	.28	-.35	-.27	-.29	-.14	.17	.23	-.01	.09	-.05
RELIG I33	-.24	-.19	-.29	.14	.07	.09	.09	.04	-.18	-.09	-.01	.09
AGE34	.05	.04	.08	.02	-.05	-.07	-.11	-.07	-.13	.15	.05	-.01

	ECO_ MA12	ECOB OT13	INDE PE14	PRO_ SU15	EX_B EL16	EX_F AC17	IT_R EU18	CELE BR19	PAR_ AD20	TWO_ ID21	DEC_ IM22	ARGU ME23	ITE_ EL24
ORA_ SPA1	.15	.03	.03	.29	-.08	.11	.05	.08	.02	.06	-.05	.23	.06
WRIT SP2	.09	-.04	.09	.22	-.08	.08	.05	.03	-.02	.09	-.03	.27	.04
READ SP3	.10	.05	-.04	.31	-.04	.08	.08	.14	.06	.07	-.03	.34	.07
ORAL EN4	.06	.12	.05	-.12	.06	.04	.03	.04	.02	.02	.09	.11	.07
WRIT EN5	-.03	.10	.14	-.01	-.02	.14	-.09	.04	.08	.06	.13	.18	-.02
READ EN6	.04	.14	.11	-.08	-.00	.08	.02	.09	.10	.03	.04	.16	.00
DETA ILS7	.20	.12	.15	.16	.05	.13	-.05	.13	.06	-.04	-.16	.06	-.02
CLOS FA8	.03	.19	.11	.19	.16	.05	-.04	.18	.38	.14	-.06	.22	-.05
MUSI SP9	.14	-.02	-.02	.30	.03	.17	.02	.13	.09	.05	-.03	.21	.02
SHO_ FE10	.11	.12	-.09	.34	.22	.13	.04	.40	.32	.10	.08	.11	.04
HOUF E11	.11	-.03	.28	.21	.11	.09	-.16	.29	.29	.12	.15	.18	-.06
ECO_ MA12	1.00	.02	.02	.12	.08	.31	-.04	.20	.25	.04	.03	.06	.03
ECOB OT13	.02	1.00	.04	.03	.17	.13	.12	.16	.06	.12	.00	.08	-.00
INDE PE14	.02	.04	1.00	.16	-.07	.13	.05	.05	-.04	.18	.13	.16	-.04
PRO_ SU15	.12	.03	.16	1.00	.09	.19	.04	.28	.24	.06	.04	.24	-.15
EX_B EL16	.08	.17	-.07	.09	1.00	.30	-.06	.03	.16	.12	-.06	.08	-.14
EX_F AC17	.31	.13	.13	.19	.30	1.00	.07	.10	.15	.30	-.03	.13	.06
IT_RE UI18	-.04	.12	.05	.04	-.06	.07	1.00	.00	-.05	.32	.26	-.09	.09
CELE BR19	.20	.16	.05	.28	.03	.10	.00	1.00	.33	.10	.12	.22	.10
PAR_ AD20	.25	.06	-.04	.24	.16	.15	-.05	.33	1.00	.38	.19	.23	.08
TWO_ ID21	.04	.12	.18	.06	.12	.30	.32	.10	.38	1.00	.50	.10	.14
DEC_I M22	.03	.00	.13	.04	-.06	-.03	.26	.12	.19	.50	1.00	.18	.27
ARGU ME23	.06	.08	.16	.24	.08	.13	-.09	.22	.23	.10	.18	1.00	.14
ITE_E L24	.03	-.00	-.04	-.15	-.14	.06	.09	.10	.08	.14	.27	.14	1.00
NEW_ IT25	.03	.15	-.00	.02	.04	.24	.15	.04	.16	.32	.28	.14	.46
DIF_S K26	.27	.08	-.01	-.05	.00	.24	.15	.03	.09	.20	.25	.21	.26
SIMP LI27	.17	.14	-.01	-.08	.08	.26	.28	.01	.03	.38	.35	.30	.27
SEPA RA28	.14	.09	-.04	.05	.12	.30	.31	.05	.09	.47	.33	.30	.35
DIF_	.18	.13	-.09	.03	.12	.23	.15	.24	.09	.17	.28	.27	.22
TWOI	.13	.05	-.17	.11	.05	.11	.07	.08	.11	.18	.20	.15	.15
GEND	.27	-.02	-.01	-.10	-.20	.08	.10	-.12	-.02	.05	.02	-.18	.26
BIRT	-.05	.07	.11	.07	.05	.05	.11	-.11	-.09	-.05	-.06	.02	.03
RELI	.09	-.19	.12	-.19	-.08	-.03	-.18	-.11	.05	-.03	.04	-.07	.04
AGE3	-.01	.09	-.02	.03	.12	.26	.05	-.09	-.08	-.09	-.18	-.07	.05



	NEW_IT 25	DIF_SK 26	SIMPLI 27	SEPARA 28	DIF_WA 29	TWOINO 30	GENDER 31	BIRTH 32	RELIGI 33	AGE 34
ORA_SP A1	.08	-.07	-.01	.20	.16	.17	-.14	.30	-.24	.05
WRIT_SP 2	.05	-.05	.06	.24	.10	.10	-.16	.29	-.19	.04
READ_SP 3	.16	.04	.11	.29	.18	.21	-.17	.28	-.29	.08
ORAL_E N4	-.08	-.01	.09	.04	.04	-.06	.03	-.35	.14	.02
WRIT_E N5	.02	.04	.04	-.01	.07	.03	-.05	-.27	.07	-.05
READ_E N6	-.08	.05	-.01	.04	.10	-.03	-.02	-.29	.09	-.07
DETAILS 7	-.03	.11	-.05	-.00	.10	-.05	-.01	-.14	.09	-.11
CLOS_FA 8	.05	-.06	-.03	.06	.05	-.05	-.20	.17	.04	-.07
MUSI_SP 9	.19	-.02	.13	.28	.17	.27	-.06	.23	-.18	-.13
SHO_FE1 0	.13	-.13	-.05	.10	.27	.28	-.23	-.01	-.09	.15
HOUFE11	.20	.01	.02	.11	.11	.12	-.13	.09	-.01	.05
ECO_MA	.03	.27	.17	.14	.18	.13	.27	-.05	.09	-.01
ECOBOT 13	.15	.08	.14	.09	.13	.05	-.02	.07	-.19	.09
INDEPE1 4	-.00	-.01	-.01	-.04	-.09	-.17	-.01	.11	.12	-.02
PRO_SU1 5	.02	-.05	-.08	.05	.03	.11	-.10	.07	-.19	.03
EX_BEL1 6	.04	.00	.08	.12	.12	.05	-.20	.05	-.08	.12
EX_FAC1 7	.24	.24	.26	.30	.23	.11	.08	.05	-.03	.26
IT_REU1 8	.15	.15	.28	.31	.15	.07	.10	.11	-.18	.05
CELEBR1 9	.04	.03	.01	.05	.24	.08	-.12	-.11	-.11	-.09
PAR_AD 20	.16	.09	.03	.09	.09	.11	-.02	-.09	.05	-.08
TWO_ID2 1	.32	.20	.38	.47	.17	.18	.05	-.05	-.03	-.09
DEC_IM2 2	.28	.25	.35	.33	.28	.20	.02	-.06	.04	-.18
ARGUME 23	.14	.21	.30	.30	.27	.15	-.18	.02	-.07	-.07
ITE_EL24	.46	.26	.27	.35	.22	.15	.26	.03	.04	.05
NEW_IT2 5	1.00	.43	.32	.39	.26	.37	.20	.05	-.05	.17
DIF_SK2 6	.43	1.00	.62	.47	.44	.27	.24	-.05	-.01	.04
SIMPLI27	.32	.62	1.00	.73	.42	.37	.07	-.03	-.07	.03
SEPARA2 8	.39	.47	.73	1.00	.54	.44	.09	.01	-.12	-.03
DIF_WA2 9	.26	.44	.42	.54	1.00	.51	-.11	-.04	-.01	-.06
TWOINO 30	.37	.27	.37	.44	.51	1.00	.04	-.01	-.17	.06
GENDER	.20	.24	.07	.09	-.11	.04	1.00	-.02	.18	-.00
BIRTH32	.05	-.05	-.03	.01	-.04	-.01	-.02	1.00	-.10	.19
RELIGI33	-.05	-.01	-.07	-.12	-.01	-.17	.18	-.10	1.00	-.03
AGE34	.17	.04	.03	-.03	-.06	.06	-.00	.19	-.03	1.00

## BIOGRAPHICAL SKETCH

Claudia Coronado is a third grade teacher at McAllen ISD. She has distinguished herself as a strong advocate for bilingual education. She earned a Bachelor's degree in English as the top graduate in 2007 and a Master's degree in Bilingual Education in 2009 at the University of Texas Pan-American

Mailing Address: 3501 N 31<sup>st</sup> street  
McAllen, TX, 78501.