

**BILINGUALS' ILL-FORMED SEMANTIC TRANSFER FROM THEIR FIRST
LANGUAGE TO THEIR TARGET LANGUAGE**



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Abstract

The present study investigates the influence of first language (L₁) transfer on the processing of semantically ill-formed sentences by bilingual proficient speakers of multiple languages. The focus is on cases where a polysemous word or an idiomatic expression in the L₁ is expressed by a semantically ill-formed lexicon or phrase in the second language (L₂). Strategies for how to overcome the challenges of ill-formed meaning interpretation that influence proficient bilinguals' L₂ output are discussed. In this study, the findings suggest that the language in which the bilinguals mastered the ideas or concepts for the first time determines the way they code switch and produce ill-formed sentences by borrowing concepts and ideas from their first language unconsciously when they fail to find the second language (L₂) meaning interpretation.

Introduction

“Language shapes the way we think and determines what we can think about”

(Benjamin Lee Whorf)

The study of second language (L₂) acquisition provides deep background knowledge for both language teachers and content area teachers. In order to educate speakers of other languages, educators need to understand the different stages of the L₂ acquisition process and what interferences a L₂ learner faces during this process. Knowledge of L₂ acquisition gives important clues to educators so that they can adjust their teaching strategies in order to accommodate the needs of L₂ learners. These stages are closely related to background knowledge, environmental factors, as well as motivational factors including the reason for learning a L₂. Among these factors, background knowledge is the most important of all for this study. It provides the opportunity to compare and contrast language learners on the basis of their different linguistic backgrounds. Comparing the different linguistic backgrounds of language learners examines how semantic transfer takes place in the L₂ learner's mind. Studying what bilinguals do when they attempt to translate a phrase that doesn't exist in the target language can point out the challenges a L₂ learner comes across even when proficient in the target language. Therefore, this research focuses on detecting semantically ill-formed linguistic structures that derive their source from the primary languages of L₂ learners. The results may make it possible to suggest alternative teaching techniques to provide a more productive language-learning environment for L₂ learners. In addition to this, the impact of alternative teaching strategies has the potential to improve the academic language proficiency of L₂ learners.

A. Statement of the Problem

The purpose of this study is to learn more about how semantic transfer takes place in the second language learner's mind in order to suggest possible alternative teaching techniques to provide a more successful language learning environment. Difficulties that cause ill-formed semantic transfers should become visible when the study compares and contrasts conceptual learning difficulties.

Research questions.

What do bilinguals do when they attempt to translate a phrase that does not exist in the target language?

- ✓ What kind of semantic difficulties do bilinguals experience when they need to transfer phrases from their first language into the target language?
- ✓ What strategies do bilinguals use when they experience semantic difficulties?
- ✓ Are there any special occasions that cause difficulty when a bilingual attempts to transfer semantically well-constructed sentences into the target language?

B. Review of the Literature

Introduction.

An explanation of basic research from the field of L₂ acquisition adds to the evidence that proficient bilingual speakers transfer semantically ill-formed linguistic structures because of L₁ interference. Why and under what circumstances do bilinguals transfer semantic entities directly to the target language? First, the difference between first and second language (L₂) acquisition will be discussed to see if learning a language at a certain age can help us explain the cognitive state of the language learners. Second, the impact of polysemous vocabulary and idiomatic expressions in different languages will be considered as variables that might reflect the different thinking systems as a reflection of different cultures. Whether every language is the adaptation of common structural and grammatical linguistic structures to a certain extent will be explored, and finally the impact of language transfer will be examined to understand how a bilingual transfers his L₁ when he fails to find the L₂ meaning interpretation.

Critical Age Hypothesis.

The Critical Age Hypothesis refers to a biological period in which language can be acquired fully. During this period, one can learn a language relatively easily and achieve native-like fluency. This hypothesis derives its roots from studies about goslings, rats and sparrows (Piper, 1998). These studies, influenced by nativist theory, state a certain stimulus has to be activated to develop a normal behavior. According to this theory, the language acquisition process is an innate and genetic capacity that provides systematic and internalized perception of language (Ellis, 1986). Marler's views parallel

those of Ellis in that Marler (1970) observed that the white crowned sparrow can only learn their bird songs if they are exposed to their song during a critical period.

It still remains that, after puberty, it is almost impossible to fully acquire the first language. This notion is reflected in the Critical Age Hypothesis. In addition to the Critical Age Hypothesis, one should understand the natural course of first language acquisition in order to understand the developmental stages of L2 acquisition. Seeking analogies between first and second language acquisition may help to identify the acquisition of languages as complex and universal aspects.

Kuhl (2000) indicated that infants parse speech correctly at the phonetic level, which is a universal ability across languages. For instance, Japanese adults and infants learning English were tested in discriminating the phonemes /l/ and /r/ at the phonetic boundary of English (as in “rate” or “lake”). Japanese adults failed to discriminate between the phonemes; whereas the evidence derived from tests of categorical perception showed that infants could discriminate between the phonemes even though they weren't cognitively mature enough to speak. According to Werker and his colleagues, infants are able to discriminate any phonetic contrast by 6 months of age, but they lose this ability by 12 months of age. The concept of linguistic experience based on developmental selection was detected. Therefore, unlike adults, infants have innate “phonetic feature detectors” to acquire the phonology of any language in the world (Kuhl, 2000, p. 11851).

This feature differentiates critical age of learning a L₁ and L₂ as one can't learn to produce certain speech sounds unless he or she was exposed to a language as an infant.

Neural plasticity loss in the brain.

Brain damaged children have a potential of better recovery when compared to adults who experienced the same language disorders because of brain injury (Piper, 1998). It is often assumed that adults are unsuccessful learners, as their brain plasticity no longer resembles a child's. Yet, one should not ignore the adult learners who were able to reach native like L2 proficiency. Therefore, adult learners' performance level in learning L2 varies from one individual to another (Todd et al., 2000).

After the closure of the critical period, language learning is not fully available since Universal Grammar is no longer accessible to the language learner. After this stage, L2 learners usually can't gain native-like fluency because of loss of innate learning strategies (Birdsong, 1999).

Research has shown in a similar study in which a girl was discovered after having been kept in physical and social isolation from the age of 20 months. There was no neurological evidence of brain damage, however, she never acquired the language fully enough to prove or disprove the Critical Age Hypothesis (Steinberg, 1993). Yet, Ellis (1994) indicated that children recovered from brain injuries or operations that caused speech disorders while adults could not.

Adults as second language learners in comparison to adolescents and children.

Learning a L2 after childhood is not only challenging, but also a frustrating task for most adults. However, adult learners are faster and better L2 learners in the initial stages of L2 learning process. In addition, adult learners may have different kinds of motivations, whereas, children under the age of 12 often cannot recognize the reasons for their mastery of L2. Some adults learn a language to integrate themselves into a particular

social environment or culture of the target language. Others learn a L2 in order to obtain a degree for academic or career purposes. Yet, other adult L2 learners learn a language to be assimilated even at the expense of losing their own cultural and linguistic identity (Brown, 2008). Hence, motivation has a great impact on L2 acquisition process and in most cases adults are highly motivated learners.

DeKeyser (2008) points out that there is not an ideal starting age for learning a L2, yet, impact of age in phonological development is evident as indicated in his study. In addition, L2 adult learners are cognitively more mature than children L2 learners and they are aware of their language acquisition process.

In a similar study, Dimroth (2008) examined the qualitative differences between children and adults by considering the impact of ultimate attainment in child and adult second language (L2) learning. The study took place in Germany and special consideration was given to the acquisition of negation and finiteness of German sentence structure. Research participants were native Russian speaking sisters, who resided in Cologne, Germany for one and a half years. Results of this study indicate fast development of finite morphology and the development of finite lexical verbs mastered by the child L2 learners. The findings emphasized young learners' assimilation ability on input patterns without needing any analytical skills. On the other hand, it was found that older learners have a tendency to use their analytical skills in order to organize the principles of information. Negation without finiteness, post verbal negation with finite auxiliary verbs and post-verbal negation with finite lexical verb structures used by adult learners were compared to the findings of adolescent learners. The adolescents' sentence structures turned out to be less deviant than adults' sentence structures. Moreover, the

child learners performed better than the adolescents and the adults in the overall learning experience. The child L2 learners developed better linguistic skills in terms of rate and order of acquisition of grammatical structures. This research explores grammaticality judgments of adolescents and child L2 learners. Although it is hard to reach general conclusions with respect to the age factor, this study emphasizes important points for further studies on the impact of age in L2 learning. In addition, the path followed by the child L2 learner and the adolescent learner and their morphosyntactic abilities provided evidence for similarities and differences in the process of L2 acquisition (SLA). The process of learning new grammatical structures when acquiring a L2 requires analytical steps to organize the new information. However, the child L2 learner acquired the target language naturally.

Dimroth (2008) not only compares the ultimate attainment in adult L2 learning and in child L2 learning, but also provides a variety of qualitative data in order to show the acquisition process of L2 from a child's, adolescent's and an adult's perspective. Relying on analytical skills is seen as an important indicator of SLA process. This indicator makes this study unique as it creates a distinction between the cognitive skills of the child L2 learner and the adolescent L2 learner. This study also assumes the child L2 learner experiences a different course of development and shows evidence for the gradual SLA process for children. However, these results can't be used for drawing general conclusions about the impact of age factor because it claims adults have better analytical skills to learn a L2. Therefore, they can be conscious about their semantically ill-formed linguistic structures after they make a direct translation from their L1 to their target

language. Accordingly, explicit learning processes are required for high achieving adult L2 learners.

Comparison of first language acquisition and second language acquisition.

Every healthy child in the world, regardless of their ethnic or linguistic origin/background, is capable of learning his L₁ flawlessly and in a natural way. Moreover, every child under normal circumstances can master their L₁ by hearing the distinctive sounds in his L₁. On the other hand, a foreign language is perceived as a stream of strange sounds unless one masters it to a certain extent (Nasr, 1997). So, what makes L₂ acquisition different than L₁ acquisition?

Human beings were always curious about the origin of languages and the way languages are learned. Fascinatingly, infants have an extraordinary ability to learn perfectly well developed linguistic structures despite their immature cognitive skills (Gavin, 2006). There are a number of theories that try to explain this miraculous and rapid linguistic growth from different perspectives with a variety of evidence.

Behaviorists claim that children's language is mainly shaped by environmental factors, which can be referred as *tabula rasa*. On the other hand, cognitivists claim that children have an innate capacity to learn and function in their L₁. Innate capacity that refers to child's mastery of his native language in an extraordinarily short time is metaphored by Noam Chomsky as a "little black box" in our brain, which is a language acquisition device (LAD) (Ellis, 1994).

As it is not ethical to carry out some experiments with humans, it still remains as a mystery to understand how infants acquire their L₁ naturally, fluently and efficiently. Even though it is not ethical to conduct such experiments, history of humankind is full of

experiment-like incidents. For instance, the earliest experiment was held by an Egyptian king and transmitted to today by an ancient Greek historian, Herodotus. According to this legend, the king assumed that there was an original human language and decided to conduct a monstrous experiment. He gave two infants to a shepherd and ordered him to isolate these two infants from speech. The children's first word appeared to be "becos", which meant bread (Steinberg, 1993, p.48). The advisors of the king told him that the language was then spoken in what is now central Turkey. Centuries passed after this experiment, however, people didn't lose their interest in trying to explain the origin of language. In addition, they focused on the impact of L₁ in order to explain the L₂ acquisition process.

Feral and isolated children also became a focal point in an attempt to explain how people acquire their L₁. For instance, a feral boy, Victor was discovered approximately at the age of 11 in the woods in France in 1800. It was clear that Victor was solely exposed to animal sounds and he had no sense of human communication. The institute for deaf-mutes adopted him and applied some of the strategies they used in educating deaf and mute children in educating Victor. It was reported by the institute that there was no way of teaching language or educating him after 3 months. Later, another volunteer educator adopted Victor and trained him for speech production and social interaction. His educator, Jean Marc Gaspard, was very dedicated and he was able to teach Victor some basic social skills and how to read and write to a certain extent during the course of training. Gaspard didn't understand why he was able to read and write, but could not talk. Actually, at the time, nobody understood this situation and unfortunately Victor's

educator failed to identify reading and writing as part of the language development process because he didn't talk.

There are other cases of children, who were abandoned in isolation and didn't have the chance to be exposed to any language. Genie was one of them. She was locked into a room and was never spoken to except for the times she was given food or beaten up by her own father. Genie's situation was different than Victor's as Genie was exposed to language for her first 20 months and then was physically and psychologically abused. Genie escaped at the age of 13 and became the focal point of a linguistic study for 8 years. Finally, she was able to talk to a degree, but she never talked flawless or simultaneously (Steinberg, 1993). After 8 years, Genie stopped progressing and her language fossilized. In both cases, Victor and Genie learned how to communicate to a certain degree. Victor never talked because he was never exposed to speech when he was an infant. On the contrary, Genie talked as she was exposed to speech until the age of 20 months. These experiment-like incidents show that first language acquisition is likely a biological development since all languages can develop in the mind of any child under normal circumstances.

Chomsky stated that "A child does not learn language; it grows in the mind-brain of the child" (Gavon, 2006). As he mentioned, language acquisition is the natural growth of linguistic structures in the mind of children without any intentional effort. Unlike L₁ acquisition, L₂ acquisition is conscious, as the learners already have another set of linguistic rules that help them express every thought that is in their mind. Moreover, one may assume that without L₁ acquisition, it is impossible to build the background knowledge to learn a L₂. Therefore, the L₂ learner needs alternative strategies to gain a

similar cognitive state that would help him express his thoughts fully in the target language. During this process, the Universal Grammar Hypothesis helps to explain what is going on in L2 learner's brain.

Universal Grammar Hypothesis.

Universal Grammar (UG) Hypothesis suggests that all human beings, regardless of their environmental stimuli, have a genetically innate capacity to learn the linguistic rules of language as a whole system (Brown, 2008). The notion of UG supports the view that all human beings can benefit from common linguistic rules that are shared by all languages. Infants are also assumed to have this innate linguistic knowledge that covers a set of systematic principles common to all languages, which is called UG. UG also provides common principles for all languages to transfer background knowledge obtained in the L₁ to the target language (Gass & Schachter, 1989). This definition presents the following question:

What makes language learning so challenging that despite these universal rules bilinguals feel the need to grab ideas directly from their L₁ and produce semantically-ill formed linguistic structures in their L₂?

In a study specifically designed to investigate a satisfactory definition for UG theory, it was suggested that functional categories of language and semantic aspects of a language are closely related. For instance, adjectives function in a same or similar way in all languages (Plaza-Pust, 2008).

The specific structures that are learned by adult learners can require more abstract thinking skills which is one variable to reach a high level of consciousness about the impact of L₁ transfer (DeKeyser, 2008).

In addition to this, grammatical competence is another indicator to understand the L2 acquisition process. One may assume certain grammatical structures can be learned by everybody. If so, what makes some structures easier than others and what is the function of L1 transfer in terms of gaining grammatical competence?

Language Transfer.

The relationship between language and thought is considered to be one of the main causes of semantic transfer. For instance, learning how to think in the target language is one of the common concepts used by language teachers when expressing the modification of thoughts in the target language. Yet, it still creates question marks in the minds of linguists and language teachers as they try to find the most logical explanation of how the brain functions when learning a L2. Different languages are the mirrors of different cultures, as we are what we think and how we express it. Even though our language affects our thought process, it has been well researched that human reasoning processes show remarkable similarities (Odlin, 1989). Knowing that, can bilinguals' distinctive features of cross-cultural differences and similarities result in semantically ill-formed transfer?

Nasr (1997) indicated the following vivid example for explaining how a 3-year-old L1 learner overgeneralizes a syntactic rule:

“Look at my foots! They're wet,” said the 3-year-old nursery school girl. No teacher, or parent, should be disturbed by the youngster's use of *foots*. It is very natural and should be expected if the child has learned *mat/mats*, *bat/bats*, and *foot*, but has not come across the item *feet*. (p. 47)

Nasr's views parallel to those of Erdeljac and Sekulic's (2008) in that both L₁ and L₂ learners generalize the linguistic rules when they are in the process of language acquisition. However, this issue does not necessarily impact a proficient bilinguals' linguistic performance, since it is not the overgeneralization of syntactic rules that quite often impede the proficient bilinguals' L₂ output. In addition, UG principle predicts how a L₂ learner favors the common language structures that are shared by all languages (Archibald, 2000). In contrast to UG, Erdeljac and Sekulic (2008) argue that bilingual individuals have a common semantic or conceptual system with lexical representations of two languages. Moreover, the language proficiency levels of participants determine how the lexicons they use interact with the conceptual systems in the brain. This study adds to the evidence that generalization of semantically related words (e.g. orange) occurred. (Erdeljac & Sekulic, 2008). Yet, one important issue has not been addressed in the existing literature is that the given example is a polysemous word and it might be suggested that if a word has multiple meanings in both languages, generalizations can be inevitable.

L1 Semantic Transfer.

Odlin (1989) described language transfer as;

“Transfer is the influence resulting from similarities and differences between the target language and any other language that has been previously acquired.”

In parallel to this; semantic transfer is the transfer of meanings in statements from one language to another. Existing literature points out that semantic transfer mostly occurs as a result of negative experience. Pavlenko & Driagina (2007), Pillai (2003) and Jiang (2004) argued that ill formed transfer takes place because of the negative effect of

the L₁. According to Pillai (2003), semantic and phonological tasks performed by eight bilinguals were investigated in order to explore regional fMRI activation topography and lateralization. All the participants were healthy, native Spanish speakers who learned English as their L₂. This study examined whether neural networks vary according to the use of primary or L₂ based on semantic perception of bilingual adults. Cortical regions of the brain function differently when the participants switch from their L₁ to their L₂. In addition, this study shows that the brain gives different reactions to phonological and semantic language processing. The findings of this study correlate ill-formed semantic transfers from the L₁ into the target language when the participants were asked to switch between the two languages (Pillai, 2003). Pavlenko & Driagina (2007) echoes Pillai's view as they investigated whether or not advanced American learners of Russian are able to use Russian emotion vocabulary similar to those native speakers of Russian. If not, this study aims to find out the sources for their struggle or errors during language transfer from their L₁ to the L₂. The participants of this study were two groups of native undergraduate Russian speakers, ages 18 to 26 and two groups of native undergraduate English speakers also, ages 18 to 26. The quantitative analysis of this study focuses on participants' educational background, whereas the qualitative part of the study focuses more on linguistic factors, which identifies differences in systematic language use between the participants. This study reports on a variety of examples that are difficult for the learners to identify since there are no corresponding translations for some words. This study suggests that confusion may take place in the language learner's mind because a word may be mistaken as a narrower or broader concept when transferring the primary language into the target language. Jiang's views parallel those of Pavlenko & Driagina's

in that Jiang (2004) argued that ill- formed semantic transfer can be a result of an unrelated linguistic correlation between L₁ and L₂. In this study, semantically related English word pairs were given to Korean English bilingual speakers and an average relatedness score was computed according to the native speakers' rating results. This study offers a new perspective on how to define lexical competence and suggests using a variety of vocabulary instruction techniques for improving the semantic knowledge of words. In addition, this study presented evidence for L₁ semantic mediation as a continuous process for advanced L₂ speakers (Jiang, 2004). Erten & Tekin (2008) echo Pavlenko & Driagina's (2007) view as both studies mention the confusion bilinguals experience and how they feel a need to transfer their primary language to their target language. Erten and Tekin (2008) investigated the effects of two different methods of vocabulary teaching in terms of semantically related sets of vocabulary versus semantically unrelated set, two different sets of vocabulary were introduced by means of flashcards and repetition during regular class hours to these English language learners. The participants of this study were 60 fourth grade students who had limited formal language instruction prior to this study. Twenty-nine of the students were female, and 31 were male students. The participants' English language proficiency levels were similar to each other. The same vocabulary test was used as pre-test and post test before and after teaching two sets of vocabulary. The findings of this study show that teaching new vocabulary in semantic sets may cause confusion because of the use of synonyms and antonyms. In addition, this study claims that it requires more time and effort to learn new vocabulary in semantically related sets in comparison to semantically unrelated sets. The study offers new perspectives for vocabulary teaching methods. Since this study focused

on young learners, it would be beneficial to replicate a similar study with adult learners for a better understanding of learning semantically related and unrelated sets of vocabulary (Erten & Tekin, 2008).

Chan (2004), Grainger & Frank (1998), Strick (1980) and Uysal (2007) researched the reasons that caused semantic transfer, yet all came up with different suggestions. Strick (1980) and Uysal (2007) pointed out the cultural and social effects of the first language. Strick (1980) offers a perspective for semantic development in a L2. The participants of this study were 54 university students. Twenty-five of these students were Iranian students who studied English for an average of 7 years, and the rest of the students were Americans whose native language is English. The research question of this study deals with how semantic competence occurs as a process of transition from native to L2 semantic structures. This study investigates the relationship between semantics and cognition in order to have a better understanding of the L2 acquisition process. In addition to this, L2 development is hypothesized as a transition of semantic structures from native to the L2. A nonmetric multidimensional procedure was applied to analyze the factors that influence semantic development of the L2. This study suggests that the learners transfer their native language to their L2 when they are unable to perceive social and cultural contexts of the L2 (Strick, 1980). On the other hand, Uysal (2007) focused on how semantic categorization can be influenced by cultural factors. For instance, Uysal (2007) suggested that language learners transfer their cultural and linguistic backgrounds when writing in their L2. The participants of this study were 18 Turkish native speakers who hold B.A. degrees from Turkish universities. The participants' English proficiency levels varied from each other. The participants were asked to write essays on a variety of

subjects. The results of this study showed that the participants should be grouped according to their English proficiency levels. The findings of this study revealed that cultural and educational background play a very important role when bilinguals make choices through the structure of their essays.

In contrast to Strick (1980) and Uysal's (2007) cultural and social aspects, Grainger & Frenck-Mestre (1998) focused on the effects of visual stimulus and phonological codes. Grainger & Frenck-Mestre (1998) investigated significant facilitation of semantic categorization in target language and how translation takes place in bilingual memory. The relationship between the representation of form and meaning is questioned to see whether bilinguals are influenced by semantic associates when learning their target language. The participants of this study were 12 native speakers of English who speak French as their second language. This study suggests that semantic information can be affected by visual stimulus and phonological codes, which might increase semantic activation.

In contrast to all these studies that focused on semantic transfer, Chan (2004) investigated the nature and extent of L₁ interference by offering evidence of syntactic transfer from Chinese to English. The participants of this study were 710 Hong Kong Chinese English as a Second Language (ESL) learners at different proficiency levels. Self-reporting in individual interviews, translation grammaticality judgment test were used as methodologies in order to identify error types of the participants. Five specific syntactic patterns were selected for experimentation. This study pointed out the fact that the participants transferred syntactic forms when they experience difficulty in the target language. The results of this study suggested that many Chinese ESL learners in Hong

Kong thought in Chinese first before they wrote in English, and the interlanguage structures produced by the participants were almost the same to the learners' L₁, Cantonese.



Methods

A. Sampling Process

Sample selection.

In this study adult bilingual participants between the ages of 29-45 were selected as adults have the ability to use their analytical skills to organize the principals of information. Related to this role of consciousness in input processing, all adult participants were aware of their L2 acquisition process (Schmidt, 1990). Therefore, the adult participants were asked to provide samples of semantically ill-formed sentences that show L1 interference that occurred when the bilingual speaker unconsciously and directly translated a word or phrase from his L1 to his target language in order to convey the closest meaning.

The participants in this study have been learning English as their second language for over 15 years and have reached near native proficiency for most, but not all educational purposes in graduate school. However, individual learning differences must be taken into consideration before making generalizations.

The participants.

A small group of participants who have similar academic background knowledge were selected in order to collect data from a homogeneous group. Advanced ESL speakers of different L1 backgrounds usually experience transferring ill-formed linguistic structures due to barriers of L1 transfer. For instance, if a language does not include a certain concept, then it is impossible to associate a recently acquired concept to existing knowledge. As the native languages of the participants are different from each other, it is possible to apply intensive sampling in order to compare and contrast semantic transfers

that are experienced in multiple languages. L2 educators, linguists, L2 learners might be interested in the outcome of this study as this study may provide insights of how L1 transfer may or may not affect the L2 acquisition process.

The participants of this study are four bilingual Chinese, Korean, Spanish and Turkish adult speakers who learned English as their L2. The Chinese speaker participant is continuing her Master of Science (M.Sc.) program in the field of Microbiology, in the Food Science Department, in a U.S university while the Korean and Turkish speakers are continuing their Doctor of Philosophy (Ph.D.) programs within the same field at the same university. The Spanish speaker earned her master's degree in Mexico, then her Ph.D. in Spain, and is now working as a visiting scholar in the field of Microbiology, in the Food Science Department, within the same university as the other participants. Even though the participants began learning English at different ages and their English proficiency levels vary, all the participants have achieved cognitive academic language proficiency (CALP), especially in their field.

Table I – The profile of participants

	Bong-Cha	Ata	Mingmei	Rosa
Age	29	29	33	45
Native Language	Korean	Turkish	Chinese	Spanish
Education Level	Ph.D. student in Food Microbiology	Ph.D. student in Food Microbiology	M.Sc. student in Food Microbiology	Ph.D. in Food Microbiology
Starting Age for Learning English	12	12	13	25

Rosa.

Rosa is a 45 year old visiting scholar from Mexico. Her length of exposure to English is almost 20 years. Rosa did not start learning English when she was a child as learning English was not a requirement in any of Mexico's public schools. In addition to this, it was quite expensive to learn English in Mexico. Rosa felt a need to learn English as soon as she started her master's program in the field Microbiology in Mexico. As English is considered the universal language in academics, Rosa needed to read in English in order to understand recently published journals and books. Rosa started to learn English in a basic, but interactive English class. After long hours of biochemistry and microbiology classes, learning a L2 was really relaxing for her. She not only enjoyed learning a L2, but it was discovering another world and culture for her. Her English course was so interactive and fun that her motivation level clearly affected her L2 acquisition process positively. After this basic course, which lasted 9 months, Rosa did not take any more English courses. Soon after completing her master's program, Rosa started her doctoral program in the field of Microbiology in Spain. At the age of 41, after completing her doctoral program in Spain, Rosa moved to the US with her husband and three kids. She claimed that it had been a great joy for Rosa to learn a L2 and discover the culture of that language. In the meantime, she applied some effective learning strategies for improving her English. Right now, Rosa is working as a visiting scientist in a US university and conducting research related to her field, which includes writing research papers in English.

Mingmei.

Mingmei is a Chinese 33 year-old graduate student who is attending a master's degree program in the field of Microbiology in the Food Science Department at a U.S university. She came to the US almost 4 years ago, and before she came, she worked at a famous pharmaceutical company as a Microbiologist in China. Mingmei is very proud of her culture and ethnic background, and she becomes very happy when talking about things that are special to Chinese traditions or life style. She is very curious about other cultures too.

Mingmei is a sensitive person who seems shy until you get to know her. She is also a very hardworking student who studies in a very timely and organized manner. She really likes to talk about politics and her artistic personality allows her to criticize world politics in a passionate, but logical way.

Mingmei started to learn English at the age of 13 since it was a requirement in public schools. When she started to learn English, she did not think it was hard, as they did not learn English for communication purposes. When she came to the US, she continuously struggled when trying to use everyday English and decided that English was very hard when it comes to daily use. There are times that she feels frustrated since she is experiencing hard times to find the right vocabulary to express herself. Mingmei feels much more comfortable when she sees words in writing. Her English proficiency level usually upsets her as it has been challenging for her to keep up with the oral language.

Bong-Cha.

Bong-Cha is a very friendly, out-going, smart and cheerful student from Korea. She is 29 years old, and a Ph.D. student in the field of Microbiology in the Food Science Department. Her researcher personality leads her, and she asks all sorts of questions to analyze almost every aspect of any subject matter in which she has a special interest. She is a perfectionist when it comes to her research. Bong-Cha is very glad that she learned English as she sees her L2 as a great tool for expanding her knowledge. In this digital age, she can easily make comparisons when she googles a word in Korean and then in English to get the latest information. It took many years for Bong-Cha to learn English. In Korea, the public school system is very competitive and it is an official requirement to learn English. That's why Bong-Cha attended a private institution to learn English when she was an elementary school student. After attending that institute for a short time, she continued learning English at the age of 12. In Korea, English is considered as one of the most important subjects in public schools, along with Korean literature and math. Most students study really hard to get good grades in those subject areas. In public schools, English education is mostly grammar oriented and when it comes to conversational English, it was useless. Bong-Cha and her friends had to memorize all the grammatical rules in order to pass the exams. Bong-Cha learned English in middle and high school and during these years, she didn't even have one writing class. Before she completed her undergraduate degree in the field of Microbiology, she went to Canada to learn more English and she took English writing classes there. She went back to Korea and finished her master's degree. Then she came to the US to start her Ph.D. program in the field of

Microbiology in the Food Science Department. This is her third year in her Ph.D. program.

Ata.

Ata, is an easy-going, kind, friendly and smart Ph.D. student in the field of Microbiology in the Food Science Department. He is from Turkey. Ata started to learn English at the age of 12. Although English is not an official language in Turkey, it is an official requirement to learn basic English in public schools. Ata attended a private school for his middle and high school education in which the students are accepted based on their performance on a standardized test. The first years of these private schools are dedicated to learn English for 28 hours per week. He had a Turkish teacher for teaching English grammar, and a native speaker of English for speaking and writing lessons.

In these private schools, the English Language education was grammar oriented. Students learn important content areas such as math and science in English along with English and Turkish literature classes. The English programs in these schools needed dedication, as it lasted for 7 years and especially learning new vocabulary words on regular basis was really time-consuming since the teachers gave them a lot of homework.

After graduating from high school, he went to the Food Engineering Department for his undergraduate studies, and all the courses were in English. Upon completing his master's in Business Administration, he scored in the top 100 students on a nationwide graduate school entrance examination among 80,000 students. That's why the Turkish government sponsored him to get his master's degree at a US university. He completed his second master's degree in the field of Microbiology, and started his Ph.D. program in

the Food Science Department at the same university. This is his last semester in his Ph.D. program.

B. Measurement and Design

This study evolved through close interaction with bilinguals and the study took place in a Microbiology laboratory. The main instrument used to measure the research constructs was an interview protocol along with a semi-structured interview schedule (see Appendix B). In these interviews, participants were encouraged to talk about their educational background, what kind of learning strategies they used when learning English as their L₂ and in what particular situations they struggle when transferring their L₁ to the target language.

Chinese, Korean, Spanish and Turkish languages are selected. Among these languages Korean and Turkish have the same word order, which is subject-object-verb (SOV). Chinese, Spanish and English have the same word order, which is subject-verb-object (SVO). Some specific questions about word order were asked to the participants to see if there was any relationship between semantic transfer and syntactic structures of these languages. Native languages of the participants are preferred to be different from each other so that it would be possible to compare and contrast semantic transfers that are experienced in multiple languages.

Interviews.

In these interviews, participants were interviewed with a set of questions that asked the same information from all participants. Although choosing the participants from the same department with similar linguistic background knowledge brings out a homogeneous group to investigate, it was quite challenging to cover both factual and

meaning levels of central themes when it came to categorizing the data (Kvale, 1996).

Therefore, in addition to structured interview questions, open-ended and follow up questions were asked to the interviewees based on the situation.

The interview questions were pilot tested with respondents who share similar characteristics to ask the right open-ended or follow up questions. Based on the feedback from this pilot group, the research questions were revised.

The participants were kept focused and asked for concrete details with minimal guidance. All interviews were audiotaped and all data was transcribed and divided into categories. Data was read and important sections were separated into sub categories. Typical characteristics and similar categories were determined. Characteristics of the data were described in order to make it easier to make comparisons among the languages. Descriptive validity was provided as the participants' quotations were directly and accurately reflected in this study's results section and false inferences were prevented by transcribing the data after double checking the transcription draft by recordings. Interpretive validity prevailed because the participants were asked to paraphrase or retell any unclear part of the data to make sure the meaning was accurate. Any kind of personal judgment was avoided by the researcher and the findings were interpreted by theoretical validity (Gay et al., 2009).

Observations.

The natural environment of the participants was a microbiology laboratory. In this lab, the participants almost always wear their gloves and lab coats that discriminate themselves from the outside world when they are conducting experiments. In this section, the researcher observed the participants as a non-participant observer. It was almost

impossible to hear any talking, as they were quite busy with their experiments. However, observing passively provided hints for their work habits and their reactions when coming across a daily problem. There was another location, where the students use the computers and their study desks are located. In this location, students usually chatted about their daily lives. Therefore, the researcher built relationships with the participants and became an active participant by observing the linguistic structures that were being used along with observing their attitudes toward each other in many different settings. Even different areas within the lab are homogeneous compared to all. Field notes were recorded immediately after the observation took place. Both descriptive and reflective observation took place in order to describe the activities of the participants in detail.

Keeping journals.

The participants of this study kept a weekly self-report of their semantic transfer difficulties. Semantic transfer from their L₁ to the target language was explained to participants by relevant descriptions and brief examples. After the participants understood the instructions, they were asked to keep record of their semantically ill-formed sentences from their L₁ into their target language.

Results

Associated with bilinguals' ill-formed transfer from their first language to their target language, the data were collected by audio tape transcripts, journal entries, and field notes. Similarities and differences among these categories were investigated based on themes. The collected data were categorized in terms of four participants';

- ✓ educational background
- ✓ language learning strategies
- ✓ struggle when transferring first language to target language

Bong-Cha

Bong-Cha, who is a bilingual in Korean and English, described what she believes is going on in her mind when speaking in English. First, she thinks of a cluster of ideas and then grabs the particular idea and makes a sentence according to English sentence structure. She indicates that she never feels comfortable when making a direct translation from Korean into English since the sentence structures are very different in Korean and English. In most cases, making direct translations does not make any sense for her, as it is harder to understand. In those situations, one of the strategies she uses is focusing to find the closest correspondence as possible. Once when Bong-Cha attempted to translate a book, she realized that translation was not about making a word-to-word translation, but conveying a similar meaning. When Bong-Cha was completing her master's degree in Korea in the field of Microbiology, there were some word-to-word translated textbooks available, and those books were very hard to understand because they were direct translations, which distort the meaning. Therefore, it was better to read the information first-hand.

Bong-Cha started to learn English when she was 12 years old, and she was not aware why she was learning English at the time. She was motivated to learn English as it was one of the most important subject areas like Korean literature and math. Also, everybody thought it was cool to learn another language. Most of the English education was grammar oriented. When learning English, she found proverbs very hard to learn as she not only needed to understand the underlying culture, but she also needed to comprehend what the actual meaning referred to. Bong-Cha stated that whenever she had to translate a proverb she needed to provide extra information to describe it. Learning English was difficult for Bong-Cha. Her English education mostly focused on grammar rather than speaking or writing. Therefore, she learned the grammatical structures as rules. Even though Bong-Cha learned English during her middle and high school years, she never took a writing class. Bong-Cha stated that pronunciation was the most difficult of all when learning English. Learning grammar was not difficult, however applying grammatical knowledge to actual conversation was challenging for Bong-Cha. It took a lot of years for Bong-Cha to be as fluent as she is today.

Mingmei

Mingmei started to learn English at the age of 13, and she has been learning English for almost 20 years. Until Mingmei first came to the US, she did not find English hard as she did not use English for communication purposes. After she arrived in the US, she had to use it for communication purposes and it was very hard for her. According to Mingmei, choosing the right word when communicating in English is challenging and she does not usually feel comfortable when making a direct translation from Chinese to English. One strategy Mingmei uses when coming across a word she does not know is

that she tries to avoid using the particular word, and she spends a lot of time explaining the concept so that people can understand her. Another strategy she uses is her body language.

Mingmei stated that word order was easy to learn since Chinese and English share the same word order. However, she usually has a hard time choosing the right word in the right context, as she does not have a rich background knowledge for vocabulary. Mingmei says she usually has a better understanding when she sees the expressions in writing.

English tense structure is very difficult for Mingmei, as she has difficulty in using it appropriately. She says the reason for this is the tense difference between Chinese and English. In Chinese there is no tense. They use special words to convey tense. However, for Mingmei, English is not the same. In Chinese, they need to add one particular word to convey each tense. It is complicated for Mingmei to explain.

In Chinese Mingmei says “We have time in our mind, we don’t need to say it”. On the other hand, in English you need to express time in every sentence. She usually uses the wrong tense when talking to a native speaker and she has a hard time expressing what she is trying to say clearly. Mingmei points out that native speakers talk very quickly and she usually does not understand most words. Therefore, for Mingmei, the most difficult part is conveying meaning.

Rosa

When Rosa came to the US for the first time, she was unable to understand any kind of conversational English. At first, she found people’s accents very different than the accent she practiced at school. She was talking and nobody understood her either. She

felt like she needed to be very cautious. She started to work as a visiting scholar at a microbiology lab in a US university. When she first started working, she used the wrong vowel when trying to say “Hi guys” to her coworkers. Everybody laughed at her as she sounded as if she said “Hi gays”. Although this was a frustrating situation, she summarizes her situation, as “I was not getting angry because it was my problem, and I needed to find a solution”. She used a couple of strategies to get over her language problem. She started to watch the news all the time. Since she has been watching the news in Spanish regularly, she was familiar with the topics. Every day she listened to the news first in Spanish, then in English. Another strategy that she adopted was listening to native speakers very carefully, and paying attention to phrases that she would often need. For instance, once one of the lab machines was out of order. She went to the lab manager and said, “this machine is not functioning”, which was a direct translation from her first language. Although the translation was close, it did not give the exact meaning she was trying to convey. Therefore, she listened to native speakers very closely and noted down the phrases that she would need. Then she memorized and practiced them in real life on a regular basis. Afterwards, people started to understand her.

As a visiting scholar, Rosa needed to write academic papers regularly. At first, she attempted to write papers in Spanish and tried translating the paper into English. She mentions it was too difficult and not practical at all. Every time there was too much writing in Spanish, which could not be translated. So, she stopped writing papers in Spanish. Instead, she developed an interesting strategy. She found similar papers that were about similar topics, and she focused on the sentence structures and then applied those sentence structures to her papers.

Ata

At first, it was boring and hard for Ata to learn English as he was given lots of homework. The first strategy that was imposed on him was about learning new vocabulary. He had to learn the vocabulary words with a dictionary and the explanation should be from a basic English dictionary so that he would learn the synonyms of new vocabulary words. He read the vocabulary in context and then wrote each new vocabulary word 10 times to learn how to spell the word correctly. Another strategy was writing dialogues with friends about a recently learned topic and presenting it in front of the class as a role-play.

Grammar and pronunciation were difficult to learn. Grammar was difficult because the teachers taught all the grammatical rules in one year. The pronunciation was difficult since in Turkish one pronounces the words as the way they are written. He states “In English you need to know the meaning of the word so that you would guess how to write it as in the example “right” or “write”. However, in Turkish it is possible for a first grader to read and write his first language in three or four months. Even if the student doesn't know the word in context, he can write it correctly because in Turkish if you hear a sound you simply can write it.”

When Ata makes a direct translation about technical terms to a monolingual Turkish speaker, he hardly finds similar words. In those cases, he wants to code-switch and use the terminology from English. Another strategy he uses is giving the definition to the native English speaker if he gets stuck with a certain word. He says people usually understand what he is trying to say and gives that particular word to him in those cases.

What was the most difficult aspect of learning English?

All participants were asked about which aspect of learning English was the most difficult of all among grammar, pronunciation, conveying meaning or vocabulary. All of the participants mentioned pronunciation as the most difficult subject. Ata also indicated that grammar and pronunciation were the most difficult aspects, whereas Mingmei pointed out all aspects were equally difficult.

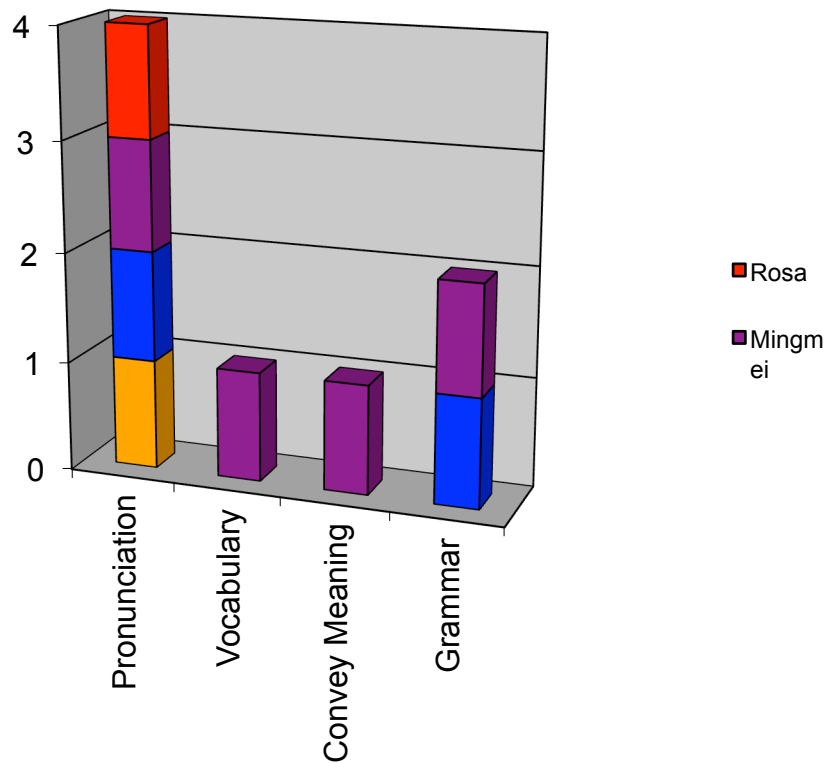


Figure 1. Difficult aspects of learning English for each participant. Different colors represent different participants.

How did the participants define the importance of second language acquisition?

Ata: *“A second language is thinking in a different system”.*

Bong-Cha: *“A second language is a great tool to expand knowledge”.*

Mingmei: *“A second language is communicating in a different language”.*

Rosa: *“A second language is a window that opens to a new culture and a new world”.*



Discussion

Bilinguals have the ability to think in two different languages and in two different ways, as Benjamin Lee Whorf states, “Language shapes the way we think, and determines what we can think about” (Kovecses, 2006). However, the capacity to think in two different languages creates confusion because of homophones, polysemous words, proverbs and idiomatic expressions since they can be very different in the two languages.

Unlike native speakers, all participants learned their L2 as part of a grammar-oriented program, which taught English by rules of grammar. When people learn a L1, it is a natural innate capacity, but learning a L2 is learning a variety of linguistic rules on a systematic basis. Most native speakers do not know why they use certain grammatical expression over others, or why they chose certain expressions over others and they usually cannot explain the rules of their first language unless their profession is closely related with language. Yet, they have an innate capacity and natural flow to use grammatical expression in a flawless way (Gavin, 2006). On the other hand, although most bilinguals can name and explain all the grammatical rules of their L2, their linguistic output is often distorted because they use an idea or concept that does not exist in their target language.

In this study, the participants tended to grab the ideas from the language they mastered those particular ideas or concepts for the first time, and then they produce semantically ill-formed sentences when they attempt to make a direct translation from one language to the other one. According to Elston-Gutter & Williams (2008) when learners read words in context, L1 lexicalization patterns influence semantic processing of L2 words. Similarly, this study suggests that bilinguals' conversational English is affected

by L₁ lexicalization patterns and the majority of the data collected from the participants are difficulties with polysemous words.

Since all the participants have the tendency to overcome their ill-formed semantic transfers, the data suggests that the participants adopt a variety of strategies to prevent their semantically ill-formed transfers. Indeed they cannot avoid making semantically ill-formed transfer, since they construct those sentences simultaneously by grabbing ideas from their first languages.

When participants asked for the most difficult stage of their L₂ acquisition process among the domains of grammar, pronunciation, vocabulary and conveying meaning; they chose pronunciation as their most problematic area as they indicated that there are no clear-cut rules to learn pronunciation in English. Chinese speaker Mingmei's English was less proficient than the other participants and she said she found all areas problematic. However, none of the participants considered their semantically ill-formed transfers from their first language to their target language unless they were asked for specific examples. They gave examples of polysemous words from their L₁ because polysemous words can stand for multiple meanings and may cause confusion. In this case, bilingual speakers usually attempt to use either a polysemous word from their L₁ and use it as is in the target language and unconsciously create a semantically ill-formed sentence, or struggle when trying to use an idiomatic expression that does not exist in the target language for cultural or linguistic reasons.

Therefore, this study shows that bilinguals grab the ideas from their L₁ when they are unable to find the exact meaning in their target language. This situation occurs mostly in conversational English as they tend to code-switch a polysemous word directly from

the L₁, but translates as ill-formed sentence structure in the L₂. The following data supports that bilinguals transfer ill-formed sentences from their L₁ to their target language.

Specific examples of semantically ill-formed transfer from their first language to their second language

Sematically ill formed samples in Korean.

The following words have the same meaning in Korean whereas they reflect concepts that have similar themes in English. This situation creates a great deal of confusion when Bong-Cha attempts to use any of these vocabulary words in conversational English. Although she knows the difference between the words, it is hard to choose the right one in simultaneous speech and this causes ill-formed semantic transfer from Korean to English.

Polysemous words

- Benefit/advantage
- Opportunity/chance
- Congratulate/ celebrate
- Speak, tell and say

In the same way, the words *few/a few* and *little/a little* are confusing as there is not a meaning difference for countable and uncountable words. Bong Cha expresses this frustrating semantic transfer situation as follows:

“Basically, *few* and *a few* signify the same as do *little* and *a little*. However, *few* and *little* imply a negative nuance, which can be reiterated "there is/are not much/many," although these words are used in positive sentences. In Korean, the English sentences

containing *few* and *little* are translated into negatives; hence, I felt quite confused when I first encountered these expressions.”

Adjectives such as *interesting* and *interested* are polysemous words in Korean. Both interesting and interested are translated into one word in Korean. In fact, the passive voice is not used in Korean as frequently as in English. Other examples include:

- confusing-confused
- frustrating-frustrated
- exciting-excited

Another problematic issue in Korean is formal and informal situations are described in a different way. Especially more formal situations are expressed by Chinese characters. The word “seat” is used for formal and informal situations and its meaning changes.

When Bong-Cha attempted to translate a book from English to Korean, she realized that it was almost impossible to translate directly as direct translation ruins the semantic aspect of what she was trying to say. Bong-Cha’s description of what was going on when she communicates in English shows that she does not think in Korean when she is about to talk in her second language. She grabs ideas from idea clusters, and when she makes an ill-formed transfer, she code switches to her first language for a few seconds since she learned all the ideas and concepts in her native language first.

Sematically ill formed samples in Turkish.

The following words have the same meaning in Turkish whereas they reflect concepts that have similar themes in English. This situation created a great deal of

confusion when Ata was learning to use these vocabulary words in daily English.

Although he knows the difference between the words, there have been times that he used ill-formed semantic transfer from Turkish to English.

- Smoke/drink
- Congratulate/celebrate
- Ride/Drive
- Tie/Fasten
- Consist/Include
- Cause/Reason
- Develop/Grow

Another problematic issue in Turkish is using idiomatic expressions. In Turkish when a person is sick one says "Let it (the illness) be passed away". Ata wanted to use this expression when he first came to the US, but it did not sound right. He understood that there was no exact translation for this and he had to say "Hope you feel better" after he saw an ill person.

Another example that was given by Ata is the expression of "Have a safe trip". People in Turkey never say that, they usually assume that it would be a safe trip and if they say such an expression it might mean "I expect you to be in trouble during your vacation, so you better have a safe one" Therefore, they say "Have a nice trip".

When Ata attempted to translate English scientific terminology into his first language to a monolingual Turkish speaker, he had difficulties finding those words since he learned science and math in English in middle and high school. Therefore, it may be

suggested that bilingual speakers grab the initially learned concepts or ideas no matter if it is their L₁ or L₂.

Semantically ill formed samples in Chinese.

Mingmei provided many samples for semantically ill-formed sentences. During her interview she talked about her past learning experiences and she used short and simple sentences. The only example that Mingmei provided during her interview was from a paragraph she read. She indicated that she was not sure when to use arrange and organize since they have the same meaning in Chinese. Afterwards, she gave more examples from her journal. She indicated that the following example phrases, which were in parenthesis, occur as semantically ill-formed phrases when she directly translates them.

- I cannot figure this out. (Figure out: think)
- I need to clean my teeth. (Clean: wash)
- Allow them air dry under laminar hood. (Allow: let)
- This room is too warm. (warm: hot)
- These fresh tulips really caught my eye. (caught : attracted)
- Did you develop your own film or have them developed in the lab across the street. (develop: wash and enlarge)
- What! You want to see a polar bear in this national park? Do not you feel you are looking for a needle in a bundle of hay? (look for a needle in a bundle of hay: look for a needle in a haystack)
- I would reject his resignation if I were in your shoes. (shoes: position)

- I had her name on the tip of my tongue, but I simply cannot tell what it is.
(on the tip of my tongue: on the edge of my mouth)
- I got straight A's. (straight: total: all)
- I came straight home after school. (straight: direct)

Semantically ill formed samples in Spanish.

Rosa not only experienced semantically ill-formed transfer, but she also witnessed her son's semantically ill-formed linguistic structures. Since Rosa started to learn English at the age of 25, she is experiencing pronunciation problems and her wrong vowel choices often causes misinterpretations.

When Rosa's 12-year-old son came home from school one day, she asked how he spent the day. Her son replied her as follows: "Well...school was O.K., but some friends molested me". Rosa was surprised to hear such a sentence at first. However, she realized that her son used the word "molested", since in Spanish "molested" and "bother" have the same meaning. In this case, Rosa's son made a direct translation from his L₁ to his target language.

Rosa stated that the hardest part of learning English was learning pronunciation. She added that unlike Spanish, in English there are no clear-cut rules for pronunciation, which makes it quite challenging to learn pronunciation. For instance, when Rosa first came to the US, she had many problems with vowels. She said she was paying extra caution when she says "Hi guys" since a couple of people said she more sounded like saying "Hi gays".

Another example is a syntactic one that also causes semantic problems. Since Spanish word order is different from English word order, she says she tends to use the

wrong word order all the time. In Spanish, adjectives follow nouns; whereas in English, adjectives precede nouns. Therefore, she has a tendency to say “House White” instead of saying “White House”.

When Rosa was talking about the hardship of giving lab orders, she made a semantically ill-formed transfer without realizing it. She was talking about how hard it was to talk on the phone and give orders. She tried to say it was more comfortable to be face-to-face rather than being on the phone. However, she didn't say “face-to-face”, but used the word “front”, which was a direct translation from Spanish.

Other semantically ill-formed transfers include:

* I didn't understand *nothing*

She directly transferred the word nothing from Spanish as nothing and anything have the same meaning in Spanish.

When she was talking about her husband, she said the following sentence.

*He *made* his master's in....

In this example she attempted to say did or earned, however since in Spanish they say “make master's”, she directly transfer her L₁ into her target language.

Conclusion

The present study investigated the influence of first language (L₁) transfer on the processing of semantically ill-formed sentences by bilingual proficient speakers of multiple languages. The findings suggested that ill-formed semantic transfer occurs in cases where a polysemous word or an idiomatic expression in the L₁ is expressed by a direct translation. Strategies for how to overcome the challenges of ill-formed meaning interpretation that influence proficient bilinguals' L₂ output are discussed.

It is almost impossible to make a direct word-to-word translation from one language to another without distorting the meaning. Bilinguals should not translate each word within a sentence structure. They have to translate the meaning, that is to say, the semantic aspect of the language. In some cases, it is almost impossible to give the same meaning that exists in one's L₁. Therefore, it is likely for bilinguals to make direct semantic transfer from their L₁. Since direct semantic transfer results in ill formed sentences, bilinguals unconsciously transfer their L₁ into the target language. Knowing that, bilinguals adopt some strategies to get over these challenges when trying to find the most appropriate correspondence.

This study adds to the evidence that the impact of the L₁ on L₂ acquisition should be taken into consideration as it creates individual learning differences. Therefore, this study suggests interactive lesson plans that focus on polysemous words as a possible alternative teaching technique that may prevent semantically ill-formed transfers. To have further understanding of the semantically ill-formed transfers, the number of the participants in this study can be increased or the same study can be conducted with participants from different educational backgrounds.

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Appendices

Appendix A: Key terms

Code switching is a systematic interchange of words, phrases, and sentences of two or more languages.

Semantic transfer is the transfer of meanings in statements from one language to another.

Semantically ill-formed transfer is the loss of meaning upon attempting translation of a word/phrase from a person's native language to a secondary language

Polysemous words have multiple meanings or interpretations

Universal Grammar supports the view that all human beings can benefit from common linguistic rules that are shared by all languages.

The Critical Age Hypothesis refers to a biological period in which language can be acquired fully.

Language Acquisition Device is a hypothetical mechanism in the human brain that enables any normal human to learn any human languages

Appendix B: Interview Questions

1. Do you feel comfortable when making a direct translation? If not, why?
2. What strategies do you use when you attempt to translate a phrase/word that does not exist in your first language?
3. Which strategy do you think is the most effective of all among the strategies you mentioned?
4. When did you start learning English? Why did you feel a need for learning a second language? Was it a requirement in your country? Did you find it easy/difficult? Why/why not?
5. What did you find the most difficult when learning a second language? (Grammar/ Vocabulary/Pronunciation/Convey meaning?)
6. Do you recall a time when you feel frustrated/experience extreme difficulty when you making a direct translation from your first language to your second language? Can you give an example?