Code Switching and Code Mixing by Spanish Heritage Speakers in Computer Mediated Communication (CMC)

Maria Beatriz Paternain Martin

University of Georgia

LLED 7045

Dr. Satomi Suzuki

May 1, 2012**Abstract**

*This case study examined the occurrences of code switching and code mixing in a synchronous written and oral chat based environment. In Spring 2010, the computer-based conversations of 3 Spanish heritage students were collected in two occasions during a 30-minute-1 hour- period and analyzed to identify: (1) occurrences in which code-switching takes place (2) functions of the language speakers seem to switch the most (3) most frequent code mixing category in which participants mixed languages; and (4) effect of the mode of communication on code switching. The findings suggest that code switching and code mixing are common practices among Spanish heritage speakers in CMC and that the context and topic in which these exchanges occur have an impact on code switching. Conclusions and suggestions for further research are provided.*

**Introduction**

Code switching and code-mixing are common linguistic practices among bilingual speakers in the United States. This phenomenon is considered a sign of identity and belonging to the Latino community without giving up one language for the other (Zentella, 1997, p.114). Most bilinguals use their two languages in different contexts and with a different purpose. “An individual may also code-switch languages, whether deliberately to subconsciously, to accommodate the perceived preference of the other participant in the conversation” (Baker, 2011, p.6). Although code –switching and code-mixing is a topic that has been examined by many researchers, there are few studies in the context of computer-mediated communication (Danet & Herring, 2003; Durham, 2003; Goldbarg, 2009; Ho, 2006; Huang, 2004;).

This case study examines the occurrences of code mixing and code switching produced during interactions in an informal environment by Spanish heritage speakers. The paper begins with some important aspects related to the presence of Spanish in the United States. Then, a literature review that will include key terms on code switching will be presented. Next, it provides a rich description of the participants, data collection, and data analysis.

Moreover, the paper presents the results in four sections that correspond to each research question: (1) occurrences in which code-switching takes place(2) functions of the language that have the tendency to switch, (3) frequent code mixing categories in which participants mix languages (alternation, insertion, and congruent lexicalization); and (4) effect of the mode of interaction code switching.

The paper concludes with a discussion of the findings and suggestions for further research.

**Spanish in US**

**Demographics**

The 2007 Census update reported 34.5 millions speakers of Spanish in The United States, making Spanish the most commonly spoken non- English Language in this country. According to Potowsky (2010), approximately 70% of the USA Latinos speak Spanish at home. What is more, 71% of Latinos claim to speak Spanish “well or very well” (US census bureau 2007c). As indicated by the 2000 Census, the three largest Hispanic groups in the USA are Mexican (59%), Puerto Rican (10%), and Cuban (4%). It is estimated that 40 percent are foreign-born and 60 percent are born in the USA (see table 1). This data is important when considering language use and retention. Hispanics who have been born in Spanish speaking countries usually have only experienced the Spanish monolingual education. Spanish speakers who have been immersed in a Spanish speaker country for a substantial period of time without significant amount of English acquisition have stronger Spanish grammatical skills than those Hispanics who have been in contact with the English language at an early age (Montrul, 2002).

Table 1. *Ten largest Hispanic groups by country of ethnic origin*

|  |  |  |
| --- | --- | --- |
| **National origin** | **Total number** | **Percentage of US Latino population** |
| **Mexico** | 20,640,711 | 58.5 |
| **Puerto Rico** | 3,496,178 | 9.6 |
| **Cuba** | 1,241,685 | 3.5 |
| **Dominican Republic** | 764,945 | 2.2 |
| **El Salvador** | 655,165 | 1.9 |
| **Colombia** | 470,684 | 1.3 |
| **Guatemala** | 372,487 | 1.1 |
| **Ecuador** | 260,559 | 0.7 |
| **Peru** | 233,926 | 0.7 |
| **Honduras** | 217,569 | 0.6 |

*Source: US Census Bureau 2000a (In Postowsky, 2010)*

**Education**

As stated by Stearns and Watanabe (2002), there are approximately 7,000 public schools in the USA with a Latino population between 50 percent and 100 percent. These high percentages are significant in Los Angeles, California (71%), Miami-Dace County, Florida (58%), New York City (34%), and Chicago, Illinois (33%) (Potoswky, 2010).

Due to the remarkable number of students with some background in Spanish, there are “school-based Spanish programs created especially for US Spanish speakers who grew up speaking the language, but who typically have not been able to develop reading and writing skills in the language” (Potoswly, 2010, p.73). According to Valdés (2001), these students are usually identified as heritage speakers, “a student who is raised in a home where a non-English language is spoken, who speaks or at least understands the language, and who is to some degree bilingual in that language and in English”. Although these individuals usually end up functionally bilingual, they are dominant in the majority language in which they were schooled. Even though children of Spanish-speaking immigrants are advanced speakers of their family’s heritage language, they often do not develop age-appropriate levels of literacy, vocabulary, and grammatical systems in it. (Potoswky, 2010). However, these speakers are not usually considered balanced bilinguals. Some of them are Spanish dominants while others are English dominant. In fact, the use of one language or other depends on the particular context and purpose of the interaction (Valdés, 2000). Even though, special curricula has been designed to assist the specific language needs of heritage students, the number of such programs is very limited. According to the National Foreign Language Center and the American Association of Teachers of Spanish and Portuguese, only 18 percent of the US colleges and universities offered courses especially developed for these speakers (Ingold et al., 2002). For this reason, those heritage students who want to improve their communicative competence in Spanish often receive instruction in Spanish as a foreign language, a course that does not fully fill in the linguistic necessities of these students.

**Evidence of language shift to English**

Although most of US Latinos (75%) speak Spanish in a competent level, the 25 percent only use English for communication purposes. As a result of an intergenerational linguistic shift, the number of Spanish- proficient Latinos has the tendency to be reduced over the course of this century (Potowsky, 2010). In fact, by the third generation, US Hispanics are dominant in English (see table 2). Those who are able to speak it demonstrate “signs of incomplete acquisition, attrition, and many contact features” (Potowsky, 2010, p.77).

Table 2. *Language dominance, by generation*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Language preference** | **Total Latinos (%)** | **First (foreign-born) (%)** | **Second (%)** | **Third (%)** |
| **English dominant** | 25 | 4 | 46 | 78 |
| **Bilingual dominant** | 28 | 24 | 47 | 22 |
| **Spanish dominant** | 47 | 72 | 7 | - |

*Source: Suro 2002, p.13 (In Potowsky, 2010)*

**Spanish language in the USA**

“Given the large number of countries of origin of US Spanish speakers, there is no single US Spanish variety, but rather a rich multiplicity of types of Spanish spoken in the nation” (Potowsky, 2010, p.75) A common practice in many bilingual communities is referred as code switching. According to Hoffman (1991), code switching can be defined as “the alternate use of two languages within the same utterance or during the same conversation”(p.110). As stated in Auer (1998), the switch between codes is utilized as a resource for constructing interactional meaning. This phenomenon is common in bilingual communities since it is considered a sign of identity and belonging to the Latino community without giving up one language for the other (Zentella, 1997, p.114).

**Situation of the study**

Important terms related to code switching are defined in the following section to gain a good understanding of the linguistic features of Internet chatting conversations and provide the required knowledge to understand the key concepts that will be analyzed in this study. Providing specific examples from the data collected will complement the discussion of the understanding of code switching and code mixing used by Spanish heritage students in oral and written synchronous CMC.

**Code switching and code mixing in computer-mediated communication (CMC)**

This section discusses how the processes known as code -switching and code mixing are evident in computer-mediated communication (CMC). There are several definitions to describe the phenomena of code switching and code mixing. According to Cardenas and Isharyanti (2009), “code switching or inter-sentential code-alternation occurs when a bilingual speaker uses more than one language in a single utterance above the clause level to appropriately convey his/her intents” (p.68), whereas code mixing “called intra-sentential code switching or intra-sentential code-alternation, occurs when speakers use two or more languages below clause level within one social situation” (P.68). These are the definitions that we adopt for the current study. Both code switching and code mixing are common linguistic practices among multilingual speakers, and therefore easy to find in computer-mediated interactions (Androustsopoulos, 2011).

**Code switching**

Fischer (1972) noted the importance of analyzing the context of the interaction in order to understand why and when code switching occurs. In addition, Fisher added three significant contextual factors that should not be ignored when analyzing exchanges from bilingual speakers. These factors include: 1) the relationship amongst speakers; 2) the setting where the talk takes place and; 3) the topic being discussed (Cardenas & Isharyanti, 2009, p.68). According to Myers-Scotton (1992) factors such as social identity and educational background also play an important role on the outcome. Excerpts selected have not been modified to correct any grammar and spelling errors to show the way in which these participants communicate. Excerpt 1 illustrates an instance of code switching.

Excerpt 1: Example of code switching

H: Can you see me now?

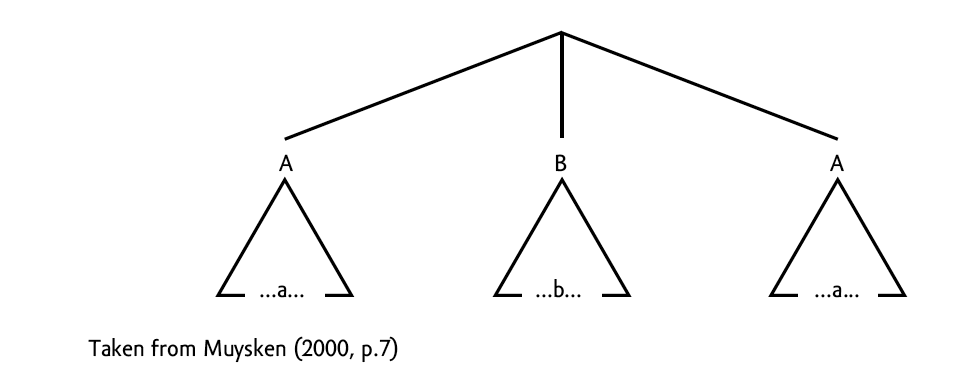
A: It is just... it is the loading sign… Can you see me?

**H: Bueno, ahorita yo no te puedo ver** *(Well, now I can’t see you).*

Excerpt 1 illustrates how the interaction is taking place in English but suddenly, Helena switched to Spanish. This example shows how Helena decides to code switch during her turn to talk. Besides, it occurs in a single utterance above the clause level to accentuate that she is actually able to see the other participant through the camera. The use of “ahorita” in the Spanish sentence reflects the Mexican heritage of the participant and also her awareness of the Adriana’s condition of Mexican origin.

**Code mixing**

Muysken (2000) identified three separate patterns of code switching within sentences (intra-sentential code-switching, sometimes referred as code-mixing). The three types are insertion, alternation, and congruent lexicalization.

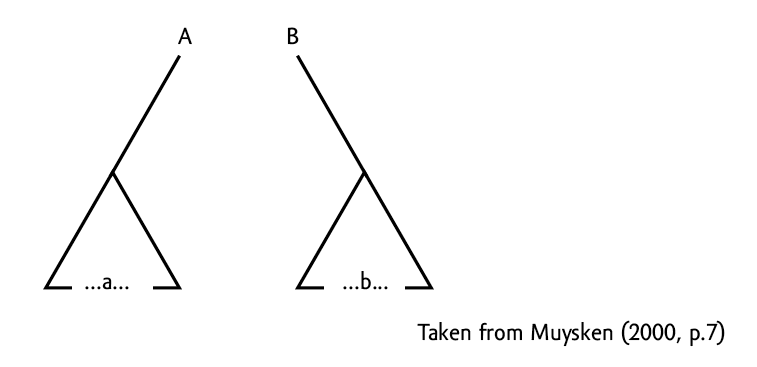
**Insertion.** According to Muysken (2000),“insertion occurs when lexical items from one language are incorporated into another” (Cardenas and Isharyanti, 2009, p.69)**. **

“In this situation, a single constituent *B* (with words *b* from the same language) is inserted into a structure defined by language *A*, with words *a* from that language” (Muysken, 2000, p.7). An example of this type of code mixing is found in excerpt 2.

Excerpt 2: Example of Insertion

J: Pues como dijo la otra, primero vamos a ir a **Buckhead** donde vive Javier. A que horas llega el **Megabus**? *(As the other one said, first we go to Buckhead where Javier lives. When does the Megabus arrive?*

Excerpt 2 is an example of the “necessity” of code mixing that bilinguals encounter when they speak in a language that is not the main language of the place they live in. Brands (Megabus) and the name of streets (Buckhead) in the United States are in English, therefore, translating these words to Spanish would sound weird for the speakers since they are used to listen and see them in English. Bilinguals need to code mix by inserting these words in order to fully express what they want to transmit in order to avoid misunderstandings or awkwardness.

**Alternation.** In Muysken (2000), “alternation occurs when structures of two languagesare alternated indistinctively both at the grammatical and lexical level” (Cardenas and Isharyanti, 2009, p.70).****

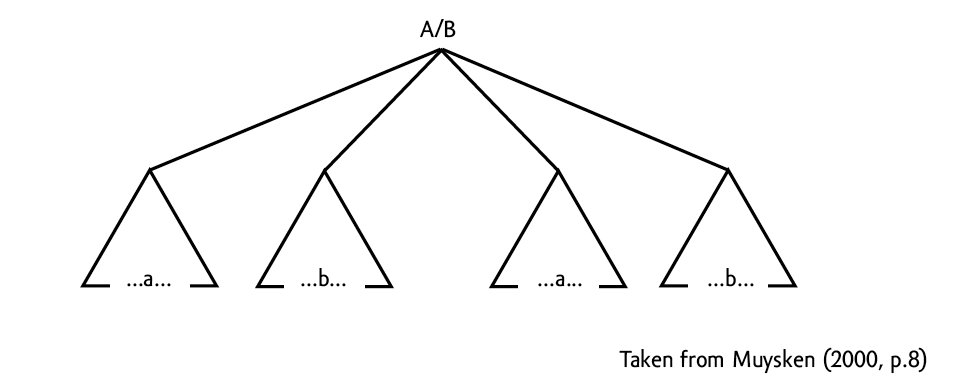
In this case, “a constituent from language *A* (with words from the same language) is followed by a constituent from language *B* (with words from that language). The language of the constituent dominating A and B is unspecified” (Muysken, 2000, p.7). An example of this type of code mixing is found in excerpt 3.

Excerpt 3: Example of alternation

H: ¿Qué vas a llevar? Chris, ¿Sabes lo que lleva ella? **I don’t know what to take. (What are you going to take***? Do you know what she is taking? I don’t know what to take)*

Excerpt 3 occurs in the context of a weekend planning between two Spanish heritage speakers. Helena begins speaking in Spanish and she uses this language during 2 sentences. However, at the end of the intervention she switches to English. The separation between both languages is obvious. The first two sentences are presented in an interrogative mood while the one that is in English has the form of a statement. This alternation is used to emphasize the participant’s concerns about what to take with her.

**Congruent lexicalization.** According to Muysken (2000), congruent lexicalization refers to the “situation where two languages share grammatical structures that can be filled lexically with elements from either language” (p.8). In addition, “words from both languages *a* and *b* are inserted more or less randomly” (p.8).

****

An example of this type of code mixing is found in excerpt 4.

Excerpt 4: Example of Congruent Lexicalization

H: **Cleveland block party** era **weird** porque era en **Halloween**… es cuando sale la **weird** people *(Cleveland block party was weird because it was in Halloween… it is when weird people go out).*

In excerpt 4, the mixing of English and Spanish makes difficult to identify the main language of the intervention. In addition, it could be interpreted as a combination of alternations and insertions. However, the continuous code switching suggests that the structure of the sentence is identical in both English and Spanish and therefore, the speaker has a good command of both languages.

**Discourse Functions of code switching in Computer-Mediated Communication**

Gumpertz (1982) as mentioned in Androutsopoulos (2011, p.13) classified the discourse functions of code switching in several categories. In this case, Gumpertz understands code switching as the use of several languages in a single speech event.

1. “Switching for formulaic discourse purposes, including greetings, farewells, and good wishes”:

Excerpt 5: Example of switching for formulaic purposes.

H: y preparar para tomorrow (*and prepare for tomorrow)*

J: **okay**

buenos noches *(good night)*

**bye**

H: **goodnight**

J: te veo mañana *(I will see you)*

**see ya!**

H: ok adios *(bye)*

Excerpt 5 shows how participants code switched when they were saying goodbye to each other. This seems to be a common practice among Spanish heritage speakers since it is a way of identifying themselves as bilinguals and Spanish heritage speakers at the same time. Participants are used to say bye to speakers of both languages and therefore, code switching between these bilinguals can be expected in this context.

1. “Switching in order to perform culturally-specific genres such as poetry or joke-telling”

Excerpt 6: Example of code switching to perform joke-telling.

J: jaja esa chica esta reloca *(jaja that girls is super crazy)*  
 nunca sabe que dice *(she never knows what she says)*  
 no te creas *(don’t believe it)*

H: es una **hoe** *(she is a hoe)*

J: esa chica es mu agradable! De que hablas! *(That girl is very nice!*

*What are you talking about?*

H: no ya se... digo de broma *(I know… I was kidding)*

In excerpt 6, participants are speaking in Spanish. However, Helena decided to tell a joke about a girl that both Jane and Helena know and which requires the use of an insult. Helena might not know or prefers not to translate the word “hoe” to Spanish to maintain the whole meaning of the word.

1. “Switching with repetition of an utterance for emphatic purposes”.

Excerpt 7: Example of code switching for emphatic purposes

A: En Office Depot… pero tambien estas haciendo research en la escuela no? *(In Office Depot… but you are also doing research at school, right?*

H: **Yeah, I am doing research** pero pa eso no me pagan *(Yeah, I am doing research but I am not paid to do so).*

In excerpt 7, Helena use English to make sure that Adriana understands that she is doing research and then she switched to Spanish to make clear that she is not paid to do so.

1. “Switching to index one particular addressee, to respond to language choices by preceding contributions, or to challenge other participants’ language choices”:

Excerpt 8: Example of code switching to respond to language choices by preceding contributions

A: Por la mañana me fui temprano para Dalton… *(I went to Dalton*

*early in the morning)*

H: Todavía está **addicted to running?** *(Is she still addicted to*

*running?)*

A: **She is going to the Olympics in Mexico!**

H: **Oh my God! That is so cool!**

In excerpt 8, Adriana and Helena have been talking in Spanish for a while. However, Helena decides to alternate to English when she said, “todavía está addicted to running?” Adriana responded to this new language choice by switching to English too.

1. “Switching to contextualize a shift of topic or perspective, to distinguish between facts and opinions, information and effect and so on”

Excerpt 9: Example of code switching to contextualize a shift of topic or perspective

A: Are you guys taking the same classes?

H: Yeah, we are.

A: both? Same time, same everything?

H: Yeah, except for Religion… but we could have…

A: **¿ Y como se la pasaron acá*?*** *(How did you like coming here?)*

In this example, at the beginning of this section, participants are talking about school classes. Adriana switched to Spanish to propone a new topic: their time when they went to Atlanta.

1. “Switching to mark what is being said as jocular or serious, and to mitigate potential face-threatening acts, for example through humorous CS in a dispreferred response or a request”

Excerpt 10: Example of code switching to mitigate potential face-threatening acts.

H: Ay… y los españoles dicen que son bien racist*…(ay!... people say*

*that Spanish people are pretty racist…)*

A: ¿son bien que? *(They are pretty what?)*

H: He escuchado que los españoles son bien racist *(I have heard that*

*Spanish people are pretty racist)*

A: Sí he escuchado también pero*…(Yeah… I have heard that too*

*but…)*

H: Si era cierto? *(was it true?)*

A: Pues… ay! **I don’t think so… well… I don’t know** porque nosotros estuvimos con pura gente joven *(So…. Ay! I don’t think so… bueno… I don’t know because we were with young people)*

In excerpt 10, participants are talking about a topic such as racism that can be very sensitive. Helena has heard that Spanish citizens are racist and she wants to know more about it since she is planning to go to Spain during the summer and Adriana has already been there. Adriana does not feel comfortable talking about this topic and prefers to show a neutral position in the discussion. She code switched to Spanish to stand out that she does not consider Spanish as racist but also to show her ignorance about the topic since she was only in contact with young people.

1. “Switching to or from the interlocutor’s code to index consent or dissent, agreement and conflict, alignment and distancing, and so on”.

Excerpt 11: Example of code switching to index agreement

J: […] me dijo jon que el sabado va ver un block party

Cobran por la entrada pero que le contaron que it’s going to be cool  
its at a pub, a pub is hosting, I mean. *(Jon told me that there is going to be a block party on Saturday. You have to pay to get in but he was told that it’s going to be cool. It is a pub, a pub is hosting, I mean)*

H: o sounds **chido**. *(Oh sounds cool)*

In excerpt 11, Helena switched to Spanish when she considered “chido” (cool) the idea of going to the block party. Janet had previously expressed her opinion about that party when she said “it’s going to be cool”. Helena shares the same opinion about this plan and she used Spanish to emphasize and clarify that she agrees with what her sister said.

**Research questions**

1. Do participants use the same language as the other participant even when he or she has code-switched in the previous turn?

2. What functions of the language seem to switch the most?

3. What is the most frequent code mixing category in which participants mix languages?

4. Does the mode of interaction have an effect on code switching?

**Methodology**

**Participants**

The sample selection criteria for the study are as follows: (1) college student, (2) resident in the United States, (3) Spanish heritage, (4) bilingual in English and Spanish, (5) use of Spanglish when talking to other Hispanic heritage individuals. In this study, Spanglish refers to **“**the [blend](http://en.wikipedia.org/wiki/Blend), at different degrees, of [Spanish](http://en.wikipedia.org/wiki/Spanish_language) and [English](http://en.wikipedia.org/wiki/English_language), in the speech of people who speak parts of two languages, or whose normal language is different from that of the country where they live” (Wikipedia.com)

The following is a brief description of the participants:

Helena and Jane are two twin sisters who were born in California but raised mostly in the state of Georgia. They are the second generation of Mexican-American in the family. These two participants are fluent speakers of English since they were born and schooled in the United States. They are also considered Spanish heritage speakers. They use Spanish to communicate with their family and other Spanish heritage speakers, but their Spanish demonstrate signs of incomplete acquisition and a tendency to switch to English. Helena and Jane often produce basic grammatical errors and their vocabulary in Spanish is somehow limited. Moreover, these participants are third-year Honors students majoring in Biochemistry who attend a major public university in the southeast of the United States.

Adriana was born in Mexico and raised there till she came to United States at the age of 11. She is the first generation of Mexican-American in the family. This participant is fluent in English although when she came to United States, she lacked of proficiency in this language. She has a high proficiency of oral Spanish and she only talks in this language with his family. She has the tendency of using “Spanglish” when talking with other Spanish heritage speakers. She is a third-year pre-dentistry student, majoring in biology at a major public university of the United States.

Helena and Jane have known Adriana for several years because they went to high school together. Since they currently attend different universities in the state of Georgia, they usually communicate via Internet or phone. One of these occasions was recorded for this study.

The ethics forms sent did not include detailed explanations on the kind of linguistic feature that was to be analyzed.

**Data collection**

The software used for these exchanges was Skype. Skype allows users to communicate with peers by voice, videoconferencing, and [instant messaging](http://en.wikipedia.org/wiki/Instant_messaging) over the Internet. Calls to other users within the Skype service are free of charge. However, calls to [landline telephones](http://en.wikipedia.org/wiki/Landlines) and [mobile phones](http://en.wikipedia.org/wiki/Mobile_phone) are charged via a [debit](http://en.wikipedia.org/wiki/Debit)-based user account system. Those users of Skype receive a Skype name that is used as identification in the Skype directory. Storing chat history is a significant feature of this software for research since very conversation that takes place via written chat is automatically saved (Wikipedia.com)

Interactions between Helena and Jane were collected using the instant messaging feature in Skype. Participants were asked to talk about their weekend. Data was collected in one occasion for 30 minutes and saved by the researcher for its analysis.

In addition, data was collected from a videoconference that took place between Adriana, Helena and Jane. Helena and Jane were together in the moment of the interaction. In this occasion, the researcher did not provide the participants with a particular topic. Data was collected in one occasion for 1 hour, using a voice recorder and saved by the researcher for its analysis. After the exchanges, the researcher provided the participants with a questionnaire where they rated their linguistic abilities in Spanish and in English as well as their awareness of the use of code switching in informal environments.

**Data analysis**

After the videoconference, I listened to the tapes and transcribed the data right after or in the following days in order to learn as much as possible and not miss any important point that was said and how it was said. I also wrote down any comment that came up during this process. When transcribing the data, I used a computer program that slowed down the recording called Express Scribe. It allowed me to transcribe and listen to the conversations at the same time. I also read the transcripts stored in the computer after the interactions to make sure that I had enough data to analyze.

Although each interaction lasted between 30 and 50 minutes, only 30 minutes were analyzed.

Upon collecting the transcripts of the conversations, data was printed out and instances of code switching and code mixing in each interaction were identified. In order to analyze occurrences in code-switching, two variables were taken into account: a) participant 1-initiated switching followed by participant 2; (b) participant 1-initiated switching not followed by participant 2. In addition, occurrences of code mixing were examined and organized in three classes: a) insertion, b) alternation, and c) congruent lexicalization. Also, the functions of the language that have the tendency to switch were classified.

Upon identification and classification, the results were analyzed and compared to determine differences among modes and draw conclusions.

**Results**

**Do participants use the same language as the other participant even when he or she has code-switched in the previous turn?**

Of the 73 instances of participant-initiated code switching in the interactions that took place via videoconference, change of code was triggered 52 times (71%), one turn immediately after the participant had switched from Spanish to English or from English to Spanish. On 21 (29%) occasions participants did not follow the code imposed by the other participant.

In the interactions that occurred via written chat, out of 25 instances of researcher-initiated code switching for Indonesians, on 16 (64%) occasions the participants followed the code switching, whereas in 9 (36%) occurrences, the participants remained using the same code.

Excerpt 12: Example of participant-initiated code switching followed by the other participant, one turn immediately after the code shift.

A: Pues ay! Helena yo no he hecho, no… siempre tengo tarea *(So, ay! Helena,*

*I haven’t done, no… I always have homework)*

H: **Adriana, you turn 21 in 4 hours**

A: **I know.**

Excerpt 13:Example of participant-initiated code switching not followed by the other participant, one turn immediately after the code shift.

A: En mayo, el verano *(In May, the summer)*

H: **Are you doing like a study abroad?**

A: aha! Otra vez *(aha! Again)*

**What functions of the language seem to switch the most?**

It seems that most of the code switches via videoconference and written chat do not have a particular function, but they occur randomly because participants feel more comfortable using one language than another. For instance, Adriana has the tendency of using Spanish more than English; however, Helena and Jane commented their uncertainty to speak in Spanish. These speakers consider that their Spanish vocabulary and grammar is limited; therefore they tend to shift codes every time they feel that a difficult structure is coming up, or are not sure about how to say a particular word in Spanish. Also, they want to keep the flow of the conversation when speaking so they do not actually spend time looking for the word or structure they need. Consequently, they switch to the language with which they feel more comfortable. In addition, by looking at the general function that code switching has among these participants, the numerous instances in which these participants use code switching reveal that code switching is a common practice in CMC and it is also a sign of identity and belonging to the Latino population (Zentella, 1997).

**Functions of code switching via videoconference.** When looking more in detail at the words, phrases, and sentences that are code switched, “responding to language choices by preceding contributions” (Androutsopoulos, 2011, p.13), was the function of the language that triggered the most code switching occurrences, with 52 instances. Participants also used code switches to “express a concept that has not equivalent in the culture of the other languages” (Baker, 2011, p.108) in 46 occasions. For example, Spanish heritage speakers in this study code mixed to English to say name of subjects or proper names like, “Thesiology” or “Habana Club”. In addition, the function of confirming what the other participant had said in the previous turn, occurred 18 times. In this case, words like “yeah” and “ok” were used. The function of expressing surprise was identified through the use of expressions such as “oh my God”, and indicating agreement or conflict such as “that’s cool” occurred in 6 and 4 occasions respectively.

**Functions of code switching via written chat.** These functions were similar to the ones via videoconference. For instance, the function of code switching to“express a concept that has not equivalent in the culture of the other languages” (Baker, 2011, p.108) occurred 44 times; “responding to language choices by preceding contributions” (Androutsopoulos, 2011, p.13) was used in 16 occasions, and participants made use of the function of confirmation 10 times.

**What is the most frequent code mixing category in which participants mix languages?**

Results for code mixing via videoconference reveal that from the 115 instances identified, 47 instances (40%) correspond to the category of insertion, 58 (51%) fit into the description of alternation and 10 (8%) of the occurrences fulfils the definition of congruent lexicalization. In terms of code mixing in the written chat, of the 94 instances 48 occurrences fit the classification of insertion which correspond to 48% of the total turns where code mixing was present, 30 (32%) of occurrences correspond to alternation and 16 (17%) correspond to congruent lexicalization.

**Does the mode of interaction have an effect on code switching?**

Although the data that was analyzed was 30 minute-long in both oral and written interactions, the number of words that were produced in these two different scenarios differs considerably. In the case of the synchronous written interaction, the chatting exchange resulted in 1717 words. However, the number of words that were produced by these bilingual speakers increased up to 3359 words. These results were not surprising since oral interactions tend to develop at a faster pace that the written mode. However, the occurrences of code mixing in the written chat was considerably higher (94) comparing to the instances of code mixing via videoconference (115). In addition, interactions via videoconference reveal that the pattern of alternation was the most common one with 51% of the occurrences, whereas the instances of insertion were more frequent via written chat (51%).

**Implications and Discussion**

When looking at the occurrences in which code switching took place, it is important to consider the context in which these interactions occurred. These exchanges happened in a country where the main language that is spoken is English. Therefore, there are many words or phrases that do not exist in another culture, or a direct translation would not make sense. The topic of the weekend is a common topic, but when participants were asked to plan it, many insertions of English words where necessary. Names of restaurants, streets, shops, and clubs were common in t participants’ speech, and therefore the topic had an impact on code switching. The interaction between Helena and Jane took place via written chat, a mode in which these participants do not feel very comfortable because they have to write in Spanish and therefore, they tend to often insert words in English. In addition, written chat shares some features of spoken language such as short sentences, grammatical incorrect sentences, or individual words, and consequently, the chances for alternations and congruent lexicalization to occur can be little (Cardenas & Isharyanti, 2009). What is more, these participants usually do not write in Spanish and therefore, they consider their writing ability limited. However, “inserting a word from one language to another requires minimal competence at a lexical level, whereas for alternation and congruent lexicalization individuals need to fully master the language at grammatical and semantic levels” (Cardenas & Isharyanti, 2009, p.77). Alternation was the most common pattern used during the videoconference. The fact that Adriana feels more comfortable speaking in Spanish and that Jane and Helena feel more comfortable interacting in English might have had an impact on the occurrences of this pattern. As already discussed, participants are living in the United States and this situation influences the number of code switching that occurs. For this reason, the function of expressing a concept that has not an equivalent in another language is common in both written and oral chat. Moreover, participants, tended to follow the other participant’s code choice after it was code switched. This finding suggests that participants are able to accommodate and negotiate the code of the interaction and that code switching in bilingual contexts is a form of demonstrating one’s identity and belonging to the Latino community.

**Suggestions for Further Research**

This study aimed to fill the gap on synchronous oral and written chatting practices of Spanish heritage speakers. Although the results from this case study cannot be generalized about Spanish heritage speakers code choice, findings reveal that code switching and code mixing in CMC are common practices among Spanish heritage speakers. Further research analyzing instances of code switching and patterns of code mixing among this population is needed, to better understand these phenomena in synchronous forms of communication, and to understand the influence that these practices may have in their further acquisition and maintenance of their heritage language.

**References:**

Androutsopoulos, J. Code-switching in computer-mediated communication (2011) Forthc. in: S. C. Herring, D. Stein & T. Virtanen (eds), *Handbook of the Pragmatics of CMC*. (Mouton de Gruyter)

Auer, P. (ed.) (1998) *Code-switching in conversation: Language, interaction and identity*.London: Routledge.

Baker, C. (2011). Foundations of Bilingual Education and Bilingualism*,* 5th Edition. Multilingual Matters

Cardenas, M. & Isharyanti, N. (2009) Code switching and code mixing in Internet

chatting: between ‘yes’, ‘ya’, and ‘si’ a case study. Jalt Call Journal. Vol. 5, No. 3, 67–78.

Danet, B & Herring, S. (2007) Introduction: Welcome to the multilingual Internet. In: The Multilingual Internet: Language, Culture, and Communication Online (pp. 3–39). New York: Oxford University Press.

Durham, M. (2003). Language choice on a Swiss mailing list. *Journal of computer*

Fischer, J. L. (1972). The Stylistic Significance of Consonantal Sandhi in Trukese and Ponapean. In J. J. Gumperz, D. Hymes (Eds.) , Directions in Sociolinguistics:The Ethnography of Communication (pp. 489-511). New York: Holt, Rinehart and Winston.

Goldbarg, R. N. (2009) Spanish English code switching in Email communication.

Gumperz, J. (1982) *Discourse Strategies*. Cambridge, UK: Cambridge. University Press.

Ho, W. J. (2006). Functional complementarity between two languages in ICQ.

Hoffman, C. (1991). *Introduction to Bilingualism*. New York: Longman.

Huang, D. (2004). *Code switching and language use in emails.* Unpublished PhD thesis, The University of Melbourne, Melbourne. *International Journal of Bilingualism 10 (4), 429–421 Language @ internet. Vol 6 mediated Communication, 9*(1).

Ingold, C., Rivers, W., Tesser, C. & Ashby, E. (2002). Report on the NFLC/AATSP Survey of Spanish Language Programs for Native Speakers. Hispania, 85(2), 324-329.

Montrul, S. (2002) Incomplete acquisition and attrition of Spanish tense/aspect distinctions in adult bilinguals. *Bilingualism: Language and Cognition* 5, 1, 39-68.

Muysken, Pieter (2000) Bilingual speech: a typology of code-mixing. Cambridge University Press

Myers-Scotton, C. (1992). Comparing code switching and borrowing. In C. Eastman (Ed.) Codeswitching (pp. 19–41). Exeter, UK: Multilingual matters Ltd.

Potowski, K. (2010). Language Diversity in the USA. Cambridge eText.

Stearns, C. and Watanabe, S. (2002). Hispanic Serving Institutions: Statistical Trends from 1990-1999, NCES, 2002-051. U.S. Department of Education. National Center for Education Statistics: Washington D.C.

Valdés, G. (2000). Bilingualism and Language Use among Mexican Americans. In S. McKay, S. Wong (Eds.) , New Immigrants in the United States: Readings for Second Language Educators (pp. 99-136). Cambridge, England: Cambridge UP.

Valdes, G. (2001). Heritage language students-Profiles and possibilities. In Peyton, J., Ranard, D. A., McGinnis, S., Delta Systems Inc., M. L., ERIC Clearinghouse on Languages and Linguistics, W. C., & Center for Applied Linguistics, W. C. (2001). Heritage Languages in America: Preserving a National Resource. Language in Education: Theory and Practice.

Zentella, A. (1997). Growing up bilingual : Puerto Rican children in New York / Ana Celia Zentella. Malden, MA : Blackwell, 1997.

2000 US Census www.census.gov.

2007 US Census www.census.gov.

Wikipedia.com