TYPES AND FUNCTIONS OF CODE-SWITCHING IN THE ENGLISH LANGUAGE USED BY IRAQI DOCTORS IN FORMAL SETTINGS

NiemaHamad Al Heeti[1 and] Ammar A. Al Abdely[2*]

[1]University of Anbar, College of Medicine, Department of Surgery, Anbar, Iraq
dr.niema2006@yahoo.com, Ramadi, Anbar, Iraq
[2]University of Anbar, Education College for Women, English Language Department, Anbar, Iraq
lujain_ammar@yahoo.com, P14-C-08-03 Sri Ixora Apartments, Jalan Sepakat Indah 2/2, Sungai Chua, 43000 Kajang, Selangor, Malaysia.

ABSTRACT

Code-switching is a widespread multifunctional characteristic of the speech of bilinguals in formal and informal settings. The present study is interested in analyzing the English language Iraqi doctors use in formal settings, basically to identify the types of codeswitiching found. This will be performed via content analysis of data collected through tape recordings and direct observations. The study also endeavours to identify the functions doctors aim to achieve through using English. The study also aims to identify doctors' perception of the level of English they have and whether their current linguistic situation requires improvement. The latter two objectivesare met through analyzing data extracted from a self-reporting questionnaire. Results show that Iraqi doctors use intra-sentential code-switching more frequently than the two other types though it requires more knowledge in the L2. Results also indicate that Iraqi doctors use English for communicative purposes. Doctors feel that English requires further improvement.

Keywords: Iraqi doctors, minimal bilinguals, maximal bilinguals, CS types, CS functions.

1. INTRODUCTION

The study of language contact has grown since the earliest work of Haugen and Weireich in the early fifties (Mathew, 2012). In many cases of languages in interaction, elements of one language can be found with the elements of another language in a number of linguistic phenomena, specifically lexical borrowing, transferring, interference, calquing, diffusion, reflexification, code switiching and codemixing, etc. The most predominant linguistic phenomena found in the bilingual speakers' interaction is code-switching (CS) (Redouane, 2005).CS is used when the speakers of certain communities have more than one language to communicate with. They use these languages periodically for many reasons which make them shift from their first language to other languages available. Bilingualism is defined by Zirker (2007) as either the ability to communicate naturally and fluently in more than one language in all aspects of life, or the ability that allows the language users with minimal competence in a second language to squeeze into the bilingual category. There is a type of bilinguals who represent a case of minimal-maximal balance, as they are able to communicate in the second language for certain purposes and in certain situations; yet, they cannot use it for comprehensive efficient daily life communication. The subjects, Iraqi doctors, targeted in this study are of this type, since they use English as a second language almost efficiently at work but they are unable to use it with similar efficiency in their everyday life interactions. Moreover, these doctors are late bilinguals who have acquired the subordinate language later in their lives, thus they are called sequential bilinguals (Yule (2014).

Before being students in the Faculty of Medicine, Iraqi doctors were exposed extensively to the L2 in primary and secondary schools for about 8 years. However, their use of the L2 is limited to classes, clinics and hospitals. Moreover, preliminary observations of these doctors' linguistic behavior illustrated that their use of L2 is in most cases an instance of switching between their L1 and L2. Nevertheless, no previous attempt has been, to the best knowledge of the researchers, to formally investigate these instances. Consequently, the study attempts to answer the questions (1) what are the types of codeswitiching used by Iraqi doctors in formal settings?, what are the functions these doctors try achieve through switching from their L1 code to the L2 code? and how do Iraqi doctors perceive the use of English in formal situations and whether the current situation of English teaching at faculties of medicine requires improvements?

What is CS?

It is assumed in Bokamba (1989) that CS emphasizes a bi/multilingual speaker's use of language from one grammatical system to another. CS refers to the juxtaposition of the internal utterance in un-integrated linguistic forms from two or more languages. CS cannot occur simply at any point of the sentence, because it is governed by the grammatical constraints of the languages that are used. That means bilingual speech is fluent in case when a bilingual speaker follows these constraints and it is not fluent if a bilingual does not switch grammatically (Gluth, 2008). So, the fluency of the bilingual speaker is measured mainly by the correct usage of the grammatical rules of both languages, despite the wide knowledge of the speakers in both languages. The term CS is different from the term borrowing. Borrowing is defined by Muysken (1995), cited in Van Dulm (2015) as the incorporation of lexical elements from one language in the lexicon of another language. The term "incorporation" refers to the moment at which the code switched word becomes a borrowed word. This is because when the word is used for the first time, it is called CS but when it is used frequently later on instead of the original word in the native language, it becomes a borrowed word. So this word will enter the lexicon of the recipient language as a new word.The present study is not interested in borrowing. It rather focuses on CS as a phenomenon that requires a certain level of fluency in the subordinate language.

Types of Codeswitiching

Several researchers have attempted to provide a typological framework that accounts for the phenomenon of CS. Blom and Gumperz (1972), cited in Eldin (2014),claim that there are two types of CS: situational and metaphorical. Poplack (1980), from another viewpoint, proposed a well-known framework that identifies three different types of switching which are tag-switching, inter-sentential and intra-sentential.

Tag-Switching

Tag-switching involves inserting a tag or short phrase in one language into an utterance that is otherwise entirely in another language. This type of CS occurs the most easily for the reason being that tags typically contain minimal syntactic restrictions; thus,they do not break syntactic rules when inserted into a sentence that is given in the L1(Hamers & Blanc, 2000).Tags include interjections, fillers and idiomatic expressions. Examples of common Englishtags are "you know", "I mean" and "right".

Inter-Sentential Switching

Inter-sentential CS involves switching at sentential boundaries where one clause or sentence is in one language and the next clause or sentence is in the other.Eldin (2014) and MacSwan (1999) state that since inter-sentential CS takes place within the same sentence or between speaker turns, it entails fluency in both languages such that a speaker is able to follow the rules of the two languages.An example of inter-sentential CS between Malay and English is provided below:
e.g. Itula. Mama dah agak dah. Adiknidemamni. **Pity you. Your voice also different already.**

Translation: That's why. I knew it. You are having a fever. Pity you. Your voice sounds different (Stapa& Khan, 2016).

Intra-Sentential Switching
Intra-sentential CS, according to Poplack (1980), is possibly the most complex type among the three, as it can occur at clausal, sentential or even word level. A good example to cite here might be the onegiven by Poplack as the title of one of herpapers:
e.g. Sometimes I'll Start a Sentence in English **Y termino en espanol**.
Translation: Sometimes I'll Start a Sentence in English and finish it in Spanish (Cakrawarti, 2011)
The three types of CSillustrated above will be considered in the analysis conducted in this study aiming to identify which one of these is more frequent and also to look for plausible interpretations of low and high frequencies of CS types as used in the speech of Iraqi doctors.

Functions of Codeswitiching
Code-switching is usually anticipated to be a sign of language knowledge insufficiency in bilingual speakers. Nevertheless, many researchers have argued that CS is usually utilized by bilingual speakers to accomplish specific communicative intentions in their conversations with others (Shin, 2010).Functions of CS can be understood within the framework of three major functions. These functions revolve around the social, linguistic and psychological motivations. Auer (2013) and Hawazen (2012) explain that the social motivations are the main cause for CS. Speakers code-switch because they negotiate a change in social distance between themselves and other participants in a conversation. So the social conditions determine the use of certain languages in certain communities (Myers-Scotton, 1997).

CS is a type of skilled performance with communicative intent i.e. speakers use other languages for the purpose of communication to convey the message easier and faster. When speakers are unable to remember the information or the words in their native language, they will take the foreign words instead, sometimes because these foreign words are widely spread and used in their society more than the equivalent words in L1(Heredia & Altarriba, 2001). This can be attributed to the rare use of this information by the bilingual speakers , not to their lack of proficiency. This kind of CS is used by people who are proficient or fluent in both languages, and who code switch for purposes of communicative efficiency.

Speakers may employCS for psychological reasons. A psychological aspect of CS is not always mentioned when dealing with motivations of CS, yet it is very significant in explaining the use of CS, particularly when talking about Arabs. People in the Arab society frequently use English to avoid an embarrassing situation. Arabs prefer to say sorry instead of saying (   ), a word people find difficult to say as they believe it affects the way they value themselves and others value them. Similarly, an insincere gratitude is expressed using the English word (thank you) rather than the Arabic word (   ). These psychological motivations are predicted to be effective in explaining the use of CS by Iraqi doctors, especially when in the very rare occasions when they address their patients in the subordinate language, which the patient will most probably not understand.

The reasons for CS have been extensively examined from numerous linguistic perspectives.The functions of CS examined in the present work are based on the conceptual framework developed by Appel and Muysken functional model of CS (2006) and functions of codeswitiching. Based on Hoffman, 1991),there are ten functions of CS:
1. To talk about a particular topic
2. To quote somebody else
3. To provide emphasis about something
4. To make an interjection
5. To repeat in order to clarify

6. To express group identity

7. To show intention of clarifying speech content for interlocutor

8. To soften or strengthen a request or command

9. To meet a real lexical need or to compensate for lack of an equal translation

10. To exclude others when a comment is intended for an exclusive audience

A functional model for CS has been proposed by Appel and Muysken (2006) which states that CS is used to achieve different functions in social interactions. As suggested by Hoffamn (1991), the ultimate reason for CS is to achieve effective communication between the the speaker and receiver. It can be concluded that people code-switch from one language to another in a certain situation on purpose. These purposes vary according to the situation and the type of interlocutors involved. The study assumes that Iraqi doctors code switch from Arabic to English very often when they are at work. Their dominant language is definitely the mother tongue, Arabic, and their subordinate language is the second language, English. The present study is an endeavor to investigate the functions Iraqi doctors seek to achieve when they code-switch from Arabic to English in formal settings.

2. METHODOLOGY
The population of the study
 The study targets Iraqi doctors who are either working in the Ministry of Health, Ministry of Higher Education and Scientific Research or in both. Sixty five Iraqi doctors working in different parts of Anbar Province participated in the questionnaire. 45.7% of the subjects work in the Ministry of Health only, 28.3% work in the Ministry of Higher Education and Scientific Research and only, 26% work in both. 76% of the subjects are males. The age of the participants ranges from 26 to 58 with a mean of 39.6. The subjects hold various qualifications namely, 45.6%, 17.4, and 37% for MB ChB, Diploma, and MD or Board respectively. 95% of the subjects obtained their qualifications from universities in Iraq.Only one of the subjects had studied in an English speaking country, while two of the subjects had studied in Jordan and Pakistan. The years of experience subjects have, range from 1 to 31 years with a mean of 12.1 years. The 60 Iraqi doctors responded to the questionnaire, but only 32 of them agreed to have their voices recorded and their linguistic behavior observed.

Data Collection Instruments.
The Self-reporting Questionnaire. The questionnaire was designed to be as short and brief as possible. Actually, items in this questionnaire are more similar to questions asked in an interview, yet they have been given in a questionnaire because interviewing a good number of the subjects was nor attainable in this study. The questionnaire starts with personal questions that provide the researchers with information about the subjects. The second section is concerned with identifying doctors' perception of English language use and the current situation of English used in faculties of Medicine in Iraq. The third section identifies the functions behind using English at work by Iraqi doctors. The questionnaire was administered basically in the Ramadi General Hospital and the Faculty of Medicine in the University of Anbar in Iraq. The questionnaire normally takes 10-15 minutes to be answered. The questionnaire was submitted to three experts to check for validity. The experts required minor changes related to the organization and structuring of few items and the researchers responded to these requests.

Tape Recordings and Direct Observations
Sixty-five four minute sessions of doctors' discourse were tape-recorded in Ramadi General Hospital and the Faculty of Medicine in the University of Anbar. Moreover, many hours of observations were also conducted to record doctors' linguistic behavior during their working hours. The tape recordings and the observations were basically implemented by one of the researchers of this work who is a doctor working in the hospital and the faculty where the study was conducted.

The techniques used for data collection in this study are recommended by researchers such Creswell (2013)who believes that researchers can assume different roles during the process of observation and recording.

Data Analysis Instruments.
Extracting Functionsof CS
The responses provided by the subjects of this study were processed to extract the functions Iraqi doctors aim to achieve through CS from Arabic to English. These functions were later classified based on the models proposed. Simple calculations were performed to come up with frequencies and percentages of the instances where each one of the functions appeared. Accordingly, rank order of these functions was made to identify the most and the least important among these functions. Later on, only the functions that were indicated by the respondents of this study were included in the analysis.

Structured Content Analysis
The recorded data was made into transcripts and divided into conversations and numbered lines. After that, the theory of Matrix Language Frame byMyers-Scotton (1993) which juxtaposes the matrix language (ML) and the embedded language (EL) was used to identify the patterns of code switiching spotted in the data. The dominant language in our context is Arabic as it provides the morphosyntactic frame for bilingual utterances, while the EL is English, which is the guest language. Types of code switiching were later identified based on Poplack's (1980) patterns of CS.

3. RESULTS
Types of Codeswitiching
The frequency of occurrence of CS was high as there was at least one instance of CS in every conversation. However, the types of CS identified vary considerably in terms of frequency of occurrence. Intra-sentential CS was the most frequent type recorded in the data analyzed, inter-sentential was the second and the tag-switching was the least frequent.

Table 1below shows the number of instances and the frequency of occurrence of each type of CS in our data.

Table 1 Rank order, counts & percentages of CS types frequency

Rank	Type	Counts	Percentages
1	**Inter-sentential**	112	**61.87%**
2	**Intra-sentential**	56	**30.93%**
3	**Tags**	13	**7.18%**
Overall		**181**	**100%**

Instances of tag switching were very few in number compared to the other two types, though they are easily inserted in a sentence made in the L1. On the other hand inter, inter-sentential CS is less in number compared to the high frequent use of intra-sentential CS.
Consider the following examples which are said by Iraqi doctors when talking to their colleagues at work. These examples represent intra-sentential CS which was found to be the most frequently used in the data collected.

e.g. أينما يكون هناك خراج في الجسم you have to drain.
Translation: Whenever there is abscess, you have to drain.

e.g. For diagnose of thyroid goiter فحص لإجراء نحتاج سامة غير او سامة thyroid scan الغدة هرمونات وفحص T3, T4, TSHالدرقية.
Translation: For diagnose of thyroid goiter, we need to make a thyroid scan to check if it is toxic or not, we need to check thyroid hormones T3. T4, TSH.

The following two examples are also extracted from the data as examples of inter-sentential CS where doctors give full sentences or clauses in the subordinate language together with a sentence in the matric language.

e.g. When we treat patients with shock, we must give great attention to the circulations.

ويتم ذلك بمراقبة نبض وضغط الدم للمريض بشكل متكرر مع مراقبة كمية الإدرار في كل ساعة.

Translation: When we treat patients with shock, we must give great attention to the circulations. This can be done through regularly observing pulse and blood pressure of the patient as well as observing urine amount every hour.

e.g. الالم في هذه المنطقة من البطن, this can be due to appendicitis.

Translation: Pain is in this region of the abdomen, this can be due to appendicitis.

Tag CS was the least used by Iraqi doctors though it is easily incorporated in the sentence. Consider the following examples:

e.g. Well, أعتقد المريض بحاجة الى تدخل جراحي سريع.

Translation: Well, I think that the patient needs to have instant surgical intervention.

e.g. ظغط الدم لا يزال مرتفعا, right?

Translation: Blood pressure is still high, right?

Functions of Codeswitiching

Iraqi doctors use English for several reasons and to achieve several psychological, social and communicative goals. The most important reason for using English is that it is more expressive than the mother tongue as doctors find it difficult sometimes to use the Arabic words to name a disease, to describe a case, or to prescribe a drug. 56.5% of the doctors state that they use English because it is easier than Arabic as using English saves time and effort looking for counterparts in Arabic for easily comprehended terms in English. 54.03% state that English is the language of their study that is why it is better to be used in formal contexts. According to the questionnaire results, the second reason behind using English is a psychological one i.e. doctors use English in order to keep their patients unaware of their real health conditions. They do not want to hurt patients' feelings which might affect their psychological condition. Other doctors give answers which refer to some social reasons which mostly aim to keep the social status of doctors as superior as possible in the society. 10.8% of the subjects state that English language use elevates their personality as doctors in the society. 19.56% of the subjects claim that they are used to using English since they started studying medicine. 4.3% of the subjects use English so as not be criticized by colleagues. Some doctors feel that using English is part of their personality as doctors.

Table 2 shows the rank order, counts and percentages of the functions identified by the subjects in the questionnaire as functions intended through CS. These functions include the ten functions outlined by Poplack (1980).

Table 2 Rank order, counts & percentages of functions of CS

Rank	Function	Counts	Percentage
1	**To meet a real lexical need or to compensate for lack of an equ translation**	**55**	**91.66%**
2	**To exclude others when a comment is intended for an exclusiv audience**	**46**	**76.66%**
3	**To talk about a particular topic**	**44**	**73.33%**
4	**To show intention of clarifying speech content for interlocutor**	**35**	**58.33%**
5	**To repeat in order to clarify**	**33**	**55%**
6	**To express group identity**	**30**	**50%**
7	**To provide emphasis about something (to express solidarity**	**19**	**31.14%**
8	**To soften or strengthen a request or command**	**17**	**28.33%**
9	**To make an interjection (by inserting sentence fillers or senten connectors)**	**15**	**25%**
10	**To quote somebody else**	**11**	**18.33%**

Table **2**above shows that Iraqi doctors mostly code-switch due to linguistic reasons as in the functions ranked 1st, 3rd, 4th and 5th. The functions ranked 2nd and 6th are basically motivated by social reasons. The other four functions were found less important with few counts and percentages. May be one of the very few instances of CS or CM that doctors use when they address their patients can be psychologically interpreted. A dentist addresses his patient after breaking his tooth while pulling it saying"

cheek مالتك طويلة وال root- (The problem is that your teeth root is very long and your cheek is very high).

It is clearly understood that the dentist tries to get rid of the awkwardness he causes to himself by committing that mistake by using two English words within his Arabic sentence.

Iraqi Doctors' Perception of English Use

Unsurprisingly, all participants in the questionnaire believe that English Language use by doctors in formal situations is a healthy sign, However, 41% of them state that they use little English at work, 19.56% use English rarely, 32.6% use it mostly, and only 6.51% use it often. These percentages pose a challenging question, if doctors believe that English language use is a healthy sign, then why they do not use it often.76% of the subjects claim that Iraqi doctors use English skillfully, while 24% say the contrary. Only 32.6% of the doctors consulted see no need to change the present situation, while 67.4% feel an urgent need to change the situation. Their suggestions are very important as they result from long termed experiences and real suffering from certain pitfalls in their work.

4. DISCUSSION

Many instances of CS have been identified in the English language used by Iraqi doctors. In certain cases, these doctors prefer to code-switch giving full English sentences, while in other cases they use intra-sentential CS leaving the sentence in the matrix language but inserting one or two English words inside the sentence from the subordinate language. This is not surprising as inter-sentential CS is more difficult than intra-sentential CS as it requires grammatical, morphological, and textual knowledge in both languages. This means that Iraqi doctors do not possess a high proficiency in English that enables them to use inter-sentential CS. Iraqi doctors employ intra-sentential CS more frequently though it is more complex because when a word is inserted in a sentence, it should be incorporated in a correct way resulting in well-formed structure. Doctors prefer to use the second type either because they are not confident in their linguistic skills in English, they really do not have these skills, or they do not want to pay attention to grammar and sentence structuring as they are after meaning only. It could be because of the fact that intra-sentential CS can occur at any point of the sentence regardless of the grammatical constructions of the languages used, though the resulting structure may not be well formed. Iraqi doctors, on the other hand, do not use tag-switching very often though it is easy to employ. This may be attributed to the lack of knowledge about the pragmatic and linguistic functions behind using these tags.

The study found that Iraqi doctors usually code-switch for linguistic and communicative reasons. In formal interactions, doctors are obliged to switch to the L2 because there is no exact word in that language that corresponds to the one they need to state, so it is necessary to use words or idioms from the other language. Time spent in looking for words in Arabic will leave the doctor in a state of hesitance and slow response situation. This might make people, colleagues and patients lose their confidence in the doctor speaking explaining his hesitance as a sign of lack of knowledge and experience. The social aspect of CS use in the case of Iraqi doctors is very clear, as doctors sometimes use English instead of Arabic just to sound different. They support their social status in the society via various things including English use. Doctors feel that English language use at work is part of their personalities. Though doctors are reluctant to confess it, English language use is for some of them a prestigious matter. Hazaymeh (2004) and Alkhresheh (2015)also point that Jordanians code-switch to English as a symbol of social prestige. Doctors, especially in our societies, do not tell the complete truth to their patients in

order not to hurt their feelings and make them suffer psychologically. Sometimes, people tend to change their code in order to hide a piece of information on some of the audience in the conversation. Doctors usually address colleagues or students in English whenever the conversation might hurt the patients or their families present.

All doctors realize the importance of having good English in building up a successful career. Subjects in the present study suggest that several modifications need to be implemented in order to develop the current situation of English language used by doctors. These suggestions can be seriously considered by those involved in the process of designing textbooks for faculties of medicine, training Iraqi doctors to use English in an efficient way. "Medical Terminology" is an English language course already taught in all colleges of medicine in Iraq; yet, it needs to be developed to cope with the needs of our rapidly developing world. English language courses taught nowadays are so short and given by doctors who are not knowledgeable enough in English, so s/he confines him/herself with giving students some medical terms. Subjects also suggest that there should be a minimum mark in English required for admission in the colleges of medicine. This suggestion should be accompanied with developing teaching English in secondary schools. Intensive training courses for teachers, updated courses and audio-visual aids are all necessary for the desired development.

5.CONCLUSIONS
Iraqi doctors were found to use English mainly for communicative or linguistic purposes. They find English more expressive and informative than Arabic. This is because their study is in English, the references they rely on are in English, and their teaching is in English as well. All these reasons make doctors more familiar with the English vocabulary rather than the Arabic ones. This approach is merely a systematic and communicative aspect of CS interpretation. A similar conclusion was formulated in Ghussain (2003) who reported students' preference for CS for linguistic and communicative reasons. They call for sending students to study abroad in English speaking countries. Teachers in colleges of medicine might also be sent in visits to be trained to using English in an effective way. Some subjects suggest organizing training courses inside Iraq given by skillful trainers to teach English for students in colleges of medicine. A good course of English might be given by specialists in English language who are fully equipped to teach English that is suitable to doctors.

An interesting remark stated here and perhaps require more investigation is that doctors treat certain borrowed words as if they are native incorporating them and inflecting them the way they do with their equivalents in the L1. Words of this type are supposed to be stronger than the mother tongue words, so they are used in all positions after inflecting them properly. An Iraqi doctor, for example, talks to a colleague describing a patient saying "جاني المريض مشوك " , the word "   " means "shocked". The speech of Iraqi doctors is overwhelmed with examples of such as the one mentioned above and thus, provide a rich corpus for future examinations.

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