

**Syntactic Constraints on Code-switching in
English-Arabic Bilinguals The specific
specialization: grammar**

القيود النحوية على التناوب اللغوي عند ثنائي

اللغة الإنجليزية-العربية

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الكلمات المفتاحية: ثنائية اللغة؛ التناوب اللغوي؛ القيود النحوية؛ قيد الرأس الوظيفي؛ طلبية

الطب؛ متكلمون ثنائيو اللغة العربية-الإنجليزية

**Key words: Bilingual, Code – Switching, Constraints, Functional
Head Constraint, , Medical, Speakers, Syntactic.**

الملخص

تعتمد هذه الدراسة المنهج الوصفي النوعي التطبيقي في تحليل ظاهرة التناوب اللغوي اعتماداً على بيانات لغوية حقيقية. ويُعرّف التناوب اللغوي بأنه ممارسة الانتقال بين لغتين أو أكثر أو بين لهجتين داخل المحادثة الواحدة أو حتى داخل الجملة الواحدة. وتهدف الدراسة إلى تقصي القيود النحوية التي تنظم التناوب اللغوي بين اللغتين العربية والإنجليزية، والتركيب النحوية الأكثر قابلية لحدوث هذا التناوب، إضافة إلى مدى وعي المتكلمين ثنائيي اللغة بضرورة التناوب في أنواع خطابية أو مواقف تواصلية معينة.

كما تفترض الدراسة المواضيع والسياقات التي يجد فيها المتكلمون ثنائيو اللغة التناوب اللغوي مناسباً، فضلاً عن دور السياق والمعرفة الخلفية في تحفيز هذا التناوب وفهمه. وقد جمعت البيانات من جامعة تكريت، كلية الطب، حيث قام الباحث بتسجيل عدد من المحادثات الطبيعية بين طلبة الطب ثنائيي اللغة وتحليلها وفق نظرية قيد الرأس الوظيفي (Functional Head Constraint).

وتشير نتائج الدراسة إلى أن المتكلمين ثنائيي اللغة يمتلكون درجة ملحوظة من الوعي بالقيود التي تحكم التناوب اللغوي، وبأهمية السياق والمعرفة الخلفية في فهم العبارات المتناوب فيها. كما تسلط الدراسة الضوء على مواضيع تركيبية محددة داخل الجملة يُسمح فيها بحدوث التناوب اللغوي.

Abstract

This study is both qualitative and application, since it describes code – switching according to real data. Code-switching is the practice of alternating between two or more languages or dialects within a conversation or within a single sentence. The study aims to investigate the syntactic constraints that regulate code switching between English and Arabic, as well as the syntactic constructions that are more likely to be switched, and the awareness of the bilingual speakers to the possible necessity of switching in certain genre or situations.

It also hypothesizes the positions and situations where bilingual speakers find suitable for switching, as well as the role the context and background knowledge plays in making code switching.

The data analysis took place in University of Tikrit, College of Medicine, where the researcher took several conversations of bilingual speakers among med students and analyzed them according to the Functional Head Constraint Theory.

The study concludes that bilingual speakers are somewhat aware of the possible restraints of code switching, and the importance of context and background knowledge on understanding this switch. It also emphasizes the certain places where switching is allowed in a sentence.



1. Introduction

Code-switching is a common phenomenon in bilingual and multilingual communities, where speakers alternate between two or more languages within a conversation, sentence, or discourse. Among bilinguals, it often serves pragmatic, social, and communicative functions. This alternation is not random but follows specific linguistic rules and constraints.

1.1 Problem of the Study

The study investigates the problem of finding the appropriate syntactic constraints of making code – switching between English and Arabic by bilingual speakers.

1.2 Research Questions

The current study seeks to answer the following questions:

1. What are the syntactic constraints in code switching?
2. What are the most salient places and situations of code switching?

1.3 Aim of the Study

1. This research aims to investigate the syntactic constraints that regulate code-switching between English and Arabic, two languages with distinct syntactic structures, through analyzing data according to the Functional Head Constraint model.
2. The current study aims at exploring the syntactic constructions that are more likely to be switched by bilingual speakers.
3. It also aims at finding out the bilingual speakers' awareness of the grammatical components that they can make switching within. The study also aims at exploring the importance and the role of the context, the genre, as well as the prior knowledge in the identification of the possibility of switching of bilinguals' speech.

1.4 Hypothesis of the Study

1. The current study hypothesizes that bilingual speakers are more likely to make switching between English and Arabic in the most salient concepts or words where the bilingual speakers are aware of the importance of switching and that code switching random but relative to the grammatical and contextual constraint.
2. The most salient places of code switching is the end of the sentences or in the middle but never at the beginning.
3. Context and background knowledge play a central role in making the code switching.

2. Literature Review

2.1 Code-switching: Definitions and Types

According to John J. Gumperz (Gumperz, 1982, p:59), code-switching is the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems.

Myers-Scotton distinguished between several types of code-switching based on where the switch occurs within a sentence or discourse as follows: (Myers-Scotton, 1993, p:4)

- a. Intersentential code-switching: The switch occurs between complete sentences or clauses. For example, a speaker may say a sentence in Arabic and then follow it with a sentence in English.
- b. Intrasentential code-switching: The switch happens within a single sentence or clause. This type is often more complex as it requires conformity to the syntactic rules of both languages.
- c. Tag-switching: Involves inserting tags or fixed phrases from one language into another. For instance, a speaker might insert "you know" into an Arabic sentence.

2.2 The Functions and Motivations for Code – Switching Among Bilingual Speakers

1- Lack of Direct Equivalents: Perhaps the most important reason for bilingual speakers to draw boundaries is a lack of equivalent translation of particular words or phrases. In many occasions, certain notions are confined to a single language and cannot be rendered with fidelity in the others. To illustrate, a speaker can say something in one language and then switch to another language to make concepts concerning culture, sayings, or particular terms. This sense of getting the message across in the right manner is where speakers tend to mix up languages in the middle of speech. (Myers-Scotton, 1993, pp:56-75)

2- Flexibility: Another significant factor that determines a person's use of code-switching is flexibility. For example in today's world, multilingual individuals may switch code according to the audience, the clothing style they wear at certain situations or the language that the person who is being talked to prefers. Take for example an abused woman's case to family or friends, bilingual women might address them in their first or usual tongue. Nevertheless, participants in the debate when addressing the public may employ a second language that is predictable for a certain audience. In this situation, code-switching is seen as a mechanism of adapting to the particular audience and their language competencies. (Hall & Nilep, 2015, pp:597-619)

3- Topic-Specific Vocabulary: Code-switching may occur in specific situations, especially in academic or professional contexts, when certain vocabulary is particular to only one language. Technical, scientific, or legal terminology may not exist in another language, or the speaker is more familiar with such terminology in one language over another. Many bilingual speakers find it more accessible to use the language of study for particular discussions. This is the reason they switch between the various languages for clarity and precision in their expression, especially where



some sort of specialized subject matter is discussed.(Beatty-Martinez, Navarro-Torres, & Dussias, 2020, p:6)

4- Expression of Social Identity: There is also a close link between code-switching and the social identity of a speaker. In the instance of many bilingual speakers, switching between their codes is done to show membership in a particular group or to denote cultural affiliations. Through the use of change in language, speakers develop the skill of transcending social barriers and associating themselves with any particular culture or social faction. This practice is especially common in multicultural communities, where different languages serve as markers of identity. Bilingual speakers also switch languages to convey solidarity or to signal a difference between in-group and out-group members.(Heller, 1988, pp:45-60)

5- Explanation and Emphasis: One of the practical purposes that code-switching serves is emphasizing and explaining something more. In the case of bilingual speakers feeling something needs to be stressed or explained further, they switch to the other language to ensure the understanding of their message. In that respect, code-switching enables the speaker to refine their use of language and thus select the best words from both languages for better communication. This type of switching is for rhetorical purposes, too, where the speaker wants to show emphasis on something important or emotive.(Merschdorfer, 2022, p:10)

2.3 Models of Understanding Code Switching

Understanding the syntactic constraints governing code-switching between two languages requires a look at some of the prominent linguistic theories that explain the structural limitations on when and how speakers switch between languages. In the context of English-Arabic bilinguals, three major theoretical models are particularly relevant: Poplack's Equivalence Constraint, the Matrix Language Frame (MLF) Model, and the Functional Head Constraint.

1. Ana Celia Poplack, (Poplack, 1980, pp:181 – 194) suggests her Poplack's Equivalence Constraint theory which posits that code-switching is most likely to occur at points in the sentence where the grammars of both languages align. According to this theory, bilinguals switch languages in ways that avoid violating the syntactic rules of either language. For instance, code-switching can occur smoothly if both English and Arabic share similar sentence structures at the switching point, such as subject-verb-object order. However, this constraint suggests that code-switching becomes more challenging in areas where syntactic structures diverge significantly, such as adjective-noun order, which differs between English (adjective before noun) and Arabic (noun before adjective) (Poplack, A. C., 1980, pp. 221 – 153).

2. The Matrix Language Frame (MLF) Model by Myers-Scotton (Myers-Scotton, 1993, pp:58 – 78) provides a framework for understanding how one language (the matrix language) often dictates the overall syntactic structure, while the other language (the embedded language) provides lexical elements. In this model, English or Arabic may serve as the matrix language, providing the sentence's grammatical structure, while elements from the embedded language are inserted without violating the syntactic rules of the matrix language. For example, in an English-Arabic bilingual sentence where English is the matrix language, Arabic nouns or verbs may be inserted, but the sentence's syntactic framework remains predominantly English. This model helps explain why certain elements are more easily switched than others, depending on which language governs the grammatical frame.

3. The Functional Head Constraint is another theory presented by Myers – Scotten (Myers-Scotton, 1993, pp. 87-90)., which suggests that switching is restricted by the functional heads of a sentence, such as auxiliaries, determiners, and complementizers, which play a central role in sentence structure. According to this theory, it is less likely for bilinguals to switch between languages within these syntactic boundaries, as functional heads must maintain consistency within a single language. For instance, in English-Arabic code-switching, switching languages between a determiner and a noun ("the كتاب" or "the book") may be less common because it disrupts the syntactic structure, which relies on a unified language for these core grammatical elements (Belazi, Rubin, and Toribio, 1994, pp:222 – 223)

the Functional Head Constraint theory has been chosen to analyze the data of this research because it provides a focused framework for understanding the syntactic rules governing code-switching. It is especially helpful when analyzing bilingual speech involving languages with distinct syntactic structures, like English and Arabic. Using this theory can help us to systematically identify where and why bilinguals switch languages, offering valuable insights into the syntactic patterns of code-switching.

3. Data Analysis and Findings

The following section is going to include the analysis of the data collected from the students of Tikrit College of Med and the findings concluded from the analysis.

3.1 Introduction to Functional Head Constraints Theory:

Functional Head Constraints Theory (Belazi, Rubin, and Toribio, 1994, P: 222) posits that code-switching occurs where functional heads—such as determiners, prepositions, conjunctions, and complementizers—align syntactically across languages. This theory holds that switching is permissible when it happens after functional heads that can govern

complements in either language, allowing seamless switching between the two languages without breaking syntactic rules.

3.2 Data Analysis

Conversation 1:

Ahmed:

من ثلاث سنوات "hypertension" المريض عنده

Sarah:

"اي, شكله مزمن"

The functional head here is the possessive structure "عنده" (has), which introduces a noun phrase (NP) in Arabic. The switch occurs at the noun, where the English medical term "hypertension" is inserted.

The Functional Head Constraints Theory allows this switch because both Arabic and English share a similar syntactic structure for possessive constructions. The possessive verb "عنده" governs a noun phrase, and in this case, the noun phrase is provided in English. Since "hypertension" fills the same syntactic role that its Arabic equivalent (ارتفاع ضغط الدم) would, the switch is smooth and does not violate the syntactic constraints of either language.

The alignment between the functional head "عنده" and the noun phrase allows the insertion of the English term, maintaining the grammatical integrity of the sentence. This kind of code-switching is common in technical fields, like medicine, where English terms are more commonly used.

This conversation shows that code-switching is facilitated by the syntactic equivalence of noun phrases in both languages. The functional head in Arabic allows for an English complement, making single-word switches into English seamless.

Conversation 2:

Huda:

"fluid resuscitation" بهذي الحالة نحن عادة نبدأ بـ

Layla:

"لازم بسرعة نبدأ"

The functional head here is the preposition "بـ" (with), which governs a prepositional phrase (PP). The prepositional phrase fluid resuscitation in English follows this preposition.

The switch from Arabic to English happens after the preposition, which is a functional head. According to Functional Head Constraints Theory, the preposition "بـ" governs a complement that can be a noun phrase in either language. Since both Arabic and English allow prepositional phrases with a similar structure (preposition + NP), the switch does not violate the grammatical rules of either language.

The English phrase fluid resuscitation fills the complement position of the preposition "بـ" as it would in an Arabic sentence. The alignment of the PP structure in both languages permits code-switching without syntactic conflict, making this switch natural and grammatically acceptable.

This demonstrates that phrase-level code-switching can occur after functional heads, such as prepositions, when the syntactic structure of the phrase is similar in both languages. The switch from Arabic to English is smooth due to the equivalence in prepositional phrase structures.

Conversation 3:

Saad:

الحالة مستقرة ولكن "the patient is showing signs of improvement"

Functional Head: The functional head in this case is the conjunction "ولكن" (but), which links two independent clauses. The second clause, entirely in English, follows the conjunction.

Under the Functional Head Constraints Theory, switching is permissible at clause boundaries, especially after coordinating conjunctions like "ولكن". This conjunction introduces a new clause that can follow the syntactic rules of either language. In this case, the second clause is fully in English: the patient is showing signs of improvement.

Because conjunctions serve as functional heads that link independent clauses, the internal structure of the second clause is independent of the first. This allows for a full switch from Arabic to English without breaking syntactic rules. The switch at the boundary respects the clause structure of both languages, making this transition smooth and grammatically sound. Sentence-level switching often occurs at clause boundaries where functional heads like conjunctions govern two independent clauses. The switch in this example is allowed because the second clause is self-contained and syntactically independent, aligning with the principles of Functional Head Constraints.

Conversation 4:

Aya:

"chronic kidney disease" هو يعاني من

Ali:

"لازم ما ننطي شيء يآثر عليها"

The functional head here is the preposition "من" (from), which governs a noun phrase (NP) in both Arabic and English. The noun phrase chronic kidney disease is in English.

In this dialogue, code-switching occurs after the preposition "من" which serves as the functional head. The preposition governs a noun phrase, which can be in either Arabic or English. The noun phrase "chronic kidney disease" follows the prepositional head and adheres to the syntactic rules of both languages.



According to the proposed theory, the switch is allowed because both Arabic and English allow a noun phrase to follow a preposition. The structure of prepositional phrases (PP) is similar in both languages, and thus the switch to English for technical terms like "chronic kidney disease" is natural and does not disrupt the grammatical structure of the sentence.

Conversation 5:

Suaad:

بعد شوية "the presentation" راح أكتب

In this conversation, the verb "أكتب" (write) is the functional head in the sentence. The verb is in Arabic, but the complement, which consists of the determiner "the" and the noun "prescription," is in English.

According to Functional Head Constraints, code-switching is allowed because the verb phrase (VP) is structurally complete in Arabic before transitioning into the English DP ("the prescription"). The verb as a functional head governs the switch.

Additionally, no morphological markers or agreement are violated during the switch, as the noun phrase in English follows standard syntactic rules without conflicting with the Arabic structure.

Conversation 6:

Mohammed:

"an examination tomorrow" هنانة راح أسوي

Aalaa:

"بالتوفيق"

The verb "أسوي" (do) is the functional head and governs the switch. After the verb, the complement, "an examination," is in English. The presence of "an" as an English determiner marks the beginning of the English NP (noun phrase).

The switch occurs smoothly because the syntactic role of the verb (to assign the action) is complete before moving into the English NP. The verb does not require specific morphological agreement that would conflict between Arabic and English.

Functional Head Constraints predict that this switch at the VP boundary is allowed because the verb and its complement form distinct but compatible syntactic units.

Conversation 7:

Bilal:

حتى افحص المريض "the stethoscope" انطيني

Ridha:

"هاك"

"انطيني" (give me) functions as the verb and functional head. The object "the stethoscope" begins with the English determiner "the" followed by the noun. The switch happens after the verb, with the DP in English.

The functional head constraint allows this switch because the DP can stand independently once introduced by the verb. The DP in English does not violate any syntactic rules from Arabic since it functions as the complement to the Arabic verb.

The switch between an Arabic verb and an English determiner phrase is a common code-switching pattern because DPs are often self-contained units that can be governed by verbs in either language without breaking syntactic rules.

Conversation 8:

Arabic-English:

Rana:

"شنو تحتاج؟"

Fahad:

"some antibiotics because of the infection" أحتاج الى

The Arabic verb phrase "أحتاج إلى" (I need) serves as the functional head and governs the switch into the DP "some antibiotics." The determiner "some" in English introduces the noun phrase "antibiotics".

This code-switch is seamless because the DP "some antibiotics" functions as a whole unit, and the switch at the DP boundary is allowed under the Functional Head Constraints theory. The verb in Arabic successfully governs the English DP without requiring any additional morphological agreement. This switch highlights how English DPs, especially those with quantifiers like "some," fit naturally into the syntactic structure governed by Arabic verbs.

Conversation 9:

Husam:

من الدوام اليومي "you are tired" أعرف أن

Salam:

"اوف, يمتى تجي العطلة؟"

The complementizer "أن" (that) introduces a CP (complementizer phrase), which is completed in English: "you are tired." The Arabic complementizer "أن" functions as the head of the CP and governs the switch.

Code-switching here follows the rule that the complementizer can introduce a full clause in the second language without breaking syntactic agreement or requiring further adaptation in the matrix language.

Functional Head Constraints allow the complementizer to govern the entire subordinate clause, meaning that the code-switch is natural as long as the CP is structurally intact.

Conversation 10:

Shahad:

"ليش تريدون تعيدون الفحص؟"



Noor:

احنا نحتاج نعيد الفحص "because of the results"أعتقد

The complementizer "because" introduces the English subordinate clause. The code-switch occurs at a CP boundary, with "because" governing the switch into English.

The use of the complementizer "because" is a standard point for code-switching, as it acts as the head of a new clause. The matrix language (Arabic) remains intact before the switch, and after the clause in English, the sentence smoothly returns to Arabic. Functional Head Constraints predict this type of switching, as complementizers can introduce clauses in either language.

3.3 Findings

1. The conversations analyzed above illustrate key points where code-switching occurs naturally at the end of the sentences or in the middle but never at the beginning.
2. Code-switching is most common at points where the syntactic structures of Arabic and English align, such as noun phrases, prepositional phrases, and clauses.
3. Medical Terminology: Medical discourse, with its heavy reliance on English terminology, provides frequent opportunities for code-switching, particularly after functional heads like possessive structures and prepositions.
4. Clause Boundaries: Switching at clause boundaries, particularly after conjunctions, allows for seamless transitions between languages without disrupting the syntactic flow.

Conclusion

The analysis of Arabic-English code-switching among Iraqi med students, revealed several of important points:

- 1- According to the first hypothesis, it is important that the bilingual speakers understand the positions and necessity of switching in certain situations. Medical students tend to switch to English when discussing technical medical terminology, as English is more commonly used in medical education.
- 2- Switching primarily occurs at syntactically permissible points, such as after possessive structures, prepositions, and conjunctions which in turn affirms the second hypothesis stating the switching happens and the middle or the end of a sentence.
- 3- The functional heads in Arabic allow for smooth transitions into English, especially when introducing medical terms or phrases, maintaining grammatical integrity.
- 4- Clause boundaries frequently serve as natural points for switching, where each clause can follow the syntactic rules of its respective language.

5- It seems that we are more connected to the functional word in the mother language in the case that in code switching it is likely to switch the content word but not the functional word. For instance, we can say (الـ code switching) to mean "the" code switching but we cannot say (كتاب) to mean "the book" so, it seems that the functional words are unlikely to be switched like the content word which opens the door for the basic roles the functional words plays in the language.

References

- Abdelghaffar, H. (2020). The Role of Context in Code-switching: A Study of Arabic-English Bilinguals. *International Journal of Linguistics*, 12(3), 1-15.
- Alahmad, M., & Alomar, N. (2021). Patterns of Code-switching in Arabic-English Bilinguals: A Sociolinguistic Perspective. *SAGE Open*, 11(2), 1-11.
- Al-Hayek, M. (2016). Intra-sentential Code-switching and Its Syntactic Constraints among Arab-English Speakers. *International Journal of Humanities and Cultural Studies*, 2(1), 90-104.
- Althunaibat, A. (2018). Investigating Syntactic Patterns of Code-switching in Arabic-English Conversations. *Journal of Language and Linguistic Studies*, 14(3), 181-192.
- Auer, P. (1998). *Code-switching in conversation: Language, interaction and identity*. Routledge.
- Beatty-Martínez, A. L., Navarro-Torres, C. A., & Dussias, P. E. (2020). Code-switching as a bilingual toolkit: Examining the role of context and language proficiency. *Language, Cognition and Neuroscience*, 36(2), 123-138.
- Bukhari, S., & Al-Hayek, M. (2015). Code-switching among University Students on Social Media: Syntactic and Social Perspectives. *International Journal of Language and Social Media Studies*, 2(4), 112-130.
- Gumperz, J. J. (1982). *Discourse strategies*. Cambridge University Press.
- Hall, K., & Nilep, C. (2015). Code switching and identity in contexts of globalization. In A. Jaffe, J. Androutsopoulos, M. Sebba, & S. Johnson (Eds.), *The Handbook of Language and Globalization* (pp. 597-619). Wiley-Blackwell.
- Hamdan, M. (2020). The Impact of Code-switching on Syntactic Structures in Arabic-English Bilingual Conversations. *Journal of Multilingual Education Research*, 10(1), 22-35.
- Heller, M. (1988). *Codeswitching: Anthropological and sociolinguistic perspectives*. Berlin: Mouton de Gruyter.
- Jabeen, F., & Khan, M. (2022). Exploring Syntactic Constraints in English-Arabic Code-switching: Evidence from Social Media. *International Journal of Social Science Studies*, 10(5), 12-24.



- Khan, M. A. (2015). The Syntactic Structure of Code-switching in Arabic-English Bilinguals. *Journal of Language Teaching and Research*, 6(2), 433-440.
- Mansour, R. (2017). Syntactic Analysis of Code-switching: A Case Study of Arab-American Students. *International Journal of Bilingual Education and Bilingualism*, 20(5), 511-527.
- Muysken, P. (2000). *Bilingual Speech: A Typology of Code-switching*. Cambridge University Press.
- Myers-Scotton, C. (1993). *Duelling languages: Grammatical structure in code-switching*. Clarendon Press.
- Myers-Scotton, C. (1993). *Social motivations for codeswitching: Evidence from Africa*. Oxford University Press.
- Merschdorfer, H. (2022). The paradox of intercultural communication. TED Talk. Retrieved from TED
- Poplack, A. C. (1980). Sometimes I'll start a sentence in Spanish y termino en español: Language and gender in a bilingual community. *Language in Society*, 9(2), 181–194.
- Singh, R., & Al-Thunibat, A. (2020). Investigating Syntactic Constraints in Arabic-English Code-switching: Evidence from Facebook Conversations. *Journal of Language and Linguistic Studies*, 16(4), 12930-12940.
- Toribio, A. J. (2001). Code-switching and the functional head constraint. *Bilingualism: Language and Cognition*, 4(2), 105–119.