EXPLORING COGNATES IN RELATION TO ARABICENGLISH CODESWITCHING AMONG UNDERGRADUATES IN JORDAN

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Abstrak

Penukaran kod Arab-Inggeris telah menjadi isu bagi ramai sarjana. Sarjana menganggap fenomena ini mengancam bahasa dan identiti bangsa Arab dalam kalangan pengguna penukaran kod. Walau bagaimanapun, penerokaan kognat berhubung dengan penukaran kod dalam konteks ini mewajarkan penukaran kod sebagai fenomena positif semula jadi yang mewakili kreativiti otak dwibahasa. Untuk meneroka kognat berhubung dengan penukaran kod Arab-Inggeris dalam kalangan mahasiswa di Jordan, kajian ini menimbulkan lima persoalan. Kajian ini menggunakan reka bentuk kajian kaedah campuran. Kajian ini melibatkan tiga persoalan kajian kualitatif untuk menyiasat jenis kognat, kedudukan penukaran kod dan skop pemudahcaraan kognat. Kajian kuantitatif melibatkan dua soalan mengukur kekerapan kognat dalam pertukaran kod bahasa Arab-Inggeris dan masa tindak balas kognat dan bukan-kognat dalam penukaran kod di kalangan mahasiswa di Jordan. Versi berbeza

Teori Pencetusan telah diterima pakai sebagai rangka kerja teori. Populasi sasaran dalam kajian semasa adalah mahasiswa yang mempelajari bahasa dan sastera Inggeris di Universiti Jordan. Tambahan pula, kajian menggunakan kaedah bola salji bukan kebarangkalian dan kaedah persampelan bertujuan. Data dikumpul daripada Kumpulan Fokus dan Eksperimen membaca kadar-kendiri. Data dianalisis menggunakan analisis kandungan, Perisian AntConc, dan pengiraan Microsoft Excel. Penemuan mendedahkan bahawa kata kognat yang melibatkan homofon dwibahasa yang sangat banyak memudahkan penukar kod sebelum, berikut, atau gabungan. Selain itu, keputusan menunjukkan bahawa kognat mempunyai kekerapan yang cekap dalam penukaran kod. Serta, kognat diproses lebih cepat daripada bukan kognat dalam penukaran kod Arab-Inggeris oleh mahasiswa di Jordan. Penemuan ini menjadikan penukaran kod sebagai fenomena bawah sedar yang tidak menyalahkan penggunanya. Selain itu, dapatan kajian bahasa menyokong peranan kosa kata Bahasa pertama dalam Bahasa asing dan Bahasa kedua.
Kata kunci: Penukaran kod, Penukaran Kod Arab-Inggeris, Kognat, Jordan, Teori Pencetusan

Abstract

Arabic-English codeswitching has been an issue for many scholars. Scholars considered this phenomenon threatening Arabic language and identity among codeswitching users. However, exploring cognates in relation to codeswitching in this context justifying codeswitching as a natural positive phenomenon representing creativity of bilingual brain. For exploring cognates in relation to Arabic-English codeswitching among undergraduates in Jordan, the study raised five questions. The study used a mixed method research design. The study involved three qualitative research questions to investigate types of cognates, positions of codeswitching and the scope of cognate facilitation. The quantitative study involved two questions measuring frequency of cognates in Arabic-English codeswitching and response time of cognates and non-cognates in codeswitching among undergraduates in Jordan. Different versions of the Triggering Theory were adopted as theoretical framework. The target population in the current study were undergraduates who studied English language and literature at the University of Jordan. Furthermore, the study followed the non-probability snowball method and purposive method of sampling. The data were collected from the Focus group and self-paced reading experiment. Data were analysed using content analysis, AntConc Software, and Microsoft Excel calculations. The findings revealed that cognates involving overwhelmingly bilingual homophones facilitate neighboring preceding, following, or combining codeswitching. Moreover, the results showed that cognates have efficient frequency in codeswitching. Also, cognates were processed faster than non-cognates in ArabicEnglish codeswitching by undergraduates in Jordan. These findings made codeswitching as a subconscious phenomenon where no blame on its users. As well, the findings served language learning supporting the role of L1 vocabulary in FL and L2.
Keywords: Codeswitching, Arabic-English Codeswitching, Cognates, Jordan, Triggering theory

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List of Abbreviations

L1 First Language

L2 Second Language

FL Foreign Language

CHAPTER ONE INTRODUCTION

1.1 Background of the Study

Language is the main gadget of communication. It is a tool to communicate between speakers and listeners or writers and readers. People use language to interact between each other expressing ideas and exchanging beliefs, knowledge, feelings, and opinions. Language always takes place within social context. This is why effective communication needs recognition of the connections between a language and people who use it. However, some societies deal with more than one language. These societies are called multilingual or bilingual societies.

Multilingualism and bilingualism have been the focus for many studies in different linguistic branches. These two terms were defined referring to the ability of a person using more than one language (Myers-Scotton, 2006). Thus, bilinguals were characterized by their ability of selecting codes from two different languages in communication. Bilinguals were able to change between two languages when ever they want. Bilinguals sometimes exploited this skill of using two different languages to be within the same discourse (Eldin, 2014). This skill of using two different languages within the same discourse, sentence, clause, or even a word was called codeswitching.

Jordan is one of the Arab countries where Arabic is the official language. In Jordan, Arabic Language is used in all social settings (Sa'aida, 2016). According to Sawalha and Meaton (2012), Arabic language plays an important role of showing Arab people identity. Also, it is the main tool to connect Arab people with each other. Arabic language is the reason for remaining Arab culture, heritage, and history (Taha, 2015).

In the past, all Arab countries had the same written form of language which is standard Arabic. However, nowadays, all dialects are observed in written forms through the internet

communication. In Arab countries, there are three dialects related to Arabic language. The first one is called the old standard Arabic found in the holly Quraan, old days poetry, and books. The second type is modern standard Arabic language; it is used in TV programs, news, radio, and used by educated people. Additionally, there is a dialect used by each society as a spoken language; it is called non-standard Arabic. Thus, Jordanian people are considered bilingual through using spoken non-standard and written literary language (Gharaybeh, 2014).

Although Arabic is the official language in Jordan, Jordanian society relates to English as the only foreign language (FL) in schools and universities. In Jordan, English is taught at schools from the first grade. At some private schools, they depend on English as a language of teaching all courses. Moreover, some university majors like medicine, engineering, and computer science are taught by using English references and books (Al-Saleem, 2011). Bani-Khaled (2012) explained the importance of English in the system of Jordanian education while they depend on English from the first grade and teach it up to Tawjihi, the final school grade in Jordan. Thus, Jordanian students study English for more than 12 years at schools and universities.

Alabed-Alhaq and Al-Masaeid (2009) discussed the positive attitude regarding English learning among Jordanian people. Jordanian people believe that English is the future language. They consider English relates to their future jobs, education, and even using technology. Drbseh (2013) stated that most companies in Jordan require employees at excellent level in English. In addition, Jordanian educational system started to rely on English in many domains. Nowadays, English becomes the used language of electronic Jordanian newspaper such as Jordan Times and Ammon.

One of the linguistic phenomena which appeared because of the interaction between Arabic and English in Jordan is codeswitching (Abu-Mathkour, 2004). Recently, codeswitching is a noticeable

phenomenon in Jordan, and it is one of the linguistic questionable issue (Mustafa & Hussein, 2011). In Jordan, people use Arabic-English codeswitching to communicate between themselves. Jordanian people use Arabic-English codeswitching in their daily life communication through daily activities such as shopping, meeting friends, online chatting, and some social activities.

Precisely, Jordanian undergraduates were distinguished by their use to Arabic-English codeswitching. Jordanian undergraduates were the most group using Arabic-English codeswitching (Al-Hayek, 2016). Undergraduates in Jordan had high attitude toward ArabicEnglish codeswitching (Al Hayek, 2016). Since past studies, Hussein (1999) showed that Jordanian university students used to codeswitch between Arabic and English in their speech. Therefore, Arabic-English codeswitching had been a significant research topic for many years in Jordan.

The phenomenon of using Arabic-English codeswitching in Jordan has been an issue for many linguists. This phenomenon has been considered passively affect Arabic language (Rabab'ah and Al-Yasin, 2017). The problem of Arabic-English codeswitching among Jordanian undergraduates is composed through the view of some linguists that codeswitching weakens Arabic language (Ateeq, 2018). Safia Kasas (2019) showed that some linguists recommended to solve the problem of codeswitching which threatens classical Arabic Language.

Some linguists deal with codeswitching as a conscious activity due to the linguistic weakness of its users. For example, Raba'h and Al-Yasin (2017) stated "some linguists and educationalists perceive codeswitching as being of lower status, a strategy used by weak language performers to compensate for language deficiency." These issues lead scholars to investigate reasons of codeswitching relating it mainly to social motives.

This study discusses codeswitching relating to cognates and psycholinguistics. This discussion represented codeswitching as flexibility and creativity of bilingual brain and showing codeswitching as positive, not negative, phenomenon (Han, Li, and Filippi, 2022). Thus, instead of making codeswitching as a conscious problem referring to social factors, this study provided clear real authentic results showing codeswitching as subconscious phenomenon occurring because of mental mechanism of bilinguals. This process is largely subconscious as speakers are not very aware of their codeswitching behavior (Decker, 2020).

1.1.1 Codeswitching and Cognates

Codeswitching had been widely discussed in literature. Some studies considered codeswitching as a problem where it is a conscious phenomenon practiced because of social reasons. Other scholars deal with codeswitching as weakness of its users to use the target language. However, lately, there were studies dealing with codeswitching as a psycholinguistic phenomenon. This view represented codeswitching as subconscious phenomenon due to bilingual mental mechanism.

Researchers had investigated why bilinguals use this type of language combining two different languages in the same discourse. Many studies had been conducted to find reasons behind codeswitching. Most studies connected this phenomenon to social aspects leading bilinguals to use codeswitching. Scholars had studied codeswitching affected by factors such as age, gender, place, and so on. However, in 1967, Clyne changed the way of discussing codeswitching. Clyne (1967) investigated codeswitching in relation to cognates.

Cognates were words sharing the same form and meaning between two languages. Studies considered cognates facilitating codeswitching in bilingual speech. The first researcher observed the causal effect of cognates on codeswitching was Clyne (1967). Clyne (1967) studied

codeswitching among bilingual immigrants in Australia, and he found cognates causing codeswitching. Therefore, Clyne (1967) invented the Triggering Theory indicating that cognates (words with similar meaning and form between two languages) cause codeswitching. Clyne (1972; 1977; 1980) supported the idea of Triggering Theory and explained the relationship between neighboring words. Also, this theory indicated that words are affected when preceding, following, or combining cognates. This hypothesis built its principles depending on the easiness of practicing cognates over non-cognates by bilinguals.

Although Clyne (1967; 1980) claimed that cognates which were words with similar form and meaning between two languages trigger codeswitching, Clyne (2003) revised the Triggering Theory making cognates facilitating codeswitching instead of triggering or causing it. Moreover, Clyne (2003) in his revision, classified cognates into proper nouns, lexical transfers, and bilingual homophones. However, even the revised Triggering Theory had been criticized by scholars. For example, Broersma and DeBot (2006) criticized the Triggering Theory for not accommodating modern models of language production. Broersma and DeBot (2006) argued that the effect of cognates cannot be between neighboring words, but within a basic clause in order to accommodate it with the modern models. In addition, Broersma and DeBot (2006) found that triggering occurs more often after cognates rather than before cognates.

The wide use of codeswitching leaded literature shedding the light on its reasons. Reasons of codeswitching had been investigated from different linguistic perspectives. Although most studies focused on codeswitching reasons and motives, it is still a questionable and controversial phenomenon. Njeru (2015), Koostra, Stell, and Yakpo (2015), and Soto, Cestero, and Hirschberg (2018) indicated that factors causing codeswitching were still debatable and researchers were still unconvinced about codeswitching motives showed in literature. Precisely, Soto et al. (2018) stated

"one of the asked but unresolved questions regarding codeswitching is whether there are particular conditions that facilitate or trigger its occurrence" (p: 1). Moreover, Whatley (2018) showed that codeswitching reasons were not agreed among researchers. Orynbek et al. (2020) stated "it is not very clear to the linguists, when and why bilingual people use this ability" (p: 1).

1.2 Problem Statement

Codeswitching had recently been discussed relating to cognates. However, the problem of codeswitching and cognates strung along with the sequences of the theory. The first person observing the causal effect of cognates on codeswitching was Clyne (1967), and he invented the Triggering Theory. The Triggering Theory of Clyne (1967) indicated that cognates (words sharing form and meaning between two languages) trigger codeswitching for neighboring words.
This neighboring effect occurred for words which precede, follow, and combine cognates. The Triggering Theory was built depending on the difference between cognates and non-cognates in facilitating bilingual speech. This theory was supported by various studies of Clyne (1972, 1977, & 1980). However, the Triggering Theory met criticism leading Clyne (2003) to revise the theory. Clyne (2003) revised the Triggering Theory and changed it from the act of triggering to the act of facilitating codeswitching. Also, Clyne (2003) identified cognates by proper nouns, lexical transfers, and bilingual homophones.

The Triggering Theory has met different obstacles. Although the Triggering Theory had been revised by Clyne (2003), Broersma and DeBot (2006) showed that it does not accommodate the modern models of language production. Broersma and DeBot (2006) adjusted the Triggering Theory to indicate that the scope of facilitation is within basic clause rather than between neighboring words. The adjusted theory represented that only words following cognates can be

affected by the facilitation effect. Also, Broersma (2009) and Rahimi and Eftekhari (2011) found that only proper nouns can be cognates facilitating codeswitching. Furthermore, Broersma and DeBot (2006), Broersma (2009), and Broersma, Carter, Donnely, and Konopka (2020) revealed that only words following cognates affected by facilitation. Thus, studies continued investigating the Triggering Theory up to now. However, these studies differed regarding the efficiency of cognates and its easiness over non-cognates, types of cognates, positions of codeswitching, and scope of cognate facilitation.

Studies have been divided between agreeing and disagreeing with the triggering effect of cognates on codeswitching. For instance, Acheson, Ganushchak, Christoffels, and Hagoort (2012) agreed that cognates facilitating bilingual speech and they are faster and easier than noncognates. Declerck and Philipp (2015) and Soto et al. (2018) showed the relationship between codeswitching and cognates as strong. On the other hand, Santesteban and Costa (2016) found no differences between cognates and non-cognates in bilingual speech. Also, Geerlofs (2017) and Li and Gollan (2018) showed no efficient effect for cognates on codeswitching. Thus, there were various inconsistent results regarding the effect of cognates on codeswitching.

The hypothesis of triggering effect of cognates on codeswitching was a moot point in literature. Studies have been divided between supporting either Clyne (1967; 2003) or Broersma and DeBot (2006). Also, other studies come with new claims regarding the effect of cognates on codeswitching which made the issue more complicated. Moreover, Whatley (2018) showed that the triggering effect of cognates on codeswitching is not agreed yet among researchers. Decker (2020) revealed that the triggering hypothesis is still questionable and needs much investigation.

Summing up, different issues of the relationship between codeswitching and cognates were contentious in literature. The first issue was types of cognates facilitating codeswitching. Studies differed whether cognates include proper nouns, lexical transfers and bilingual homophones. In addition, some studies recommended investigating semantic cognates in relation to codeswitching. The second point was positions of codeswitching to cognates. Scholars argued whether codeswitching preceding, following, or combining cognates. Moreover, there were not clear results whether the effect of cognates occurring between neighboring words, in a clause, or in a sentence. Also, frequency of cognates and time response of cognates in bilingual speech were argumentative in literature. Thus, the current study addressed all the aspects mentioned above.

The relationship between codeswitching and cognates on the one hand, and bilingual mental mechanism on the other hand was a debatable case in literature. Studies revealed that the triggering effect of cognates on codeswitching should be studied to explain bilingual lexicon and bilingual language access. For instance, whereas Decker (2020) advised connecting the triggering hypothesis with psycholinguistic theories, Deluca, Segaert, Mazaheri, and Krott (2020) showed that cognates influencing codeswitching because of bilingual mental mechanism.

1.2.1 Related Problems: Codeswitching and Cognates Due to Bilingual Cognitive Mechanism

The relationship between codeswitching and cognates on one hand, and bilingual mental mechanism on the other hand is reciprocal relationship while each part explains the other.

Studies considered cognate facilitation refers to mental processes. Poort and Rodd (2017) stated that the idea of cognate facilitation depends on the hypothesis that bilingual languages are stored in a single integrated lexicon and that bilingual language access is non-selective. Also, Hopp

(2018), Broersma et al. (2020), and Deluca et al. (2020) stated that mental mechanism of bilinguals, represented by single integrated lexicon and non-selective language access, enhanced the occurrence of cognates which facilitated codeswitching. On the other hand, Broersma et al. (2020) considered studying cognate facilitation in codeswitching explaining the bilingual mental mechanism. Thus, the case that cognates facilitating codeswitching means the two languages occured in the same integrated lexicon and language access was non-selective.

Whereas discussing codeswitching relating to cognates was the most effective method to explain bilingual mental mechanism, bilingual mental mechanism was not clear in literature. Different contradictory findings appeared in literature regarding the bilingual mental mechanism. The idea of one integrated lexicon or two separated lexicons for bilinguals was an argument in literature. Robert (2017) stated that studies did not agree whether bilinguals store their two languages in one lexicon or two lexicons. Furthermore, Hopp (2018) stated, one of the asked questions in recent research was whether words of first language (L1) shared the same lexicon with words from second language (L2).

The other point explaining codeswitching relation to mental mechanism was the access of language. Studies had argued whether bilingual languages are controlled by selective or nonselective access. The selective access view indicates that only the target language was active while production. On the other hand, the non-selective view showed both target and non-target languages are active while production. However, Wang, Xin, Hui, and Chen (2020) stated that there are not clear results regarding language selectivity of bilinguals. Also, Moon and Jiang (2012) showed the question whether two languages of bilinguals processed selectively or nonselectively attracted many studies. Moreover, Wang et al. (2020) stated that two related questions have been the issue among literature. These questions included whether bilinguals use their languages

selectively or non-selectively; and this question relates to another question whether bilinguals have one lexicon or two lexicons. Therefore, the study of cognates facilitating codeswitching solved these problems.

1.3 Research Objectives

1. To identify types of cognates facilitating Arabic-English codeswitching among undergraduates in Jordan.
2. To identify positions of Arabic-English codeswitching relating to cognates among undergraduates in Jordan.
3. To investigate the scope of cognates facilitating Arabic-English codeswitching among undergraduates in Jordan.
4. To calculate the frequency of cognates in Arabic-English codeswitching among undergraduates in Jordan.
5. To distinguish between response time of cognates and non-cognates in Arabic-English codeswitching among undergraduates in Jordan.

1.4 Research Questions

To achieve the objectives of the study, five questions are raised in this section sequently:

1. What are the types of cognates facilitating Arabic-English codeswitching among undergraduates in Jordan?
2. In which positions do Arabic-English codeswitches occur to cognates?
3. What is the scope level of cognates facilitating Arabic-English codeswitching among undergraduates in Jordan?

4. How frequently do cognates appear in Arabic-English codeswitching among undergraduates in Jordan?
5. What is the difference between response time of cognates and non-cognates in Arabic-English codeswitching among undergraduates in Jordan?

1.5 Significance of the Study

The use of Arabic-English codeswitching by Jordanian people has been widely criticized. Some scholars believed that the use of Arabic-English codeswitching in Jordan threatening Arabic language. This idea was generated from considering codeswitching as a conscious behavior referring to social factors. However, this study provided Arabic-English codeswitching in Jordan as a subconscious phenomenon referring to psycholinguistic factors represented by cognates. Thus, referring codeswitching to cognates and bilingual mental mechanism changes the passive idea of codeswitching making codeswitching as normal phenomenon.

The study contributed to solve the problem of codeswitching reasons. This study participated in discussing a controversial phenomenon, codeswitching. Although many issues were still problematic toward codeswitching, the study provided an interpretation for causal relationship between codeswitching and cognates. Codeswitching was still questionable in terms of its motives and what make it easy to produce (Orynbek et al., 2020). Also, the question of what facilitating the occurrence of two languages within one context was unresolved (Soto et al., 2018). Therefore, this study was conducted helping to answer the question of what facilitating codeswitching and make it easy to produce.

Codeswitching had been discussed relating to cognates. The relationship between codeswitching and cognates was first raised by Clyne (1967). Since that time, various studies had been conducted

testing this hypothesis. However, there were inconstant results regarding the cognate effect on codeswitching (Whately, 2018). This study provided literature with large amount of real authentic data showing the triggering effect of cognates on codeswitching. Also, the study identified types of cognates which were not agreed between Clyne (1967;2003) and others, such as Breorsma and DeBot (2006), Broersma (2009), Rahimi and Eftekhari (2011), and many studies until Li and Gollan (2018).

Additionally, positions of codeswitching to cognates were argumentative in literature. Results of studies differed whether codeswitching occurring after, before, or combine cognates. However, one of the study's objectives was identifying positions of codeswitching. Moreover, the study pointed the scope of cognate facilitation which was unclear in literature. In literature, Clyne (1967; 2003) identified the scope of facilitation by word level, but Broersma and DeBot (2006) and others argued that the scope of facilitation must be in clause level. Moreover, Broersma et al. (2020) recommended studying cognate facilitation in sentence level. Therefore, this study explained the scope of cognate facilitation in Arabic-English codeswitching among Jordanian undergraduates.

As well, the study provided the amount of frequency of cognates in codeswitching in order to explain the relationship between codeswitching and cognates. This frequency analysis represented an evidence regarding the efficiency of cognates to facilitate codeswitching. Also, the study differentiated between response time of cognates and non-cognates in order to explain how cognates have advantage over non-cognate in bilingual speech as well as in codeswitching.

This study was conducted among undergraduates in Jordan who used Arabic-English codeswitching. Therefore, there were two significances for conducting this study in this context. First, although Al-Hayek (2016) mentioned that reasons for Arabic-English codeswitching among

Jordanian undergraduates was still ambiguous in literature, this study indicated that cognates facilitating Arabic-English codeswitching among undergraduates in Jordan, and it provided explanation for codeswitching reasons. Second, In Jordan, English is taught in schools and universities as an FL while Arabic is the mother tongue. Discussing the triggering effect of cognates on codeswitching was rarely raised in L1-FL context comparing to L1-L2 context. Thus, the study contributed to producing new explanation for cognates facilitating L1-FL codeswitching.

► Contributing to Bilingual Mental Mechanisim

The relationship of codeswitching and cognates opened the discussion of bilingual cognitive mechanism (Riehl, 2005). Through discussing the effect of cognates to facilitate codeswitching, the study provided interpretation regarding the architecture of bilingual lexicon. The study assisted the literature of defining the nature of bilingual lexicon (Koostra et al., 2015). This study covered a gap in literature where bilinguals using cognates more easily than non-cognates resulted from integrated lexicon. Also, the study participated in discussion regarding bilingual language access whether it is selective or non-selective.

Broersma et al. (2020) considered studying cognates facilitating codeswitching resolving the argument of bilingual mental mechanism. In the case that cognates facilitating codeswitching, the two languages occur in the same mental lexicon and language access is non-selective. On the other hand, the case of non-effective cognates means that the two languages of bilinguals occur in two separated lexicons and language access is selective. Thus, the findings of the study provided an efficient evidence regarding bilingual lexicon and language access.

► Contributing to Language Learning

This study contributed to language learning and acquisition. Discussing cognates in bilingual speech helps language learning in different ways. For example, Szabo (2016) revealed that cognates are important in language learning. Also, most studies such as Mingorance (2010) investigating the factors of L1 affecting L2 learning. Hence, because the study investigated the difference between cognates and non-cognates in bilingual speech, it provided an evidence that cognates having advantages over non-cognates in L2 and FL. Moreover, the findings of the study provided types of cognates which can be used in L2 and FL learning. In Addition, cognates make bilinguals translate accurately (Grasso, Pena, Bedore, Hixon, & Griffin, 2018). Therefore, the study contributed to support the effect of cognates on language learning as well as translation.

1.6 Scope of the Study

The study explored cognates in relation to Arabic-English codeswitching among undergraduates in Jordan. The study was conducted among Jordanian undergraduates who used Arabic-English codeswitching in their daily communication. Undergraduates were considered the most to use Arabic-English codeswitching in Jordan (Mustafa & Hussein, 2011; Al-Hayek, 2016). Furthermore, the study did not focus on all types of codeswitching, but it concerned with intrasentential codeswitching where two languages occur in the same sentence to accommodate with the study's objectives.

Cognates were discussed in this study including proper nouns, bilingual homophones, and lexical transfers. These types of cognates were identified in the triggering theory of Clyne (1967; 2003). Moreover, the study investigated another new type of cognates which was semantic cognates as recommended by latest studies such as Soto et al. (2018). Also, the triggering theory classified positions of codeswitching into anticipational, sequential, and combining codeswitching. The

scope of cognates was identified as word level, clause level, and sentence level. Additionally, the study measured the frequency of cognates in codeswitching and response time of cognates among undergraduates in Jordan.

The study concerned with codeswitching among students at the University of Jordan. The students of this university used code switching the most comparing to other universities in Jordan. Besides, the study focused on students from English language and literature department where students are good in using English. On the other hand, the study did not focus on a gender but both males and females were included in this study.

According to the methodology, the study focused on the principles of mixed method research. Besides, this study depended on triangulation research design to explain the causal relationship between cognates and code switching qualitatively and quantitatively. Through following a nonprobability sampling method, snowball method, the study determined samples including students in the University of Jordan from English language and literature department. Moreover, data were collected following focus group and experiment.

1.7 Definitions of Relevant Terms

* Codeswitching is a bilingual phenomenon where bilinguals use two languages. Code switching is the use of two languages in the same discourse, sentence, clause, phrase, or even within a word. On the other hand, some researchers relate codeswitching to psycholinguistics. For example, Kwiakowska (2017) defined codeswitching as a cognitive process of using two languages.

* Intra-sentential code switching is switching from a language to another within the same sentence. Thus, intra-sentential codeswitching means using two languages within a sentence without interrupting or pausing (Zirker, 2007).

* Cognates are words which share phonetic, orthographic, and semantic aspects among two languages. Thus, generally, cognates are words that have the same meaning and form between two languages. Also, historically, cognates refer to words within the same origin (Mingorance, 2010).

This study depends on the definition of cognates relating to codeswitching. Clyne (2003) defined cognates relating to codeswitching as proper nouns, lexical transfers, and bilingual homophones.

* The Triggering Theory is the theory of Clyne (1967; 2003) stating that cognates facilitate codeswitching. According to this theory, cognates are proper nouns, lexical transfers, and bilingual homophones. This theory indicates that cognates facilitate preceding, following, and combining codeswitching in word level.

* Bilingual cognitive mechanism is the processes of which human brain organizing the language. Also, it can be how human brain accord with languages.

* Mental lexicon is the place where languages located in the human brain. It is the lateralization of language in human brain.

* Language access means the mechanism followed by the brain to choose the target language (Ibanez, Macizo, & Bajo, 2010).

* The non-selective language access indicates that both target and non-target languages are active while language access (Whatley, 2018).

1.8 Organization of the Thesis

This section presented the construction of the study chapters. This study included six chapters classified depending on academic research classification.

The first chapter represented introduction of the study. The introduction contained a brief about related issues. After that, the study provided a background to explain general topics used in this study. The background section involved explanation about context of the study, Jordan overview, language overview of Jordan, and Arabic-English codeswitching among undergraduates in Jordan. The problem statement and research objectives came next. Then, research questions were conducted depending on the objectives which served solving the problem. The sixth section in chapter one represented the significance of study. Also, the scope of the study was discussed in section seven. The last three sections in the first chapter contained operational definitions, organization of the study, and summary of the chapter sequentially.

Chapter two was conducted under the title of literature review. This chapter started with an introduction about the chapter. Then, the section of codeswitching definition, types, and reasons was shown. After that, the chapter included cognate definition and use. Also, the chapter involved previous studies relating codeswitching to cognates and conflicting results. Then, the chapter involved cognitive mechanism behind codeswitching and cognates. The theoretical models were represented through the Bilingual Interactive Activation Plus Model, and the Triggering Theory. Additionally, the conceptual framework was illustrated. Chapter two was concluded in the last section through the summary of the chapter.

The third chapter was titled as research methodology. The chapter began with an introduction to brief the chapter. The third section included research design. Also, in the fourth section of chapter

three, population and sampling section were discussed. This section was divided into two parts including population of the study and sampling and samples. The fifth section was data collection represented through a focus group, computerized experiment. Additionally, the sixth section provided data analysis where the study depended on content analysis, corpus analysis through Antconc software and Microsoft Excel analysis. The last three sections in this chapter provided the pilot study, summary of research design, and summary of the chapter.

The fourth chapter represented research analysis and findings. This chapter started with a brief background of the study. Then, the chapter involved participant profiles. Also, describing data was shown in this chapter. The analysis and findings were represented for each research question. Last, the chapter ends with summary of the chapter.

The fifth chapter contained the discussion and the conclusion of the whole study. This chapter involved introduction of the chapter followed by overview of the study. Then, the chapter included review of key findings. The discussion section was represented through discussion of research questions and discussion of related issues.

The six chapter included contributions of the study. Then, the second section represented limitations of the study. After that, the recommendations for future research were presented. Finally, the chapter ends with the conclusion.

1.9 Summary

Codeswitching had been the focus for many studies. Also, the most discussed issue in codeswitching was what caused or motivated it among people. In Jordan, Al-Hayek (2016) stated that reasons of codeswitching among undergraduates were unclear. However, recent studies discuss codeswitching in relation to cognates. Clyne (1967; 2003) showed that cognates facilitated

codeswitching. However, this claim was still controversial in literature. Therefore, this study was conducted investigating the triggering effect of cognates on Arabic-English codeswitching among Jordanian undergraduates. This study raised five questions aiming to explain the relationship between codeswitching and cognates. The first group of questions investigated types of cognates, positions of codeswitching to cognates, and scope of cognate facilitation. The second group investigated frequency of cognates in codeswitching and response time of cognates and non-cognates in bilingual speech.

CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

This chapter provided previous studies relating to codeswitching and cogantes. In this chapter, several studies had been shown representing the gap and the problem of the study. Also, this chapter included literature related to bilingual mental mechanism and theoretical framework.

2.2 Codeswitching Definition, Types, and Reasons

2.2.1 Definition of Codeswitching

Bilingualism was a cognitive process of using four skills of two languages (Kwiatkowska, 2017). Also, codeswitching was considered the main discussed phenomenon in bilingualism (Muthusamy et al., 2020). Codeswitching was a bilingual phenomenon which indicates the use of two languages in the same discourse. However, codeswitching was not a new phenomenon among bilingual societies. Many studies had discussed this style of language among bilingual people. Nilep (2006)

stated “the term codeswitching is broadly discussed and used in linguistics and a variety of related fields; However, despite this ubiquity, scholars do not seem to have a definition of the term” (p: 1). Also, according to Couto, Romeli, and Bellamy (2021), codeswitching had a long history full of new theories and discussions.

The definition of codeswitching differed from a researcher to another (Eldin, 2014). Redouane (2005) considered Weinreich (1953) as the first researcher who defined codeswitching. According to Weinreich (1953), codeswitching represented shifting between two languages in a circumstance. On the other hand, Hattory (2021) revealed, codeswitching is a language contact where two languages used in the same discourse, sentence, clause, phrase, or even within a word. Manfredi, Simeone-Senelle, and Tosco (2015) considered codeswitching as introducing two languages within the same discourse where one of these languages is the user’s L1 and the other is borrowed. Also, Sridhar, S. and Sridhar, K. (2018), in his research which focused on the discussion of multilingualism in some societies, explained that codeswitching is borrowing from other languages to convey needs. Dependently, words were taken to be incorporated from one language to another.

The position of codeswitching was a criterion of defining it. Mabule (2015) defined codeswitching as the use of two languages in the same clause. On the other hand, others such as
Ansar (2017) defined codeswitching as using two languages in the same discourse.
Consequently, the meaning of codeswitching was important to be discussed. Sinaga and Hutahaean (2020) stated, defining and discussing codeswitching was not only essential for its understanding, but it made people reviewing their ideas, believes, and theories about the procedures of monolinguals. Hence, codeswitching became popular to have different types.

The variation regarding the definition of codeswitching resulted the appearance of different types of codeswitching. Therefore, scholars had conducted many studies to reach the accurate definition of codeswitching. Hence, there appeared different types of codeswitching in terms of the nature of switching and the position of codeswitching; such as codeswitching within a discourse, sentence, clause, or within a word.

2.2.2 Types of Codeswitching

The definition of codeswitching was problematic among researchers. Much explanation appeared in studies to reach codeswitching definition. As a result, various types of codeswitching appeared in studies. The first discussion was regarding the difference between codeswitching, code mixing, and borrowing. Ansar (2017) explained that some studies distinguishing between codeswitching, code mixing, and borrowing. On the other hand, other studies kept using codeswitching, but they differentiated between some types. For example, Ezeh, Umeh, and Anyanwu (2022) distinguished between codeswitching and code mixing through the nature of using the two languages either inside or outside a sentence. According to Ezeh et al, (2022), codeswitching referred to the use of two languages between separated sentences. Otherwise, code mixing was performed through using two languages within one sentence, clause or even a word. In addition, borrowing referred to taking words from a language to be used phonologically and morphologically in another language (Aor, 2021). Likewise, Alaiyed (2020) differentiated between codeswitching and code mixing. Code mixing was deeper than codeswitching because it represented combining two languages through their morphemes, but codeswitching occurred through combining two language sentences with each other.

Hattory (2021) differentiated between two types of codeswitching. Hattory (2021) classified codeswitching into inter-sentential and intra-sentential codeswitching. Inter-sentential codeswitching was switching between two languages in the same context but different sentences. Thus, each sentence is presented by a language without any connection between the two languages in the grammatical system. Conversely, intra-sentential represented connection or mixing two languages within the same sentence, clause, or a word (Kebeya, 2013). The two languages in intra-sentential codeswitching are determined by Kheir (2019) as matrix language and embedded language. Das and Gamback (2015) considered inter- and intra-sentential codeswitching representing code-mixing and code-switching. Mohamad and Firda (2018) added, in addition to inter-sentential and intra-sentential codeswitching, there was another type for codeswitching; it was tag-switching. Tag- switching indicated using the tag of a sentence by another language.

All types of codeswitching had been discussed in previous literature. Abdollahi, Rahmani, and Maleki (2015) stated, tag-switching has less effect on syntactic insertion and constraints. Tagswitching involved using two or more words at the end of a sentence by using a different language. Therefore, tag-switching did not influence the structure of a sentence. Also, intersentential was not as complicated as intra-sentential codeswitching. However, inter-sentential codeswitching still required users to be proficient in both languages because they use two languages structures independently (Eldin, 2014). Intra-sentential codeswitching was the most sophisticated type because it included switching at clausal or word level while mixing two different languages (Goria, 2021).

The current study used intra-sentential codeswitching in order to accommodate the study's objectives. Intra-sentential codeswitching indicated switching from a language to another in a middle of a sentence without interrupting or pausing (Muthusamy, 2020). As stated by Stefanich,

Cabrelli, Hilderman, and Archibald (2019), codeswitching is combining two grammatical systems in one sentence. Also, Stefanich et al. (2019) considered codeswitching was only when mixing occurred between morphemes, either lexical or functional morphemes. Similarly, Cacoullos (2020) clarified intra-sentential codeswitching as combining between morphosyntactic features of two languages. The current study used intra-sentential codeswitching because it investigated the relationship between codeswitching and cognates within the scope of sentence, clause, and between neighboring words.

2.2.3 Reasons of Codeswitching

2.2.3.1 Relating Codeswitching to Subconscious Sociolinguistic Reasons

Codeswitching is a style of language performed through using two languages in the same discourse, sentence, clause, or a word. Codeswitching encouraged many studies discussing its issues (Njeru, 2015). Rezaeian (2009) interpreted that codeswitching was a popular topic in different fields of linguistics. Different perspectives were presented regarding codeswitching. Also, Chughtai, Khan M. A., and Khan M. R. (2016) stated, multilingualism and bilingualism highly researched because of codeswitching. Codeswitching had been studied syntactically, semantically, pragmatically, and from psycholinguistic and sociolinguistic viewpoints. Codeswitching motivated several theories, too (Sert, 2005). Precisely, the most popular point studied in codeswitching was the reason of this style of language.

There were studies addressed codeswitching as a sociolinguistic phenomenon affected by social factors. This viewpoint supported the idea of consciousness of codeswitching which in its role made codeswitching not natural and resulted from impurity or polluted language. These issues made scholars considering codeswitching lower status and could affect and pollute the language.

Yim and Clément (2021) considered codeswitching due to the authority, and people sometimes codeswitch in order to gain authority and achieve a higher status in a society. On the other hand, some studies showed other reasons for codeswitching. For example, Dewaele and Wei (2014) investigated the act of codeswitching among many multi-linguals to differentiate between them. The results showed that people living in bilingual families were more likely to use codeswitching. Also, it found that old people have a positive attitude toward codeswitching more than teenagers.

Some studies focused on participants themselves, their places, and the status of language in discussing codeswitching. Considering users themselves responsible for codeswitching made it intentional. This idea made codeswitching users control their use of it. However, this issue let scholars blaming codeswitching users about this behavior. However, codeswitching is not under the control of its users, and users do not aware of their use to codeswitching. Twedrian (2014) conducted a study investigating the phenomenon of codeswitching used in television program. The study paid more attention to find reasons of using this style of speech. The researcher used episode videos of the program to collect data. Through a quantitative analysis, the study concluded that codeswitching occurs for purposes such as social positions of users. Furthermore,
Adetuyi, Omolola, and Adeniran (2017) searched about code switching reasons in south western Nigeria. The results revealed that code switching used for showing identity.

Topics of speech were considered motives causing codeswitching in previous literature. However, the use of codeswitching cannot be related to a particular topic because we observe it in all situation. Anggraeni (2016) studied codeswitching among students. The study searched about reasons which leaded students to use English in codeswitching. Data for the study were collected from Facebook posts. Some data were collected by a questionnaire, too. The study found that the main reason for codeswitching was the nature of topics. In addition, Liu (2018a) analyzed the use

of Chinese-English codeswitching and the frequency of switching patterns and functions. Data were collected through interviews and recordings. The results showed codeswitching was only used in online communication. Also, participants had a good attitude toward English language. Topics of speech and their contexts in formal and informal, appeared the most popular reason for codeswitching.

Nowadays, English was widely used among people all over the world. People had positive attitudes to learn English for many purposes. They learnt English because it was the backbone of education and future jobs. These reasons leaded to use English with mother tongues resulting codeswitching (Twedrian, 2014). Twedrian (2014) considered English connects people because most people can understand English as a universal language. Chughtai et al. (2016) discussed codeswitching among young learners in Pakistan. The results indicated learners used English in their codeswitching because it had many functions to achieve linguistic tasks. Also, English is a universal language motivating codeswitching use.

Codeswitching was discussed even in education environments. However, codeswitching can be observed outside educational environment. It was a popular phenomenon among students and teachers. Therefore, various studies interpreted codeswitching in this community. Yataganbaba and Yildirim (2015) focused on codeswitching of Turkish and English which used in EFL classes by teachers and students. The study investigated types of codeswitching and its reasons. Recordings and interviews were followed to collect data. Essentially, teachers used to switch in order to translate and facilitate points by using Turkish as the L1. Furthermore, teachers codeswitched when the speech referring to instructions more than the language itself. In Indonesia, Cahyani, DeCourcy, and Barnett (2018) focused on codeswitching among teachers in bilingual

classes. The study revealed that teachers used codeswitching when topics were more important than the language.

The cognitive role in causing codeswitching was mentioned previously, too. The cognitive ability involves the amount of words which users have in their lexicon. There were studies investigated proficiency and competence as cognitive reasons for codeswitching. Nevertheless, proficiency is not the reason because some codeswitching users are able to use languages fluently. Also, semantic cognates, where codeswitching users repeat words with the same meaning from different languages, proved the ability of using these languages. Liu (2018b) studied cognitive factors causing codeswitching. The study found that codeswitching reasons were controlled by competence and proficiency of speakers. Hamers (2004) created a model for processes of code switching. The model considered cognitive competence as one of the main reasons for codeswitching. Thus, the main aspect regarding cognitive model of codeswitching is the "usage-base". Usage-based principle represented the amount use of language which makes it close to the tongue and production (Kristiansen & Dirven, 2008).

Conveying messages was one of reasons considered for codeswitching. Studies considered one of the two languages in codeswitching was more efficient to convey messages. For instance, Alqurashi (2022) justified the use of codeswitching referring to conveying messages. Sometimes, people find a language more significant to deliver a message than another which leads them to switch between two languages in some circumstances. Some researchers, such as Al-Hamdany (2022), connected the definition of codeswitching with conveying messages. Al-Hamdany (2022) defined codeswitching, combining two languages in order to convey a message in communication. Also, Hammad (2017) conducted a study among Maldivian teenagers to examine their

codeswitching on Facebook communication. The results showed that Maldivian teenagers used to codeswitch because they find one language is more efficient to express.

There were studies discussing the effect of emotions on codeswitching. Studies found language choice depended on emotions leading bilinguals to codeswitch. However, emotions as affecting codeswitching is not agreed among all studies. Most studies found no difference of emotions between studies. Studies, such as Williams, Srinivasan, Liu, Lee, and Zhou (2020), discussed the difference in using emotions of bilinguals' two languages. According to these studies, there were a strong relationship between emotions and one of the bilinguals' languages. Researchers realized this relationship through the difference between L1 and L2 use for emotions. For instance, Ponikwia (2012) proved that the use of emotion vocabulary in L2 is weaker than L1.
Therefore, bilinguals sometimes switch to their L1 because of emotions. Similarly, Iacozza, Costa, and Duñabeitia (2017) differentiated between emotions of L1 and FL. Therefore, people codeswitch for emotional reasons.

Many previous studies proved the relationship between emotions and codeswitching. Chen P., Lin, Chen B., Lu, and Guo (2015) examined emotions among Chinese-English bilinguals. The results indicated emotion words of L1 were faster and more automatic than their counterparts in L2. Also, Fan et al. (2018) in his study among Chinese-English bilinguals, showed L2 was weaker in using emotion words. Antonela and Sanja (2017) in their study, argued about bilinguals' languages regarding their use for emotions. The analysis was done qualitatively with an open-ended questionnaire. It revealed that both languages were used for emotions, but there was a dominant language over another. Additionally, Williams et al (2020) discussed a framework to express using emotions requires a language over another. Most of analysis showed L1 as more emotional than L2 or FL.

Syntactic factors had been investigated in relation to codeswitching, too. Codeswitching had been clarified regarding its structure. The structure of codeswitching was investigated where switching was allowed or prevented grammatically. As stated by Abdollahi et al (2015), codeswitching was combining two grammatical systems in one discourse. Cantone and Macswan (2009) explained that most of grammatical theories or structural explanations focused on intrasentential type of codeswitching. This type of codeswitching mixed grammatical features between two languages within the same sentence. Mahsain (2015) identified, studying codeswitching structurally referred to discussing the syntactic patterns of codeswitching.

Codeswitching was defined, the ability to alternate between two languages without violating grammatical rules of any language (Sahib, Hanafiah, Aswad, Yassi, and Mashhadi, 2021). Fairchild and Hell (2017) explained that codeswitching is not a random phenomenon of switching between two languages. It is a style of language governed by constraints. Cacoullos (2020) presented, codeswitching constraint where switching can only occur if there is no violation to rules of languages. larger constituents were more likely to be switched than smaller constituents. Therefore, grammar and syntax contribute to allow or prevent a language over another, so bilinguals codeswitch when there is no violation for grammatical rules.

2.2.3.2 Arabic-English Codeswitching Context

Arabic-English codeswitching was a popular phenomenon in all Arab countries. This phenomenon appeared because of the value of English language. English, as a universal language, was widely used in Arab countries. Most Arab countries depend on English in their education (Atwell, Sharoff, & Al-Sulaiti, 2009). Also, People in Arab countries have a strong attitude toward English (Sadek, 2007). However, the attitude of people leaded them to switch between Arabic and English. Thus,

Arab people highly used Arabic-English codeswitching in their spoken and written communication during their daily life.

Arab people used Arabic-English codeswitching in their daily communication for different reasons. Studies investigated reasons leading people to use Arabic-English codeswitching. For instance, Al-Hourani and Afizah (2013) conducted their study in Malaysia to explain reasons led three Arab bilinguals to switch between Arabic and English. Data were collected through interviews and recordings. This study found codeswitching depended on factors such as a listener or a speaker of communication, place and time, and topics of speech. Also, Jdetawy (2011) investigated English-Arabic codeswitching among Arab students in University Utara Malaysia (UUM). The study explained reasons of using mixed Arabic and English. Students were enforced to switch because they lack some English words or Arabic meaning of words.

Cognitive factors such as proficiency were supposed for Arabic-English codeswitching reasons. People sometimes lack the ability to express by using English, so they went back to their L1 to fill a linguistic gap. Alkhresheh (2015), for example, discussed using Arabic-English codeswitching among Arab students in Aligarah University in India. The study revealed, students used to codeswitch in order to bridge the lack of proficiency.

Social factors were widely connected to Arabic-English codeswitching. In Arabic-English codeswitching context, Alenezi (2016) studied reasons of Arabic-English codeswitching among university students in Saudi Arabia. Alenezi (2016) investigated the role of social factors focusing on gender in using codeswitching. However, it was resulted that gender did not affect codeswitching where no difference between males and females in using codeswitching. On the other hand, Ismail (2015) explained the same phenomenon in the same society, Saudi Arabia. This

study discovered a relationship between gender and codeswitching where females used to switch more than males. Moreover, there were studies relate the use of Arabic-English codeswitching to parts of speech. For instance, Hamouda (2015) studied Egyptian Arabic and English through one of television shows. According to the study, the most affected part of speech was “nouns”.

Attitudes toward Arabic-English between different groups of people were investigated. Mahsain (2015) differentiated between Kuwaiti young bilinguals in bilingual schools and monolingual schools. Data collected through multi-tools represented by interviews, observation, and questionnaires. The study concluded that students who studied in monolingual schools preferred to use Kuwaiti Arabic with some intention to English words, so they use codeswitching. On the other hand, students who studied in bilingual schools preferred to use English only.

Jordanian people have a relationship with English which is the only FL. Hence, codeswitching was popular among Jordanian people. Hussein (1999) investigated Arabic-English codeswitching among Jordanian students. The study focused on factors leading students to codeswitch. Students used to codeswitch because of unfamiliarity with Arabic or English equivalents, and sometimes academic expressions which are difficult to be translated. Al-Khatib and Sabbah (2008) investigated text messages among Jordanian students. Data were collected by questionnaire and interviews. It was a mixed-mood method where data analyzed quantitatively and qualitatively.
The results showed that Arabic-English codeswitching is used more than pure Arabic and pure English.

Mustafa and Hussein (2011) studied the use of Arabic-English codeswitching in SMS messages among Jordanian teenagers. The study depended on gender difference to explore how social factors affecting Arabic-English codeswitching. People switched to English because it is easy to be

abbreviated, to gain prestige, and to fill the gaps of unknown Arabic words. The study found that females codeswitch more than males. Al-Hourani (2016) searched about the use of codeswitching among Jordanian bilinguals in Malaysia. They explained the use of codeswitching while they communicate in their daily life. This study used semi-structured interviews and observing five participants. It appeared that formality of situation did not affect codeswitching where they switched in both formal and informal situations. In addition, functions of codeswitching were determined by filling a gap of deficiency, to quote, to show more explanation, and to exclude someone from a conversation.

Jordanian university students were studied regarding their use to Arabic-English codeswitching, too. For example, Al-Hayek (2016), did his study among Jordanian university students. This study focused on three Jordanian universities including University of Jordan, Al-alBayt University, and Yarmouk University. It was a sociolinguistic study discussed factors which motivated students to codeswitch. Data were collected through questionnaires and interviews. The analysis was done through mixed-mood method, qualitatively and quantitatively. The study resulted that Jordanian students were aware of their codeswitching. Some reasons indicated that students used codeswitching to impress others with their use of another language. Also, the results showed that students from high social class used codeswitching more than others. Students of urban cities were less motivated to use Arabic-English codeswitching than students from rural cities.

Besides, in Jordan, many studies discussed the effect of social factors on codeswitching (Mustafa & Hussein, 2011; Al-Hourani, 2016; Al-Hayek, 2016). Therefore, this study discussed the effect of cognates on Arabic-English codeswitching among undergraduates in Jordan.

2.2.3.3 The Gap in Previous Studies

The previous studies sought to find reasons of codeswitching. These studies used sociolinguistic, pragmatic, syntax, proficiency, and other factors to discuss why bilinguals used codeswitching. However, the studies tracked inter not intra reasons of codeswitching. The nature of switched words themselves was not studied causing codeswitching. These words which were combined from two different languages systematically should have something in common. Reasons of codeswitching were not only related to social factors. There was a system coordinating the occurrence of two languages with each other. Also, the occurrence of two languages within the same sentence should be controlled by providence or innate mechanism. Also, although much literature had been used to discuss codeswitching reasons, recent studies such as Whatley (2018) and Orynbek et al. (2020) stated that codeswitching reasons were not clear.

On the other hand, psycholinguists discussed codeswitching in relation to cognates. Discussing codeswitching relating to cognates was as deep as codeswitching organism. While cognates are words from two different languages, they have similar sound and meaning between two languages, the hypothesis indicated that these words facilitate codeswitching. Thus, cognates triggered and co-activated the two languages simultaneously.

In Jordan, there had been less focus on Arabic-English codeswitching and cognates, too. Therefore, this study took place in Jordan discussing Arabic-English codeswitching and cognates.

2.3 Cognate Definition and Use

2.3.1 Identifying Cognates

Cognates were discussed in this study to show their relation to codeswitching. Several studies used cognates as a tool to investigate psycholinguistic issues. However, through reviewing literature, few studies provided efficient definition for cognates. Also, identifying cognates differed in studies. From the historical viewpoint, the definition of cognates referred to words from the same origin (Mingorance, 2010). Then the definition of cognates became words with the same form and meaning. Thus, the identification of cognates was changed to more than borrowing and genetic reference. For instance, Cacoullos (2020) defined cognates as words which share the same spelling and meaning among two languages. Other researchers dealt with cognates while having the same meaning and may be slightly different in spelling. Although, some researchers such as Mitkov, Pekar, Blagoev, and Mulloni (2007) explained cognates share the same spelling and meaning, others such as Hauer and Kondrak (2011) discussed cognates as words which have several similarities.

Echeverría (2017) identified cognates having various properties. Cognates were always structural units and words which standed for a meaning. These words did not always have the same meaning, so they sometimes had different semantic aspects. However, the other condition for cognates was the similarity in form. Cognates had to have formal resemblance. Also, Sunderman and Schwartz (2008) revealed that cognates often belonged to pair of words in two languages sharing phonological, semantic, and orthographical aspects. Therefore, there were different approaches for identifying cognates. These approaches were classified into orthographic, phonetic, and semantic approaches (Mitkov et al., 2007).

Different types of cognates appeared in literature while looking to its meaning. Stamenov (2009) and Malmasi and Dras (2015) stated that there is a confusion between true cognates, false cognates, and partial cognates. True cognates were words which share similar form and meaning among two languages. On the other hand, false cognates had similar forms, but different meaning. Also, partial cognates represent similar meaning in some contexts. Moreover, Frunza and Inkpen (2009) showed another type of cognates which was genetic cognates. Genetic cognates were words between two languages referring to the same ancestor or poro-language.

Generally, the definition of cognates related to phonological semantic aspects (Kondrak, 2001). Thus, Malmasi and Dras (2015) stated that the most popular definition of cognates was words having similar form and meaning in common, because the two languages refer to the same ancestor.

2.3.1.1 Identifying Cognates Relating to Codeswitching

Cognates had been identified in relation to codeswitching by Clyne (1967) in his theory. Clyne (1967) defined cognates as words which involve the same form and meaning between two languages. Then, Clyne (2003) determined cognates having properties such as lexical transfers, proper nouns, and bilingual homophones.

Lexical transfers were considered cognates in two languages. According to Llach (2010), lexical transfers were divided into two types, borrowing and loan words. Besides, Al-Mashkoor (2014) determined lexical transfers as borrowing words and loan words. Al-Mashkoor (2014) and Neuser (2017) differentiated between borrowing and loan words. Borrowing was the process of taking words from a language to be used in another language. These words were borrowed from a language keeping the form of the original language. Borrowing words stayed ruled by the

phonological and morphological principles of the original language. However, the borrowing occured among languages to fill a lexical gap only. Neuser (2017) considered borrowing as the use of a language with the L1 in codeswitching. Therefore, Borrowing was not depended in the current study because it represents codeswitching itself. On the other hand, loan words represented words are taken from a language to be a part of the host language. These words are adapted following the phonological and morphological aspects of the host language. Sinha (2005) differentiated between types of loan words. Loan words involved three types. The first type was pure loan words where words from a language adopted not adapted in another language without changes. The second type was loan blend. Loan blend indicated using a part of a word with its meaning in another language. Third, loan shift words indicated that some syllables were used in another language directly such as the use of "ex" from Latin to be a prefix in English. However, the current study used lexical tansfers as words adapted from a language to be used in Arabic and English. These words are either taken from English or both Arabic and English adapted them from another language.

Proper nouns were considered cognates facilitating codeswitching, too. They refered to names of people, places, and objects (Dweik & Al-Sayyed, 2016). Proper nouns were nouns which are unique all over language use. Therefore, proper nouns refered to an individual or object which was known for a speaker and listener. Labat, Vandevoorde, and Lefever (2019) considered proper nouns as cognates. Labat et al. (2019) defined proper nouns including names of people, cities, companies, countries, and their derivations which were called proper adjectives such as "American". In addition to proper nouns and lexical transfers, bilingual homophone was one of the types of cognates facilitating codeswitching. Pexman, Lupker, and Jared (2001) defined, bilingual homophones of words which had similar pronunciation between two languages, but they differed in meaning. Also, the spelling was not essential regarding determining homophones. Treiman,

Seidenberg, and Kessler (2015) explained that sometimes homophones have different spelling, but pronunciation is still the same. However, Biedermann, Blanken and Nickels (2002) identified homophones where words, with different grammatical characteristic, have the same spelling. Linguistically, there was agreement in terms of the role of phonological aspect in bilingual word processing. Some studies found fast reading by bilinguals through bilingual homophones (Ortiz, Midgley, & Mestre, 2012).

Besides the cognates which determined by Clyne (2003), this study investigated semantic cognates to facilitate codeswitching as recommended by other studies such as Soto et al. (2018). Kondrak (2001) explained, semantic cognates represent similarity in meaning. Also, according the Revised Hierarchical Model, semantic cognates represented equivalent translations (Comesana, Soares, and Lima, 2010). Moreover, Mitkov et al. (2007) stated that the the Translational Equivalence Approach for semantic cognates was proved by many studies. This theoy indicated that semantic cognates representing equivalent meaning between two languages. Therefore, in this study, the semantic cognates represented words and their identical meaning or the translational meaning from another language.

Table 2.1

Cognate Identification

No	Cognate	Identification
1	Proper Nouns	Including names of people, cities, companies, countries, and their derivations which called proper adjectives.
2	Lexical Transfers	Words adapted from the same ancestor to be used in both languages.
3	Bilingual Homophones	Words that have the same sound between two languages, but they differ in meaning.

4	Semantic Cognates	Words and their identical equivalent meaning from another language.

2.3.2 Relating Cognates to Language Learning and Translation

Cognates were words between two languages sharing phonological, semantic, and other features between themselves. Cognates had encouraged scholars to study the nature of these words. Thus, these words had been discussed widely in previous literature. Most of studies focused on the nature of cognates comparing them to non-cognates. Other studies used differences between cognates and non-cognates to discuss linguistic issues such as language learning and acquisition, translation, and psycholinguistic issues.

Cognates had advantage above non-cognates. Researchers exploited the advantage of cognates and used them to discuss language learning. For instance, Colorado (2007) found that cognates can be a tool to facilitate language learning. Also, Stamenov (2009) investigated the effect of cognate on language learning and translation. The study revealed positive results of cognates for both language learning and translation. Szabo (2016) investigated the effect of native language vocabulary on L2. This study showed strong effect for the L1 on the L2 through cognates. Moreover, Mingorance (2010) introduced a general view regarding the impact of native language on L2 acquisition. Mingorance (2010) found an efficient effect for cognates and differences between cognates and non-cognates.

Several methods were used in studies to investigate differences between cognates and others. Beinborn, Zesch, and Guverych (2013) used reading task in his study to check how cognates affect L2 learning. The study provided participants with texts including cognates and noncognates to test which words were more accurate in reading. The results of this study indicated an efficient effect for cognates. Moreover, Broersma, Carter, and Acheson (2016) investigated the effect of

phonological and semantic cognates on facilitating bilingual language production. The study depended on picture naming task to test cognates. Consequently, this study found a significance role for cognates.

Cognates had been an important topic in translation, too. Studies investigated the effect of cognates to facilitate translation among bilinguals and multilinguals. For instance, Gollan and Acenas (2004) discussed cognates as a tool to facilitate translation. The study used picture stimuli among bilinguals. Gollan and Acenas (2004) found an efficient effect for cognates to facilitate translation. Also, Azieb, Al-Khanji, and Tarawneh (2021) studied the effect of cognates in translation from English to French among Jordanian bilinguals. The study revealed strong evidence for cognates in facilitating translation, and it recommended that language teachers should teach cognate recognition for translation strategies.

The advantage of cognates did not stop at language learning and acquisition and translation, but it was used in other linguistic studies. Cognates were used in psycholinguistic studies, too. For example, Filder and Lochtman (2019) used cognates to show that bilingual languages occured in one part of the brain and activated each other. Moreover, Poarch and Hell (2014) considered the differences between cognates and non-cognates a strong evidence for co-activation of bilingual languages. Such results regarding the advantage of cognates over non-cognates encuaraged others to discuss the impact of cognates in translation. Therefore, Grasso et al. (2018) discussed the influence of cognates on translation and translators. Grasso et al. (2018) revealed that bilinguals perform translation more accurately with cognates.

Cognates had been discussed in relation to codeswitching. The advantage of cognates over noncognates leaded researchers to link them with codeswitching. Thus, the first author discussing

the impact of cognates on codeswitching was Clyne (1967). According to Clyne (1967), cognates were triggers leading people to codeswitch. However, the study of cognates relating to codeswitching did not agreed in all studies. Hence, different results appeared in literature regarding the influce of cognates on codeswitching.

2.4 Previous Studies Relating Codeswitching to Cognates

The phenomenon of codeswitching had been discussed previously from different linguistic perspectives. The reason of codeswitching was the most argumentative point. Many sociolinguistic studies had been raised in order to find the main reason of using codeswitching among bilinguals. However, Clyne (1967) observed other factors influencing the appearance of codeswitching among bilinguals. Clyne (1967) made a claim that cognates were the main reason for codeswitching. This hypothesis considered the nature of cognates having similar form and meaning between two languages leading to trigger codeswitching. Broersma (2009) stated the study of relationship between codeswitching and cognates took the side where codeswitching was not under the control of the speaker, but it discussed the subconscious codeswitching through cognates resulting from mental mechanism. Clyne called this hypothesis "The
Triggering Theory", and supported this theory through various studies (Clyne, 1967; 1972; 1977; 1980; 2003).

The Triggering Theory of Clyne (1967) investigated the behavior of immigrants in Australia. This study found many examples of cognates causing codeswitching in speech of bilinguals there. The study indicated that only neighboring words can be affected by cognates. Also, Clyne (1967; 1972; 1977; 1980) claimed that cognates refered to words that had similar form and meaning between two languages. However, Clyne (2003) revised theory and the claim was that cognates facilitating

codeswitching more than triggering it. Thus, Clyne (2003) considered the word "facilitate" was more accurate than the word "trigger" in the relationship between codeswitching and cognates. The word "facilitate" was used because cognates were not the only reason behind codeswitching, but cognates as well as other factors caused codeswitcing. In this revision, cognates were identified as proper nouns, lexical transfers, and bilingual homophones.

Moreover, Clyne (2003) used the term "transversion" to represent when codeswitching occurred. Therefore, codeswitching was classified into three types according to their location to cognates. These three types included consequential facilitation (when codeswitching occured after the triggering word), anticipation facilitation (when codeswitching occurs before the triggering word), and the third type represented a combination where codeswitching occured before and after the triggering words (cognates).

The second stage in the history of the Triggering Theory was by Broersma and DeBot (2006). Broersma and DeBot (2006) adjusted the triggering theory to accommodate the modern models of language production. In this study, they criticized the Triggering Theory of Clyne. According to Broersam and DeBot (2006), the triggering theory did not accommodate with the modern theories. Therefore, this study argued about the scope of language selection. Although Clyne (1967; 2003) claimed that language selection occured in the surface level and the effect of cognates happened only for neighboring words, Broersma and DeBot (2006) adjusted this hypothesis to be in lemma level to accommodate modern models. Broersma and DeBot (2006) considered cognate influence happening within a clause rather than between neighboring words. Thus, words which were in the same basic clause more likely to be codeswitched.

The hypothesis of codeswitching and cognates had been investigated in literature widely since the initiation of it. Poort and Rodd (2017) showed that most studies support that processing cognates is easier and more quickly than non-cognates. Whatley (2018) provided an explanation to understand the relationship between cognates and codeswitching. A speaker may choose to codeswitch in a discourse, so words that are more accessible and easier than others could be chosen. Thus, cognates were considered as a key to language accessibility which was going to be discussed later. Also, these findings were used by scholars to support the idea of co-activation between bilingual languages and one integrated lexicon.

2.5 Codeswitching and Cognates: Conflicting Results

The relationship between codeswitching and cognates was first used by Clyne (1967). Clyne (1967; 1972; 1977; 1980) supported the hypothesis that cognates triggering codeswitching. However, during this period, some studies appeared opposing the claim of Clyne. Therefore, Clyne (2003) revised the Triggering Theory to make cognates facilitating codeswitching more than triggering. Furthermore, Clyne (2003) identified cognates to be proper nouns, lexical transfers, and bilingual homophones. On the other hand, Broersma and DeBot (2006) indicated that the effect of triggering occurs within a clause not only between neighboring words. Also, this study argued that only words that follow cognates can be triggered.

Codeswitching had been discussed in relation to cognates in various studies. These studies differed in their results in whether cognates facilitating codeswitching, types of cognates, position of codeswitching to cognates, scope of triggering, and response time of cognates in codeswitching. For instance, Acheson et al. (2012) studied the impact of cognates to make bilingual language production easier for articulation than non-cognates. The study showed cognates were produced

faster and easier than non-cognates. Acheson et al. (2012), too, revealed positive effect for cognates to facilitate codeswitching. Similarly, Declerck and Philipp (2015) interested in the effect of phonological aspects on codeswitching and word choice. This study concluded that phonological aspects participate efficiently in codeswitching. Also, Soto et al.
(2018) investigated the relationship between codeswitching and cognates. The study depended on recordings to observe participants' speech. Quantitatively, the study showed strong relationship between codeswitching and cognates while cognates facilitate codeswitching.

Some studies argued about points in the triggering theory and didn't refuse it as whole. Scholars doubted of the position of codeswitching, types of cognates, and scope of triggering or facilitation. For instance, Broersma (2009) studied the hypothesis of triggering. This study used interviews to collect data which was analyzed quantitatively. The findings revealed an observable effect for cognates on codeswitching. However, Broersma (2009) showed that codeswitching appearing more likely next to cognates than elsewhere. This study revealed that proper nouns are the most effective type of cognates to trigger codeswitching. Broersma (2009) found that the influence of cognates occurs within the basic clause, and words following cognates are more affected than word preceding. Also, Broersma, Isurin, Bultena, DeBot, and Winford (2009) investigated the triggering theory among three languages. This study concluded that the triggering theory occurs while codeswitching only follow cognates. Moreover, Rahimi and Eftekhari (2011) examined the triggering theory and tested the validity of cognates to codeswitching. Rahimi and Eftekhari (2011) found only proper nouns could be efficient in Iranian- English codeswitching.

In contrast to the above studies, some scholars rejected the relationship between codeswitching and cognates at all. For instance, Santesteban and Costa (2016) explored the nature of producing cognates in codeswitching tasks. The study used Spanish-Catalan bilinguals in order to distinguish

between cognates and non-cognates. The results of the study revealed no difference between cognates and non-cognates to facilitate bilingual language production. Also, Li and Gollan (2018) investigated the effect of phonological cognates on the language of bilinguals. The study was among Mandarin-English bilinguals. Thus, Participants were asked to read a paragraph including codeswitching. Critically, the results found participants made mistakes with cognates rather than non-cognates. Likewise, Geerlofs (2017) showed that there was not efficient effect for cognates to facilitate processes of switching between two languages.

Various studies argued about the relationship between codeswitching and cognates. Whatley (2018) studied the triggering hypothesis using self-pased reading task and picture naming task among Spanish-English bilinguals. The study found that participants did not show positive results regarding cognates over non-cognates while cognates were not faster than non-cognates in codeswitching reading task. Therefore, Whately (2018) suggested no relationship at all between codeswitching and cognates. Furthermore, Ibanez et al. (2010) conducted a study among Spanish-English bilinguals to check whether cognates facilitate codeswitching. The results of the study showed no relation between codeswitching and cognates.

Dependently, it is observed that the influence of cognates on codeswitching was not agreed in literature. Studies did not have constant assumption regarding the effect of cognates in facilitating code switching. Types of cognates were not identified similarly in all studies, too. Also, there were types still need to be studied depending on this theory such as semantic cognates. In addition, the position of codeswitching to cognates, the scope of triggering, and response time of codeswitching with cognates were still questionable. Therefore, the study bridged these gaps through discussing the phenomenon of codeswitching in a community which had been insufficiently discussed in relation to cognates.

2.6 Why Cognates Facilitate Codeswitching

2.6.1 Cognitive Mechanism behind Codeswitching and Cognates

The relationship between codeswitching and cognates was justified by bilingual cognitive mechanism. The processes of cognate facilitation refered to bilingual cognitive mechanism. According to Riehl (2005), Poort and Rodd (2017), Hopp (2018), Broersma et al. (2020), and Deluca et al. (2020) the processes of cognate facilitation occured because of bilingual mental aspects. First, there was only one integrated lexicon for both bilingual languages. Second, bilingual language access was non-selective where both bilingual languages were available for selection during speech. Therefore, bilingual languages co-activateed each other making codeswitching.

The production of codeswitching had occupied psycholinguists to explain its mechanism. Dejong (2016) detailed, psycholinguists investigated how human brain accorded with representing two languages in codeswitching. However, the story of bilingual lexicon was the center to such studies. Studies argued about the mental lexicon of bilinguals. The most popular view showed that bilingual languages shared an integrated mental lexicon. This view considered bilinguals experience the same mental representation as monolinguals (Marini & Fabbro, 2007). Thus, the lateralization of bilingual languages played an important role to codeswitching. However, the integrated lexicon of bilinguals was not agreed in all literature. Some studies believed of binary lexicons for bilinguals as having a lexicon for each language, and these studies denied the relationship between codeswitching and cognates.

The study of bilingual brain structure and lexicon opened a discussion of language selectiveness. The selectiveness of language belonged to the mechanism followed by the brain to choose the target language (Zhang et al., 2015). Most studies support the idea of non-selective access of

bilingual language (Moon & Jiang, 2012). The non-selective view indicated that both target and non-target languages were active while language access. Therefore, Whatley (2018) stated that non-selective access increasing the occurrence of cognates which facilitated codeswitching. However, other studies denied the relationship between language access and codeswitching. These studies believed that only target language was active while language access.

The coactivation of bilingual languages influencing the tendency of codeswitching through cognates (Hell, Litcofsky, & Ting, 2015). Also, studies justified the occurrence of two languages easily in codeswitching referring to the interaction between languages in the brain. Moreover, Bergmann, Sprenger, and Schmid (2015) supported the idea of coactivation, and he stated that bilingual languages affected each other under processes of overlapping. On the other hand, there were studies affirming that bilingual languages processed independently without interaction (Gullifer, Kroll, & Dussias, 2013).

The coactivation of two languages of bilinguals in the same mental area resulted cognates facilitating codeswitching. The occurrence of two languages easily in the same context refered to the interaction between languages in the brain. Thus, studies dealt with cognates as words activated each other in the brain and closer to appear in codeswitching. Therefore, Psycholinguistic studies investigated cognates as having special case for bilinguals because they were acquired fast and easily (Ortiz et al., 2012).

2.6.1.1 Different Views in Bilingual Integrated or Separated Lexicon

The study of codeswitching and cognates had been related to the argument of bilingual lexicon. The argument indicating one lexicon or two lexicons for bilinguals was important for explaining codeswitching and cognates. Certainly, Broersma et al. (2020) stated that the two languages in the

same lexicon results cognates which facilitate codeswitching. From the psycholinguistic view, the condition of relationship between codeswitching and mental mechanism started from occurring two languages in the same lexicon. Also, Whately (2018) explained that the hypothesis of cognates influencing codeswitching depended on the bilingual mental mechanism. The popular claim in recent studies indicated that the two bilingual languages occur in one integrated lexicon and language access is non-selective. This claim proved the idea of coactivation between the two languages. Moreover, the production of cognates increases the activation of words of two languages. As a sequence bilingual switching is increased. However, the bilingual lexicon was still debated in studies and there was not constant result whether bilinguals have two lexicons or shared the same lexicon for both languages (Sabourin, Leclerc, Burkholder, & Brien, 2014).

Robert (2017) considered the lateralization of language can be in Broca and Wernicke areas of the brain. Thus, when a person learned a L2, the areas were not changed but the two languages were coexisted in the same area of the brain. The two languages of bilingual coexist in the same part of the brain and this was the reason of interference between the two languages. Thus, bilingual languages coexisting in the same part of the brain can be evidenced by language interaction or intersection. In contrast, Laka (2012) stated that while the L1 was localized in the Broca's area, the L2 for later learners was in supramarginal gyrus. Supramarginal gyrus occurs between Broca's and Wernicke's areas. Also, Wong, Yin, Brien (2016) stated that the age of learning L2 played a role in the localization of L2 and its association with L1 in the same lexicon. Therefore, the lateralization of bilingual language in the brain differed in literature.

Fortescue (2014) mentioned that the bilingual mental lexicon had been an issue for many studies. These studies differed whether bilinguals had one lexicon for both languages or two separated lexicons. Also, the problem of bilinguals' mental lexicon had not reached a constant point. White,

Malt, Storms (2017) showed there were two views regarding bilingual lexicon. The first view indicated that bilinguals used two separated lexicons for the two languages. On the other hand, the second view indicated that bilinguals developed an integrated lexicon shared between two languages for bilinguals. Navracsics (2007) stated the two theories of bilingual lexicon argued whether bilinguals stored word information in the same part of the brain or in distinct areas. Navracsics (2007) stated other studies argued that language storage of bilinguals depended on age and manner of learning. Moreover, Navracsics (2007) stated studies considered that if learning L2 where formal in school, it is stored in general area remoting from L1. In contrast, if learning is informal, the area of L2 will be closer to L1.

The discussion of bilingual mental lexicon was not only under two theories. Some studies combined the two theories of bilingual lexicon. These studies differentiated between levels of representation to solve this issue. They considered bilinguals shared some levels and differed in others. Wang (2010) showed there were two levels in the human brain: lexical representation level including phonological and orthographic levels, and semantic representation level which included semantic aspects and meaning. However, Fortescue (2014) showed most studies agreed regarding shared conceptual level of representation, but the problem of separated or nonseparated lexical level of representation was still unresolved. Also, there were many studies and models argued about the lexical and semantic levels. For example, the Word Association Model suggested that bilinguals have a direct connection between L1 and L2 lexical representation, whereas the semantic level is built and depends on L1 semantics. According to this model, bilinguals needed to hear the translation of L2 words one time, then they stored the word depending on semantic database of L1 (Wang, 2010). The main issue regarding the models which showed two languages of bilinguals

shared the same representation level was that how bilinguals abled to control their selection to a language (Kroll, Sumutka, and Schwartz, 2005).

Studies differed regarding bilingual lexicon. Kavitha and Kannan (2015) stated that studies had been distributed depending on three views. The first one was coordinate structure indicating that both meanings of words and lexical pieces were language specific. The second view was compound structure. The compound structure view indicated that meanings or concepts were shared but lexical information was language specific. The third one was subordinate structure representing both meanings and lexical information shared the same lexicon. However, these different views jumbled the discussion of bilingual mental mechanism on one hand, and codeswitching motives on the other hand.

Summing up, studies argued whether there was one single lexicon or two separated lexicons for bilinguals (Sabourin et al., 2014). Mitchel (2005) revealed there was a question in the literature whether bilinguals had one or two separated lexicons. Most studies suggested that there were two separated lexicons for both languages. Nevertheless, others argued that languages of bilinguals occured in the same mental lexicon where they activated each other in both levels. Some studies showed bilinguals' two languages shared only the conceptual or semantic level. Therefore, languages only interacted in the conceptual level.

2.6.1.2 Language Access

Although codeswitching motives were still a difficult task for many researchers, psycholinguists consider the non-selective word access enhancing the occurrence of cognates which facilitate codeswitching (Whatley, 2018). Psycholinguists tracked mental processes including language selection. Zhang et al. (2015) stated that "language selection refers to the cognitive mechanism

controls which language to select" (p: 1). Therefore, the main point regarding language selection was how words were chosen to be produced. Farquharson, Centanni, Franzluebbers, and Hogan (2014) stated psycholinguists interested in monolingual language access. For monolinguals, studies investigated how target words within one language were selected. They investigated processes to select words with the same concept such as "sofa" and "couch", and words with the same phonological aspects such as "cat" and "rat".

Farquharson et al. (2014) showed the effort of monolinguals to select words was an easy task while only words of one language competed to be produced. Filippi, Karaminis, and Thomas (2014) revealed that Levelt (1989) divided language processes into conceptualizer, a lexicon, a formulator, a monitor system and articulator. The conceptualizer was divided from lexicon including preverbal processes such as a topic or concept. Also, the conceptualizer was activated by speech attention. Then, the process of a lexicon activated by the conceptualizer. The lexicon process included semantic and syntactic information. After that, the activation of the formulator included morphological and phonological information. Finally, this information was sent to a monitor system to be okayed, and then to articulation. After processing words in the lexicon and the formulator, the monitor sended feedback to the conceptualizer to choose the target word according to the concept. For example, the picture of "cat" in monolingual task activated the concept in the conceptualizer. In the semantic level, the word "cat" can activate words such as
"dog" because they share some semantic features. Otherwise, in the phonological level, the word "cat" can activate a word such as "rat". Thus, the target word was selected depending on the concept.

There was an evidence that while selecting a word for production, other words with related semantic and phonological aspects were active simultaneously. Thus, all activated words competed

for selection. Also, most studies supported the idea that processes of selection depended mainly on the concept. The processes of selection for monolingual was easier than bilinguals where some studies found that the selection of target word depended on the feedback sent by the monitor to the conceptualizer. On the other hand, Schwieter (2007) showed that the effort of bilinguals for language selection was more difficult than monolinguals where concepts cannot lead to selection because the concept was the same for the two languages of bilinguals.

Being bilingual meant processing more than one language during representation. Wang et al. (2020) however, the main question remained how access occured for two languages. Some studies found that bilinguals had the same mental processes as monolinguals. On the other hand, other studies distinguished between bilinguals and monolinguals in language processing. However, Roelofs (1998) the main question regarding bilingualism was how bilinguals used a language and stricted another in monolingual context and how they switched between the two languages.

The key point in bilingual selection was that bilinguals must select the target language over nontarget language (Friesen, Yim, & Bialystok, 2016). Friesen et al. (2016) stated that some researchers considered a difference between inhibition selection of monolinguals and bilinguals. According to Friesen et al. (2016), the semantic competition depended on the semantic features of a target word. Also, the lexical competition can be solved depending on the picture of semantic level. However, it was still vague because some words shared the same semantic picture and features. Also, Santesteban and Schwieter (2019) stated that for bilinguals, each concept may have two words adequately. Thus, the question remained whether bilingual languages processed selectively or non-selectively.

2.6.1.3 Selective and Non-selective Access of Bilingual Languages

Studies had argued regarding bilingual languages whether they were controlled by selective or non-selective access. The selective access approaches indicated that only the target language was active while production. On the other hand, the non-selective access methods indicated that both target and non-target languages were active while monolingual tasks. Therefore, studies used tasks such as picture naming and lexical decision to argue between these approaches. If nontarget language was appeared or affected during monolingual production, so bilinguals depended on non-selective access. Otherwise, if only the target language was affected, it meant the access was selective (Moon & Jiang, 2012).

Moon and Jiang (2012) showed that many studies support the idea of non-selectivity of languages, and the appearance of cognates was an evidence for word competition. These studies argued that both bilingual languages appeared active during monolingual tasks. DeBot (2004) mentioned, the neighbors of cognates revealed that languages competed between each other. Therefore, more neighbors meant more competition. These evidence pieces were used regarding selective and non-selective access. Thus, if bilingual languages access was selective, there was not impact for neighbors of another language. On the other hand, the effect of neighbors related to the non-selective access.

DeBot (2004) indicated researchers used cognates including homographic and homophonic features to discuss selectiveness of bilingual languages. Also, the neighborhood of cognates was used in studies. Some studies tested selectivity and non-selectivity of bilingual languages through lexical decision. Words were used preceded by words which had similar semantic meaning or unrelated semantically. Thus, the reaction was short when words were unrelated. On the other

hand, repeating words preceded by similar words semantically appeared faster than unrelated words. This experiment supported the non-selective access hypothesis. Recently, several studies used codeswitching contexts in experiments to investigate non-selective access, because codeswitching can occur naturally and spontaneously (DeBot, 2004). Kurnik (2016) considered the processes of bilingual and multilingual language were non-selectivite. Thus, the belonging of words for which language was not a condition for a competition among words. Even in monolingual tasks, all languages became active. This was called parallel activation. On the other hand, selectivity of language meant only words from the target language were retrieved from mental memory.

Kurnik (2016) stated that the early evidence of non-selectivity came from cognate's influence on L2 processing. It was found that cognates from L2 was processed faster than non-cognates. Therefore, cognate facilitation had been used in many studies to support non-selectivity. Nonselectivity access was a part of coactivation of words among bilingual languages in mental lexicon. Cognate facilitation was the only practical evidence regarding non-selectivity. The orthographic neighbors, such as hat, rat, cat, bat, was used for discussing non-selectivity. Thus, it was found that cognate neighbors can result cross-linguistic activation. Kurnik (2016) provided that the study of cognate facilitation effect was important to support selectivity or non-selectivity of language access.

Different studies supported the idea of selective access or specific-language access. For instance, Filippi et al. (2014) stated that lexical access of non-target language did not compete with target language, and language access was selective. Costa, Santesteban, and Ivanova (2006) supported the idea of specific-language access. La-Heij (2005) considered only words from target language

compete for selection. Kroll, Bobb and Wondniecka (2006) considered the target language was specified in the conceptual level, so only words of target language can compete for selection.

2.6.1.4 Coactivation of Bilingual Language

Cognate facilitation can be discussed through coactivation between the two languages (Lemhofer, Huestegge, & Mulder, 2018). Grasso et al. (2018) showed cognate facilitation was justified by the function of bilingual languages independently and activated each other. Also, Poarch and Hell (2014) indicated that cognate facilitation was explained and justified through the coactivation of two languages. Otherwise, the cognate facilitation was a strong evidence for coactivation of two languages where target language activated the non-target language. Studies used cognates to discuss the internal interaction between bilingual languages. For example, Grasso et al. (2018), regarding bilingual children, they pronounced cognates with less mistakes than non-cognates. Also, Grasso et al. (2018) showed bilinguals perform translation more accurately with cognates. These evidence pieces were used to prove language interaction. The lexical aspects of two languages competed during selection where cognates activated their counterparts. However, non-cognates were not accumulated among the two languages.

In the last decade, studies changed the idea regarding bilingualism. Recent studies believed that there was parallel activation where the two languages were active spontaneously. Psycholinguistic studies interested mostly in investigating to what extent the two languages of bilinguals work independently (Lemhofer et al., 2018). Most studies revealed that bilingual languages were active simultaneously, and there was co-activation of mental representation (Goldrick, Putnam, and Schwarz, 2016). The bilingual languages went through processes of coactivation where there was overlap between two languages (Blumenfeld & Marian, 2005).

Lemhofer et al. (2018) showed that bilingual languages function independently where choosing L2 words affected by L1. Bergmann et al. (2015) revealed a strong evidence regarding the activation of languages among bilinguals and multilinguals. It appeared that languages affected by each other under processes of cooperation or overlapping. For example, while bilinguals named pictures in their L1, the L2 was active. Thus, there was not dependent processes for languages, but both languages were active during production (Poarch & Hell, 2014).

Most studies showed that both target and non-target languages were active through production depending on orthographic and phonological aspects. Other studies suggested that the coactivation and language overlapping depended on orthographic, phonological, and semantic codes (Poarch & Hell, 2014). During comprehension, words activated their counterparts which then competed with target words. Thus, when processes of activation started, all words from the same phoneme group became possible for selection. Mulder, Dijkstra, and Baayen (2015) considered cross-linguistic overlapping because of orthographic and phonological aspects resulted activation for words from both languages from the same family during reading. Macizo (2016) considered speech production went through three mental levels including semantic, lexical, and phonological levels. Studies agreed that there was parallel activation in the semantic level of bilinguals. Also, it was believed that the activation through the semantic level increases the activation in the lexical level. Macizo (2016) the coactivation which occured between languages in the semantic and lexical levels affecting language production or speaking. In the context of mixed language when bilinguals alternated between the two languages, the phonological coactivation appeared clearly.

Kroll, Bobb, and Hoshino (2014) identified that studies agreed that both languages were always active. Also, the parallel activation can be observed in most language skills such as reading, listening, and speaking. One of the discoveries for neuroscience was that both bilingual languages

were controlled by the same processes and supported by the same neural tissue. Kroll et al. (2014) revealed that an important observation showed that multilinguals met the same activation where more than two languages were active in the same time.

While the two languages of bilinguals had parallel activation and levels of representation were interrelated, bilinguals' two languages activated each other. Studies differed regarding the level where occurring activation and interaction between two languages. For instance, Costa, Caramazza, and Sebastain (2000) reflected that semantic aspects activated many related words in the first representation level which meant that the semantic properties activated each other among languages. However, it was still controversial whether activation can occur in the other representation levels (Christoffels, Firk, & Schiller, 2007). Some studies did not find a clear evidence for activation in the phonological level during phonological formation.

2.7 Theoretical Models

2.7.1 Theoretical Models Relating Codeswitching to Cognates

The Triggering Theory was clear and direct of discussing cognates facilitating code switching. The causal relationship between codeswitching and cognates had been discussed in different phases. Hence, the followings represented the phases of the Triggering Theory.

2.7.1.1 Triggering Theory (Clyne, 1967, 1972, 1977, 1980)

The relationship between codeswitching and cognates was first initiated by Clyne (1967) under the Triggering Theory. Clyne (1967) hypothesized a direct causal relationship between codeswitching and cognates. Clyne (1967) claimed that words having similar form and meaning between two languages caused codeswitching. In other words, the original Triggering Theory believed that

cognates were the main reason for codeswitching. Also, in this phase, cognates were identified as words that have similar form and meaning between two languages. Clyne
(1967) named the causal relationship between codeswitching and cognates under the Triggering Theory because cognates triggered codeswitching.

Places or positions of codeswitching to cognates were identified in the Triggering Theory of Clyne (1967). Clyne (1967) identified positions of codeswitching as anticipation, sequential, or combination. This meant that cognates caused codeswitching through words which preceding, following, or combining cognates. Also, according to Clyne (1967), the influence of cognate was exercised at word level. The scope of effect was word level. This meant that only neighboring words can be affected by cognates.

The original Triggering Theory had been supported by many studies of Clyne (e.g. Clyne, 1972; 1977; 1980).

2.7.1.2 Triggering Theory (Clyne, 2003)

The original Triggering Theory hypothesized causal relationship between codeswitching and cognates (words with similar form and meaning between two languages). Studies criticized the claim of Clyne (1967) that cognates were the main reason for codeswitching. Therefore, Clyne (2003) revised the Triggering Theory to accommodate modern studies.

The revised Triggering Theory of Clyne (2003) changed the act of causing into facilitation. This meant that cognates facilitated codeswitching, but not the only reason for it. Clyne (2003) stepped down and stated that cognates as well as other factors caused codeswitching. Thus, Clyne (2003) didn't deny the role of social factors on codeswitching. Moreover, Clyne (2003) identified the

cognates more specifically. According to the revised Triggering Theory, cognates included proper nouns, lexical transfers, and bilingual homophones. However, Clyne (2003) remained to use the same positions of codeswitching and scope of facilitation which were identified in the original theory.

2.7.1.3 Triggering Theory (Broersma and DeBot, 2006)

The last version of Triggering Theory indicated that cognates (e.g proper nouns, lexical transfers, and bilingual homophones) facilitated preceding, following, combining codeswitching within word level. However, Broersma and DeBot (2006) argued regarding the scope of facilitation. Broersma and DeBot (2006) stated that the main issue in the previous versions of the Triggering Theory was the scope of facilitation. According to Broersma and DeBot (2006), the scope of facilitation or the influence of cognates cannot be exercised at the level of the surface structure of a sentence, the word level. This meant not only cognates affect neighboring words, but it was clause level to accommodate theories of language production.

According to Broersma and DeBot (2006), the claim of Clyne (1967; 2003) that the trigger influence at surface level (word level) was contrary to bilingual speech production models. Bilingual speech production models indicated that surface level was formed before language selection. Therefore, it was impossible to make the scope of facilitation at surface level. Broersma and DeBot (2006) adjusted the Triggering Theory and made it in line with psycholinguistic models of speech production. Following Levelt (1989), Broersma and DeBot
(2006) considered the processing unit during lexical selection was the basic clause, at the lemma level. Hence, the influence of cognates at lemma level where both cognates and switched words within the same main clause.

2.8 Conceptual Framework

The study concerned with the triggering effect of cognates on Arabic-English codeswitching among undergraduates in Jordan. The main concept was identifying the ambiguity of motives facilitating codeswitching. However, the study participated to solve the problem through discussing cognate effect on codeswitching. Codeswitching was discussed in literature relating to cognates. Different types of cognates are identified facilitating codeswitching depending on their phonological, semantic, and genetic aspects. Also, positions of codeswitching were an argumentative point in literature. Therefore, one of this study questions was to determine positions of codeswitching to cognates. The scope of facilitation was identified in this study, too. Also, the current study investigated the frequency of cognates in codeswitching. Studies differed whether cognates were produced more easily than non-cognates in bilingual speech. Thus, the study used self-paced reading experiment to test the advantage of cognates over non-cognates in bilingual speech.

This study was coordinated by the Triggering Theory of Clyne (1967; 2003) and Broersma and DeBot (2006) as well as other related theories discussing bilingual mental mechanism. The Triggering Theory indicated that cognates facilitating codeswitching. The cognates included proper nouns, lexical transfers, and bilingual homophones. Also, some studies such as Soto et al. (2018) recommended studying semantic cognates as cognates affecting and facilitating codeswitching. Also, the positions of codeswitching to cognates had been identified in the Triggering Theory. These positions represented preceding, following, or combining codeswitching. The other issue that was discussed in this study is the scope of cognate facilitation. The scope of cognate effect has been identified by studies in word level, clause level, or sentence

level. Moreover, the frequency of cognates and respose time of cognates among bilinguals were bases in literature for identigying cognate effect on codeswitching.

The following figure showed the conceptual framework of the study including the relationship between cognates, codeswitching, and bilingual mental mechanism.

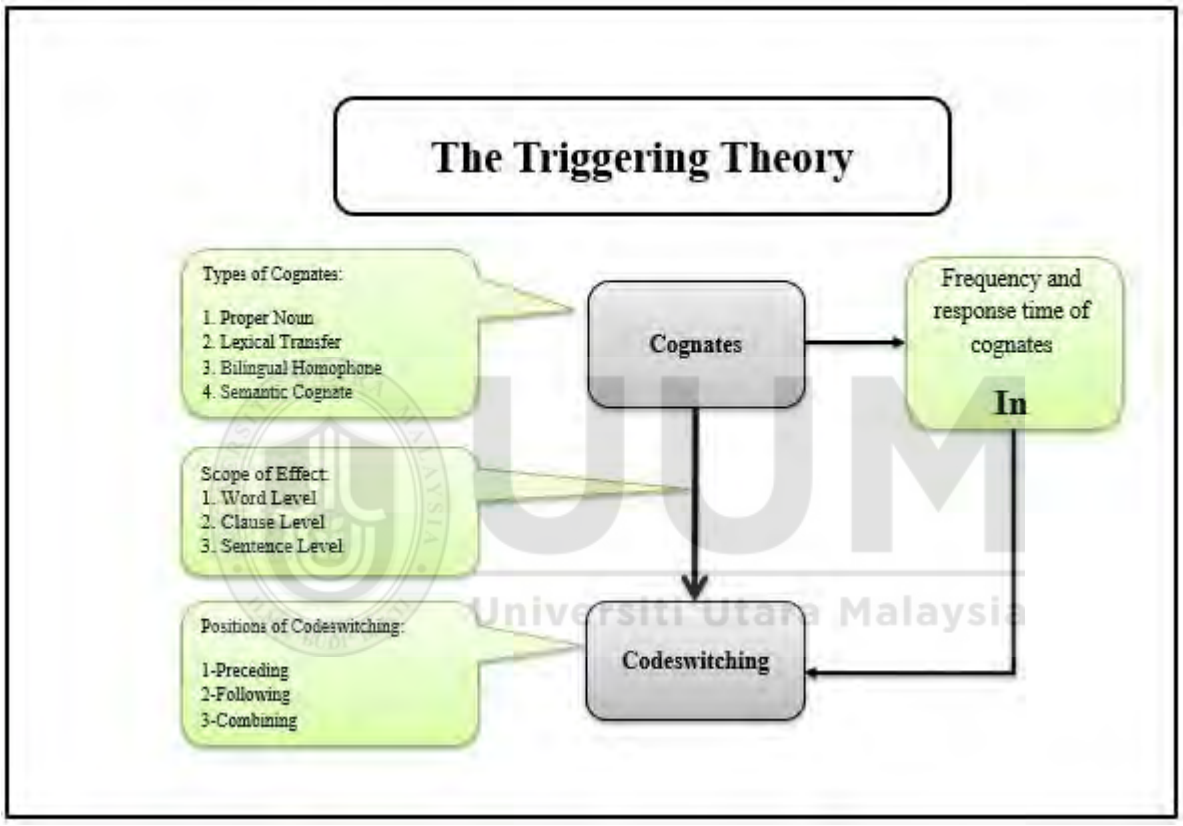


Figure 2.1 Conceptual Framework

2.9 Summary

Codeswitching was the use of two languages in the same discourse, sentence, clause, or even a word. Different types had been discussed including inter-sentential codeswitching, intrasentential codeswitching, and tag-switching. However, this study depended on intra-sentential codeswitching where two languages were used in the same sentence. This chapter showed that codeswitching in

general, and Arabic-English codeswitching in particular had been discussed widely investigating reasons behind codeswitching. However, limited studies had discussed the relationship between codeswitching and cognates. Cognates facilitating codeswitching were identified including proper nouns, lexical transfers, bilingual homophones, as well as semantic cognates. Cognates had been in different study discussing different topics such as language learning. The most important discussion for cogates was its influence on codeswitching. However, the effect of cognates on codeswitching had not been agreed in literature yet. Also, this chapter represented the bilingual mental mechanism behind codeswitching and cognates involving bilingual mental lexicon and bilingual language access. The chapter discussed the theoretical framework including theories of bilingual mental mechanism and theories relating codeswitching to cognates. Finally, the chapter included the conceptual framework.

CHAPTER THREE METHODOLOGY

3.1 Introduction

This study depended on the mixed method, qualitative and quantitative, appropriating research objectives. The second section included research design. Whereas population were illustrated, the study used non-probability snowball method of sampling to choose accurate, appropriate, and

representative samples. Furthermore, the data were collected following a focus group and experiment method. Also, data were analyzed qualitatively following content analysis. Other types of data representing quantitative part were analyzed using Antconc software for frequency of cognates and Excel calculations for response time. Finally, the study piloted data to avoid future problems. Also, this chapter were concluded in summary section.

3.2 Research Design

3.2.1 Mixed Method

The current study relied on mixed method approach principles to achieve its objectives and interpreted the effect of cognates on Arabic-English codeswitching among undergraduates in Jordan. The mixed method approach was a research method that applies qualitative and quantitative principles in the same study to address research questions and objectives successfully (Creswell, 2015).

Some phenomena cannot be explained through one method, but achieving full understanding required following qualitative and quantitative principles together. Therefore, this study applied the mixed method to suit the phenomenon of Arabic-English codeswitching as well as research questions and objectives.

The study adopted the mixed method to arrive to successful understanding to the phenomenon of Arabic-English codeswitching among Jordanian undergraduates. Thus, to achieve this purpose, different steps were carried in this research accommodating with the mixed method approach. Both qualitative and quantitative methods were used in this study dependently where they served the main objective of this study and using the same population. Also, the final phase in the study, the

interpretation of data, was combined between qualitative and quantitative results. In this study, the qualitative principles were applied to appropriate the first three research questions and objectives. The qualitative questions investigated cognate types, positions of codeswitching to cognates, and the scope of cognate facilitation. On the other hand, the quantitative part was applied on the research questions four and five. These quantitative questions tested the frequency and response time of cognates in codeswitching.

The following figure represented the research design of this study:

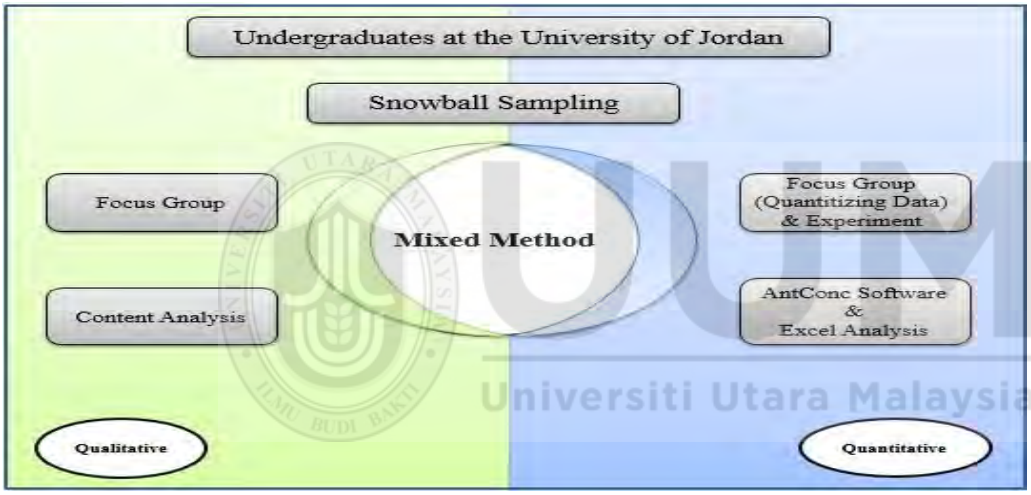


Figure 3.1 Research Design

3.3 Population and Sampling

3.3.1 Population of the Study

This study was conducted in Jordan. Jordan was one of the countries where English-Arabic codeswitching was highly used (Al-Hayek, 2016). This group of people was represented by undergraduates. Similarly, Arabic-English codeswitching was a popular phenomenon in the Jordanian society, especially among undergraduates (Mustafa & Hussein, 2011). Hence, Jordanian undergraduates who used codeswitching were chosen to be the focus of this study. In addition, Al-

Hayek (2016) mentioned that Jordanian undergraduates highly used codeswitching in their daily communication.

The samples were chosen from the University of Jordan. The study depended on undergraduates from the University of Jordan because code switching is highly used there. Al-Hayek (2016) stated that the students of the University of Jordan use Arabic-English code switching more than other university students because it was located in the capital city of Jordan and they were more proficient in English. The study focused on a group of students in English language and literature department. Those students were selected to be the most proficient students in English. In addition, only undergraduates from the University of Jordan who study English language and literature were estimated to participate in this study. These students were chosen through snowball sampling method because they were difficult to reach.

3.3.1.1 The Target Population

Undergraduates who studied English language and literature at the University of Jordan and they used Arabic-English codeswitching in their daily communication.

► Why Undergraduates Who Study English and Literature at the University of Jordan

The University of Jordan undergraduates were considered the most university students using Arabic-English codeswitching in their daily communication (Al-Hayek, 2016). Also, this study was conducted among English language and literature students because they were more proficient in English.

3.3.2 Sampling and Samples

The study chose non-probability sampling method depending on criteria which made population vary in the chance of participating in the study. This method of sampling was chosen to appropriate the nature of population of the current study.

3.3.2.1 Non-probability Sampling Method

The current study used non-probability sampling based on the judgement of the researcher depending on criteria. The population of the study represented a big size where all target students were estimated to participate in the study if they judged by the criterion, using Arabic-English codeswitching. Thus, the study used the non-probability method of sampling to suit the size of population. Also, because of the difficulty to detect samples, some types of non-probability methods were effective in this study. Therefore, the study relied on principles of non-probability method of sampling appropriating the nature of the population.

There were several methods under the umbrella of non-probability sampling including quota sampling, convenience sampling, purposive sampling, self-selection sampling, and snowball sampling. However, this study followed mixed sampling method including snowball method and purposive method. This study applied procedures of two non-probability methods, snowball method and purposive method, to reach target samples. These two methods of sampling were used because the target samples were difficult to reach. The difficulty to reach the study's samples referred to difficulty in identifying students who used Arabic-English codeswitching in their daily communication.

3.3.2.2 Phase One: Snowball Sampling Method

This study was conducted to investigate undergraduates at English language and literature department from the University of Jordan who used Arabic-English code switching in their daily communication. However, the researcher started collecting samples by sending a message (post) to Facebook groups which include undergraduates from the University of Jordan asking for a help. These Facebook groups were sufficient helping the researcher to save time and effort. The message asked for volunteers helping to collect samples participating in the study (see Appendix A). Thus, two students replied to the message and those students were used as seeds of snowball in the study.

The researcher asked the first string of samples to provide other samples. Then, the process of snowballing continued gradually to reach the required number of samples. While the study was conducted using two methods of data collection, the procedures of sampling were as following:

1. Data for the first four questions were collected using focus group method of data collection. In the focus group data collection, the target samples were ten students. Thus, the researcher using snowball sampling to reach this number. One sample provided as much as possible, and then others took a part in snowballing until reaching the target number.
2. The fifth research question data were collected through an experiment. This question is quantitative. Although some studies considered snowball sampling for qualitative research, Khalid, Abdullah, and Kumar (2012) revealed that non-probability sampling representing by snowball method was one of quantitative sampling methods. The second phase required more samples for the study. Therefore, the snowball sampling was conducted again. The second phase of snowballing starting from the group by asking them to name other samples. Samples kept providing names until reaching the target number, 48 samples.

Table 3.1 *Procedures of Snowball Sampling in this Study*

Phases	Procedures
Phase (1)	The researcher sent messages to Facebook groups including undergraduates from University of Jordan asking for a help in collecting data from Undergraduates at English language and literature department (see Appendix A). Thus, respondents were used in snowball sampling. This message (Facebook Post) was written in Arabic aiming to reach one or more participants who are called seeds of snowball. In a substitutive manner, the researcher visited the university asking students for a help in research.
Phase (2)	Respondents were given certificates of appreciation as immediate as they respond. The certificate of appreciation was provided by the researcher to motivate participants. (See Appendix B)
Phase (3)	Respondents were appreciated and asked to provide names of others who were able to take a part in the study.
Phase (4)	The first ten reached samples were used in focus group data collection.
Phase (5)	The researcher continued to snowball using new comers, and the previous group were invested to provide more participants for the second part of the study, the self-paced reading experiment.

3.3.2.3 Phase Two: Purposive Sampling Method

The snowball method of sampling was supported by another method of sampling, the purposive method of sampling. After collecting samples in the first phase of sampling, the purposive sampling was conducted in order to achieve the real authentic representation to the population of the study. Thus, the samples were placed under criteria to achieve the target of the study. These criteria made samples representing undergraduates who study English language and literature at the University of Jordan and they used Arabic-English codeswitching in their daily communication. These criteria were applied when the researcher met samples collected through snowball sampling. Hence, the researcher ensured that samples referring to English language and literature department of the University of Jordan and using Arabic-English codeswitching in their daily communication.

The following figure showed the mixture of snowball and purposive sampling methods which has been followed in the current study.

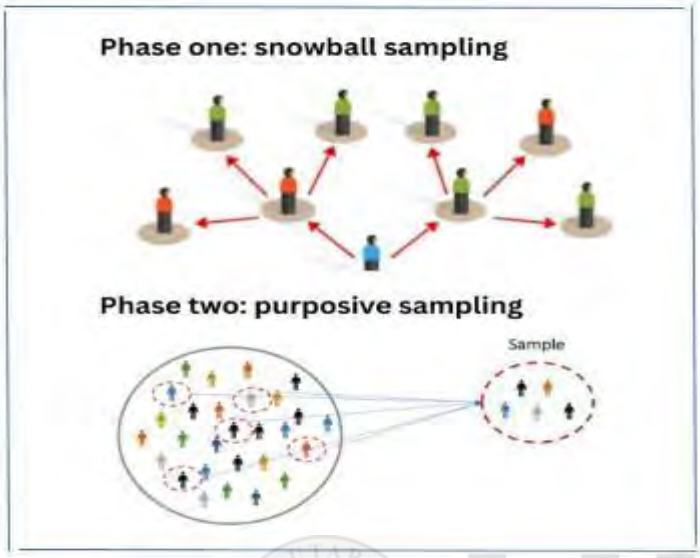


Figure 3.2 Sampling

3.3.2.4 Samples Size

This study depended on previous studies and the nature of research and research data to determine the number of samples. The first part of this study relied on a focus group. Also, most studies such as (Morgan, 1996) identified the ideal number of a focus group 10 samples. Therefore, the first part of this study included a group of ten students studying English language and literature at the University of Jordan. Then, the second part of study which relied on selfpaced reading experiment followed similar previous studies such as (Broersma, Carter, & Acheson, 2016) to identify number of samples. The study conducted an experiment among 48 samples.

3.4 Data Collection

In this section, the study discussed data collection methods and instruments. This study selected a focus group and an experiment for data collection. First, the study depended on online focus group method to collect data. However, the study combined with another method of data collection. After conducting a focus group, the study followed an experiment to answer the question relating to response time of cognates and non-cognates in codeswitching.

3.4.1 Focus Group

The focus group method of data collection was used in the study to collect data for the first three research questions. These questions investigate qualitatively types of cognates, position of codeswitching, and scope of cognate effect in the context of Arabic-English codeswitching among undergraduates in Jordan. Thus, samples provided data including Arabic-English codeswitching which later were put under analysis.

The current study depended on online focus group using one of the popular social sites. The online focus group was used in order to save time and effort and contacting with samples serenely. Also, because the study was conducted in coronavirus time when it was difficult to meet samples, online focus group was an efficient tool helping to collect data. Moreover, the study used asynchronous online focus group where contacting with samples was not coordinated in particular time, but samples participated when they were free. Thus, samples entered the discussion of the group any time during five weeks. Furthermore, the study conducted the focus group using Facebook which was the most social site used by Jordanian People. Thus, Facebook was used as the context for the asynchronous online focus group.

The focus group started by creating a Facebook group joining the ten samples in order to open the discussion and elicit data. The researcher asked the ten samples to choose five topics being discuss in this group. The samples chose to discuss topics regarding university life, a favorite character, corona routines, friendship, and the internet use. Then, the discussion started by asking the samples to comment on a post as a question for each topic. Five topics or questions were posted and there was a week for each question to be answered. Thus, the samples answer the five questions in five weeks providing Arabic-English codeswitching written data.

The following table showed procedures which were followed in the study to achieve an efficient focus group method of data collection:

Figure 3.5 Focus Group Procedures

3.4.1.1 Context of Focus Group

► Facebook Group

The current study used Facebook as the context for the focus group. Facebook platform enabled the researcher to contact with the samples easily, fast, and effectively. This platform enabled the study to elicit real authentic data from samples. Moreover, Facebook was considered as the most social networking sites used by Jordanian people (Abu-Tayeh, 2021).

In this context, the researcher used his personal Facebook profile to create a private group for the purpose of data collection. This Facebook group was under the name of "codeswitching". Then, the researcher added the samples to this group. The Facebook group was used to post five questions relating to the discussion topics. The samples were able to comment on these posts answering the questions. Finally, the answers representing Arabic-English codeswitching were collected and saved in Word-File in order to serve the analysis of the study.

3.4.2 Quantitizing Focus Group Data for the Quantitative Question of Frequency

Quantitizing was the processes of using qualitative data to serve quantitative questions. A researcher sometimes needs to use qualitative data for quantitative analysis purposes. Hence, this technique was called "quantitizing". Sandelowski, Voils, and Knafl (2009) defined quantitizing as converting qualitative into quantitative to make numerical values. Also, these data were originally collected for qualitative purpose, but the need of the study made it serving for quantitative. The current study used this technique to convert the qualitative data which collected by focus group to be quantitative.

This study relied on the mixed method methodology where research objectives involved qualitative and quantitative values. However, the need of research question four required analyzing data which were texts or Facebook comments in terms of cognate frequency. Therefore, after analyzing data of focus group qualitatively, the study took these data in order to serve quantitative data for cognate frequency. This processes of taking qualitative data for quantitative purposes was called quantitizing, and it was so popular in mixed method research.

3.4.3 Computerized Experiment

After conducting the focus group to collect data for research questions from one to four, the study used another data collection method for research question five in order to draw a full picture regarding the phenomenon. Methods of data collection depended mainly on research questions they serve. Therefore, to reach efficient data explaining response time of cognates and non-cognates in Arabic-English codeswitching among Jordanian undergraduates, the study applied a computerized deductive experiment representing self-paced reading task for this purpose.

3.4.3.1 Self-Paced Reading Task Experiment

The study used self-paced reading task in a computerized experiment. The study used this method for different reasons. First, this method was popular in linguistic studies because it was a simple efficient experiment using computerized models. Also, this study followed previous studies such as Whately (2018) in using self-paced reading experiment to discuss codeswitching and cognates. Thus, it was the most efficient way to find the difference between the response time of cognates and non-cognates.

This study used self-paced reading task in order to differentiate between response time of cognates and non-cognates in Arabic-English codeswitching among Jordanian undergraduates. This experiment was conducted to represent the effect of cognates on codeswitching. First, the researcher prepared Arabic-English codeswitching sentences on the Psychopy software. These sentences were separated between sentences including cognates and sentences with noncognates. Following snowball method of sampling, the researcher built this experiment among 48 samples. Then, the researcher asked samples to read sentences separated into words. The words of sentences appeared on a screen and the sample controlled this reading by clicking on a laptop key. The PsychoPy software recorded all movements and provided reaction time results.

3.4.3.2 The Construct of Self-Paced Reading Task in the Experiment

The study developed a self-paced reading task in order to measure response time of cognates and non-cognates in Arabic-English codeswitching among Jordanian undergraduates. The construct of self-paced reading task depended mainly on the objective and followed similar literature. The study conducted the self-paced reading task aiming to differentiate between response time of cognates and non-cognates in codeswitching. Also, similar previous studies were read carefully. Thus, the self-paced reading task was constructed including intra-sentential Arabic-English codeswitching sentences. These sentences were separated between sentences with and without cognates. Cognates were located in sentences after words from the other language. Cognates were written in these sentences representing the four investigated types of cognates, proper nouns, lexical transfers, bilingual homophones, and semantic cognates. The sentences which included cognates had been validated by three professors in the field of applied linguistcs. These professors were considered experts because they were Arabic native speakers as well as specialists in English language (see

Appendix C). The non-cognate sentences were written including Arabic and English words without cognates.

The intra-sentential codeswitching sentences were written including Arabic and English words. These sentences were adapted from the gathered data which are gained from the focus group. Also, these sentences were typed under the same column in an ExcelSheet file. These sentences were separated by three-dots (…) in order to identify sentences and enable samples to pause and rest. This ExcelSheet was organized to suit the software, PsychoPy.

3.4.3.3 Experiment Protocol

The study conducted the experiment among forty-eight samples. This number of samples was identified following similar studies such as Broersam et al. (2016). These samples represented Jordanian undergraduates who used Arabic-English codeswitching in their daily communication. Thus, the following table was used as a pre-planned step showing the protocol of experiment:

Table 3.2

The Experiment Protocol

Guidelines for interviewing	
sample	Undergraduates at the University of Jordan from the department of English language and literature who used Arabic-English codeswitching in their daily communication.
Setting	The place and time were chosen by samples/ usually at the University of Jordan.
When	Conducting the experiment among samples were the second stage of the study after conducting focus group because some examples were elicited from data of focus group.
Tool of experiment and recording	Psychopy software.
Length of time	5-10 minutes.

The researcher	The researcher informed samples before starting the experiment of these information to ensure it was an academic work. Name: Marwan Mohammad Degree: PHD student University: University Utara Malaysia Major: Applied linguistics Research Title: "Exploring cognates in relation to Arabic-Engish codeswitching among Jordanian undergraduates".
Introduction	The purpose of the experiment: The experiment was conducted to answer one of research questions in the study relating to response time of cognates and non-cognates in ArabicEnglish codeswitching. This question was used to represent the effect of cognates on codeswitching.
Background	The researcher presented background regarding the experiment and the tool (PsychoPy) to samples: The background included: "the screen opened when click start. This screen was BLACK including Arabic-English codeswitching sentences. The sentences were divided into words, so words will appear separately in each screen (the screen includes only one word either Arabic or English). The sample should PRESS ENTER directly as fast as he finish skimming and only skimming the word. Words should be read silently. The sample should not make pausing, otherwise the experiment will be repeated.
Sentences used in the experiment	The sentences in the experiment were chosen to suit the purpose, calculating response time of cognates and non-cognates. Also, the sentences were divided into two groups, four sentences with cognates (four types of cognates) and four sentences including non-cognates. These sentences and the experiment were validated by professors in the field of applied linguistics (see Appendix C). (The English translation followed the sentences) 1- mbare7 $eft el doctor - I saw the doctor yesterday 2- lazem ne7dar English films - we have to watch English films 3- ay 7ada can travel there - anyone can travel there 4- homeh they don't have money - (homeh-they) they don't have money 5- ma 3endi friends - I don't have friends 6- kteer ashya2 should change - Many things should change 7- sa7bak may help you - your friend may help you 8- shoof kaif el tree - see how the tree is

Target words for measuring response time (RT)	The experiment focused on the following cognates and non-cognates to measure the time response that samples took to read them. Cognates: 1- doctor 2- English 3- can 4- they Non-cognates: 1- friends 2-should 3- may 4- tree

3.4.3.4 Using PsychoPy Software in Self-Paced Reading Task

This study used PsychoPy software in order to differentiate between cognates and non-cognates response time among Jordanian undergraduates. The study used the experiment of self-paced reading task to measure Response Time (RT) of reading cognates and non-cognates. The selfpaced reading task had been prepared using ExcelSheet. The self-paced reading task was sentences including cognates and non-cognates. These sentences were written in one Excel column, word by word in cells. However, sentences were separated by three dots (…) to identify sentences and enable samples to pause and rest. Then, this Excel sheet was saved for PsychoPy use.

The PsychoPy-Builder was downloaded for free from PsychoPy homepage (https://www.psychopy.org/download.html). After downloading PsychoPy, the researcher installed it on a laptop. Clicking on the icon of PsychoPy opened the window of PsychoPy. The first step in using PsychoPy after opening its window was clicking on the icon (text) in the left of the screen. New screen appeared require the text of experiment. However, because the current experiment depended on prepared self-paced reading task where sentences written in one column under the name of "cog", it only required to type "$cog". Typing "$cog" in the box means that all words in this column appeared to samples in the experiment. Clicking "Okay" and going back to the main screen was done. Then, insert loop showed new screen where it was required to upload

the Excel file which included the self-paced reading task. Also, it was required to identify loop type (random or sequential).

The following step was identifying keyboard keys which control moving between words during the experiment. Then, the experiment started when clicking "Run" from the Tool bar. The next screen required the name of samples. However, for each sample, it was required to click "Run" and identify the samples. Finally, the screen started showing words to samples and moving from word to another under the control of samples. Hence, the software, PsychoPy, recorded the response time (RT).

3.5 Data Analysis

This study included two sets of data depending on research questions they serve. These sets of data included qualitative and quantitative data. The qualitative data served questions investigating types of cognates, position of codeswitching to cognates, and scope of facilitation. On the other hand, the quantitative questions investigated frequency of cognates and response time of cognates and non-cognates in Arabic-English codeswitching among Jordanian undergraduates.

3.5.1 Qualitative Data Analysis

This study adopted content analysis for qualitative data analysis. This method of analysis was chosen depending on the nature of the collected data.

3.5.1.1 Content Analysis

The study adapted the content analysis method of analysis because it was more suitable to the nature of collected data. This method was applied on qualitative deductive data. For the first phase

of preparation, these data were collected through online focus group. The data of the study included texts representing comments of Jordanian undergraduates on Facebook. These comments were collected in order to answer research questions relating to types of cognates, positions of codeswitching to cognates, and scope of cognate facilitation. The objectives of the study aimed at intra-sentential codeswitching where English and Arabic words used in the same sentence. According to the categorizing phase of data, the researcher developed pre-planed matrix table determined by previous theories and objectives. Also, the study followed coding procedures which played an important role in content analysis. In the last phase of content analysis, reporting data occurred deductively discussing results with the previous studies.

Content analysis method of data collection was followed in this study through the following procedures:

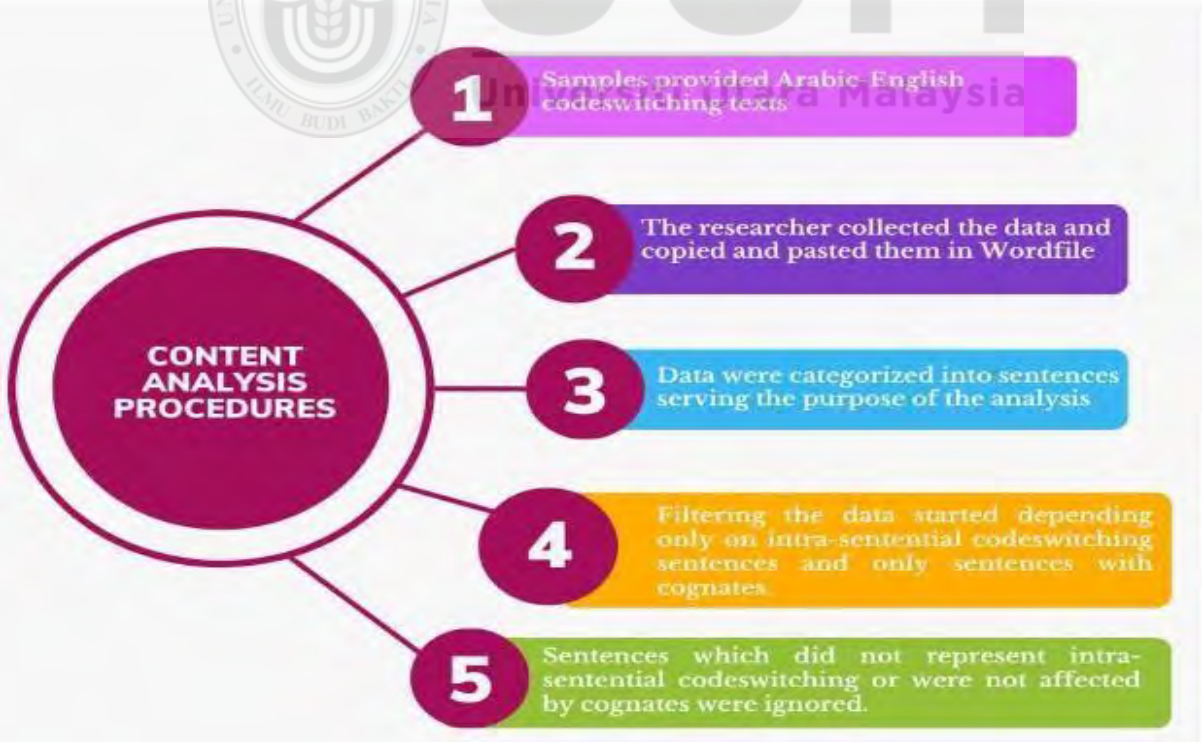


Figure 3.4 Content Analysis Procedures

3.5.1.2 Coding Method of Analysis

This study took the idea of coding for all parts of qualitative analysis. Thus, this analysis followed structured matrix table (Elo and Kyngas, 2008). Also, the process of coding required classifying data connected with analysis objectives (Elliott, 2018). Therefore, Facebook comments were selected and categorized into sentences, and then to words to serve the analysis.

This study processed manual coding analysis where the researcher himself analyzed the data. This method, manual coding analysis, was taken in this study because it provided more information to the analysis.

The first question indicated the types of cognates affecting codeswitching. According to the previous theories, cognates facilitated codeswitching including proper nouns, lexical transfers, bilingual homophones, and semantic cognates. The second question investigated position of codeswitching to cognates. Clyne (1967, 1972, 1977, 1980, and 2003) explained that cognates affected anticipating, preceding, and combining words. Also, the third qualitative question investigated scope of cognate facilitation whether it was within word level, clause level, or sentence level. The analysis of these questions aimed to explain the triggering effect of cognates on Arabic-English codeswitching among Jordanian undergraduates. Thus, the matrix table was used for the aim of this analysis (see Appendix D).

3.5.2 Quantitative Analysis

This study conducted quantitative analysis on a part of the study where the data were numerical and can be measured. In this study, the quantitative part included two questions investigating frequency of cognates and response time of cognates and non-cognates in Arabic-English codeswitching among undergraduates in Jordan.

3.5.2.1 AntConc Software for Frquency Analysis

The fourth question of the study related to the frequency of cognates in Arabic-English codeswitching. The study conducted the analysis of frequency using AntConc Software. This software was applicable for written-authentic texts. Also, the AntConc Software facilitated analysis of large amount of data. Antconc was a free downloaded software enabled several corpus analysis purposes (Anthony, 2005). This software analyzes through counting the frequency of words within a txt-file. Also, this software was easy to use and can be beneficial through four to five steps. Therefore, this study used Antconc in order to find out the frequency of cognates in Arabic-English codeswitching among undergraduates in Jordan.

The Frequency analysis using Antconc is conducted through following steps:

1. The data were Facebook comments collected through focus group representing Arabic-English codeswitching among undergraduates in Jordan.

2. The analysis of cognates was done after analysis serving previous questions. In the previous analysis, the cognates were already identified in the codeswitching texts. Thus, the current analysis used the previous analysis.

3. The data were coded in order to identify cognates to serve Antconc analysis. This coding occurred by changing each cognate according to its type. Thus, cognates were replaced by words cogproper, coglexical, coghomophone, and cogsemantic.

4. Then, the Word File is saved as Plaintext File to accommodate Antconc Software.

5. Uploading the file into the software happened. After that, the tool "word list" was chosen to show the frequency of coded cognates. The following figure shows the window of AntConc software:

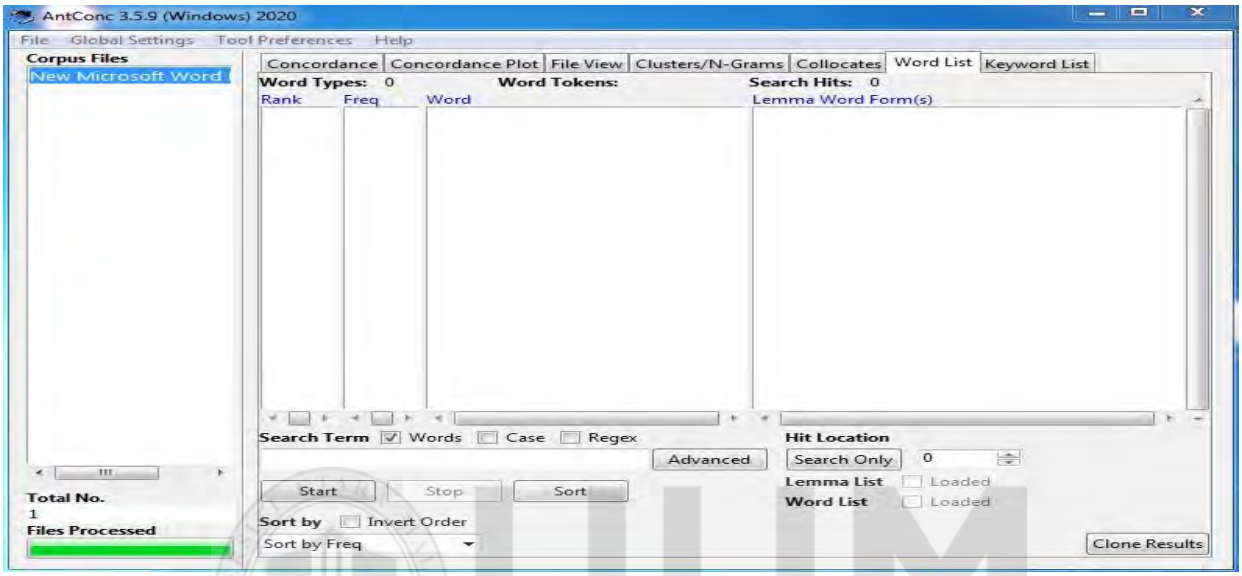


Figure 3.5 AntConc Platform

6. The frequency of cognates was calculated and represented through percentage using Microsoft Excel chart.

7. The criterion for the efficiency of cognate frequency in codeswitching was identified by Broersma (2009). Broersma (2009) stated that 4.7% of cognate frequency was an efficient result when the two languages of codeswitching belong to a different family language.

3.5.2.2 Microsoft Excel Analysis for Response Time Analysis

One of the research questions investigated response time of cognates and non-cognates among undergraduates in Jordan. The data were collected through self-paced reading experiment using PsychoPy software. This software provided results of each sample. Then, the results were imported

into Excel sheets to make it readable. Using the Excel calculation for average, target words had been under the processes of calculation to know the average of response time among all samples. This calculation is (=Average (sheet1: sheet48!..)).

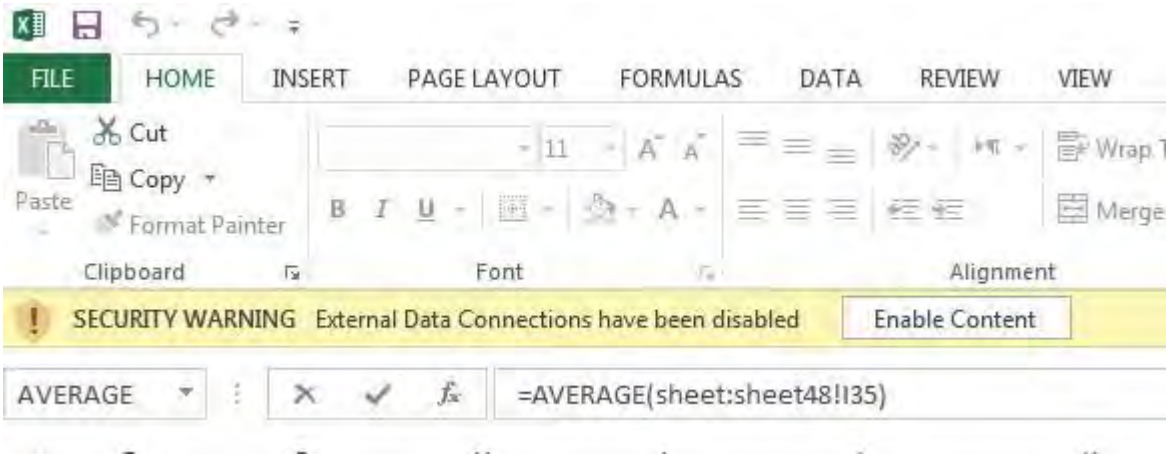


Figure 3.6 Excel Calculation Platform

Using another Excel sheet, the researcher organized the target words with their average response time under two groups, cognates and non-cognates. Then, the researcher chose an Excel Chart to show results and contrast between cognates and non-cognates.

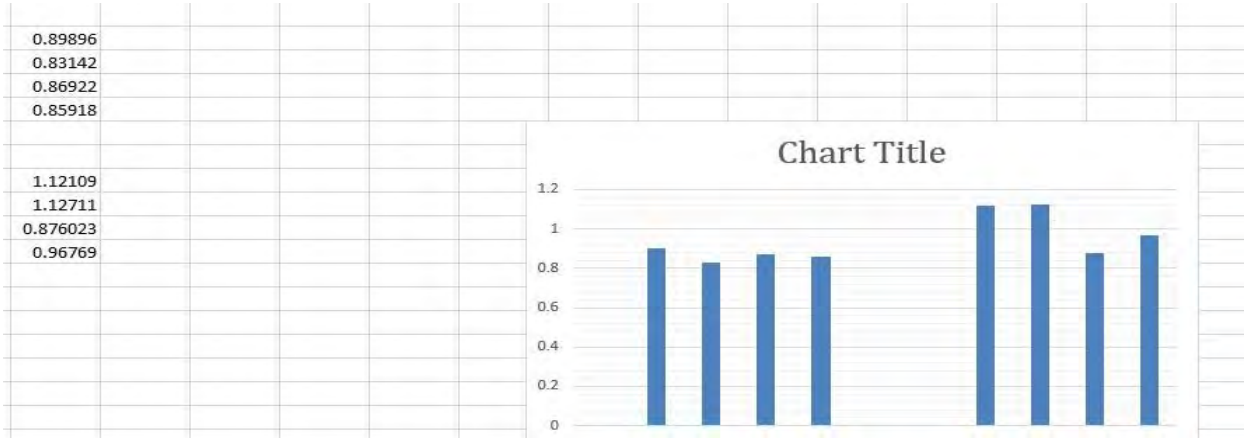


Figure 3.7 Excel Chart Platform

3.6 Summary of the Research Design to be Employed in the Research

The study was designed following mixed method to investigate the causal relationship between cognates and code switching. This section was conducted to tie the research elements with each other. Therefore, the following table represented the study elements and how they were connected:

Table 3.3

Summary of the Research Design to be Employed in the Research

Research Objective	Research Question	Data Collection Method	Data Analysis
To identify types of cognates facilitating Arabic-English codeswitching among undergraduates in Jordan.	What are the types of cognates affecting Arabic-English codeswitching?	Focus group	Content analysis
To identify positions of codeswitching to cognates	Where do codeswitches occur to cognates?	Focus group	Content analysis
To investigate the scope of cognate facilitation	What is the scope level of triggering effect of cognates on codeswitching?	Focus group	Content analysis
To calculate the frequency of cognates in Arabic-English codeswitching	How frequently do cognates appear in Arabic-English codeswitching?	Focus group (Quantitizing data)	Antconc Software
To contrast between Response Time (RT) of cognates and noncognates in codeswitching.	What is the difference between response time of cognates and non-cognates in codeswitching?	Self-paced reading experiment	Microsoft Excel Analysis

3.7 Pilot Study

The researcher did a pilot study as an essential primary procedure to test the research methodology. This procedure enabled the researcher to be familiar with the study protocol at research proposal. This process represented collecting small amount of data to be analyzed and discussed at the

beginning stage of the research. Also, the pilot study enabled avoiding future flaws regarding data collection, analysis, and discussion.

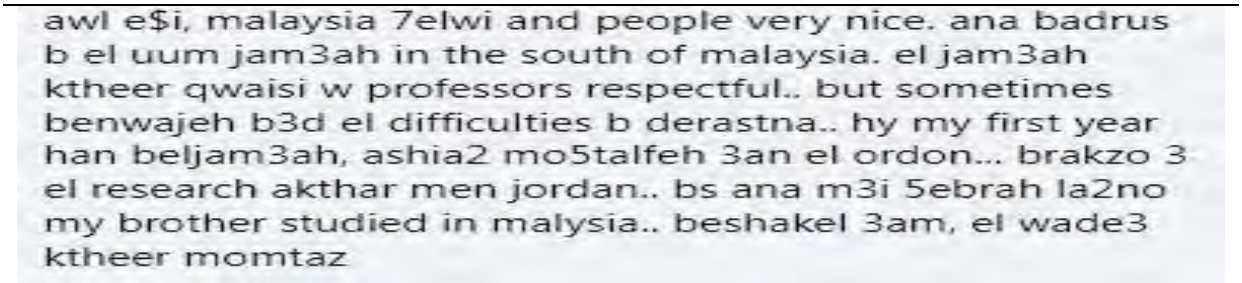
The pilot study was divided into two parts depending on the methods. The first part included three qualitative research questions discussing types of cognates, positions of codeswitching, and scope of cognate facilitation. Data for these questions collected through focus group. Then, the data were analyzed following content analysis controlled by previous theories relating cognates to codeswitching. The second part of the research was the quantitative part. This part starts with the question of frequency. The study used the collected data of codeswitching to investigate frequency of cognates. The analysis of frequency was done using Antconc software. Also, the second part included the question of response time of cognates and non-cognates. The study used a self-paced reading experiment using PsychoPy software in order to investigate response time of cognates and non-cognates in codeswitching.

Pilot Study: Part (1) Procedures of Data Collection and Analysis

1. The first procedure indicated asking two Jordanian students at Universiti Utara Malaysia who used Arabic-English codeswitching to comment on a Facebook post. The researcher asked the students to talk about their life in Malaysia. The data were collected and stored in Word-file. Then, these data were separated into sentences to serve the analysis.

Table 3.4

Data Collection for Pilot Study.


awl e$i, malaysia 7elwi and people very nice. ana badrus b el uum jam3ah in the south of malaysia. el jam3ah ktheer qwaisi w professors respectful.. but sometimes benwajeh b3d el difficulties b derastna.. hy my first year han beljam3ah, ashia2 mo5talfeh 3an el ordon... brakzo 3 el research akthar men jordan.. bs ana m3i 5ebrah la2no my brother studied in malysia.. beshakel 3am, el wade3 ktheer momtaz

Awl e$i, **Malaysia** 7elwi and people very nice

- (English translation) : First, Malaysia is beautiful and the people are very nice

Ana badrus b el uum, jam3ah in the south of **Malaysia**

- (English translation) : I study at UUM, the university in the south (north) of Malaysia

El jam3ah ktheer qwaisi w **proffessors** respectful

- (English translation) : The university is very good and the professors are respectful

But sometimes benwajeh b3d el difficulties b derastna -
(English translation) : But sometimes

Hy my first year han beljam3ah

- (English translation) : This is my first year here in the university

Ashia2 mo5talfeh 3an el ordon

- (English translation) : Things are different from Jordan

Brakzo 3 el research akthar men **Jordan**

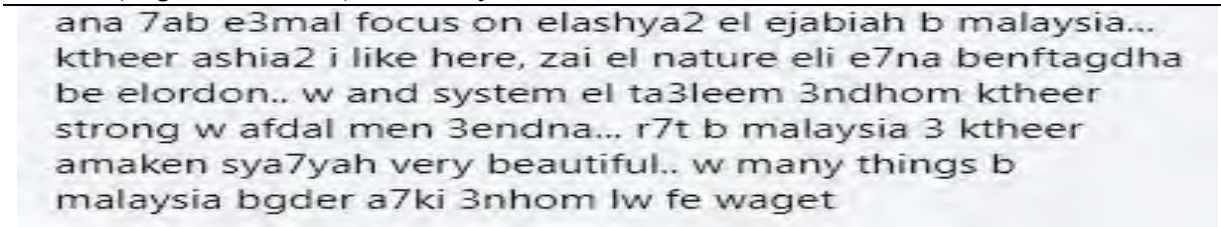
- (English translation) : They focus on research more than in Jordan

Bs ana m3i 5ebrah la2no my brother studied in **malysia**

- (English translation) : But I have experience because my brother studied in Malaysia

Beshakel 3am, el wade3 ktheer momtaz

- (English translation) : Generally, the situation is excellent


ana 7ab e3mal focus on elashya2 el ejabiah b malaysia... ktheer ashia2 i like here, zai el nature eli e7na benftagdha be elordon.. w and system el ta3leem 3ndhom ktheer strong w afdal men 3endna... r7t b malaysia 3 ktheer amaken sya7yah very beautiful.. w many things b malaysia bgder a7ki 3nhom lw fe waget

Ana 7ab e3mal focus on elashya2 el ejabiah b **Malaysia**

- (English translation) : I would like to focus on positive things in Malaysia

Ktheer ashia2 I like here, zai el nature eli e7na benftagdha be **elordon**

- (English translation) : I like many things here such as the nature which we miss in Jordan

W and system el ta3leem 3ndhom ktheer strong w afdal men 3endna
- (English translation) : Also, their system of education is very strong and better than what we have.

R7t b **Malaysia** 3 ktheer amaken sya7yah very beautiful
- (English translation) : I visited many tourist places in Malaysia and they were very beautiful

W many things b **malaysia** bgder a7ki 3nhom lw fe waget
- (English translation) : and I can talk about many things in Malaysia if I had time

2. The second procedure was identifying types of cognates, place of codeswitcing to cognates, and scope of cognate facilitation. This process of analysis was done following content analysis. These procedures were done to answer the first three research questions qualitatively.

► **Types of Cognates**

Table 3.5

Types of Cognates for Pilot Study

No	Sentence	The Cognate	The Type of Cognate	Analysis
1	Awl e$i, **Malaysia** 7elwi and people very nice First, Malaysia is beautiful and the people are very nice	Malaysia	Proper noun	The codeswitching sentence affected by the proper noun.
2	Ana badrus b el uum, jam3ah in the south of **Malaysia** I study at UUM, the university in the south (north) of Malaysia	Malaysia	Proper noun	The codeswitching sentence affected by the proper noun

3	El jam3ah ktheer qwaisi w **proffessors** respectful The university is very good and the professors are respectful	Professors	Lexical transfer	The codeswitching sentence affected by the lexical transfer
4	**Hy** my first year han beljam3ah This is my first year here in the university	Hy	Bilingual homophone	The codeswitching sentence affected by the lexical transfer
5	Brakzo 3 el research akthar men **Jordan** They focus on research more than in Jordan	Jordan	Proper noun	The codeswitching sentence affected by the proper noun
6	Bs ana m3i 5ebrah la2no my brother studied in **Malaysia** But I have experience because my brother studied in Malaysia	Malaysia	Proper noun	The codeswitching sentence affected by the proper noun
7	Ana 7ab e3mal focus on elashya2 el ejabiah b **Malaysia** I would like to focus on positive things in Malaysia	Malaysia	Proper noun	The codeswitching sentence affected by the proper noun
8	Ktheer ashia2 I like here, zai el nature eli e7na benftagdha be **elordon** I like many things here such as the nature which we miss in Jordan	Ordon (Jordan)	Proper noun	The codeswitching sentence affected by the proper noun
9	R7t b **Malaysia** 3 ktheer amaken sya7yah very beautiful I visited many tourist places in Malaysia and they were very beautiful	Malaysia	Proper noun	The codeswitching sentence affected by the proper noun

10	W many things b **malaysia** bgder a7ki 3nhom lw fe waget and I can talk about many things in Malaysia if I had time	Malaysia	Proper noun	The codeswitching sentence affected by the proper noun

► **Positions of Codeswitching**

Table 3.6

Positions of Codeswitching for Pilot S

No	**Sentence**	**Cognate as a focus**	**Place of Codeswithcing**	**Analysis**
1	Awl e$i, **Malaysia** 7elwi and people very nice	Malaysia	combining	The cognate facilitates combining codeswitching
2	Ana badrus b el uum, jam3ah in the south of **Malaysia**	Malaysia	Preceding	The cognate facilitates preceding codeswitching
3	El jam3ah ktheer qwaisi w **proffessors** respectful	Professors	Preceding	The cognate facilitates preceding codeswitching
4	**Hy** my first year han beljam3ah	Hy	Following	The cognate facilitates following codeswitching
5	Brakzo 3 el research akthar men **Jordan**	Jordan	Preceding	The cognate facilitates preceding codeswitching
6	Bs ana m3i 5ebrah la2no my brother studied in **Malaysia**	Malaysia	Preceding	The cognate facilitates preceding codeswitching

7	Ana 7ab e3mal focus on elashya2 el ejabiah b **Malaysia**	Malaysia	Preceding	The cognate facilitates preceding codeswitching
8	Ktheer ashia2 I like here, zai el nature eli e7na benftagdha be **elordon**	Ordon (Jordan)	Preceding	The cognate facilitates preceding codeswitching
9	R7t b **Malaysia** 3 ktheer amaken sya7yah very beautiful	Malaysia	Combining	The cognate facilitates combining codeswitching
10	W many things b **malaysia** bgder a7ki 3nhom lw fe waget	Malaysia	Combining	The cognate facilitates combining codeswitching

►Scope of Cognate Facilitation

Table 3.7

Scope of Cognates for Pilot Study

No	Sentence	Cognate as a focus	Scope of Facilitation	Analysis
1	Awl e$i, **Malaysia** 7elwi and people very nice	Malaysia	Word level	The cognate facilitates codeswitching in word level
2	Ana badrus b el uum, jam3ah in the south of **Malaysia**	Malaysia	Clause level	The cognate facilitates codeswitching in clause level
3	El jam3ah ktheer qwaisi w **proffessors** respectful	Professors	Sentence level	The cognate facilitates codeswitching in sentence level
4	**Hy** my first year han beljam3ah	Hy	Word level	The cognate facilitates codeswitching in word level

5	Brakzo 3 el research akthar men **Jordan**	Jordan	Word level	The cognate facilitates codeswitching in word level
6	Bs ana m3i 5ebrah la2no my brother studied in **Malaysia**	Malaysia	Sentence level	The cognate facilitates codeswitching in sentence level
7	Ana 7ab e3mal focus on elashya2 el ejabiah b **Malaysia**	Malaysia	Word level	The cognate facilitates codeswitching in word level
8	Ktheer ashia2 I like here, zai el nature eli e7na benftagdha be **elordon**	Ordon (Jordan)	Sentence level	The cognate facilitates codeswitching in sentence level
9	R7t b **Malaysia** 3 ktheer amaken sya7yah very beautiful	Malaysia	Word level	The cognate facilitates codeswitching in word level
10	W many things b **malaysia** bgder a7ki 3nhom lw fe waget	Malaysia	Word level	The cognate facilitates codeswitching in word level

► **Cognate Frequency**

3. The third procedure required saving the data (comments) in Word file. Then, it was required to change Word-file into Plain-text in order to be uploaded into Antconc software. Uploading the file on Antconc software and running the software provided list of word frequency. This procedure was followed to answer the fourth research question concerning with cognate frequency. The results showed:

- ***Total of words = 93***

- ***Cognates= 10 (8 are proper nouns / 1 lexical transfer / 1 semantic cognate)***

This frequency can be represented by Word Chart (Pie):

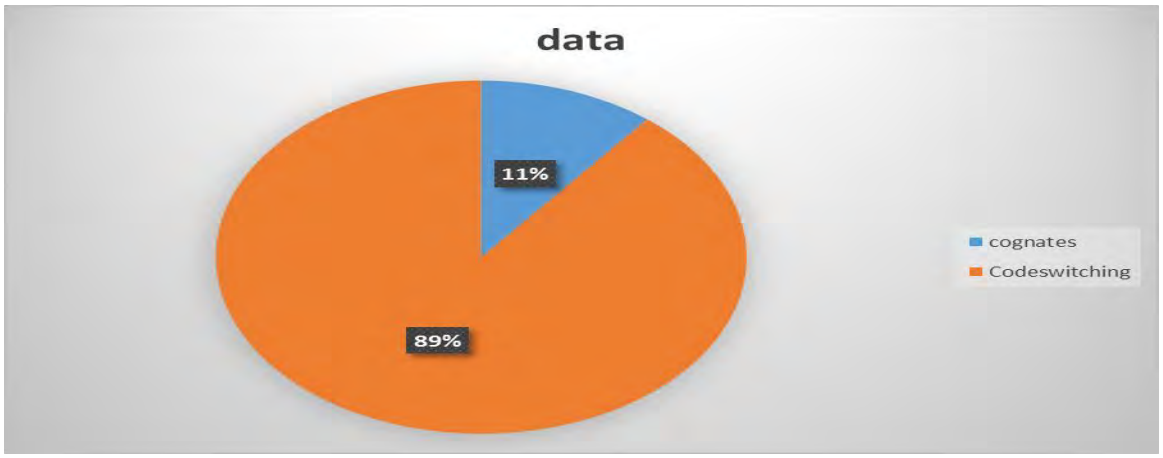


Figure 3.8 Cognate Frequency for Pilot Study

► Response Time of Cognates

4. The fourth procedure relating to the fifth research question concerned with Response Time (RT) of cognates and non-cognates in codeswitching. The researcher asked five Jordanian students who study at the Universiti Utara Malaysia to participate in the self-paced reading experiment using PsychoPy software. The experiment was conducted and the results reveal:

Table 3.8

Response Time of Cognates for Pilot Study

	Cognates	***Average of Response Time***	***Non-cognates***	***Response Time***
1	***Malaysia***	*0.79133*	***Languages***	*0.99537*
2	***Doctors***	*0.73097*	***Students***	*0.87425*
3	***Very***	*0.66957*	***Very***	*0.69629*
4	***Can***	*0.68572*	***May***	*0.72318*

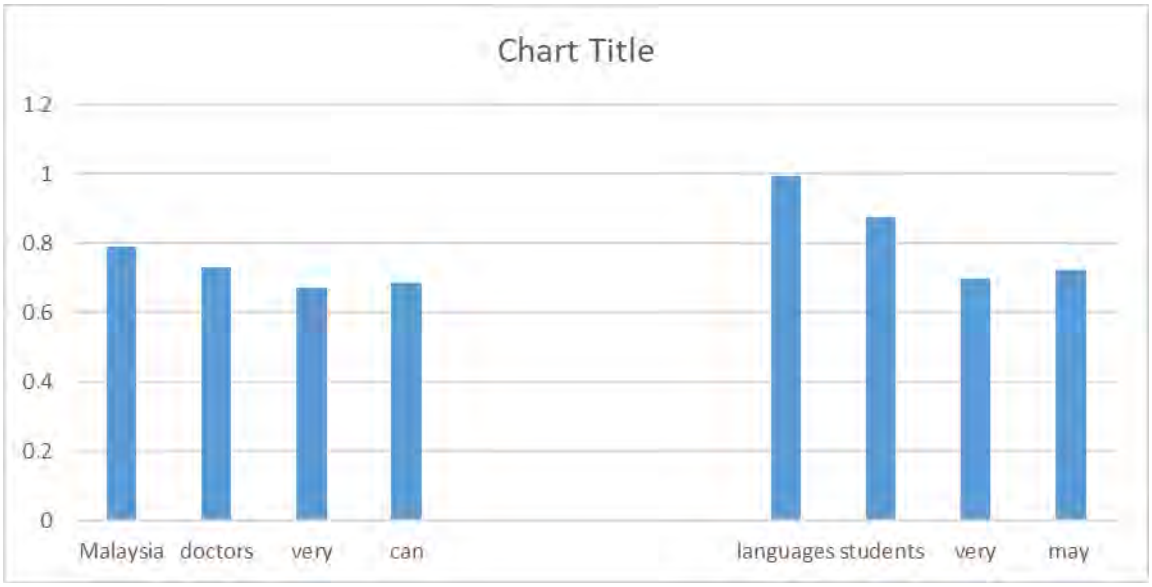


Figure 3.9 Response Time of Cognates for Pilot Study

Pilot Study: Part (2) Findings and Discussion

Research Question One investigated types of cognates facilitating Arabic-English codeswitching. The findings revealed that only proper nouns were cognates facilitate codeswitching. The findings supported studies such as Broersma and DeBot (2006) claiming that proper nouns were most likely to be cognates affecting codeswitching. However, the findings did not provide any evidence for the validity of semantic cognates facilitating codeswitching.

Research Question Two investigated positions of codeswitching to cognates. The findings showed that preceding codeswitching was the most affected by cognates. Some findings revealed that combining codeswitching were affected by cognates. However, there was weak evidence regarding the following codeswitching. The findings contrasted with the Triggering Theory of Clyne (1967; 2003) that codeswitches were affected by cognates when they follow cognates.

Research Question Three investigated scope of cognates facilitating codeswitching. The findings provided that most of the cognate facilitation was in word level. According to the findings,

cognates facilitate neighboring words, words that directly preceding cognates. These findings support the claim of Clyne (1967; 2003) in the Triggering Theory. Also, the findings contrasted with the claim of Broersma and DeBot (2006) that cognates affected codeswitching within the same clause.

Research Question Four aimed to calculate the frequency of cognates in Arabic-English codeswitching. Cognates constituted 11% of words in codeswitching. This was high percentage revealing that cognates facilitating codeswitching. The results were compared to the findings of Broersma and DeBot (2006). Broersma and DeBot (2006) found that cognates facilitated codeswitching where cognates constituted 4% of words in codeswitching.

Research Question Five aimed to differentiate between cognates and non-cognates in Response Time among Jordanian undergraduates. The results revealed that cognates are processed faster than non-cognates. These results meant that cognates were easily practiced by bilinguals in codeswitching. Implicitly, cognates had advantage over non-cognates in bilingual speech which make them facilitate codeswitching.

Pilot Study: Part (3) Validity of Data Collection and Analysis

The pilot study aimed to validate data collection and data analysis tools. This study adopted focus group and self-paced reading experiment for data collection. Data for first three questions were analyzed following content analysis. On the other hand, data for the fourth question were analyzed using Antconc software. Data for the last question were analyzed using Microsoft Excel calculations. Summing up, the pilot study revealed that the tools of data collection and data analysis were valid and efficient in this study.

3.8 Summary

The methodology of the study was explained in this chapter. This study depended on mixed mood method. Depending on the research questions and objectives, the study was divided into two parts, qualitative and quantitative. The study adopted the mixed method where all research design serves the answer of what, how, why, where, when cognates facilitate codeswitching.

Furthermore, the population of the study were represented through undergraduates from the University of Jordan at English language and literature department. These students used ArabicEnglish code switching in their daily life. The study relied on non-probability methods including snowball and purposive methods of sampling.

Data of the study were collected through a focus group and experiment. These data were analyzed using content analysis, Antconc software for word frequency, and Microsoft Excel calculations. Moreover, the study followed precautionary procedures to keep ethical principles. Finally, the study had been piloted to avoid future problems and examine the validity of data collection and analysis methods. The pilot study showed positive results regarding to both data collection and analysis methods and tools.

CHAPTER FOUR DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter represents data analysis and findings of the study. The chapter started showing participant's profiles. Next, the chapter provided the qualitative analysis subtitling the research questions. These subtitles included types of cognates, positions of codeswitching to cognates, and

scope of facilitation. Each analysis part is followed by its findings. Then, the chapter provided the quantitative part including frequency of cognates and response time of cognates.

Finally, the chapter ends with the summary of the chapter.

4.2 Participants' Profiles

The population were identified by undergraduates from The University of Jordan at the English language and literature department. However, samples of the study were difficult to reach except by snowball method. By using snowball sampling method, 10 students were chosen to participate in first method of data collection. The number of students was identified to accommodate the focus group of data collection. On the other hand, the same sampling method, snowball sampling method, was used upon participants of the second data collection method. The second data collection method was self-paced reading experiment. Hence, 48 participants participated in the experiment of self-paced reading task.

The participants in this study were asked to provide information about themselves. Thus, the participants providing information about themselves including gender, age, city, university, department, year of study, type of school they study in, parents' mother tongue, and the frequency of codeswitching use. The participants' information was presented as the following: Table 4.1

Participants' profiles

- **Focus Group Participants' Profiles**

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Gender	Male	female	female	male	female	female	female	Female	female	female
Age	21	20	21	21	21	22	21	20	20	21
City	Alkarak	Amman	Amman	Alzarqa	Alsalt	Amman	Alzarqa	Amman	Jerash	Irbid

University	University of Jordan	University of Jordan	University of Jordan	University of Jordan	University of Jordan	University of Jordan	University of Jordan	University of Jordan	University of Jordan	University of Jordan
Department	English language and literature	English language and literature	English language and literature	English language and literature	English language and literature	English language and literature	English language and literature	English language and literature	English language and literature	English language and literature
Year of study	3	2	3	3	3	4	3	2	2	3
Type of school participants studied in	Public school	Public school	Public school	Public school	Public school	Private school	Private and public school	Private school	Public school	Public school
Parents' mother tongue	Arabic	Arabic	Arabic	Arabic	Arabic	Arabic	Arabic	Arabic	Arabic	Arabic
The frequency of codeswitching use	Usually	Always	sometimes	sometimes	always	always	usually	always	always	usually

- **Experiment Participants' Profiles**

Participants	**Gender**	**Age**	**City**	**University**	**Department**	**Year Of study**	**Type Of School**	**Parents' Mother Tongue**
1	Male	20	Amman	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
2	Male	20	Amman	The University of Jordan	Department Of English language and literature	2	Public school	Arabic

3	Male	20	Zarqa	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
4	Female	21	Amman	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
5	Male	19	Irbid	The University of Jordan	Department Of English language and literature	1	Public school	Arabic
6	Female	22	Amman	The University of Jordan	Department Of English language and literature	4	Private school	Arabic
7	Male	20	Amman	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
8	Male	21	Amman	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
9	Male	21	Amman	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
10	Male	21	Madaba	The University of Jordan	Department Of English language and literature	3	Public school	Arabic

11	Male	20	Zarqa	The University of Jordan	Department Of English language and literature	2	Private school	Arabic
12	Male	21	Saudi Arabia	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
13	Female	20	Irbid	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
14	Female	21	Amman	The University of Jordan	Department Of English language and literature	3	Private school	Arabic
15	Female	21	Irbid	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
16	Female	21	Amman	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
17	Male	20	Amman	The University of Jordan	Department Of English language and literature	2	Private school	Father: Arabic Mother: Russian
18	Male	20	Jerash	The University of Jordan	Department Of English language and literature	2	Public school	Arabic

19	Male	20	Jerash	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
20	Male	21	Zarqa	The University of Jordan	Department Of English language and literature	3	Private school	Arabic
21	Male	22	Madaba	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
22	Male	22	Tafilah	The University of Jordan	Department Of English language and literature	4	Public school	Arabic
23	Male	19	Amman	The University of Jordan	Department Of English language and literature	1	Public school	Arabic
24	Male	19	Amman	The University of Jordan	Department Of English language and literature	1	Public school	Arabic
25	Male	19	Mafraq	The University of Jordan	Department Of English language and literature	1	Public school	Arabic
26	Male	19	Irbid	The University of Jordan	Department Of English language and literature	1	Private school	Arabic
27	Female	20	Amman	The University of Jordan	Department Of English language and	2	Public school	Arabic

					literature			
28	Male	22	Tafilah	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
29	Male	20	Karak	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
30	Female	20	Amman	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
31	Female	20	Amman	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
32	Male	20	Zarqa	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
33	Male	20	Madaba	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
34	Male	20	Amman	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
35	Male	20	Amman	The University of Jordan	Department Of English language and literature	2	Public school	Arabic

36	Female	22	Amman	The University of Jordan	Department Of English language and literature	4	Public school	Arabic

37	Female	22	Karak	The University of Jordan	Department Of English language and literature	4	Public school	Arabic
38	Male	19	Mafraq	The University of Jordan	Department Of English language and literature	1	Public school	Arabic
39	Female	21	Madaba	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
40	Male	20	Jerash	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
41	Male	20	Jerash	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
42	Male	20	Irbid	The University of Jordan	Department Of English language and literature	2	Public school	Arabic
43	Male	20	Amman	The University of Jordan	Department Of English language and literature	2	Public school	Arabic

44	Female	19	Amman	The University of Jordan	Department Of English language and literature	1	Public school	Arabic
45	Female	19	Amman	The University of Jordan	Department Of English language and literature	1	Public school	Arabic
46	Male	21	Irbid	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
47	Male	21	Irbid	The University of Jordan	Department Of English language and literature	3	Public school	Arabic
48	Male	21	Ma'an	The University of Jordan	Department Of English language	3	Public school	Arabic

4.3 Qualitative Analysis

Data were collected through online focus group using Facebook group. The researcher leaded the discussion raising five questions to be answered by participants. These questions related to topics suggested by participants themselves. All questions answered by all participants. Thus, 50 answers were collected looking like paragraphs. After answering the questions, the researcher used these data in manual content analysis. The first three qualitative research questions relating to cognate types, codeswitching positions, and scope of facilitation were analyzed by manual content analysis. Then, the data provided by participants had been separated into sentences to accommodate analysis of research questions as well as the theories of triggering codeswitching. These data were used in a matrix table (see Appendix D) to separate sentences with and without cognates.

4.3.1 Describing the Data:

Data were collected using online focus group. Participants were asked via Facebook group about five topics they would like to discuss in Facebook comments using Arabic-English codeswitching (see Appendix F). Therefore, students chose the following five topics:

1. University life
2. A favorite character
3. Corona routines
4. Friendship
5. Internet use

The researcher controlled asking questions to the group of participants through Facebook Group. This Facebook group included only the researcher and the participants. Before starting with data analysis, it was important to explain some issues appeared in data. It was found that the participants use English orthography, numbers and symbols in Facebook Arabic-English codeswitching. There were numbers and symbols in the written Arabic-English codeswitching by participants. Also, participants used to use English orthography for Arabic words. Therefore, the study made a part of the pre-discussion in order to explain HOW and WHY this form of writing was used. Questions were raised among participants in order to explain this phenomenon.

The researcher used the same group of participants to explain this style of written codeswitching. Asking students about and observing their comments for why and how they used Arabic-English codeswitching in their Facebook communication, showed good results. Participants, and all codeswitching users via Facebook, used English orthography for both English and Arabic words. However, some sounds in Arabic had no equivalent in English, participants used numbers and

symbols in order to fill this gap of in equivalent sounds. The following table represented all Arabic sounds with their transcription as they used by participants:

Table 4.2

Arabic Sounds and their Transcriptions as Used by Participants

Transliteration		Phonetic Description
Arabic Letters	**Symbol**	
ء	2/ ?	glottal stop
ب	B	voiced bilabial stop
ت	T	voiceless denti- alveolar stop
ث	th	voiceless dental fricative
ج	J	voiced palato-alveolar fricative
ح	7 / h	voiceless pharyngeal fricative
خ	5	voiceless uvular fricative
د	D	voiced denti-alveolar stop
ذ	th	voiced dental fricative
ر	R	alveolar trill /tap
ز	Z	voiced denti-alveolar fricative
س	S	voiceless denti-alveolar fricative
ش	Sh / $	voiceless palato-alveolar fricative
ص	s’ / 9	voiceless alveolar fricative (emphatic)
ض	9’	voiced denti-alveolar stop(emphatic)
ط	6	voiceless denti-alveolar stop (emphatic)
ظ	6’	voiced interdental fricative (emphatic)
ع	3	voiced pharyngeal fricative
غ	3’	voiced uvular fricative
ف	F	voiceless labio-dental fricative
ق	8/ g	voiceless uvular stop
ك	K	voiceless velar stop
ل	L	lateral alveolar
م	m	bilabial nasal
ن	N	alveolar nasal
ه	H	glottal fricative

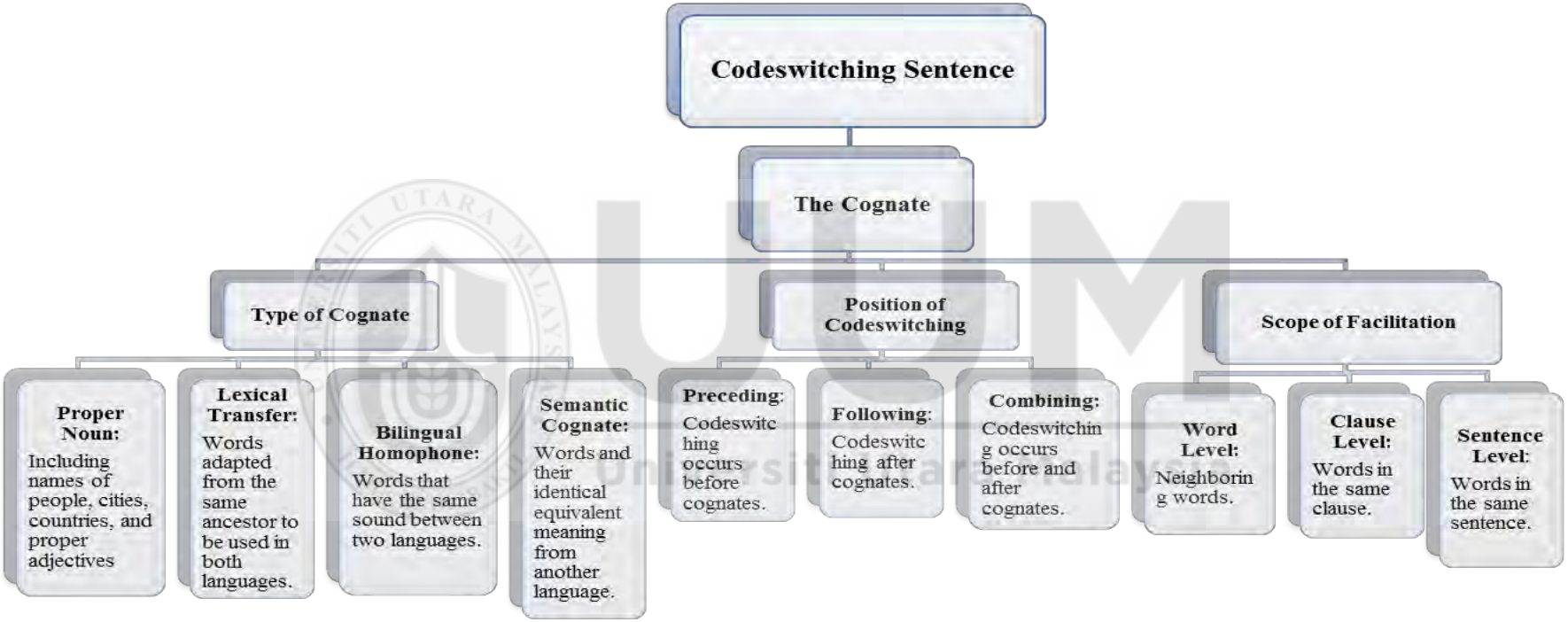
ا	A	Front open unrounded vowel
و	w/o/u	Back close rounded vowel
ي	y/e/ee/i	Front close unrounded vowel

The same group of participants were asked why they use English orthography, numbers and symbols for Arabic sounds. The 10 participants provided the study with reasons, so the reasons were organized in a table (see Appendix E).

4.3.2 Content Analysis

After analyzing data and identifying sentences which included Arabic-English codeswitching, the analysis started in terms of types of cognates, position of codeswitching, and scope of facilitation. Thus, the content analysis continued to answer the qualitative questions of the study.

For more understanding, the following figure showed the nature of this analysis:



Figuer 4.1 Exeplanation of Content Analysis

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Also, the following figure showed more explanation through an example for the analysis:

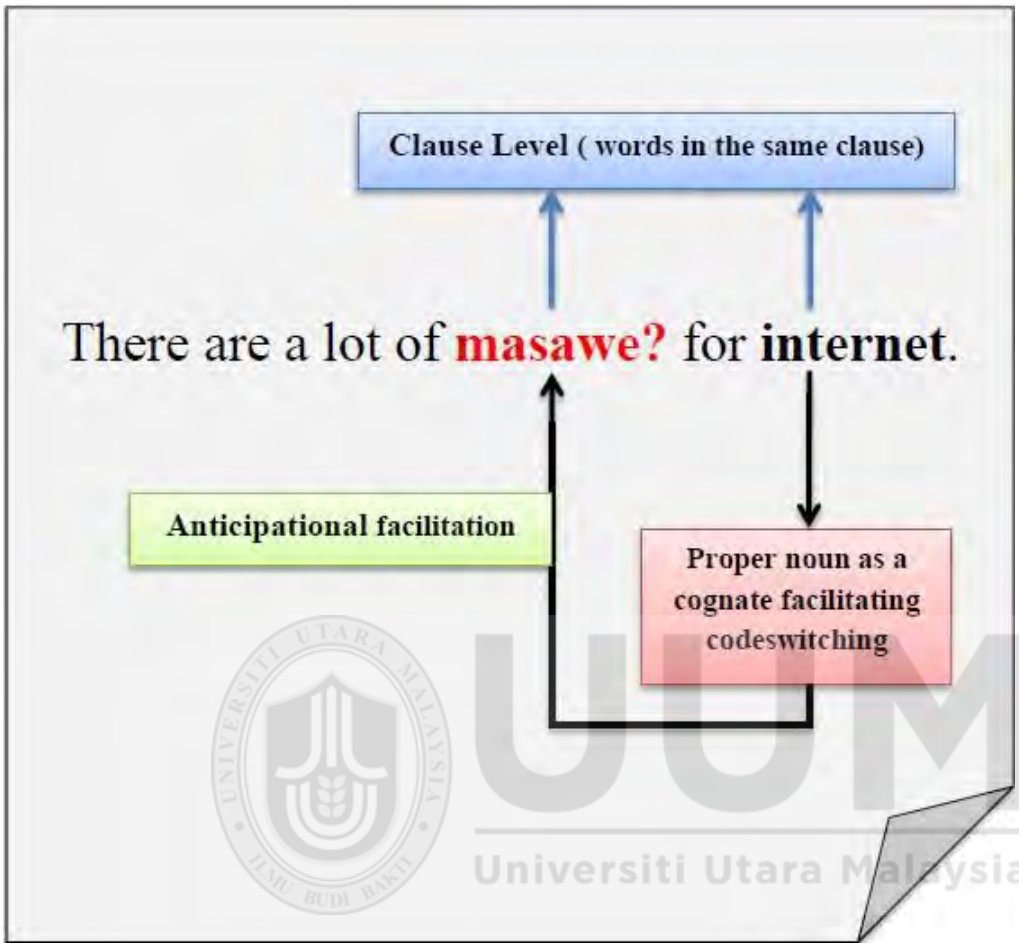


Figure 4.2 Example of Content Analysis

4.3.3 Research Question One: Types of Cognates Affecting Codeswitching

Cognates had been considered facilitating codeswitching. However, types of cognates affecting codeswitching had not been agreed among scholars. Researchers differed whether cognates affecting codeswitching including proper nouns, lexical transfers, bilingual homophones, or semantic cognates. Therefore, the data were collected representing ArabicEnglish codeswitching among undergraduates in Jordan to discuss this issue. The following explanation depended on the table above investigating types of cognates affecting ArabicEnglish codeswitching among Jordanian undergraduates.

4.3.3.1 Proper Nouns

Proper nouns referred to names of people, places, and objects (Dweik & Al-Sayyed, 2016). Proper nouns were identified as nouns referring to an individual or object which was known for a speaker and listener. Labat et al. (2019) considered proper nouns as cognates. Labat et al. (2019) defined proper nouns including names of people, cities, companies, countries, and their derivations which were called proper adjectives such as “American”. The data of Arabic-English codeswitching were analyzed and the following proper nouns identified in the content analysis table above.

4.3.3.1.1 Proper Adjectives

Proper adjectives were considered types of proper nouns facilitating codeswitching. The data were analyzed through pre-scheduled content analysis table. The data showed many examples representing proper adjectives facilitating Arabic-English codeswitching among undergraduates in Jordan. Thus, the following sentences were taken from the table showing the effect of proper adjectives.

(1) I am studying bel jam3ah al ***ordoniah***

(2) Ta5asus ***English*** language and literature

(8) A7la madeh a5dthaa he ***American*** literature, l2nu kant m3 my favourite professor.

(41) ra7 a7ki 3n ***French*** writer esmu Victor Hugo

(44) in general b7b alsongs ***al3arbyeh*** al ordnyeh w mughanenha l2nu this makes me proud as a ***Jordanien***

(74) Hye really can do many things, hye lawyer and hey kman kteer clever in kter sh3'lat zay ***Arabic*** language w poetry.

The previous sentences representing a group of sentences from the analysis table provided the study with evidence that proper adjectives as well as proper nouns were cognates facilitating Arabic-English codeswitching among undergraduates in Jordan. According to the hypothesis of the study, the codeswitching occurred because the sentences include cognates. These cognates represented by proper adjectives including (*ordoniah- Jordanian/ English/ American/ French/ al3arbyeh- Arabic & Jordanien- Jordanian/ Arabic).* The proper adjectives are universal all over languages where they have similar phonological and semantic properties between all languages including Arabic and English. These properties of proper adjectives made harmonic convergence between the two languages occurring in codeswitching.

4.3.3.1.2 People's Names

People's names were universal in all languages. There was not a big difference between a name of a person in Arabic and English. A name is a name in all languages. Therefore, people's names were considered cognates facilitating codeswitching. Sufficient number of sentences appeared

in the data representing people's names as cognates facilitating ArabicEnglish codeswitching among Jordanian undergraduates. The following explanation provided strong evidence for the effect of people's names as well as proper nouns on Arabic English codeswitching.

(14) First of all, esmi ***7aneen***

(15) W my favourite one esmha Dr. ***Dorothee***

(16) Ana ***shahed*** Bdros English

(64) Most importantly, kanat ***Mary*** feminist gabal ma tkonn aslan fkrt el feminism mwajoddeh on earth

The sentences include people's names such as (*7aneen—*حنين *Haneen/ Dorothee/ Shahed/ Mary).* These sentences showed an evidence that people's names are cognates facilitating the convergence of Arabic and English in codeswitching. This analysis was justified by the cognateness of people's names where people's names don't refer to any language but they are similar in all languages.

4.3.3.1.3 "Internet" and Social Sites as Proper Nouns Facilitating Codeswitching

The technological terms such as "*Internet*" and names of social sites were proper nouns facilitating codeswitching. These nouns were considered cognates where they had the same sound and meaning not only in Arabic and English but in all languages. The current study's analysis showed enough examples proving the influence of technological terms as cognates on codeswitching. Hence, the following examples showed the analysis of data relating technological terms as proper nouns to codeswitching.

The word *(Internet)* was the same in Arabic, English, and in all languages. There was no translation between languages for this word. Therefore, these words were considered cognates facilitating bilingual language production in one hand, and codeswitching on the other hand. The following sentences were derived from collected data representing the word (*Internet*) as a cognate facilitating codeswitching.

In sentence (24), sentence (25), sentence (29), sentence (52), and other sentences in the analysis table, the word (*Internet* / *net*) facilitated Arabic-English codeswitching among undergraduates in Jordan.

(141) Sar el ***internet*** business kman

(142) Ma had begdar ynkor el importance tb3 el ***internet*** nowadays

(146) Akeed there are a lot of advantages w masawe2 of ***elnet***

(169) Al ***internet*** has a huge part b7yatna

There were various technological terms appearing in the data facilitating Arabic-English codeswitching. For instance, in sentences

(171) at the end of the book laget the ***instagram*** account elha

(173) w b3d el doctors byst5dmo applications tanieh like ***what'sApp*** zoom,edumode,...etc

(174) Ana as a student daimen bst5dmo especially al ***youtube*** w ***google***

(175) For example elnas ele they prefer to give their piece of advice aw ysharko afhkarhom they can use ***facebook Twitter***

Whereas the words (*WhatsApp/ Instagram/ YouTube/ google/ Facebook/ Twitter*) were proper nouns popular all over languages, they made a connection between Arabic and English within the same sentence. These words were identified as cognates where they had similar sound and meaning among the two languages, Arabic and English. When a bilingual wanted to use one of these words, there was not confusion to which language they referred because they were presented the same in all languages. Therefore, these words made cognitive interaction between bilingual languages and facilitated the convergence of Arabic and English within the same sentence.

4.3.3.1.4 Names of Languages and Countries Representing Proper Nouns

Names of countries, nationalities, and languages had universal phonological aspects among languages. These proper nouns were considered cognates facilitating the appearance of two languages within the same sentence. The data represented a group of sentences showing efficient evidence to the effect of these proper nouns on Arabic English codeswitching among Jordanian undergraduates. For example, in sentences:

(17) Ktheer b7eb el ***English*** and watching series

(18) I am studying ***English*** bl jam3ah el urduneye

(21) ana bdros in the university of ***Jordan***, ta5sus ***englizy***.

(78) awl eshiii all of us fkrna eno hwa eshii b3ed 3na w ma r7 yosal ***Jordan*** abdan

(81) Nws3 elmjal shwi our friends ele homeh asasn ajaneb ele 3ayesh b ***Italy*** w ele b USA

The words (*English/ Jordan/ انجليزي-englizy-English/ Italy)* had appeared in sentences facilitating codeswitching. These words made the two languages, Arabic and English, close to

each other as well as they activated both languages in the same sentence. The characteristics of these words as proper nouns popular in all languages as well as Arabic and English made they activating both languages and converged them within one sentence. Thus, because of these characteristics, the words connected the two languages in a codeswitching style of language.

4.3.3.1.5 Corona as a Modern Proper Noun

The word *Corona* appeared recently to be popular among people all over the world. Pronouncing the word *Corona* was understandable wherever and whenever it was used. It became a proper noun and a universal word in all languages. In the following sentences, the word *Corona* was considered a cognate facilitating Arabic-English codeswitching among undergraduates in Jordan.

Corona was one of the topics raised among Jordanian undergraduates to collect data. This word was defined as a proper noun in the analysis table. For instance, in sentences:

(82) El hyah m3 ***corona*** has become really boring

(83) ***Corona*** virus ymken blyoom bsm3haa more than 1000 times

(85) I hate any word bt5os mawdo3 ***corona*** virus, cuz bsm3 hay el kelmeh kteer

(88) Part three hweeh ***corona*** virus,

The word (*Corona)* as a proper noun caused the occurrence of Arabic and English in codeswitching sentence. The user of the sentence did not pay much effort to move between Arabic and English. The word (*Corona)* functioned as a link between the two languages facilitating their occurrence in codeswitching. Using the word (*Corona)* made the two languages

close to language selection because this word belonged to both languages. Hence, both Arabic and English appeared in codeswitching

All previous examples provided an evidence that proper nouns were cognates facilitating codeswitching. Proper nouns appeared clearly facilitating codeswitching. Proper nouns included proper adjectives, people's names, and technological terms, names of countries and languages, and modern terms such as Corona.

4.3.3.2 Lexical Transfers

Lexical transfers were considered cognates facilitating codeswitching (Clyne, 1967; 2003). However, the current study depended on lexical transfer as words adapted from the same ancestor to be used in both languages. These words either adapted from English to Arabic or vice versa, or words which were adapted from a language to be used in both Arabic and English. The following sentences represented lexical transfers either for Arabic, English, or for both. For instance, in sentences:

(22) Ana kteer ba7eb my ***professors***

(25) fa mo3dam el ***doctors*** by3mlo groups ltdom el students **(29)**

Mostly, el ***dkatra*** for literature courses kteer mnah w kind.

(33) Like religion, ***flsfehh***, science w kteer asheea2 interesting.

(48) Honestly, the first person came to my mind hwehhh my ***mom***.

(114) Bs elnas ele b7bo ynzlo swr w ***videos*** they can use the Instagram and so on

(93) I hope eno yroo7 had el ***virus*** w nrj3 l our normal life.

(95) daily ***routine*** kteeer malaal, but on the other side I read books watching series and movies

The words (*professor/ doctors/ dkatra-doctors/ flsfehh-philosophy/ mom/ videos/ virus)* had the similar pronunciation in Arabic and English. These words were originally from the same ancestor. Therefore, the words shared similar phonological and semantic characteristics between Arabic and English. These characteristics of the words made them facilitating Arabic-English codeswitching and facilitated convergence between the two languages.

The previous sentences represented the triggering effect of lexical transfers on ArabicEnglish codeswitching. These lexical transfers were presented by words refer to the same origin. These lexical transfers were evidenced as cognates facilitating codeswitching, it made convergence of the two languages within the same sentence.

4.3.3.3 Bilingual Homophones

Bilingual homophones were defined as words that had the same or similar pronunciation in two languages (Clyne, 2003). Rajalekshmi, Satish, and Roa (2015) defined bilingual homophones as words that had similar phonological aspects, but they differed significantly in meaning. Thus, this study depended on bilingual homophone as words with the same sound between two languages but differed in meaning. Through the analysis, there appeared bilingual homophones frequently in Arabic-English codeswitching. These bilingual homophones were represented in the table as the following:

Table 4.3

Frequent Bilingual Homophones in the Data

Bilingual Homophones	**Counterparts**

Mn / men (Arabic)	من (men): it is an Arabic preposition means *of* or *from*	Men (English)	*Men*: it is English plural noun of the noun *man*
She (English)	She: it is an English third person singular female pronoun	شي(*She/shi/sheee*- thing) (Arabic)	It is a Jordanian Arabic word means *thing*
He (Arabic)	هي(he): it is an Arabic third person singular female pronoun	He (English)	It is an English third person singular male pronoun
Kant/ kanat (Arabic)	كانت(kanat): it is derived from the Arabic verb (كان) which means (be PAST-was/were)	Cannot/ can't (English)	It is an English word representing the combination of *can* and the negation *not*
Had (Arabic)	هاد/ هذا : it is a Jordanian Arabic demonstrative pronoun means (this)	Had (English)	The English past verb of *have*.
Can (English)	Can is an English verb means *able*	كان(kan/ kann) (Arabic)	كان (kan): it is an Arabic verb which means (be PAST-was/were)
Fe/fee (Arabic)	في(fee): it is an Arabic preposition means (in/ at)	Fee (English)	Is an English word means a price
Who (English)	It is an English relative pronoun	هو (hoo) (Arabic)	It is an Arabic third person singular male pronoun

The analysis table showed the effect of bilingual homophones on Arabic-English codeswitching among undergraduates in Jordan. There were some words which had the same phonological appearance between Arabic and English. These words were bilingual homophones facilitating codeswitching. These words represented efficient evidence regarding the effect of bilingual homophones on Arabic-English codeswitching among undergraduates in Jordan. For instance, in following sentences, the bilingual homophone *(*من*mn- from)* had the same pronunciation as

the English word (*men).* This characteristic makes the word (*mn*) facilitating Arabic-English codeswitching.

(34) Deraset el lo3'at in my opinion sehleh bas to be honest bedha momaraseh o motab3a ***mn*** el students

(37)W kol hdaa bea5odd literature courses ***mn*** el faculty tb3tnaa can release ili 3m bhkii feu in this comment

(87) In my opinion el quarantine 8rar momtaz a5datoh el dawleh 3shan t7mina ***mn*** intishar the coronavirus

(192) W Kaman $a3'leh aham $ey Bill friendship eno ma y3'aro ***mn*** ba3ad wla y7ko 3n ba3d bad things

(197) Besraha ana ***mn*** elnas elli i don't have so many friends

(202) ***mn*** 5elal my experiences a little tlaqii sa7bh tqder t7kulha all things 3n 7alk

(122) Deman a7wl to choose ma3lomat al sa7 ***mn*** ma9adreh l2no my major kulh tari5ii

The Arabic preposition (من-*men/mn*) which meant (*of or from*) in English facilitated ArabicEnglish codeswitching in some sentences. This Arabic preposition had the same phonological appearance as (*men- plural of man*) in English. Hence, this bilingual homophone coactivated the two bilingual languages in codeswitching.

Also, the Arabic preposition (في*fe/fee- means in/ at/ some/ or there*) was the same as (*fee)* in English. Therefore, the use of this bilingual homophone in sentences facilitated ArabicEnglish codeswitching. For example, in sentences such as:

(105) Friends and other colleagues ***fe*** menhum good u fe menhum so bad especially when we need help bl subjects and exams.

(181) Lazm ykonn ***fe*** differences bennaa bs akeed we both have to respect ara2 b3ddd

(187) ektshft eno ***fe*** 7yatna ma bnf3 n7ot kol our expectations b one person

(189) Hala2 ***fe*** nas ehna ma bn3tehom el chance to become our friend

(115) ***Fe*** elo kteer benefits

The bilingual homophone (فـي*fe/fee- means in/ at/ some/ or there*) facilitated Arabic-English codeswitching among undergraduates in Jordan. Bilingual homophones had advantage of sound similarity between two languages. This advantage made words such as (فـي*fe/fee- means in/ at/ some/ or there*) in the previous sentences a bridged for language selection. Bilingual homophones linked two languages to be both closer for language selection.

Other bilingual homophones appeared in exchangeable way in the data. These bilingual homophones were represented in Arabic in sentences and in English in others. In both cases, these words facilitated Arabic-English codeswitching. These bilingual homophones were appeared in sentences such as the English third person singular pronoun female (*she*) and the Jordanian Arabic word (شي *she/shee- means thing*). For instance, in the following sentences:

(57) also ***she*** is an amazing artist l2nu lget 2nha btursum kteer 7elu

(68) w 3m bewajeh kteer problems bs m3 haek ***she*** didn't give up abdann

(72) Lamaa akon b7ajet 7daa aw 2e ***sheee she*** is always there for me

(123) Al elmasawe2 kteerh like al Instagram l2nw b7wel al wa7d show ***shi*** al positive fe hayato

(125) For example lma ykon m5ta9 bl modah wl fashion btlaqi bfhm bl health w sport w be kul ***shi***

The previous group of sentences represented bilingual homophones where the pronunciation of the word was similar between Arabic and English. These bilingual homophones functioned to facilitate Arabic-English codeswitching. The the closeness of pronunciation between th Arabic word (شي *she/shee- means thing)* and the English word (*she*) made internal or mental interaction between Arabic and English leading them to appear in codeswitching.

Furthermore, the Arabic verb (كان *kan- means was/were*) and the English verb (*can*) had the same pronunciation. The similarity between the two words made them cognate facilitating Arabic-English codeswitching. The following sentences represented this phenomenon:

(51) kan 3nda kter mshakel with her family especially her father

(67) w bt5lii el human beings yfkr enu at that time ***kann*** fe hdaa haekk 3ayesh

(195) An example 3an sadiq saye2 : some day ***kan*** lazen na5ud our marks then ***kant*** 3alamti a3la men 3almet my friend then she became so sad because of that.

(126) Awl eshi we ***can*** use it ay w2t ehna bdna ay mosa3dh b ay aspect

(127) Tani eshi you ***can*** find many resources to depend on

The above sentences showed the effect of bilingual homophones on Arabic-English codeswitching. Bilingual homophones represented the influence of sound closeness between two words in two languages on bilingual language. This advantage made both bilingual languages selected in language production.

Several bilingual homophones in Arabic and English were found in the data. For instance, the English third person singular pronoun male (*he*) and the Jordanian Arabic third person pronoun female *(هي- he- means she)* facilitated Arabic-English codeswitching in the data. The following examples showed the influence of this bilingual homophone on codeswitching:

(60) ***He***'s one of my favourite writers enu jad you never get bored lama taqra2lu kotb

(71) W 8dr y7a88 all what ***he*** wanted w bs

(42) Aktr figure bhbha ***he*** the great novelist Mary Shelley

(73) Bs shoft el question 5atrle kteer characters bs belnesbeh ele my favorite character my ante (mother's sister) cuz ***he*** kteer 7da tamoo7

The above sentences showed how bilingual homophones represented by the Arabic word (هي- *he- means she*) and the English word (*he*) Facilitating Arabic-English codeswitching. These two words had similar pronunciation between Arabic and English. Therefore, this bilingual homophone functioned to connect the two languages within one sentence.

Moreover, the past English verb (*had*) and the Jordanian Arabic pronoun (هاد - *had- means this*) had similar pronunciation. Such words were called bilingual homophone and considered cognates facilitating codeswitching. The following sentences showed the influence of these bilingual homophones on Arabic-English codeswitching:

(55) y3ni mafe hada can y3teha flos bs she ***had*** never asked anyone for anything.

(96) w tb3an ***had*** sbbli anxiety.

(178) W bgdar a2meenn 3la ***had*** el friend.

The previous sentences showed one of the bilingual homophones facilitating Arabic-English codeswitching among undergraduates in Jordan. The occurrence of bilingual homophones in this context proved the influence of cognates to facilitate codeswitching. The word (*had*) was used in both English and Arabic but with different meanings. The same pronunciation of two words in two different languages made both languages close to language selection and language production.

Also, the English relative pronoun (*who*) and the Jordanian Arabic pronoun (هو -*who- means he*) were similar in pronunciation. The similarity of pronunciation of two words between two different languages were considered bilingual homophone as well as cognate facilitating codeswitching. Hence, this bilingual homophone appeared in the collected data as in the following sentences:

(193) bi ra2eyeh w ***who*** befriends his friend because of his appearance bkon $a5es fare3' l2no el mazaher ma btdl el jawhar bowehh eli bedal.

(200) w asln you don't know ***who*** is your real friends ella mn elmoa8f elsa3be

The previous data analysis showed efficient evidence that codeswitching is facilitated by bilingual homophones. Words which had similar sound or pronunciation between two languages and differed in meanings were bilingual homophones. The bilingual homophones were cognates facilitating Arabic-English codeswitching among undergraduates in Jordan.

4.3.3.4 Semantic Cognates

Semantic cognates were words having the same meaning in two languages (Kondrak, 2001). In addition to the cognates that identified by the Triggering Theory of Clyne (1967; 2003) involving proper nouns, lexical transfers, and bilingual homophones, this study discussed

semantic cognates (words share the same meaning between two languages). Previous studies recommended studying semantic cognates in addition to cognates identified by the Triggering Theory of Clyne (1967; 2003). The analysis of Arabic-English codeswitching data represented some sentences where semantic cognates facilitating codeswitching through triggering their counterparts from other language in the same sentence. The following sentences represented Arabic-English codeswitching affected by semantic cognates. The study investigated semantic cognates narrowly where only dictionary meaning was depended. Also, semantic cognates differed from other cognates where cognates and their counterparts occur in the same sentence. It was not logically to investigate semantic cognates in relation to codeswitching where only one word from one language appearing in codeswitching. This was because all Arabic words, for example, had their equivalents meaningfully in English. Thus, both a word and its counterpart appeared in codeswitching, as the following sentences showed. For instance, in sentences:

(39) feha ***amaken for*** studying wa ***places 3ashan*** tejles ma3 your friends.

(109) W ***homeh they*** don't have money to get their basic stuff to live

(70) ***Ba3den after*** he graduated mn el University hwe 8rar eno lazm y5li my father to complete his study so safr to Saudi Arabia l7aloh mshan yjame3 money w ydares my father w t7aml kol el6'orwf

(190) We don't ***choose*** our friends el mawa8ef he yli b***t5tar***

(193) bi ra2eyeh w who befriends his friend because of his ***appearance*** bkon $a5es fare3' l2no el ***mazaher*** ma btdl el jawhar bowehh eli bedal.

(209) Also My relatives mo kteer b***7ki*** m3 hom becase they ***talk*** 3n m3d kteeer so b5t9erhom

(210) Sa7b al sa7 2l b***tqder*** tkon m3o marta7 and you ***can*** t7kelh kul shi

(211) Ma 3ndi ***sa7bh*** as a good ***friend***

Two words form the two languages with the same dictionary meaning occurred adhesively. The words *(amaken for*) and (*places 3ashan- places for), (homeh)* and *(they),* (*ba3den)* and *(after*), (*t5tar)* and *(choose*), (*appearance*) and (*mazaher*), (*7ki*) and (*talk*), (*tqder*) and (*can*), and (*sa7bh*) and (*friend*) had the same dictionary meaning. The closeness of meaning between the words in the two languages, Arabic and English, made it easy to codeswitch. Although, these two words were used in incorrect grammar manner, but this was as strong evidence that semantic cognates contributed to co-activate bilingual languages and as a sequence facilitating codeswitching. These sentences represented an efficient evidence for the influence of semantic cognates on Arabic-English codeswitching.

Semantic cognates represented words which had the same meaning in two languages. Entering a word in a dictionary gave the other. These types of words were proved in this study to be cognates facilitating Arabic-English codeswitching among undergraduates in Jordan. Thus, it was efficient evidence to claim that semantic cognates facilitated codeswitching.

4.3.3.5 Findings of Research Question One: Types of Cognates

The first question investigated types of cognates affecting Arabic-English codeswitching among undergraduates in Jordan. The analysis of data showed that the three types of cognates which identified by the Triggering Theory facilitated the codeswitching. These types were proper nouns, lexical transfers, and bilingual homophones. In addition, the study investigated semantic

cognates as recommended by previous studies to facilitate codeswitching. The findings revealed that semantic cognates facilitated Arabic-English codeswitching in some sentences.

According to the analysis, the most popular type of cognates facilitating codeswitching was the bilingual homophone. Bilingual homophones were words having similar pronunciation between two languages but different meaning. There were various bilingual homophones between Arabic and English appearing frequently in the analyzed data. Second, the analysis showed proper nouns facilitating Arabic-English codeswitching. These proper nouns included proper adjectives (such as Jordanian), people's names (such as Marry), names of countries and languages (France), and modern proper nouns (such as Internet and Corona). Another type of cognates facilitating codeswitching was lexical transfers. A few codeswitching sentences were affected by lexical transfers. Lexical transfers represented two words from two different languages that refered the same origin such as (*doctor)* in English and (*dactor)* in Arabic. Both (*doctor)* in English and (*dactor)* in Arabic refered to Latin language.

Semantic cognates were used in this study as words which had the same translational identical meaning between two languages. However, the only difference between semantic cognates and other types of cognates was that the semantic cognates between two languages occurred in the same sentence. This meant that a word and its counterpart with the same meaning from another language appeared in the same context. The findings revealed a few semantic cognates facilitating Arabic-English codeswitching among Jordanian

undergraduates.

4.3.4 Research Question Two: Positions of Codeswitching to Cognates

4.3.4.1 Anticipational Facilitation:

The position of codeswitching was identified in studies which discuss relationship between cognates and codeswitching. Codeswitching was located before, after, or combined cognates. The first position of codeswitching to cognates was the preceding position. This meant that cognates (triggering word) affected preceding words. The following sentences showed explanations where preceded codeswitching influenced by cognates. For example, in sentences:

(1) I am studying bel jam3ah al ***ordoniah***

(22) Ana kteer ba7eb my ***professors***

(4) ana badros ***English***

(6) Ta5asose ***English*** language.

(31) Baheb ag3od bl breaks m3 sahbatii w nshrab ***coffee.***

(84) And the subjects generally s3ben but ***aldakatreh*** kteer mna7 u mut3aunen kteer.

(3) Studying sa3ba kteer bel ***English*** department

(43) Howa shakhsyeh syaseh kter muhemh bl ***French*** history

(194) W bel nesbeh l keef ba3raf the real friend ***mn*** el ma3aref , el mawa8ef hieh eli btbayen had el $ey

(155) And that means enu kul $a5es u kef best5dem el ***internet***

(161) W tb3n el ***internet*** we use it for fun and waste our time

The cognates (*ordonyeh- Jordanian*), (*professors*), (*English*), (*Coffee),* (*aldakatreh- the doctors*), (*French*), (*mn- of*), and (*Internet*) affected the preceding words where words from the other language appeared before them. These sentences proved the anticipational transversion where cognates influenced preceding codeswitching.

The previous sentences provided efficient evidence that cognates facilitated anticipational codeswitching. The triggering effect of cognates on codeswitching occurred on words preceding the triggering word or the cognate.

4.3.4.2 Consequential Facilitation

Most of the studies argued that cognates stimulated consequential codeswitching. The consequential facilitation represented the effect of cognates on words following them. Hence, the collected data of Arabic-English codeswitching were analyzed in the analysis table focusing on the consequential facilitation. For example, according to the table of analysis, in sentences:

(29) el ***dkatra*** for literature courses kteer mnah w kind.

(160) El ***internet*** akeed hwe sh3'le important l7yatna

(151) Of course the ***internet*** become 3unsur asasi be kul home, school, university, bank, company and everywhere

(51) ***kan*** 3nda kter mshakel with her family especially her father

(75) ***She*** is the best bel nesbeh l2ly

(95) daily ***routine*** kteeer malaal, but on the other side I read books watching series and movies

(83) ***Corona****virus* ymken blyoom bsm3haa more than 1000 times

(92) Instead of focusing on the ***virus*** ehna 3m n3ml kol johdna to keep them blbyoot

(132) Y3ni be3tamd ***had*** 3la the way that the person besta5dimoh w el awareness level

The cognates (*dkatra-doctors*), (*Internet*), (*kan-was*), (*she*), (*routine*), (*Corona*), (*virus*), and (*had- this*) facilitated following codeswitching. The words from a different language occur directly after cognates. Words from a different language occurred in the same sentence because they occurred after the triggering cognates. Hence, this was evidence that cognates facilitated sequential codeswitching through switching into following words from a different language.

4.3.4.3 Combining Facilitation

The effect of cognates on codeswitching relied on the position of codeswitching to cognates. The Triggering Theory indicated that cognates facilitated preceding, following, or combining codeswitching. Hence, one of positions for triggered codeswitching by cognates was combining codeswitching. The analysis table analyzed Arabic-English codeswitching in terms of combining codeswitching. For example, in sentences:

(28) Kter b7b al uni wl ***doctors*** yali fiha

(33) Like religion, ***flsfehh***, science w kteer asheea2 interesting.

(12) b7b Aro7 3la ***American*** corner m3nii by nature I'm shy bs forsa to break this

(20) everyone thinks ino el ***English*** sa3eb bs to be honest eno hwa momte3 w kteer 7elo bs you need to study hard for it

(90) Tips: e7dru ***films*** 8ad ma tqdru, eqrr2u wlazm ttdrsu

(80) mnu to improve my ***english*** skills wmnu eni 3m btsla

(93) I hope eno yroo7 had el ***virus*** w nrj3 l our normal life.

(126) Awl eshi we ***can*** use it ay w2t ehna bdna ay mosa3dh b ay aspect

The words (*doctors*), (*flsfehh-philosophy*), (*American*), (*English*), (*films*), (*English*), (*virus*), and (*can*) were considered cognates facilitating codeswitching. Following these cognates in the previous sentences showed that the cognates were combined by words from different language. For example, in sentence (12), the Arabic words (*b7b aro7 3la- I would like to go*) and *(m3nii-although*) combining the English cognate (*American*). This means cognates facilitated combining codeswitching. Thus, these sentences provided evidence in terms of combining facilitation of cognates to codeswitching.

Previous sentences proved that cognates facilitate combining codeswitching. The position of codeswitching to cognates played an important role to cognate facilitation. Codeswitches were affected by cognate facilitation when they occur after and before (combining) cognate.

4.3.4.4 Scattered Facilitation

Some sentences represent scattered codeswitching where it was difficult to identify the position of codeswitching. These sentences included more than one cognate. Therefore, it was not clear for analysis which facilitated what and where. Hence, there was not a clear finding regarding the position of codeswitching. The sentences in the content analysis table showed no findings in terms of codeswitching places. For example, in sentences,

(8) A7la madeh a5dthaa ***he American*** literature, l2nu ***kant*** m3 my favourite ***professor***.

(11) for me ***had she*** kteer s3b l2nu ma ***kan fe*** hek ***she*** bl school definitely

(44) in general b7b alsongs ***al3arbyeh*** al ***ordnyeh*** w mughanenha l2nu this makes me proud as a ***Jordanien***

(61) Aktr figure bhbha ***he*** the great novelist ***Mary*** Shelley

(113) sara7a, w3m ba7'9r ***videos*** kter kul yum bl ***English***

(107) so ***had*** el wa8et altaweel ***fee*** el home momken ysa3ed l2enjaz akbar 8radar ***mn*** al2ashya2.

(7) Bdrus **English** language w literature bl jam3a al**ordnyeh**

(144) Anaa bgdar ahkii enu kteer bstfeed ***mn*** el ***internet***,

In the previous sentences, there were more than one cognate facilitating codeswitching. The identification of codeswitching positions depended mainly on the cognate in the sentence. Thus, it was difficult to identify the place of codeswitching in these sentences because there were not particular cognates to be the focus. Therefore, it was not possible to identify the main cognate (the focus) as well as identifying codeswitching position. The codeswitches appeared scattered around cognates.

The previous sentences showed that it was sometimes difficult to identify the position of codeswitching to cognates. This ambiguity in identifying positions of cognates referred to the difficulty to point the main cognate to be the focus. Hence, codeswitching was considered scattered in this situation.

4.3.4.5 Scattered Facilitation with Semantic Cognates

Semantic cognates appeared in codeswitching having two words with the same meaning from two different languages. However, in sentences that had semantic cognates, it was difficult to define the triggering word as well as positions of codeswitching. For instance, in sentences:

(39) Be-5ssos el university, beautiful kteer, feha ***amaken for*** studying wa ***places 3ashan*** tejles ma3 your friends.

(109) W **homeh they** don't have money to get their basic stuff to live

(108) o ***keef akoon*** myself and ***how to be*** happy

(209) Also My realtives mo kteer b***7ki*** m3 hom becase they ***talk*** 3n m3d kteeer so b5t9erhom

(211) Ma 3ndi ***sa7bh*** as a good ***friend***

It was difficult to determine the position of codeswitching to cognates because the target cognate was not identified. There was more than one cognate within the sentences where one of them activated the other. For example, in sentence (209), cognates were (*7ki- talk*) and (*talk*). However, the primary cognate was difficult to identify in these sentences. Therefore, these sentences provided evidence that the position of codeswitching to cognate was difficult to be identified.

4.3.4.6 Findings of Research Question Two: Positions of Codeswitching

The Findings of the current study revealed that codeswitching was affected and facilitated by cognates where they preceded, followed, or combined cognates. It did not matter whether codeswitching preceding, following, or combining cognates. According to the analysis, different and scattered places appeared for codeswitching to cognates which meant it was difficult to identify one particular place for codeswitching. Moreover, there were many sentences including more than one cognate in the sentences which made the focus point to identify one position for codeswitching unclear. Also, with semantic cognates, where both words from the two different languages appeared in the sentence, it was difficult to identify

which word facilitated the other. Thus, to sum up, there was not a particular position for codeswitching facilitated by cognates but cognates facilitated either preceding, following or combining codeswitching.

4.3.5 Research Question Three: Scope of Cognate Facilitation

Scope of triggering was controversial among studies. Previous studies argued whether the effect of cognates or triggering words was within a sentence, clause, or between neighboring words. Therefore, the data had been distributed under three classifications in order to explain the exact scope of cognates.

4.3.5.1 Word Level

The first investigated scope level in this study was the word level. The word level represented the effect of cognates on neighboring words. In other words, the facilitation occurred between cognates and neighboring words. Most of the sentences represented the effect of cognates on codeswitching in the word level. Analysis showed that cognates affecting words occurring directly before, after, or combine them. These sentences revealed that the effectiveness of triggering or facilitation was in the narrow level which was word level. For instance, in sentences:

(4) ana badros ***English***

(31) Baheb ag3od bl breaks m3 sahbatii w nshrab ***coffee***

(33) Like religion, ***flsfehh***, science w kteer asheea2 interesting.

(24) O most of my ***professors*** muta3aweneen o besa3dona, Bas we have to study so hard 3shan njeeb good marks

(2) Ta5asus ***English*** language and literature

(105) Friends and other colleagues ***fe*** menhum good ***fe*** menhum so bad especially when we need help bl subjects and exams.

(106) actually elhada ele I think eno f3ln ***she*** deserves eno a7ki 3nha my friend

(43) Howa shakhsyeh syaseh kter muhemh bl ***French*** history

(12) b7b Aro7 3la **American** corner m3nii by nature I'm shy bs forsa to break this

(109) W ***homeh they*** don't have money to get their basic stuff to live

(91) w la7ad el an 7dert 3 ***films***

(141) Sar el ***internet*** business kman

(53) w kman ***she*** helped even others to share their works kman

In the previous sentences, the cognates facilitated codeswitching in word level. The effect of the cognates occurred on the neighboring words. Thus, the scope of facilitation is in the narrowest level which was the word level. For example, in the sentence (85), the word (*coffee*) was considered lexical transfer as well as a cognate facilitating codeswitching. The cognate (*coffee*) facilitated codeswitching in word level. The effect of the cognate, (*English*), occurred on the neighboring word (*nshrab- we drink*). Thus, the scope of facilitation was in the word level.

Most of the sentences represented the effect of cognates on codeswitching on the word level. Sentences showed that cognates affect words occurring directly (neighboring) before, after, or

combine them. These sentences revealed that the effectiveness of triggering or facilitation was in the narrow level which was word level.

4.3.5.2 Clause Level

The scope of cognate facilitation was identified having clause level. The effect of cognates on words within the same clause was one of the discussed scopes. In other words, cognates facilitated codeswitching influencing words within the same clause. The table of analysis showed sentences derived from the collected data of Arabic-English codeswitching representing scope within a clause. For instance, in sentences:

(1) I am studying bel jam3ah al ***ordoniah***

(22) Ana kteer ba7eb my ***professors***

(5) , bdros languages bl jam3a el ***ordonyeh***

(58) and 2ktshft inah 7ada kteer creative be kul ***she*** bt3meluh

(96) w tb3an ***had*** sbbli anxiety

The words (*ordoniah- Jordanian*), (*professors*), (*ordoniah- Jordanian*), (*she- thing*), and (*had- this*) were considered cognates facilitating Arabic-English codeswitching among undergraduates in Jordan. These cognates facilitated codeswitching in the clause level. The effect of the cognates occurred on the words in the main clause from the other language. For example, in sentence (76), The effect of the English cognate, (*professors*), occurred on the Arabic words (*ana kteer ba7eb – I love so much*) in the main clause. Thus, these sentences proved the scope of facilitation in the clause level.

The previous explanation to the sentences provided sufficient evidence for the clause level of facilitation scope. However, the word level scope was most popular in the data.

4.3.5.3 Sentence Level

Whereas previous studies investigated the scope of cognate facilitation in word level and clause level, some studies suggested investigating the scope of cognate facilitation in a sentence level. These studies recommend that the effect of cognates on codeswitching may occur in the sentence level. In this study, some sentences derived from the collected data proved codeswitching facilitation within a sentence comparing to word level and even clause level. However, the following sentences explained some sentence representing sentence level of facilitation scope. For example, in sentences:

(14) First of all, esmi ***7aneen***

(40) Kter b7b al ***laughat*** like I am passionate about learning new ***languages*** **(110)**

we ***stay*** at home wl ***23deh*** bl home kteer give negative energy.

(55) y3ni mafe hada ***can*** y3teha flos bs she had never asked anyone for anything

(108) o ***keef akoon*** myself and ***how to be*** happy

(162) Although ***internet*** has many benefits bs kman fe l2lo salbeyat, such as eno it doesn't has a safety

The cognates facilitated codeswitching in the sentence level. The effect of the cognates was on the words within the same sentences from the other language. The cognate and the codeswitching are separated by (*comma*) which make it a sentence level. Thus, these sentences

proved the scope of cognate facilitation within sentence level. For example, in sentence (111), The Arabic word (*can– was*) was considered a bilingual homophone between Arabic and English as well as a cognate facilitating codeswitching. The cognate (*can- was*) facilitated the codeswitching in the sentence level. The effect of the cognate, (*can - was*), was on the words within the same sentence from English language, (*she had never asked anyone for anything*). The cognate and the codeswitching were separated by (*bs - but*) which made them within a sentence.

However, although the analysis revealed some codeswitches affected by cognates in sentence level, this analysis was not sufficient comparing to word level or even clause level.

4.3.5.4 Mixed Findings within the Same Sentence

Through analyzing Arabic-English codeswitching among undergraduates in Jordan in terms of facilitation scope, there were sentences with mixed results including word level, clause level, and sentence level. These sentences included more than one scope level depending on the cognates included in the sentence. The analysis table provided analysis for mixed findings for scope of cognate facilitation in the same sentence. For instance, sentences:

(7) Bdrus ***English*** language w literature bl jam3a al***ordnyeh***

(8) A7la madeh a5dthaa ***he American*** literature, l2nu ***kant*** m3 my favourite ***professor***.

(44) in general b7b alsongs ***al3arbyeh*** al ***ordnyeh*** w mughanenha l2nu this makes me proud as a ***Jordanien***

(74) Hye really ***can*** do many things, hye lawyer and hey kman kteer clever in kter sh3'lat zay ***Arabic*** language w poetry.

These sentences included more than one cognate. Some of these cognates facilitated codeswitching in word level. On the other hand, the other cognates in the same sentence facilitated codeswitching within clause level or sentence level. Thus, it is difficult to define the scope of effect in these sentences because they have various cognates. These sentences were defined as having mixed findings within the same sentence. For example, in sentence (16), The sentence included three cognates. The first cognate, (*3arbyeh - Arabic*), facilitated codeswitching in word level. The Arabic cognate (*3arbyeh - Arabic*) facilitated the neighboring word from English language, (*songs*). The second cognate, (*ordnyeh - Jordanian*), facilitated codeswitching in clause level. The cognate (*ordnyeh - Jordanian*) facilitated words from English language (*songs*) in the same clause. The third cognate, (*Jordanian*) facilitated codeswitching in clause level. The English cognate (*Jordanian*) facilitated words from Arabic language (*l2nu - because*) in the same clause.

4.3.5.5 Findings of Research Question Three: Scope of Facilitattion

This question investigated the scope of cognate facilitation. The scope of facilitation represented the extent of cognate influence on codeswitching. Thus, the scope of facilitation stood for the area which was covered through the influence of cognates on codeswitching.

Previous studies argued whether the effect of cognates was within a sentence, a clause, or between neighboring words. The findings of the current study revealed that the influence of cognates was exercised more at the word level. This meant that cognates facilitated neighboring codeswitching. Some data showed that cognates facilitated codeswitching within the same clause and the same sentence. However, more affected codeswitches were in word level, between neighboring words.

4.4 Quantitative Analysis

4.4.1 Research Question Four: Frequency of Cognates

This part of the study investigated the frequency of cognates in codeswitching. The frequency of cognates provided an evidence of cognate facilitation. The study used data (texts) collected through Focus group in a process which was called quantitizing. These data were Facebook comments representing Arabic-English codeswitching among undergraduates in Jordan. These data were analyzed using Antcon Software in order to measure the frequency of cognates in codeswitching. The researcher used coding to identify cognates for analysis. These codes were cogproper for proper nouns as cognates, coglexical for lexical transfers, coghomophone for bilingual homophones, and cogsemantic for semantic cognates. Running the software using data PlainText provided the following analysis:

Concordance | Concordance Plot | File View | Clusters/N-Grams | Collocates | Word List | Keyword List

Word Types: 1789 **Word Tokens:** 5654 **Search Hits:** 0

Rank	Freq	Word
1	164	w
2	135	el
3	125	coghomophone
4	97	cogproper
5	90	a
6	78	i
7	77	b
8	71	the
9	69	ma
10	68	kteer
11	64	and
12	59	bs
13	58	my
14	55	to
15	54	t
16	53	l
17	45	m
18	44	x
19	43	for

Figure 4.3 Frequency Results: Running AntConc Software

The results of running Antconc Software showed that cognates were 275 out of 5654 switched codes. The cognates included 125 bilingual homophones, 97 proper nouns, 27 lexical transfers, and 26 semantic cognates.

After using Antconc Software, the results were used in Excel calculations to determine the percentage of frequency of cognates in codeswitching. Hence, the following Excel Pie Chart represented the percentage of cognate frequency:

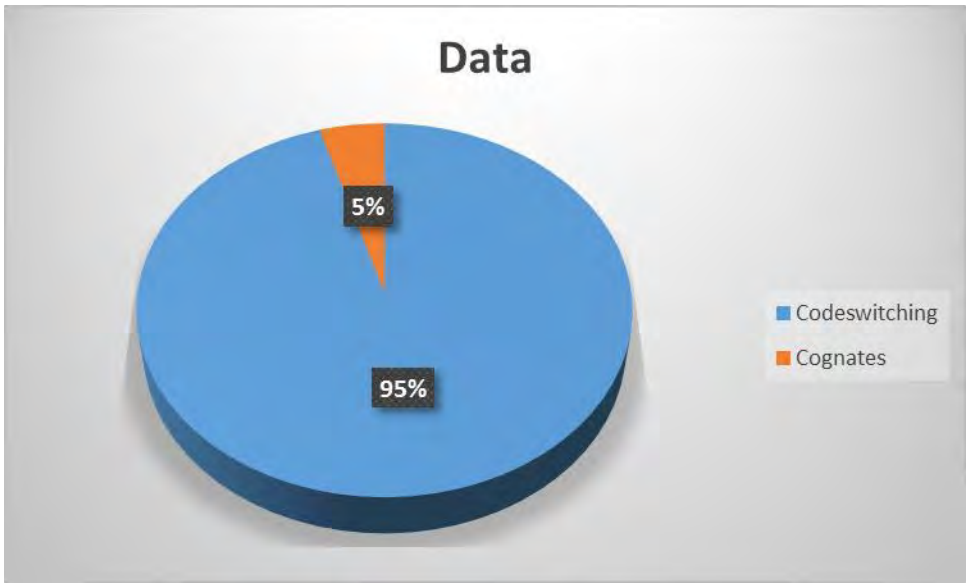


Figure 4.4 Frequency Results: Percentage of Cognates

The previous chart showed that cognates constitute 5% of Arabic-English codeswitching among undergraduates in Jordan. This percentage was efficient to indicate that cognates facilitated codeswitching. The current results used the criterion/ benchmark of Breorsma and DeBot (2006) when they considered cognates facilitating codeswitching through 4.7% of frequency.

The types of cognates were analyzed in order to count their frequency, too. The following Excel Pie Chart showed the results,

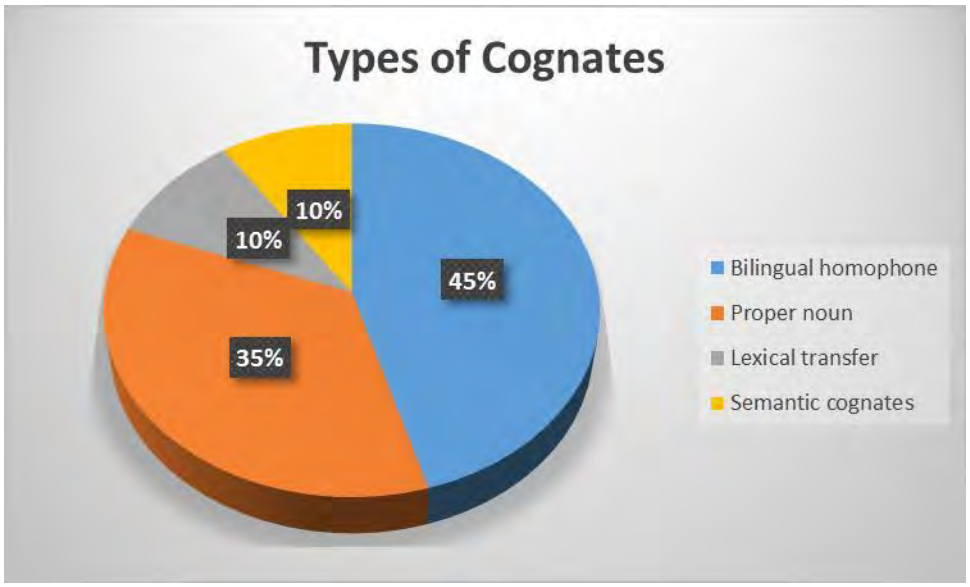


Figure 4.5 Frequency Results: Types of Cognates

Cognate types were analyzed to check their frequency. The results showed that bilingual homophones was the most popular cognate facilitating codeswitching. According to the results 45% of cognates were bilingual homophones. The second popular cognate was the proper noun. Proper nouns constituted 35% of cognates facilitating Arabic-English codeswitching. Then, lexical transfers and semantic cognates constituted 10% for each.

4.4.1.1 Results of Research Question Four: Frequency of Cognates

The forth question of the study investigated the frequency of cognates in Arabic-English codeswitching among Jordanian undergraduates. The data for this question were collected using online focus group, Facebook group. The data were Arabic-English codeswitching Facebook comments. These data were analyzed using Antconc software. Hence, the results represent the frequency of cognates in Arabic-English codeswitching.

The results revealed that cognates constituted 5% (275 out of 5654) of words in codeswitching. This percentage was an efficient value for cognates facilitating codeswitching. This value was

compared to the benchmark value considered for cognates facilitating codeswitching by Broersma and DeBot (2006). Also, Broersma (2009) stated that 4.7 % is an efficient value of frequency of cognates for languages having different typology and belonging to different family, such as Arabic and English.

The frequency of types of cognates was identified in this part, too. The results showed that bilingual homophones constituted the highest value, 45% (125 out of 275 cognates). The second type of cognates was proper nouns. Proper nouns amounted to 35% (97 out of 275) from cognates. Moreover, lexical transfers and semantic cognates were 10 % of cognates for each.

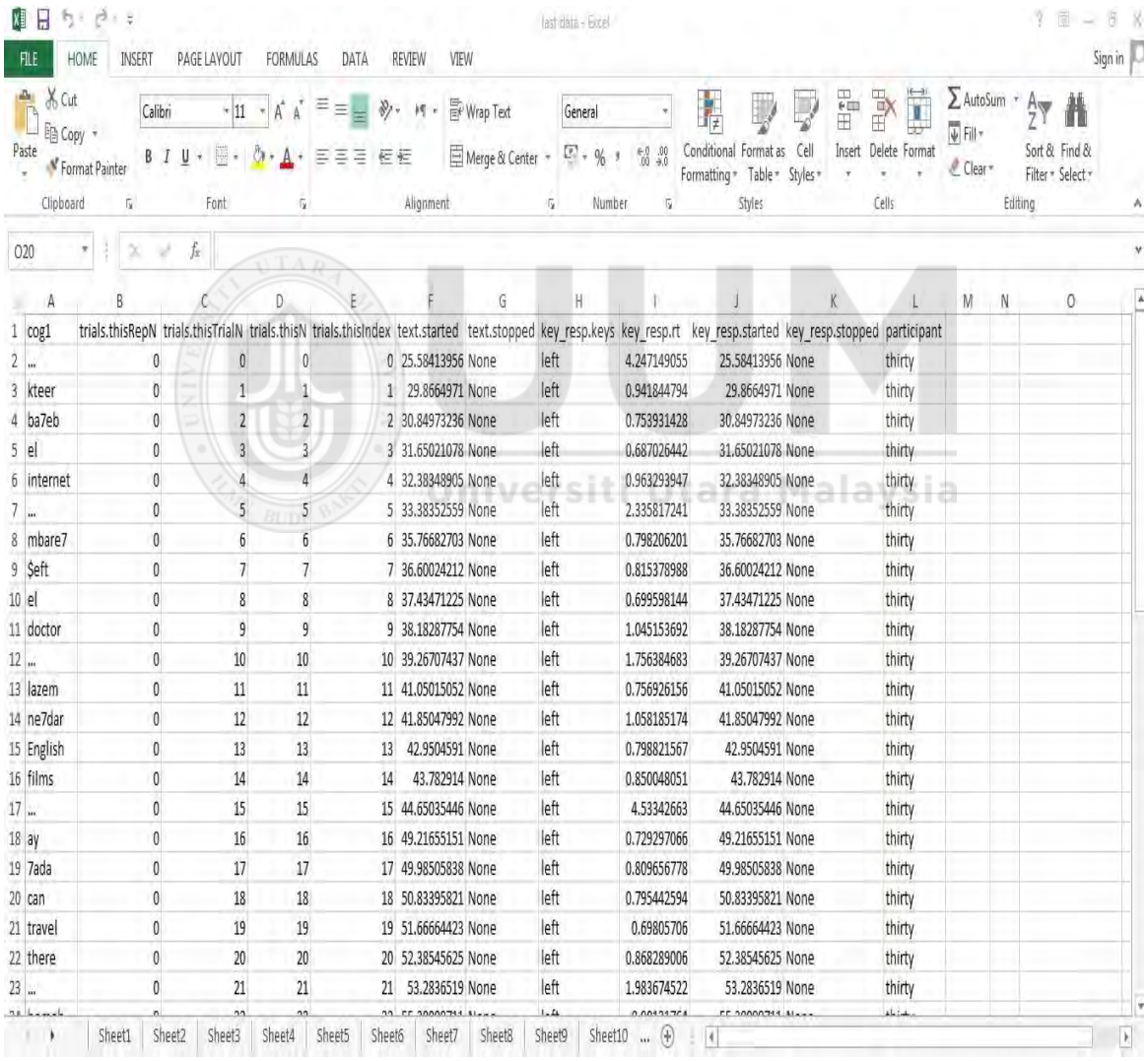
4.4.2 Research Question Five: Response Time of Cognates and Non-Cognates in Codeswitching

Studies differentiated between cognates and non-cognates in bilingual speech. However, other studies denied the idea of advantage of cognates over non-cognates. This study raised a question regarding the cost of time (Response Time, RT) of cognates and cognates in ArabicEnglish codeswitching among Jordanian undergraduates. Data to answer this question were collected via an experiment using PsychoPy software. Also, the samples were undergraduates who study English language and Literature at the University of Jordan. The study adopted the snowball method of sampling to reach 48 participants in the experiment. The experiment was conducted through interviewing participants at the university individually.

The study conducted an experiment using PsychoPy software to collect data from Jordanian undergraduates. The experiment involved eight words divided into two groups. The first group included four sentences with four cognates. These cognates were used as (*English)* representing proper nouns, (*doctor*) representing a lexical transfer, (*can)* representing semantic cognates and

resembling (كانkan- *was*) in Arabic, and the word (*they)* occured after Arabic (مم - *homeh-they*). On the other hand, the second group involved four non-cognates (*friends, should, may, tree*). These words had been read by participants using PsychoPy software.

The data were analyzed using Microsoft Excel. Forty-eight ExcelSheets were used in the same Excel file to import data from the experiment software, Psychopy. The following showed the data



	A	B	C	D	E	F	G	H	I	J	K	L
1	cog1	trials.thisRepN	trials.thisTrialN	trials.thisN	trials.thisIndex	text.started	text.stopped	key_resp.keys	key_resp.rt	key_resp.started	key_resp.stopped	participant
2	...	0	0	0	0	25.58413956	None	left	4.247149055	25.58413956	None	thirty
3	kteer	0	1	1	1	29.8664971	None	left	0.941844794	29.8664971	None	thirty
4	ba7eb	0	2	2	2	30.84973236	None	left	0.753931428	30.84973236	None	thirty
5	el	0	3	3	3	31.65021078	None	left	0.687026442	31.65021078	None	thirty
6	internet	0	4	4	4	32.38348905	None	left	0.963293947	32.38348905	None	thirty
7	...	0	5	5	5	33.38352559	None	left	2.335817241	33.38352559	None	thirty
8	mbare7	0	6	6	6	35.76682703	None	left	0.798206201	35.76682703	None	thirty
9	$eft	0	7	7	7	36.60024212	None	left	0.815378988	36.60024212	None	thirty
10	el	0	8	8	8	37.43471225	None	left	0.699598144	37.43471225	None	thirty
11	doctor	0	9	9	9	38.18287754	None	left	1.045153692	38.18287754	None	thirty
12	...	0	10	10	10	39.26707437	None	left	1.756384683	39.26707437	None	thirty
13	lazem	0	11	11	11	41.05015052	None	left	0.756926156	41.05015052	None	thirty
14	ne7dar	0	12	12	12	41.85047992	None	left	1.058185174	41.85047992	None	thirty
15	English	0	13	13	13	42.9504591	None	left	0.798821567	42.9504591	None	thirty
16	films	0	14	14	14	43.782914	None	left	0.850048051	43.782914	None	thirty
17	...	0	15	15	15	44.65035446	None	left	4.53342663	44.65035446	None	thirty
18	ay	0	16	16	16	49.21655151	None	left	0.729297066	49.21655151	None	thirty
19	7ada	0	17	17	17	49.98505838	None	left	0.809656778	49.98505838	None	thirty
20	can	0	18	18	18	50.83395821	None	left	0.795442594	50.83395821	None	thirty
21	travel	0	19	19	19	51.66664423	None	left	0.69805706	51.66664423	None	thirty
22	there	0	20	20	20	52.38545625	None	left	0.868289006	52.38545625	None	thirty
23	...	0	21	21	21	53.2836519	None	left	1.983674522	53.2836519	None	thirty

Figure 4.6 Response Time Results: Excel Sheets

The target data in this excel sheet was Response Time (RT). The RT was in column (I), and target words that represented cognates were recorded in I6, I11, I15, I20, and I25; and noncognates in I25, I32, I37, I41, I45, and I52. Thus, the researcher used an Excel calculation, =Average(sheet1:sheet48! I6) to find the average to words individually among all users. The average of response time for cognates and non-cognates was as following:

Table 4.4

The Average of Response Time for Cognates and Non-Cognates

Cognates	**Average of RT**	**Non-cognates**	**Average of RT**
Doctor	0.89896	**Should**	1.12711
English	0.83142	**Friends**	1.12109
Can	0.86922	**May**	0.87602
They	0.85918	**Tree**	0.96769

After that, the researcher chose an Excel Chart to show these results. Thus, the following chart showed the response time differences between cognates and non-cognates in ArabicEnglish codeswitching among Jordanian undergraduates.

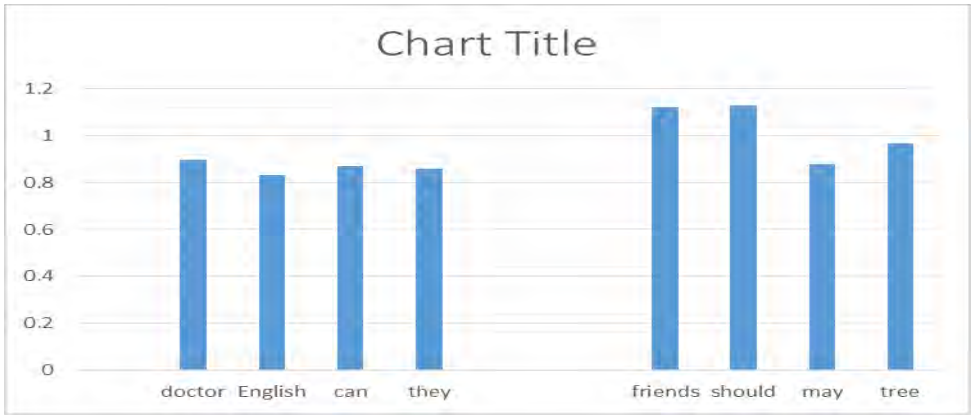


Figure 4.7 Response Time Results: Percentage of Cognates and Non-Cognates

The chart involved the average of cognates and non-cognates in Arabic-English codeswitching among Jordanian undergraduates. Although the highest average of RT of cognates did not exceed a fraction, 0.90, most of non-cognate words were more than integer one, 1. Comparing the cognate word (*doctor)* which represented lexical transfer to the noncognate (*should),* we observed the difference in response time or response time. The average of response time of reading the word (*doctor)* among 48 experiment-interviewees was

0.89896. On the other hand, the non-cognate (*should)* scored 1.12711. Moreover, the cognate (*English)* scored less response time, 0.83142, than the non-cognate (*friends)*, 1.12109. Other cognates scored less response time than non-cognates, too. The cognates (*Can)* (0.86922) and (*they)* (0.85918) were faster than (*May)* (0.87602) and (*tree)* (0.96769) which represented non-cognates.

4.4.2.1 Results of Research Question Five: Response Time

The above analysis showed that Jordanian undergraduates needed less time to process cognates than non-cognates in Arabic-English codeswitching. These results indicated that cognates had advantage over non-cognates in bilingual speech. Also, the results revealed that all types of cognates have advantage to be processed in less time than non-cognates. These types included proper nouns, lexical transfers, bilingual homophones, and semantic cognates.

The following chart showed the average response time of all cognates and non-cognates:

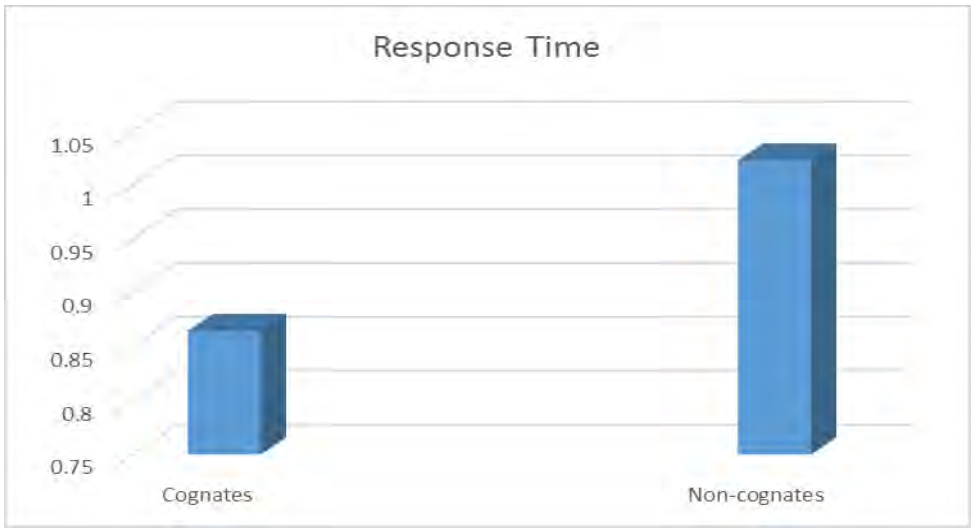


Figure 4.8 Response Time Results: Average of Cognates and Non-Cognates

Summing up, these results supported the idea of Triggering Theory where cognates have the ability to make convergence between two languages as well as facilitate codeswitching.

4.5 Summary

This chapter of the study included the analysis and the findings. The analysis included two parts depending on research questions. The first part was the qualitative research questions. These questions investigated types of cognates, places of codeswitches, and the scope of cognate facilitation. The findings for these questions showed that bilingual homophones (mostly), proper nouns, lexical transfers, and semantic cognates were cognates facilitating preceding, following, and combining codeswitching in word level. On the other hand, the quantitative part of the study measured the frequency of cognates and response time of cognates and non-cognates in codeswitching. The quantitative results showed that cognate frequency in codeswitching was efficient as well as cognates were faster than non-cognates in bilingual speech.

CHAPTER FIVE DISCUSSIONS

5.1 Introduction

The current chapter represents the discussion of the study. The chapter started with the review of key findings. Next, the chapter showed discussions related to research questions including types of cognates, positions of codeswitching to cognates, scope of cognate facilitation, frequency of cognates, and response time of cognates. Then, the chapter provided related discussion involving cognates facilitated codeswitching subconsciously, bilingual cognitive mechanism, and the advantage of cognates in language learning.

5.2 Review of Key Findings

The study was conducted to investigate the effect of cognates on codeswitching. The review of literature leaded the study to five issues formulated by five questions to be solved. The data were collected and analyzed, and the findings revealed as the following.

Research question one investigated types of cognates facilitating codeswitching. The findings showed that cognates facilitating codeswitching are mainly bilingual homophones. The second cognate type appeared in the analysis is proper nouns. Moreover, a few codeswitching sentences affected by lexical transfers and semantic cognates.

Research question two investigated positions of codeswitching to cognates. Depending on the analysis, there were various positions of codeswitching within a sentence. Also, sometimes it was difficult to identify the position of codeswitching especially in sentences with semantic cognates. Therefore, there was not one particular place for codeswitching facilitated by cognates, but cognates facilitated either preceding, following or combining codeswitching.

Research question three considered the scope of facilitation. The analysis showed that codeswitching was more likely to appear in word level. Thus, cognates affected neighboring words.

Research question four measured the frequency of cognates in codeswitching. The results showed that there was sufficient frequency for cognates which made it facilitating codeswitching.

Research question five measured the response time of cognate and non-cognate in ArabicEnglish codeswitching. The results showed that cognates were practiced easier and faster than non-cognates. This meant that cognates had advantage over non-cognates in bilingual speech.

5.3 Discussion

5.3.1 Discussion Related to Research Questions

5.3.1.1 Types of Cognates Facilitating Codeswitching

The types of cognates were controversial in studies discussing codeswitching and cognates. The findings of the current study revealed that bilingual homophones were the most popular type of cognates facilitating codeswitching. Bilingual homophones represented words having the same sound but different meaning in two languages. Although there were some codeswitching sentences influenced by other types of cognates such as proper nouns, lexical transfers, and semantic cognates, great gap of frequency was between bilingual homophones and other types. Bilingual homophones constituted 45% of the cognates facilitating ArabicEnglish codeswitching among undergraduates in Jordan.

The findings of the current study were partially consistent with the original Triggering Theory of Clyne (1967) considering that cognates were words with similar form and meaning in two languages. However, whereas Clyne (1967) made cognates represented words with similar meaning, the current study showed weak evidence regarding the property of meaning for cognates. Also, the idea of semantic cognates relating to codeswitching had been a sophisticated issue in the study. Although all types of cognates facilitated and activated two languages in codeswitching, the study had to deal with semantic cognates facilitating only their counterparts or equivalents from the other language. This study denied the relatedness of semantic aspects between two languages to cognateness. Also, cognates cannot be defined relating to semantic aspects because all words in all languages share semantic aspects, so there are not non-semantic cognates.

The findings of the study were in line with the Revised Triggering Theory of Clyne (2003) that cognates involved bilingual homophones, but it did not agree with other types of cognates such as lexical transfers. On the other hand, the findings of the study inconsistent completely with studies such as Broersma and DeBot (2006), Broersma (2009), and Rahimi and Eftekhari (2011). Broermsa and DeBot (2006) adjusted the Triggering Theory to accommodate modern models of bilingual speech. In terms of cognate types, Broersma and DeBot (2006) found that only proper nouns were overwhelmingly cognates facilitating codeswitching. Similarly, Broersma (2009) considered proper nouns the most popular type of cognates facilitating codeswitching. Also, Rahimi and Eftekhari (2011) denied the role of all types of cognates facilitating codeswitching except proper nouns. However, the findings of the current study proved that bilingual homophones were the most type of cognates influencing Arabic-English codeswitching among undergraduates in Jordan.

5.3.1.2 Positions of Codeswitching to Cognates

Positions of codeswitching to cognates were controversial in literature. Studies differed whether codeswitches preceding, following, or combining cognates. However, the findings of the current study indicated that there was no one particular place for codeswitching affected by cognates. Nevertheless, the findings showed cognates facilitated either preceding, following or combining codeswitching.

The findings of the study went in parallel with the original Triggering Theory of Clyne (1967). Clyne (1967) indicated that codeswitching was affected where they preceded, followed, or combined cognates. Similarly, in the revised Triggering Theory, Clyne (2003) stated that cognates facilitated anticipational, consequential, or combining codeswitching. Both current analysis and Clyne (1967; 2003) indicated that the influence of cognate was on neighboring words and it did not matter whether these words preceded, followed, or combined cognates.

The findings of the current study differed from findings of some previous literature discussing codeswitching positions to cognates. For instance, Broersma and DeBot (2006) investigated the effect of cognates on codeswitching. Also, Broersma and DeBot (2006) discussed positions of codeswitching to cognates. Broersma and DeBot (2006) found that cognates affect only following words in codeswitching. Similarly, Broersma (2009) showed that the influence of cognates was on the consequential or following words. Furthermore,
Broersma et al. (2020) revealed that codeswitching facilitated following words. On the other hand, Acheson et al. (2012) indicated that the influence of cognates was weaker for following words.

This study did not deny the influence of cognates on following words, the study supported previous literature that cognates facilitated following, but not only following, codeswitching. The difference in findings between the current study and others was justified while this study pointed that all places were possible for codeswitching. Although studies differed in identifying codeswitching positions whether following, preceding, or combining, the current study indicated that all these positions of codeswitching were possible to be influenced by cognates.

5.3.1.3 Scope of Cognate Facilitation

The scope of cognate facilitation meant the extent of cognate influence. The scope of cognate facilitation represented the area which was covered by cognate influence. Previous studies differed whether scope of cognate within word level, clause level, or sentence level as some studies recommended. However, the findings of the current study revealed that the influence of cognate was within word level. These findings indicated that cognates facilitated neighboring words. Cognates and affected words cannot be separated by redundant words. The triggering and the triggered words were neighbors.

The findings of the current study were consistent with previous studies such as Clyne (1967; 2003). Clyne (1967; 2003), in the Triggering Theory, stated that cognates affected codeswitching within word level. Thus, cognates facilitated only neighboring codeswitching. On the other hand, Broersma and DeBot (2006) criticized the original Triggering Theory and claimed that cognate facilitation was within clause level. Thus, the adjusted Triggering Theory of Broersma and DeBot (2006) considered the scope of cognate facilitation within clause level. Similarly, Broersma (2009) found that the scope of facilitation was in clause level. However, the scope of cognate facilitation within a sentence had been observed and recommended by later studies. For instance, Broersma et al. (2020) revealed that cognates facilitated codeswitching in

another clause which meant within a sentence. Nevertheless, the current study showed that the facilitation of cognates occured between neighboring words within word level.

5.3.1.4 Frequency of Cognates in Codeswitching

One of the questions in the quantitative part of this study investigated the frequency of cognates in Arabic-English Codeswitching. This question aimed to measure the validity of cognates in facilitating codeswitching via Frequency. The results showed that cognates constituted 5% of Arabic-English codeswitching among undergraduates in Jordan. This percentage was compared to the findings of Broersma and DeBot (2006) indicating that 4.7% of cognates was an efficient value. Also, Broersma (2009) stated that the percentage of Broersma and DeBot (2006) was efficient because the study was conducted using different family languages. Similarly, Arabic and English belong to different family languages. Therefore, the results of the current study, 5%, was an efficient value to show that cognates facilitated Arabic-English codeswitching among undergraduates in Jordan.

Broersma (2009) performed corpus analysis depending on the frequency to show that cognates facilitate codeswitching. Broersma (2009) differentiated between the benchmark of percentage of frequency for languages in the same family and different language families. Although Broersma (2009) considered 4.7% of cognate frequency as efficient in Broersma and DeBot (2006) was efficient, the results of his study revealed 71.4% of cognate frequency in codeswitching. Broersma (2009) justified this inequality to the difference between language family in Broersma and DeBot (2006).

The findings of the study went in parallel with previous studies such as Clyne (2003). Clyne (2003) used corpus-based analysis to propose the triggering theory. Also, Koostra, Dijkstra, and

Hell (2020) used corpus analysis to account the frequency of cognates in codeswitching. Koostra et al. (2020) found that codeswitching was more frequent with cognates than without cognates. On the other hand, other studies used other data analysis and found no relationship between cognates and codeswitching. For example, Whately (2018) found that bilinguals did not show positive results regarding relationship between codeswitching and cognates.

5.3.1.5 Response Time of Cognates in Codeswitching

The study measured response time of cognates and non-cognates in Arabic-English codeswitching among undergraduates in Jordan. The study used self-paced reading experiment via PsychoPy Software to collect data. These data were analyzed using Microsoft Excel calculations. Thus, the results showed that cognates were processed faster than noncognates in Arabic-English codeswitching by undergraduates in Jordan. These results showed that cognates had advantage over non-cognates to facilitate codeswitching.

The results of the current study were consistent with previous studies such as Acheson et al. (2012). Acheson et al. (2012) showed that cognates were faster and easier than non-cognates. Also, Acheson et al. (2012) used these results to claim that cognates facilitated codeswitching. Furthermore, Poort and Rodd (2017) stated that processing cognates was easier and more quickly than non-cognates. However, the results of the current study disagreed with other studies while they denied the advantage of cognates over non-cognates.

For instance, Geerlofs (2017) showed no difference between cognates and non-cognates in bilingual speech. Also, Li and Gollan (2018) found non-cognates were processed by bilinguals faster than cognates. Similarly, Santesteban and Costa (2016) revealed that cognates were

costlier than non-cognates in codeswitching. All these contradictory results indicated that cognates did not facilitate codeswitching.

5.3.2 Related Discussion

5.3.2.1 Cognates Facilitated Codeswitching Subconsciously

The reasons of codeswitching had been highly studied in literature. These studies differed in methods, population, contexts of studies, and many other things. All fields of linguistics participated in discussing reasons of codeswitching. However, the discussion of codeswitching reasons was still open. Most studies related the use of codeswitching to social factors. These studies considered codeswitching a sociolinguistic phenomenon affected by social factors. On the other hand, other linguistic pioneers considered codeswitching a part of their fields. However, few studies related codeswitching to psycholinguistic or cognitive factors. The claim of Clyne (1967) regarding the effect of cognates on codeswitching was the first stage to discuss codeswitching relating to cognitive factors.

Most studies had investigated the issue of codeswitching reasons relating to social factors. For example, Waifong (2011) considered codeswitching due to the authority. According to this study people codeswitch to gain authority and achieve a higher status in a society. Similarly, Twedrian (2014) and Dewaele and Wei (2014) discussed the reasons of codeswitching relating to authority and social status. They found that people codeswitch because of social positions or status. These studies did inter-investigation without observing intra-factors. Studies should be related directly to the phenomenon. Studying codeswitching relating to cognates gave a chance to go deeply between words investigating the secret behind the homogeneity between words.

This study did not deny social factors affecting codeswitching, but it indicated that in addition to inter-reasons there were intra-reasons behind codeswitching.

Other studies such as Liu (2018b), Jdetawy (2011) in a study at University Utara Malaysia, and Alkresheh (2015) related the use of codeswitching to proficiency of speakers. These researchers claimed that people codeswitch because they lack some English words. Thus, they used codeswitching to bridge the lack of proficiency. These studies were distinguished where they go deeper than social factors. However, the reason of lacking proficiency can not be applied on people who started a sentence using his native language then switch to another language. Moreover, analysis of data in this study showed codeswitching sentences affected by semantic cognates where the switching occured between words with the same meaning from the two different languages.

Even Jordanian undergraduates had been under studies investigating Arabic-English codeswitching among them. Al-Hayek (2016) found that Jordanian undergraduates were aware of their codeswitching. Also, Al-Hayek (2016) stated that codeswitching was affected by social status. AlHayek's study investigated Arabic-English codeswitching without focusing on cognates influencing codeswitching.

5.3.2.2 Using the Results to Discuss Bilingual Cognitive Mechanism

5.3.2.2.1 Integrated or Separated Bilingual Lexicon

The results revealed that cognates were more superior to bilingual speech. The results showed that cognates facilitated Arabic-English codeswitching. These results indicated that there was an interaction between the bilingual languages in a point in the cognitive lexicon. The cognates work as a trigger to activate the interaction of two languages within the same sentence. Also, as

Poort and Rodd (2017) stated that the results of cognates facilitating codeswitching were strong evidence that both bilingual languages occured in the same mental lexicon. According to the results, it was clear that bilingual languages occured in the same lexicon and bilinguals had one integrated lexicon not two separated lexicons.

The results of this study showed a strong evidence that cognates facilitated codeswitching. These results indicated that there was an interaction between the bilingual two languages. Also, these results showed that there was one integrated bilingual lexicon. This claim supported the studies which adopted the view of one integrated lexicon. Also, this claim supported the bilingual theory Bilingual Interactive Activation Plus (BIA+) which argued that bilingual speaks were stored in one lexicon (Poort& Rodd, 2017).

Whereas the idea of bilingual one integrated lexicon had been disagreed by studies, the results of this study revealed that bilingual speaks were stored in one integrated lexicon. For example, Laka (2012) opposed the idea of one integrated lexicon. Laka (2012) argued that bilingual languages were stored in two separated lexicons. This study used cognates facilitating codeswitching and an experiment to show that bilinguals used cognates faster than non-cognates which was strong evidence that the bilingual two languages interacted within the same mental lexicon and activated each other.

On the other hand, some studies considered the age of acquisition played an important role to whether bilingual languages occured in one integrated lexicon or two separated lexicons. For instance, Wong et al. (2016) made the age of acquisition was the main standard that bilinguals have one integrated lexicon or two separated lexicons. Wong et al. (2016) found that bilinguals who acquired their languages in the first stages in their life could have one integrated lexicon. On the other hand, later learning or acquisition caused two separated lexicons for bilinguals. In

contrast, this study was conducted among Jordanian undergraduates who met English language only at schools and university. This study revealed one integrated lexicon for this population who had not met English in the early age.

Also, Navracsics (2007) showed that the structure of bilingual depended mainly on manner of learning. The informal learning or acquisition which occured out of school made the two languages within one integrated lexicon. In contrast, the manner where a language was learned or acquired at school made bilingual languages occupying in two separated lexicons. This claim contrasted to the study results where Jordanian undergraduates learn English at school and the results showed that they had one integrated lexicon for both Arabic and English.

5.3.2.2.2 Selective and Non-selective Bilingual Language Access

The results of the study showed that cognates facilitated Arabic-English codeswitching. Also, the results showed that cognates were easier and faster in use than non-cognates. These findings revealed that cognates co-activate each other. The co-activation between cognates in two languages indicated that the selection of bilingual languages was not specific, but nonselective language access. Thus, the results of the current study revealed that bilingual language access was non-selective. The non-selective language access leaded to the coactivation between cognates and make them easy to produce by bilinguals.

Zhang et al. (2015) stated that “language selection refers to the cognitive mechanism controls which language to select” (p: 1). Studies considered cognate facilitation refered to mental processes. Poort and Rodd (2017) identified that cognate facilitation depended on bilingual mental mechanism that bilingual languages access was non-selective. Also, Hopp (2018), Broersma et al. (2020), and Deluca et al. (2020) considered that mental mechanism of

bilinguals, where language access was non-selective, leaded to co-activation of cognates which facilitated codeswitching. Precisely, the study of cognate in relation to codeswitching disputed the argument of bilingual mental mechanism including bilingual language access (Broersma et al., 2020). Therefore, the results of the current study showed that bilingual language access was non-selective and non-specific.

The current study's findings were in line with previous literature. For example, DeBot (2004) showed that bilingual language access was non-selective where there was competition between neighboring cognates for language selection. Also, Moon and Jiang (2012) concluded that bilingual language access was not specific for one language, but both bilingual languages were active even during monolingual speech production. Similarly, Kurnik (2016) and Tamaoka, Miyatani, Zhang, Shiraishi, and Yoshimura (2016) supported the non-selective language access of bilinguals. On the other hand, the findings of the current study disagreed with some studies. For instance, Costa et al. (2006) denied the processes of non-selective bilingual language access. Costa et al. (2006) considered that bilingual language access was specific while only the target language was active during speech production.

5.3.2.3 Cognates Have an Advantage in Language Learning

In this study, the findings showed the advantage of L1 to FL or L2 learning and acquisition. This significance appeared as after-explanation for bilingual psycholinguistic mechanism. Comparing cognates and non-cognates provided good explanation for interaction between two languages. The findings of this study revealed that cognates had a superior level over non-cognates. The results revealed that cognates which represented words which were popular in two languages were processed faster and easier than non-cognates in bilingual speech.

The results indicated that cognates had advantage to language learning. In addition to the facilitation of codeswitching, cognates can facilitate L2 or FL language learning. These results can support studies which argued regarding the effect of cognates on language learning. Szabo (2016) studied the effect of cognates on language learning. The study found positive effect impact for cognates. Similarly, Beinborn et al. (2013), Mingorance (2010) found cognates facilitated language learning.

CHAPTER SIX CONTRIBUTIONS AND CONCLUSIONS

6.1 Introduction

This chapter provided contributions and conclusions of the study. The chapter started with contributions including theoretical and practical contributions. Then, the chapter showed the limitation of the study, recommendations for future research, and conclusion.

6.2 Contributions of the Study

6.2.1 Theoretical Contributions

The use of Arabic-English codeswitching in Jordan has been a problem for many scholars. Some Arab linguists and educationalists were worried about the use of this phenomenon among the new generation. They considered the use of Arabic-English codeswitching could weaken Arabic

Language among Arab people as well as weakening Arab identity (Raba'h & Al-Yasin, 2017). However, discussing codeswitching in relation to cognates provide clear evidence supporting the role of bilingual mental mechanism in causing codeswitching. Also, this proof made codeswitching as a subconscious phenomenon where no blame on its users. Thus, codeswitching is a natural phenomenon can not be a problem or an impediment in front of any language.

The findings of this study had contributed to literature in several ways. Codeswitching had been the focus for many scholars. Studies differed in the way of discussing codeswitching. However, the most argumentative issue of codeswitching in literature was reasons of codeswitching (Njeru, 2015; Koostra et al., 2015; and Soto et al., 2018). Studies paid more attention discussing what causes codeswitching among bilinguals. In Jordan, Arabic-English codeswitching among undergraduates had been a focus for many researchers (Al-Hayek, 2016). However, most studies related codeswitching to social factors without discussing the effect of psycholinguistic factors such as cognates on codeswitching. Therefore, the current study contributed to knowledge of literature discussing Arabic-English codeswitching among undergraduates in Jordan in relation to cognates from psycholinguistic viewpoint. Hence, the current study provided deep explanation of what facilitated codeswitching.

Although the triggering relationship between codeswitching and cognates was still controversial in literature (Decker, 2020), this study showed there was strong relationship between Arabic-English codeswitching and cognates. The findings of the study showed that cognates facilitated Arabic-English codeswitching among undergraduates in Jordan. Also, there had been different results regarding types of cognates facilitating codeswitching. However, this study identified cognates facilitating codeswitching as mostly bilingual homophones as well as proper nouns,

lexical transfers, and semantic cognates. Semantic cognates were discussed in relation to codeswitching for the first time in this study. Moreover, the current study defined each type of cognates facilitating codeswitching. For example, proper nouns were defined as names of people, countries, languages, modern proper nouns, and proper adjectives. Lexical transfers represented words that were the same in two languages because they belonged to the same ancestor. Also, bilingual homophones were two words from two different languages having the same pronunciation. Semantic cognates were two words having the identical meaning in two languages appearing both in codeswitching.

Another argumentative point in the relationship between codeswitching and cognates was position of codeswitching to cognates. Studies differed in identifying position of codeswitching to cognates. However, the current study disputed the argument and provided deep explanation to positions of codeswitching facilitated by cognates. The findings of the study revealed that codeswitching occurs preceding, following, or combining cognates. Additionally, while studies such as Clyne (1967; 2003) and Broersma and DeBot (2006) in the Triggering Theory and many other researchers argued about the scope of cognate facilitation, the recent study showed cognates facilitating neighboring codeswitching in word level.

The relationship between codeswitching and cognates had been investigated counting the frequency of cognates in codeswitching. However, the results of frequency were not consistent to reveal the influence of cognates on codeswitching. The present study contributed to find efficient frequency of cognates in Arabic-English codeswitching making an evidence that cognates facilitating codeswitching. Likewise, the difference between cognates and non-cognates in bilingual speech had not agreed in literature (Iniesta, Rossi, Bajo, & Paolieri; 2021). Studies argued whether bilingual processed cognates faster and easier than non-cognates.

However, this study disputed this argument and showed that cognates were processed faster and easier than non-cognates in bilingual speech.

In addition, whereas most studies discussed the influence of cognates on codeswitching in L1 and L2 codeswitching context, this study added new knowledge to literature regarding L1 and FL codeswitching context. Also, most studies used spoken codeswitching to investigate cognate's effect. On the other hand, the current study enlarged the circle of cognate effect providing evidence for written Arabic-English codeswitching.

The study contributed to literature providing explanation in terms of bilingual mental mechanism. Broersma et al. (2020) considered studying cognates facilitating codeswitching resolving the problem of bilingual mental mechanism in literature. Thus, while cognitive mechanism of bilinguals was not agreed among scholars, the study provided answers to some questions regarding bilingual mental mechanism. One of the issues in bilingual mental mechanism was the bilingual lexicon. Robert (2017) stated that studies had not agreed whether bilingual languages shared the same integrated lexicon or used two separated lexicons. Furthermore, Hopp (2018) showed that one of the asked questions in recent studies was whether words of L1 share the same lexicon with words from L2. However, the present study answered this question that both L1 and L2 or FL shared the same integrated lexicon and languages activated each other.

Another argumentative point in bilingual mental mechanism was language access. There were not clear results regarding bilingual language access (Wang et al., 2020). Scholars investigated the nature of selection of bilingual languages for production. The results of the study indicated that bilingual language access was non-selective. Bilingual languages were both active and

competed during production. Bilinguals did not select between two languages for production, but both languages were possible to appear in speech.

6.2.2 Practical Contributions

The main significance of applied linguistic studies was to solve practical problems in society related to language. The results of this study that cognates were faster and easier than noncognates in bilingual speech contributed to language learning and other fields related to language. The findings served language learning supporting the role of L1 vocabulary in FL and L2. Mingorance (2010) found differences between cognates and non-cognates helping language learning. Also, Beinborn et al. (2013) considered cognates affect L2 learning. Teachers trained language learners about cognates to learn language successfully. Hence, this study contributed to language learning providing importance of cognates over non-cognates, types of cognates, and nature of cognates.

The study served translation and translators, too. Discussing codeswitching in relation to cognates and finding that cognates were faster and easier than non-cognates in bilingual speech served translation. Grasso et al. (2018) found cognates made bilinguals translated accurately. Thus, Translators benefited from cognate awareness. Therefore, the results of the current study served translators providing deep explanation regarding cognates.

The practical contribution of this study did not stop at language contexts. The study contributed to some fields related to language, too. For example, computational linguistics which discussed language for computational purposes benefits strongly from the results of the current study. Soto et al. (2018) stated “codeswitching presents serious challenges to all language technologies including machine translation and automatic speech recognition” (p:

1). Soto et al. (2018) added "one of the often asked but unresolved questions regarding codeswitching is whether there are particular conditions that facilitate or trigger its occurrence" (p: 1). Thus, the study provided cognates facilitating codeswitching.

6.3 Limitations of the Study

The study provided much information regarding the effect of cognates on Arabic-English codeswitching among undergraduates in Jordan. However, the study had met some limitations. These limitations were discussed in this part of the study.

The first limitation was the limited studies discussing semantic cognates. Hence, the study found many difficulties to define the semantic cognates. Therefore, the study used the dictionary and depended on the identical semantic cognates facilitating codeswitching.

Second, the nature of Arabic-English codeswitching in Facebook was difficult to read. Undergraduates in Jordan used numbers and symbols in their writing. Also, Arabic-English codeswitching among undergraduates in Jordan was written without focusing on the punctuation marks, spelling, and grammatical rules. Therefore, the Facebook communication using Arabic-English codeswitching appeared odd and difficult to read.

Also, the scope and the focus of the study limited the discussion from investigating the syntactic structure of Arabic-English codeswitching. Furthermore, the study did not discuss the effect of emotions on language selection. The emotion of the speaker during language production participates to select whether L1 or FL or L2. Also, the importance of codeswitching reasons made the researcher focusing less on the bilingual mental mechanism including bilingual lexicon and bilingual language access. Both bilingual lexicon and bilingual language access needed independent studies discussing them deeply.

6.4 Recommendations for Future Research

The study investigated the effect of cognates on Arabic-English codeswitching among undergraduates in Jordan. However, Arabic-English codeswitching among undergraduates in Jordan and other populations in Jordan needed more and more studies relating it to cognates. Future research can use different methods to reach more explanation about the effect of cognates on Arabic-English codeswitching.

Future studies should discuss the nature of Arabic-English codeswitching among undergraduates in Jordan. Undergraduates in Jordan use written Arabic-English codeswitching in a different style. This style included English orthography for both Arabic and English. Also, this codeswitching included numbers and symbols which make it unreadable. Also, undrgraduates in Jordan did not pay more attention in grammar, spelling, and punctuation marks. Hence, all these phenomena needed to be discussed deeply in order to make them readable and understandable.

Moreover, this study discussed the bilingual homophones as cognates facilitating ArabicEnglish codeswitching. These bilingual homophones were discussed as words that had the same sound between two languages. Identification of bilingual homophones were not enough because of limited studies identifying bilingual homophones. Future studies should concentrate more on identifying bilingual homophones, especially on cognates that have similar sound not only the same sound. There should be rubrics to identify similar bilingual homophones in two languages. Similarly, the study discussed semantic cognates as words that shared the same meaning in two languages appearing in the same sentence and facilitated codeswitcing. However, there should be studies discussing partial semantic cognates. Partial semantic cognates could be identified as words with the similar or even semantic meaning not only the dictionary meaning.

Furthermore, this study investigated the time response of cognates in codeswitching in order to contrast between using cognates and non-cognates in bilingual speech. This investigation was done using self-paced reading experiment by PsychoPy Software. Thus, the study gave future studies a validity of using such software to investigate the differences between cognates and non-cognates. Future studies should conduct studies in classrooms using this experiment and this software in order to provide more and more explanation for the advantage of cognates in FL and L2 learning.

The phenomenon of cognates and their advantage in bilingual speech had not had sufficient research. Scholars should pay more attention regarding this phenomenon enabling to solve a lot of bilingual language problems.

6.5 Conclusion

The current study explored cognates in relation to Arabic-English codeswitching Among undergraduates in Jordan. In Jordan, codeswitching itself was a problem and not acceptable among most scholars and educationalists. The negative view regarding Arabic-English codeswitching generated from relating codeswitching to sociolinguistic reasons. Sociolinguistic reasons made codeswitching as a conscious phenomenon. However, the psycholinguistic viewpoint changes codeswitching into natural subconscious phenomenon.

The discussion of cognates and codeswitching was still problematic where the nature of cognates is still vague. Studies differed regarding types of cognates affecting codeswitching, position of cognates to codeswitching, scope of cognate effect, and frequency and response time of cognates. However, the common study provided real authentic data representing explanation of cognates in relation to Arabic-English codeswitching among undergraduates in Jordan. The

study found that bilingual homophones were mostly cognates facilitating codeswitching everywhere in word level. Also, the frequency of cognates in codeswitching and response time of cognates over non-cognates proved the advantage of cognates in bilingual speech.

The study provided findings supporting subconscious codeswitching and making it natural phenomenon not affecting Arabic Language. Also, the study participated to explore cognates in relation to codeswitching. Moreover, the findings of the study proved the occurrence of two bilingual languages in the same part of the brain and bilinguals access their languages non-selectively. The current study participated to language learning and translation showing cognate advantage in bilingual speech.

For limitations, the study met some limitations relating to limited studies of semantic cognate, the nature of Arabic-English codeswitching. However, the study recommended other studies to pay more attention solving these issues.

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Appendix A Facebook Message to Reach Samples

ل ا ل ب ا ح ث م ر و ا ن ل ا ن ي ب ا ت

ط ا ل ب ك ت و ر ا ف ـ ي ج ا م ع ة ا ت ا ر ا ل ا م ل ي ز ي ة

ت خ ص ص ل ا غ ي ا ت ل ا ت ط ب ي ق ي ت ي ة ط ي ة

و ب ع د ,

ا ط ل ب م ن ش خ ص ك م ل ل ك ي م س ا ع ت ـ ي ف ـ ي ت ج ي ع ي ا ن ا ت ا ط ر و ح ة ل ل ك ت و ر ا ة ل ا م ت خ ص ص ب د ر ا س ة ل ل غ ة ل ل غ ي ط ق ي ن ل ا ع ر ي ة و ا ل ن ل ج ي ز ي ة ل ا م ت خ د م ة م ن ق ـ ل ط ا ل ب ل ا ج ا م ع ة ل ر ي ف ـ ي ق س م ل ل غ ة ا ل ن ل ج ي ز ي ة . ه ذ ه ل ا د ر ا س ة ت ت ط ل ب ت ج ي ع ج م ل ه ن ا ه ذ ا ل ن و ع م ن ل ا م ح ا ث ا ت ي ل ت ـ ه ل ي م و ب ف س ي ر ه م ه ن ل ا ن ا ج ي ة ل ا غ ي ة ب ت ط ل ب ه ذ ه ل ا د ر ا س ة ش ا ر ك ة 10 ط ا ل ب ـ ف ـ ي ح و ا ر ا ت م ن خ ا ل ل ص ف ح ة ى ل ى ف ي س ب و ك ي ت م ا ع د ا د ه ا م ن ق ـ ل ل ا ح ث ل ت ج ي ع ل ي ا ن ا ت .

ا ر ج و ل ا س ا ع د ف ـ ي ت ج ي ع ه ذ ه ل ا ع ي ن ة م ن ل ا ط ا ل ب , و إ ف ل ل ـ ي ع و ن ل ا ب د م ا د ا م ل ا ب ف ـ ي ع و ن أ خ ي ه

.

ا ر ج و ل ا ر د م ن خ ا ل ل ص ف ح ة ل ا ح ث ى ل ى ص ف ح ة ل ا ت و ا ص ل ف ي س ب و ك

https://www.facebook.com/marwan.thunaibat/

Appendix B Sample for Certificate of Appreciation Given to Participants

Appendix C Letters of Validity and Reliability for Self-Paced Reading Task

- **(1) First Survey of Validity**

Dear Sir,

This survey is conducted by Marwan Mohammad Al-Thunaibat, a PHD student from Universiti Utara Malaysia (UUM) in order to confirm validity and reliability of self-paced reading task. The self-paced reading task is used in experiment to collect data for a question in a PHD thesis among undergraduates in Jordan.

- The title of the thesis: "Effect of cognates on Arabic-English codeswitching among undergraduates in Jordan"
- Name of method: Self-paced reading task.
- Brief Outline of Method: This technique is used to collect quantitative data by setting up a situation (the experiment) that allows a respondent to read Arabic-English sentences including cognates and non-cognates. This self-paced reading experiment is used to collect data for one of five research questions. The focus of the experiment is to measure "Response time of cognates and non-cognates in Arabic-English codeswitching among undergraduates in Jordan."
- The sentences used in self-paced reading experiment including cognates and noncognates are shown in the following table:

Sentences used in the experiment	1- mbare7 $eft el **doctor** 2- lazem ne7dar **English** films 3- ay 7ada **can** travel there 4- homeh **they** don't have money 5- ma 3endi **friends** 6- kteer ashya2 **should** change 7- sa7bak **may** help you 8- shoof kaif el **tree**
Target words for measuring response	**Cognates:**

time (RT)	**1- Doctor (Lexical Transfer)** **2- English (Proper Noun)** **3- Can (Bilingual Homophone)** **4- Homeh (they)/ They** **Non-cognates:** **1- Friends** **2-Should** **3- May** **4- Tree**

Kindly, evaluate the questions of the interview through answering the following two questions:

1- How **reliable** is this method? [Circle one option]

1	**Highly Reliable**
2 **x**	
3	
4	
5	Neither Reliable nor Unreliable
6	
7	Very Low
8	
9	
10	

1- How **valid** is this method? [Circle one option]

1	**Highly Valid**
2 **x**	
3	
4	
5	Neither Valid nor Invalid
6	

7	Very Low
8	
9	
10	

Thank you for your participation in this academic work.

Appraiser's information
Name: Mohammad Alsaraireh
Degree: PhD in language studies and translation
Occupation**: Assistant Professor at Al-Balqa University in Jordan**
Email: mo_sar_1985@yahoo.com

- **(2) Second Survey of Validity**

Dear Sir,

This survey is conducted by Marwan Mohammad Al-Thunaibat, a PHD student from Universiti Utara Malaysia (UUM) in order to confirm validity and reliability of self-paced reading task. The self-paced reading task is used in experiment to collect data for a question in a PHD thesis among undergraduates in Jordan.

- The title of the thesis: "Effect of cognates on Arabic-English codeswitching among undergraduates in Jordan"
- Name of method: Self-paced reading task.
- Brief Outline of Method: This technique is used to collect quantitative data by setting up a situation (the experiment) that allows a respondent to read Arabic-English sentences including cognates and non-cognates. This self-paced reading experiment is used to collect data for one of five research questions. The focus of the experiment is to measure "Response time of cognates and non-cognates in Arabic-English codeswitching among undergraduates in Jordan."
- The sentences used in self-paced reading experiment including cognates and noncognates are shown in the following table:

Sentences used in the experiment	1- mbare7 $eft el **doctor** 2- lazem ne7dar **English** films 3- ay 7ada **can** travel there 4- homeh **they** don't have money 5- ma 3endi **friends** 6- kteer ashya2 **should** change 7- sa7bak **may** help you 8- shoof kaif el **tree**
Target words for measuring response time (RT)	**Cognates:** **1- Doctor (Lexical Transfer)** **2- English (Proper Noun)** **3- Can (Bilingual Homophone)** **4- Homeh (they)/ They**

	Non-cognates: **1- Friends** **2-Should** **3- May** **4- Tree**

Kindly, evaluate the questions of the interview through answering the following two questions:

2- How **reliable** is this method? [Circle one option]

1	**Highly Reliable**
2 **x**	
3	
4	
5	Neither Reliable nor Unreliable
6	
7	Very Low
8	
9	
10	

2- How **valid** is this method? [Circle one option]

1	**Highly Valid**
2 **x**	
3	
4	
5	Neither Valid nor Invalid
6	
7	Very Low
8	
9	
10	

Thank you for your participation in this academic work.

Appraiser's information
Name: Hamed Aljeradaat
Degree: PhD in Linguistics
Occupation**: Associate Professor at Mu'tah University in Jordan**
Email: hamed9452@yahoo.com

- **(3) Third Survey of Validity**

Dear Sir,

This survey is conducted by Marwan Mohammad Al-Thunaibat, a PhD student from Universiti Utara Malaysia (UUM) in order to confirm validity and reliability of self-paced reading task. The self-paced reading task is used in experiment to collect data for a question in a PHD thesis among undergraduates in Jordan.

- The title of the thesis: "Effect of cognates on Arabic-English codeswitching among undergraduates in Jordan"
- Name of method: Self-paced reading task.
- Brief Outline of Method: This technique is used to collect quantitative data by setting up a situation (the experiment) that allows a respondent to read Arabic-English sentences including cognates and non-cognates. This self-paced reading experiment is used to collect data for one of five research questions. The focus of the experiment is to measure "Response time of cognates and non-cognates in Arabic-English codeswitching among undergraduates in Jordan."
- The sentences used in self-paced reading experiment including cognates and noncognates are shown in the following table:

Sentences used in the experiment	1- mbare7 $eft el **doctor** 2- lazem ne7dar **English** films 3- ay 7ada **can** travel there 4- homeh **they** don't have money 5- ma 3endi **friends** 6- kteer ashya2 **should** change 7- sa7bak **may** help you 8- shoof kaif el **tree**
Target words for measuring response time (RT)	**Cognates:** **1- Doctor (Lexical Transfer)** **2- English (Proper Noun)** **3- Can (Bilingual Homophone)** **4- Homeh (they)/ They**

	Non-cognates: **1- Friends** **2-Should** **3- May** **4- Tree**

Kindly, evaluate the questions of the interview through answering the following two questions:

1- How **reliable** is this method? [Circle one option]

1	**Highly Reliable**
2	
3 x	
4	
5	Neither Reliable nor Unreliable
6	
7	Very Low
8	
9	
10	

1- How **valid** is this method? [Circle one option]

1	**Highly Valid**
2	
3 x	
4	
5	**Neither Valid nor Invalid**
6	
7	**Very Low**
8	
9	
10	

Thank you for your participation in this academic work.

Appraiser's information
Name: Atef Ahmad
Degree: PhD in linguistics
Occupation**: Associate Professor at Mu'tah University in Jordan**
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No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
		University life		
1.	I am studying bel jam3ah al **ordoniah** *I am studying at University of Jordan*	Ordonia	Proper noun	Preceding
2.	Ta5asus **English** language and literature *I specialize in English language and literature*	English	Proper noun	Preceding
3.	Studying sa3ba kteer bel **English** department *Studying English is very difficult at the English department*	Englsih	Proper noun	Preceding
4.	ana badros **English** language *I study English language*	English	Proper noun	Preceding
5.	bdros languages bl jam3a el **ordonyeh** *I study languages at the University of Jordan*	ordonyeh	Proper noun	Preceding
6.	Ta5asose **English** language. *My major is English language*	English	Proper noun	Preceding
7.	Bdrus **English** language w literature bl jam3a al**ordnyeh** *I study English language and literature at the University of Jordan*	1-English 2-Ordnyeh	1-2-Proper noun	Unidentified

8.	A7la madeh a5dthaa **he American** literature, l2nu **kant** m3 my favourite **professor**. *American literature was the best subject I have taken because it was with my favorite professor.*	1-he 2-American 3-kant 4-professor	1-bilingual homophone 2-Proper noun 3-bilingual homophone 4-lexical transfer	Unidentified

Appendix D Data Analysis

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
9.	I am studying **English** bl jam3ah el **urduneye** *I study English at the University of Jordan*	1-English 2-Urduneye	1-2-Proper noun	Unidentified
10.	ana bdros **english fe** eljam3a el**ordonyh** *I study English at the University of Jordan*	1-English 2-fe 3-Ordonyh	1-Proper noun 2-bilingual homophone 3-proper noun	Unidentified
11.	for me **had she** kteer s3b l2nu ma **kan fe** hek **she** bl school definitely *For me, this is so difficult because there was no such thing at schools definitely*	1-had 2-she 3-kan 4-fe 5-she	1-5 bilingual homophone	unidentified
12.	b7b Aro7 3la **American** corner m3nii by nature I'm shy bs forsa to break this *Although I'm shy by nature, I would like to go to the American corner to break this shyness.*	American	Proper noun	combined
13.	badrs **English** Language and literature *I study English language and literature*	English	Proper noun	Preceding
14.	First of all, esmi **7aneen** *First of all, My name is Haneen*	7aneen	Proper noun	Preceding
15.	my favourite one esmha **Dorothee** *The name of my favorite one is Dr. Dorothee*	Dorothee	Proper noun	Preceding
16.	Ana shahed Bdros **English** *I am Shahed and I study English*	Shahed	Proper noun	Preceding

17.	Ktheer b7eb el **English** and watching series *I love English and watching movies so much.*	English	Proper noun	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
18.	I am studying **English** bl jam3ah el **urduneye** *I am studying English at the University of Jordan*	1-English 2-urduneye	1-2Proper noun	Unidentified
19.	ana bdros **english fe** eljam3a el**ordonyh** *I study English at the University of Jordan*	1-English 2-fe 3-ordonyh	1-Proper noun 2-bilingual homophone 3-proper noun	Unidentified
20.	everyone thinks ino el **English** sa3eb bs to be honest eno hwa momte3 w kteer 7elo bs you need to study hard for it *Everyone thinks that English language is difficult, but to be honest, it is so interesting but you need to study hard*	English	Proper noun	Combining
21.	, ana bdros in the university of **Jordan**, ta5sus **englizy**. *I study at the University of Jordan, English major.*	1-Jordan 2-Englizy	1-2Proper noun	Unidentified
22.	Ana kteer ba7eb my **professors** *I love my professors so much*	Professor	Lexical transfer	Preceding
23.	A7la madeh a5dthaa **he American** literature, l2nu **kant** m3 my favourite **professor**. *The most interesting subject I took was American Literature because it was with my favorite professor*	1-he 2-American 3-kant 4-Professor	1-bilingual homophone 2-proper noun 3-bilingual homophone 4-Lexical transfer	Unidentified

24.	O most of my **professors** muta3aweneen o besa3dona, Bas we have to study so hard 3shan njeeb good marks	Professor	Lexical transfer	Combining

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	Also, most of my professors are interesting and cooperative, but we have to study so hard to get good marks.			
25.	fa mo3dam el **doctors** by3mlo groups ltdom el students *most of the doctors set groups to combine students*	Doctor	Lexical transfer	Combining
26.	Sorry to say that bs kman el **doctors** do that *Sorry to say that even doctors do the same thing*	Doctor	Lexical transfer	Preceding
27.	w 3'er 3n eno eza msh elnos most of our **doctors** ma 3m yltzmo b w2t el lecture w hek ana btl 3ndi w2t la ay eshiii tanii *In addition, most not the half of our doctors are not punctual to lectures and I do not have time for anything else.*	Doctor	Lexical transfer	Combining
28.	Kter b7b al uni wl **doctors** yali fiha *I love the university and the doctors there*	Doctor	Lexical transfer	Combining
29.	el **dkatra** for literature courses kteer mnah w kind. *Mostly, doctors of literature courses are very good and kind.*	Dkatra	Lexical transfer	Following

30.	And the subjects generally s3ben but **aldakatreh** kteer mna7 u mut3aunen kteer.	Dakatreh	Lexical transfer	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	Also, the subjects are generally difficult but the doctors are so pleasant and interesting.			
31.	Baheb ag3od bl breaks m3 sahbatii w nshrab **coffee** *I like to sit in the break time with my friends to drink coffee*	Coffee	Lexical transfer	Preceding
32.	Baheb a23od bl jam3a akol ana o sahbati, aw neshrab **coffee** or tea *I like to sit at the university with my friends to eat or drink coffee or tea*	Coffee	Lexical transfer	Preceding
33.	Like religion, **flsfehh**, science w kteer asheea2 interesting. *Such as religion, philosophy, science and many interesting things*	Flsfehh	Lexical transfer	Combining
34.	Deraset el lo3'at in my opinion sehleh bas to be honest bedha momaraseh o motab3a **mn** el students *In my opinion, studying languages is easy, but to be honest, it needs practice from students*	Mn (from)	Bilingual homophone	Combining

35.	A7la madeh a5dthaa **he American** literature, l2nu **kant** m3 my favourite **professor**. *The best course I took was American*	1-He (it) 2-American 3-Kant (was) 4-professor	1-Bilingual homophone 2-proper noun 3-bilingual homophone 4-lexical transfer	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	Literature because it was with my favorite professor			
36.	Kman mra, as I mentioned baheb t5sosii kteer, l2nu **had** el t5sos tackles kteer jwanb **mn** el hyaah. *Also, as I mentioned before, I love my major because this major tackles many things life aspects*	1-Had 2-Mn	1-2Bilingual homophone	Preceding
37.	W kol hdaa bea5odd literature courses **mn** el faculty tb3tnaa **can** release ili 3m bhkii feu in this comment *Each one taking literature courses at our faculty can release what I am talking about in this comment*	1-Mn 2-Can	1-2Bilingual homophone	Combining
38.	for me **had she** kteer s3b l2nu ma **kan fe** hek **she** bl school definitely *For me, are very difficult because there were no such exams at schools*	1-Had 2-She 3-Kan 4-Fe 5-She	1-5Bilingual homophone	Combining
39.	feha **amaken for** studying wa **places3ashan** tejles ma3 your friends. *there are places for studying and places for sitting with friends.*	Amaken for/ places 3ashan	Semantic cognates	Unidentified

40.	Kter b7b al **laughat** like I am passionate about learning new **languages** *I love languages so much, and I am passionate about learning new languages*	Laughat/ Languages	Semantic cognates	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
		A favorite character		
41.	ra7 a7ki 3n **French** writer esmu **Victor** Hugo *I am going to talk about French writer, Victor Hugo*	1-French 2-Victor	1-2 Proper noun	unidentified
42.	Aktr figure bhbha he the great novelist **Mary Shelley** *The most favourite figure for me is the great novelist Mary Shelley*	Mary Shelley	Proper noun	unidentified
43.	Howa shakhsyeh syaseh kter muhemh bl **French** history *He is very important politician in the French history.*	French	Proper noun	Preceding
44.	in general b7b alsongs **al3arbyeh** al **ordnyeh** w mughanenha l2nu this makes me proud as a **Jordanian** *In general, I like Arabic Jordanian songs and signers because this makes me proud as Jordanian*	1-3arbyeh 2-Ordnyeh 3-Jordanian	Proper noun	Unidentified
45.	hey kman kteer clever in kter sh3'lat zay **Arabic** language w Poetry. *She is very clever in many things such as Arabic language and poetry.*	Arabic	Proper noun	combining
46.	Most importantly, **kanat Mary** feminist gabal ma tkonn aslan krt el feminism mwajoddeh on earth *Most importantly, Mary was a feminist before the feminism appearing on the earth*	1-kanat 2-Mary	1-bilingual homophone 2-Proper noun	Unidentified

47.	**Mn** joze2 1 -10 **fe Iraq** w **Palestine** *From part 1-10 in Iraq and Palestine*	1-mn 2-fe 3-Iraq	1-bilingual homophone 2-bilingual homophone 3-proper noun	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
		4-Palestine	4-Proper noun	
48.	Honestly, the first person came to my mind hwehhh my **mom**. *Honestly, the first person came to my mind was my mom.*	Mom	Lexical transfer	Preceding
49.	**Mama** is my friend w o5tiii w hayatiii kolhaaa. *My Mum is my friend and my sister and all my life.*	Mama	Lexical transfer	Following
50.	When I saw the question ma 5tarly 3'er eno a7ky 3n **baba** *When I saw the question, the only think came to my mind was talking about my father*	Baba	Lexical transfer	Preceding
51.	**kan** 3nda kter mshakel with her family especially her father *she had many problems with her family, especially her father*	Kan	Bilingual homophone	Following
52.	awl eshii homeh mnfslen and both of them etzawjo w hyh **kant** 3aysheh with her grandma *First, they were divorced and both of them married, so she was living with her grandma*	Kant	Bilingual homophone	Combining

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
53.	w kman **she** helped even others to share their works kman *And she helped even others to share their works, too.*	She	Bilingual homophone	Combining
54.	w ana t2rebn wslt my second year bl university lhata hyh nj7t w hon **she** started her journey *and when I was in my second year at the university, she started her journey.*	She	Bilingual homophone	Preceding
55.	y3ni mafe **hada can** y3teha flos bs **she had** never asked **anyone** for anything actually, there was no one giving her money, but she had never asked anyone for anything	1-hada/anyone 2-Can 3-She 4-Had	1-semantic cognates 2-bilingual homophone 3-bilinguah homophone 4-Bilingual homophone	Unidentified
56.	lw ana kont in her situation **kan** jd most7el a2dr akml anything w kont ma b3rf what to do aw 7ata from where i **had** to begin *If I were in her situation, it was impossible for me to complete anything and to know what to do or even from where I begin*	1-Kan 2-Had	1-2Bilingual homophone	Unidentified
57.	also **she** is an amazing artist l2nu lget 2nha btursum kteer 7elu *Also, she is an amazing artist because she was drawing nice.*	She	Bilingual homophone	Following

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
58.	and 2ktshft inah 7ada kteer creative be kul **she** bt3meluh *Also, I discovered that she was creative in everything she does.*	She	Bilingual homophone	Preceding
59.	also **she** go shopping by herself u ma bt3temd 3ala someone in her life and **she** live alone *Also, she goes shopping by herself, and she does not depend on anyone in her life, and she lives alone.*	1-She 2-she	1-2Bilingual homophone	Unidentified
60.	. **He**'s one of my favourite writers enu jad you never get bored lama taqra2lu kotb *He is one of my favorite writers because you never get bored when you read his books*	He	Bilingual homophone	Following
61.	Aktr figure bhbha **he** the great novelist **Mary Shelley** *The most figure I love is the great novelist, Mary Shelley*	1-He 2-Mary	1-Bilingual homophone 2-proper noun	Unidentified
62.	Lma el **wahad** y8r2 el literary works tb3haa **one can** realize gadeesh **he** hdaa smart *When you read her literary works, you can realize her smartness*	1-Wahad/one 2-Can 3-He	1-semantic cognates 2-Bilingual homophone 3-Bilingual homophone	Combining

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
63.	Hyat.haa **kanat** kteer difficult w **she** struggledd b mo3zamha *Her life was difficult, and she was struggled in most of her life.*	1-Kanat 2-She	1-2Bilingual homophone	Unidentified
64.	Most importantly, **kanat Mary** feminist gabal ma tkonn aslan fkrt el feminism mwajoddeh on earth *Most importantly, Mary was feminist before initiating idea of feminism*	1-Kanat 2-Mary	1-Bilingual homophone 2-proper noun	Combining
65.	Her husband **Persey** Shelly **kannmn** aktr el nas supportive elhaa Her husband, Persey Shelly, was the most person supportive to her,	1-Persey 2-Kann	1-proper noun 2-Bilingual homophone	Unidentified
66.	m3 enuu b kteer awgat **he** mistreated her l2nuu as a literary figure **kann** 3nduu afkar m3ayneehh bl lifestyle *However, in many situations, he mistreated her because he had other perspectives regarding her literary works*	1-He 2-Kann	1-2Bilingual homophone	Combining
67.	w bt5lii el human beings yfkr enu at that time **kann fe** hdaa haekk 3ayesh *This makes human beings to think that, at that time, there were such living people*	1-Kann 2-Fe	1-2Bilingual homophone	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
68.	w 3m bewajeh kteer problems bs m3 haek **she** didn't give up abdann *Although she had many problems, she did not give up.*	She	Bilingual homophone	Combining
69.	**he** decided to work and study bnfs elwa8t *He decided to work and study at the same time*	He	Bilingual homophone	Following
70.	**Ba3den after he** graduated **mn** el University hwe 8rar eno lazm y5li my father to complete his study *Also, after he graduated from the university, he decided that my father should complete his study*	1-Ba3den/after 2-He 3-Mn	1-semantic cognates 2-Bilingual homophone 3-Bilingual homophone	Unidentified
71.	W 8dr y7a88 all what **he** wanted *He could achieve all what he wanted*	He	Bilingual homophone	Preceding
72.	Lamaa akon b7ajet 7daa aw 2e **sheee she** is always there for me *When I need anyone for help or anything, she is the first person to think about*	1-Sheee 2-She	1-2Bilingual homophone	Unidentified

73.	belnesbeh ele my favorite character my ante (mother's sister) cuz **he** kteer 7da tamoo7	He	Bilingual homophone	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	According to me, my favorite character is my ante (mother's sister) because she is very ambitious			
74.	Hye really **can** do many things, hye lawyer and hey kman kteer clever in kter sh3'lat zay **Arabic** language w poetry. *She really can do many things, she is a lawyer and she is very clever at many things such as Arabic language and poetry*	1-Can 2-Arabic	1-Bilingual homophone 2-proper noun	Combining
75.	**She** is the best bel nesbeh l2ly *She is the best in my viewpoint*	She	Bilingual homophone	Following
76.	I **can't describe** him in words in a comment l2no it is not enough l2a2der **awsef** sh5s mtlo *I can't describe him in words or a comment because it is not enough to describe such a person*	1-Can't 2-describe/awsef	1-Bilingual homophone 2-semantic cognate	Unidentified
		Corona routines		

77.	Eza mredt hata law eshi 5fef direct bft7 **google** to search for the **Coronavirus** symptoms *If I get sick even if the sickness is mild, I directly open the Google to search for Corona Virus symptoms*	1-Google 2-Coronavirus	1-2Proper Noun	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
78.	awl eshiii all of us fkrna eno hwa eshii b3ed 3na w ma r7 yosal **Jordan** abdan *First, all of us thought that it was far from us and it will not reach Jordan ever.*	Jordan	Proper noun	Combining
79.				
80.	mnu to improve my **english** skills wmnu eni 3m btsla *First of all, to improve my English, and I am having fun.*	English	Proper noun (proper adjective)	Combining
81.	Nws3 elmjal shwi our friends ele homeh asasn ajaneb ele 3ayesh b **Italy** w ele b USA *We should open up, our friends, for those living abroad in Italy and USA*	Italy	Proper noun	Combining
82.	El hyah m3 **corona** has become really boring *The life has become really boring with Corona*	Corona	Proper noun	Preceding
83.	**Corona**virus ymken blyoom bsm3haa more than 1000 times *I hear Corona Virus more than 1000 times every day.*	Coronavirus	Proper noun	Following

84.	Eza mredt hata law eshi 5fef direct bft7 **google** to search for the **Coronavirus** symptoms *If I get sick even if the sickness is mild, I directly open the Google to search for Corona Virus symptoms*	1-google 2-Coronavirus	1-2Proper noun	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
85.	I hate any word bt5os mawdo3 **coronavirus**, cuz bsm3 hay el kelmeh kteer *I hate any word regarding Corona Virus because I hear this word many times.*	Coronavirus	Proper noun	Combining
86.	**CORONAVIROS** Inshallah benthi gareebn u bnrj3 la 7ayatna al6be3eh *Corona Virus will end soon and we will come back to our real life.*	Coronavirus	Proper noun	Following
87.	In my opinion el quarantine 8rar momtaz a5datoh el dawleh 3shan t7mina **mn** intishar the **coronavirus** *In my opinion, the quarantine is a good decision from the government in order to save us of spreading CoronaVirus.*	1-mn 2-Coronavirus	1-bilingual homophone 2-Proper noun	Unidentified
88.	Part three hweeh **coronavirus**, *Part three is Corona Virus*	Corona	Proper noun	Preceding
89.	w7drt km **film** wmsualal bs bl **fransi** *I watched some films and series but in French language*	1-Film 2-Fransi	1-Lexical transfer 2-proper noun	Unidentified
90.	Tips: e7dru **films** 8ad ma tqdru, eqrr2u wlazm ttdrsu *Tips: watch films as much as you can, read, and you should study*	Film	Lexical transfer	Combining

91.	w la7ad el an 7dert 3 **films** *Up to now, I watched 3 films*	Film	Lexical transfer	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
92.	Instead of focusing on the **virus** ehna 3m n3ml kol johdna to keep them blbyoot *Instead of focusing on the virus, we paid much attention to keep people inside their homes.*	**Virus**	**Lexical transfer**	Following
93.	I hope eno yroo7 **had** el **virus** w nrj3 l our normal life. *I hope that the virus ends and we go back to the real life*	1-had 2-Virus	1-bilingual homophone 2-Lexical transfer	Combining
94.	I hope eno nrja3 n3ee$ with out the **virus** and back to university . *I hope that we go back to live without the virus and go back to the university*	**Virus**	**Lexical transfer**	Preceding
95.	daily **routine** kteeer malaal, but on the other side I read books watching series and movies *The daily routine is so boring, but on other hand, I have read books and watched series and movies*	**Routine**	**Lexical transfer**	Following
96.	w tb3an **had** sbbli anxiety *Also, this thing causes anxiety for me*	Had	Bilingual homophone	Following

97.	W finally, el **akellll**, ktteer sorna n5bsss w nakol junk **foods** w in b proportions kbeereh w kol **had** el t5bees is out of boredom.	1-akellll/food 2-had	Bilingual homophone	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	Finally, regarding the food, we ate a lot of junk food, and this thing was because of boredom.			
98.	Sara7a I'm being happy m3 **had** al quarantine, bs I'm spending the day naymeh *Honestly, I'm happy regarding this quarantine because I spend the whole day with sleeping*	Had	Bilingual homophone	Combining
99.	3'er eno no **one can** come to our house w e7na ma b**n2dr** nro7 3nd **hada** kman *No anyone can come to our house, and we cannot visit anyone.*	1-one/hada 2-can/n2dr 3-can	1-semantic cognates 2-semantic cognates 3-Bilingual homophone	Unidentified
100.	eza **fe** eshi mohem w lazm ttl3 you have to call 911 *If there is anything important to go out, you should call 911*	Fe	Bilingual homophone	Following
101.	kteer nas khesrt kteer flos because they **can't** open their shops *Many people lost much many because they can't open their shops.*	Can't	Bilingual homophone	Preceding
102.	y3ni eza **fe** nas bdhom ysa3dohom they **cannot** now l2no mmno3 hada ytl3 *Actually, if there are people helping them, they cannot because it is prohibited to go out.*	1-Fe 2-Cannot	1-2Bilingual homophone	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
103.	I Hope 3njd eno yn7l elmwdo3 b asr3 w2t w nrj3 l our life style zy ma **kant** aw 7ta a7sn ya raab *I hope the problem get solved soon, and we go back to our usual life or even better life.*	Kant	Bilingual homophone	Preceding
104.	**Had she** kteer shufna examples 3aleh 5elal fatret el7ajer. We have seen many examples of it during the quarantine.	1-Had 2-She	1-2Bilingual homophone	Following
105.	In my opinion el quarantine 8rar momtaz a5datoh el dawleh 3shan t7mina **mn** intishar **coronavirus** *In my opinion, the quarantine is a good decision taken by the government in order to save us from the spreading of Corona virus*	1-mn 2-coronavirus	1-Bilingual homophone 2-coronavirus	Unidentified
106.	bas bra2ye lazem nst3'l **had** el wa8et l2no each of us **had** postponed actions such as reading a book, draseh mo2ajaleh *In my point of view, we should benefit from this time because we had already postponed actions such as reading books, studying*	1-Had 2-Had	1-2Bilingual homophone	Unidentified

107.	so **had** el wa8et altaweel **fee** el home momken ysa3ed l2enjaz akbar 8radar **mn** al2ashya2. *So this long time at homes could help to*	1-Had 2-Fee 3-Mn	1-3Bilingual homophone	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	achieve many things.			
108.	, **okeef** akoon myself **and how** to be happy *And how to be myself and how to be happy*	O keef/ And how	Semantic cognates	Unidentified
109.	W **homeh they** don't have money to get their basic stuff to live *And they don't have money to get their basic stuff for living*	Homeh/ They	Semantic cognate	unidentified
110.	we **stay** at home wl **23deh** bl home kteer give negative energy. *we stay at homes and staying at homes gives negative energy*	Stay/ 23deh	Semantic cognates	Unidentified
111.	elayam sart **same** , **nfs** el behavior nfs kol shi *Days became the same, the same behavior and the same in all things*	Same/ nfs	Semantic cognates	Unidentified
112.	**W** ana kol yoom b7l my assignment **and** after that b79'ar movie *And I do my assignments every day and after that I watch movies*	W/ And	Semantic cognates	Unidentified
Internet use				
113.	sara7a, w3m ba7'9r **videos** kter kul yum bl **English** *Honestly, I watch English videos everyday*	1-Video 2-English	1-Lexical transfer 2-proper noun	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
114.	Bs elnas ele b7bo ynzlo swr w **videos** they can use the **Instagram** and so on *However, the people who like to share pictures and videos can use Instagram and so on*	1-Video 2-instagram	1-Lexical transfer 2-proper noun	Preceding
115.	**Fe** elo kteer benefits *There are many benefits for it*	Fe	Bilingual homophone	Following
116.	w **fi** ba3d el a7yan momkin t3rd 7yatna ll**5tr** 3n 9ree8 al ta3amol m3 **dangerous** people) . *sometimes, it may cause dangerous to our life through dealing with dangerous people*	1-fi 2-5tr/dangerous	1-Bilingual homophone 2- semantic cognates	Unidentified
117.	Also for students **fee** some students best5dmuh be shakel sa7ee7 for learning, and assignement *Also, for students, there are some students use it in a good way for learning and assignments*	Fee	Bilingual homophone	Combining
118.	And definitely **fee** some students best5demuh b$kel kteer sae2 *Also, definitely, there are some students who use it in a very bad way*	Fee	Bilingual homophone	Combining

119.	for me I **can** contact with native speaker **lelbla3'ah** ele bt3lmha m$an akeed akun **fluent** feha. *For me, I can contact with native*	1-Can 2-lelbla3'ah/fluent	1-Bilingual homophone 2-semantic cognates	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	speakers to be fluent in the language			
120.	But in the same time **fee** a5bar u e$a3at 3ala el **internet** ma betkun sa7e7h *However, in the same time, there are news and things on the Internet which are not true*	1-Fee 2-internet	1-Bilingual homophone 2-proper noun	Unidentified
121.	It's part **mn** haytna *It is a part of our life*	Mn	Bilingual homophone	Preceding
122.	Deman a7wl to choose ma3lomat al sa7 **mn** ma9adreh l2no my major kulh tari5ii *I always try to choose true information from good resources because my major relates to history*	Mn	Bilingual homophone	Combining
123.	Al elmasawe2 kteerh like al **Instagram** l2nw b7wel al wa7d show **shi** al positive **fe** hayato *The disadvantages are many such as Instagram because people try to show positive things in their life*	1-Instagram 2-Shi 3-Fe	1-proper noun 2-Bilingual homophone 3-Bilingual homophone	Unidentified
124.	W aktar **shi** bdeqnii 2no al bloggers 9arw yfhmo be kul **shi** *The worst thing is that bloggers became familiar of all things*	1-Shi 2-shi	1-2Bilingual homophone	Unidentified

125.	For example lma ykon m5ta9 bl **modah** wl **fashion** btlaqi bfhm bl health w sport w be kul **shi**	1-modah/fashion 2-Shi	1-semantic cognates 2-Bilingual homophone	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	For example, when a person is a specialist of fashion, he becomes knowing about health, sport, and all things			
126.	Awl eshi we **can** use it ay w2t ehna bdna ay mosa3dh b ay aspect *The first thing that we can use it anytime and and for any aspect*	Can	Bilingual homophone	Combining
127.	Tani eshi you **can** find many resources to depend on *The second thing, You can find many resources to depend on (through Internet)*	Can	Bilingual homophone	Preceding
128.	Ma nnsa kman el thesis kman we **can** find it online *We will not forget theses that we can find them online*	Can	Bilingual homophone	Preceding
129.	El influencer hay elayam kterr 3m ystfedo **mn** el followers ele 3ndhom to make money *These days, influencers use their followers to make money*	Mn	Bilingual homophone	Combining
130.	So eza ana bs 5let elnas ele I **can** trust them b2dr a7ki eno yes I **can** get easily to the important news *Thus, if I keep the people whom I trust only, I can say that I can get easily to the important news*	1-Can 2-can	1-2Bilingual homophone	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
131.	B3rff enuu **fee** kteer disadvantages eluu bs el wahad begdar y3ml control ll treega eli best5dmuu fehhaa *I know that there are many disadvantages for it, but anyone can make control for the way of using it*	fee	Bilingual homophone	following
132.	be3tamd **had** 3la the way that the person besta5dimoh w el awareness level *It depends on the way that a person uses and the awareness level*	Had	Bilingual homophone	Following
133.	It has a lot of advantages **mn** elna7ieh eldraseih w hwe msdr asasi for informations w lessons *It has a lot of advantages in the side of study, and it is a main source for information and lessons*	Mn	Bilingual homophone	Combining
134.	Ama bl social sites you **can't** of course *According to the social sites, you can't of course*	Can't	Bilingual homophone	Preceding
135.	Ya3ni akeed we **can't** trust any page *It means that we cannot trust any page*	Can't	Bilingual homophone	Preceding
136.	akeed **fe** pages that they are mo5tash bl news w a3'lb el people believe them *Of course, there are pages specialized in news and most people believe them*	Fe	Bilingual homophone	Following

137.	W2lo benefits kteer w 5susn bl studying l2no **fe** many courses depend on it *It has many benefits and especially for*	Fe	Bilingual homophone	Combining

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	studying because there are many courses depending on it			
138.	F zay ma elo advantages **fee** lo disadvantages *As the adavantages it has, it has disadvantages, too.*	Fee	Bilingual homophone	Combining
139.	But at the same time **fee** elo kteer disadvantages *But at the same time, there are many disadvantages.*	Fee	Bilingual homophone	combining
140.	So lazem yle b**yst5dm**o ykon hares w y3rf how we must **use** it *So, users should be careful and know how to use it*	Yst5dm/ Use	Semantic cognate	Unidentified
141.	Sar el **internet** business kman *The Internet has become business, too.*	Internet	Proper noun	Combined
142.	Ma 7ad begdar ynkor el importance tb3 el **internet** nowadays *No one denies the importance of internet nowadays.*	Internet	Proper noun	Preceding
143.	bahesss, on a personal level, maa bgdar at5eal hyatii bla ma ykon **fe internt** w social media *I feel, on a personal level, that I can not imagine my life without the Internet and social media*	1-fe 2-Internet	1-bilingual homophone 2-Proper noun	Combined

144.	Anaa bgdar ahkii enu kteer bstfeed **mn** el **internet**, *I can say that I strongly benefit from the Internet*	1-mn 2-Internet	1-bilingual homophone 2-Proper noun	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
145.	br2yeii el **internet** eshii momtazzz bs lazeem el wahad y3rf how to deal with it *In my opinion, the Internet is an important thing, but people should know how to deal with it*	Internet	Proper noun	Combining
146.	there are a lot of advantages w masawe2 of el**net** *There are a lot of advantage and disadvantages for the Internet*	Net (Internet)	Proper noun	Preceding
147.	of course el**internet** masdr for entertainment bs bdon wasting eltime *of course, the Internet is source of entertainment, but without wasting time.*	Internet	Proper noun	Combining
148.	Akeed elstudents they use el**internet** be shakel sa7ee7 because we spend the most of our time bndros 3la **elinternet** *Of course, the students use the Internet correctly because we spend the most of our time studying using the Internet*	Internet	Proper noun	Unidentified
149.	bne3tamed on **internet** bshakel asasi *We depend basically on the Internet*	Internet	Proper noun	Combining
150.	like everything else in life, **internet** has some great aspects and some negative and it all depends on us kef a7na mnstkhsmu, *Like everything else in life, the Internet has some great aspects and some negative points, and it depends on how we use it.*	Internet	Proper noun	Following

151.	Of course the **internet** become 3unsur asasi be kul home, school, university, bank, company and everywhere *Of course, the Internet has become an essential element in all homes, schools, universities, banks, company and everywhere.*	Internet	Proper noun	Following

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
152.	Also in the restaurant or any shop the **internet** exists because kul **$i** 7len bekun **men** 5elaluh such as online ordering, see the products or read the menu for some shops. *Also, the Internet exists in a restaurant or any shop because everything occurs through it such as online ordering, seeing the products and reading the menu for some shops.*	1-Internet 2-$i 3-men	1-Proper noun 2-bilingual homophone 3-bilingual homophone	Unidentified
153.	Akeed **fe** advantages w disadvantages for everything as well as the **internet**. *Of course, there are advantages and disadvantages for everything as well as the Internet*	1-fe 2-Internet	1-bilingual homophone 2-Proper noun	Unidentified
154.	Etha **kan** est5dam sa7e7 akeed btkun hay fa2edh w etha kan est5dam sae2 btkun men msau2 el **internet** *If it is used correctly, of course, it is an advantage, but if it is used badly, it is a disadvantage of the Internet*	1-kan 2-Internet	1-bilingual homophone 2-Proper noun	Unidentified
155.	And that means enu kul $a5es u kef best5dem el **internet** *And that means (depends on) every person and how they use the Internet*	Internet	Proper noun	Preceding
156.	Keef ast5dem el **internet** be shakel mufed la derasty *How could I use the Internet in beneficial way for my study*	Internet	Proper noun	Combining
157.	But in the same time **fee** a5bar u e$a3at 3ala el **internet** ma betkun sa7e7h *But in the same time, there are news and rumours on the Internet which is fake*	1-fee 2-Internet	1-bilingual homophone 2-Proper noun	Combining

158.	El **internet** sar eshy asasi in our lives *The Internet has become an essential thing in our lives*	Internet	Proper noun	Combining

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
159.	Akeed ma mnst3'nah 3n al **net** *Of course, we cannot dispense with the Internet*	Net (Internet)	Proper noun	Preceding
160.	El **internet** akeed hwe sh3'le important l7yatna *Of course, the Internet is an important feature in our life*	Internet	Proper noun	Combining
161.	tb3n el **internet** we use it for fun and waste our time *of course, we use internet for fun and waste our time*	Internet	Proper noun	Preceding
162.	Although **internet** has many benefits bs kman **fe** l2lo salbeyat, such as eno it doesn't has a safety *Although the Internet has many benefits, it has disadvantages such as it does not have safety.*	1-Internet 2-fe	1-Proper noun 2-bilingual homophone	Unidentified
163.	W **fe** kman sh3'leh eno nowadays el **internet** make our life easy and fast *Also, there is another thing that nowadays, the Internet makes our life easy and fast.*	1-fe 2-Internet	1-bilingual homophone 2-Proper noun	Unidentified
164.	Lw ma **fe internet** kan ma 3refet 23mal my homeworks *If there is not Internet, I do not know how to do my homework*	1-fe 2-Internet	1-bilingual homophone 2-Proper noun	Unidentified
165.	After that badrs or bakhod course 3la **net** *After that, I study or I take a course on the Internet*	Net (Internet)	Proper noun	Preceding

166.	For me there is no disadvantages l2no eza bdna nfkr feha we use the **internet** not the **internet** use us *For me, there are not disadvantages (for the Internet) because when we imagine this point (we found) that we use the Internet not the Internet use us*	1-Internet 2-Internet	1-2Proper noun	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
167.	W mtl ma **fi** ll **internet** ejabiyat **fi** a$ya2 silbiyeh *Also, as the advantages for the Internet, there are disadvantages*	1-fi 2-Internet 3-fi	1-bilingual homophone 2-Proper noun 3-bilingual homophone	Unidentified
168.	Ana br2yeh el students lazim ynzmo aw8at joloshom 3l **internet** *In my opinion, students should organize their time while sitting to use the Internet*	Internet	Proper noun	Preceding
169.	Al **internet** has a huge part b7yatna *The Internet has a huge part in our life*	Internet	Proper noun	Combining
170.	F law ma **fi internet** I think won't do the things I do now *Thus, if the Internet does not exist, I think I cannot do the things I do now.*	1-fi 2-Internet	1-bilingual homophone 2-Proper noun	Preceding
171.	at the end of the book laget the **instagram** account elha *At the end of the book, I found her Instagram account*	Instagram	Proper Noun	Combining
172.	Al elmasawe2 kteerh like al **Instagram** l2nw b7wel al wa7d show **shi** al positive **fe** hayato *Disadvantages are many such as the Instagram because it makes a person showing positive things in his life.*	1-Instagram 2-shi 3-fe	Proper Noun	Unidentified
173.	w b3d el **doctors** byst5dmo applications tanieh like **what'sApp zoom**, **edumode**,...etc *Also, some doctors use other applications such as WhatsApp, Zoom, Edumode.. etc*	1-doctors 2-WhatsApp 3-Zoom 4-Edumode	1-lexical transfer 2-4Proper Noun	Unidentified

174.	Ana as a student daimen bst5dmo especially al **youtube** w **google**	1-Youtube 2-Google	1-2Proper Noun	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	As a student, I always use it, especially Youtube and Google			
175.	For example elnas ele they prefer to give their piece of advice aw ysharko afhkarhom they **can** use **facebook**, **Twitter** *For example, people who prefer to give their piece of advice or share their thoughts can use Facebook and Twitter*	1-can 2-Facebook 3-Twitter	1-bilingual homophone 2-3Proper Noun	Preceding
176.	Especially el **Youtube** bnestafed **mn** el **Youtube** aktr **mn** our **doctors** in the university *Especially, YouTube can help us more than our doctors in the university*	1-Youtube 2-mn 3-Youtube 4-mn 5-doctors	1-Proper Noun 2-bilingual homophone 3-proper noun 4-bilingual homophone 5-lexical transfer	Unidentified
Friendship				
177.	**Mn** wjhet nzari, el saheb hoeh awal hda that comes to my mind lmaa akoon mhtajehh ahkiii m3 hdaa *In my point of view, a friend is the first person comes to my mind when I need to talk.*	Mn	Bilingual homophone	Following
178.	W bgdar a2meenn 3la **had** el friend *Also, I can trust this friend*	Had	Bilingual homophone	Following

179.	Brdu baheb my friend tkoon 3arfeh enu **fe** ashea2 btz3jniii fa bttjnb t3mlhaa *Also, I prefer my friend to be familiar*	Fe	Bilingual homophone	Preceding

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	that there are things annoying me to avoid them			
180.	w when **she** sees I am in trouble awal hda beejii ysa3dnii btkoon heeh. *And when she sees me in trouble, she has to be the first one to help me*	She	Bilingual homophone	Combined
181.	Lazm ykonn **fe** differences bennaa bs akeed we both have to respect ara2 b3ddd *There can be differences between us, but we both should respect the perspective of each other*	Fe	Bilingual homophone	Following
182.	Anaa **mn** el nas eli I struggled l 7ta laget el sahbehh el sahh *I am from these people who suffered to find a good friend*	Mn	Bilingual homophone	Following
183.	Bkhusus almadaher, it's true 100% enu **fe** friendships based on looks only. *According to appearance, it is true 100% that there are friendships based on looks only.*	Fe	Bilingual homophone	Combining
184.	w anyway **had** al eshi ll asaf khla kter nas t9eer fake on how they look *Anyway, unfortunately, this thing made many people to be fake on how they look*	Had	Bilingual homophone	Combined

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
185.	how to deal with the problems and how to control yourself bkteeer ashaya2 rh tser m3k **kan** kl hada fena 3ndo rdt f3l m5tlfh *How to deal with problems and how to control yourself in many situations happening with you because each one has his reaction.*	Kan	Bilingual homophone	Preceding
186.	sa7bati ele kano blsakan knt kteeer atl3 w aji m3hom w nshr sawa w **kan** elmwdo3 bjnn w sa7abtii ele ana tol 3mri with them *My friends who were in the accommodation and I spent nights and my friends whom I spent my life with them*	Kan	Bilingual homophone	Following
187.	ektshft eno **fe** 7yatna ma bnf3 n7ot kol our expectations b one person *I discovered that in our life it is not right to trust all people*	Fe	Bilingual homophone	Following
188.	ana saraha mo mn elnas ele bsor3a mmkon yser ay hada my friend I **cannot** *Honestly, I am not from those people who get friends fast, I can't choose friends easily*	Cannot	Bilingual homophone	Preceding

189.	Hala2 **fe** nas ehna ma bn3tehom el chance to become our friend *There are some people whom we don't give chance to become our friends.*	Fe	Bilingual homophone	Following

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
190.	We don't **choose** our friends el mawa8ef **he** yli b**t5tar** *We do not choose our friends, but situations identified friends*	1-choose/t5tar 2-he	1-semantic cognates 2-bilingual homophone	Unidentified
191.	masala el friend **who can** understand us without speaking *for example, friends who can understand us without speaking*	1-who 2-Can	1-2Bilingual homophone	Unidentified
192.	W Kaman $a3'leh aham $ey Bill friendship eno ma y3'aro **mn** ba3ad wla y7ko 3n ba3d bad things *Also, the most important thing in the friendship is that friends shouldn't be jealous to each other and talk bad about themselves*	Mn	Bilingual homophone	Combining
193.	bi ra2eyeh w **who** befriends his friend because of his **appearance** bkon $a5es fare3' l2no el **mazaher** ma btdl el jawhar bowehh eli bedal. *In my opinion, who choose a friend according to the appearance is a mad person because appearances do not stay as essences*	1-Who 2-appearance/mazaher	1-Bilingual homophone 2-semantic cognates	Combining
194.	W bel nesbeh l keef ba3raf the real friend **mn** el ma3aref , el mawa8ef hieh eli btbayen **had** el $ey *According to how to distinguish a real friend from acquaintance, the situations identify this thing*	1-Mn 2-Had	1-2Bilingual homophone	Preceding

195.	An example 3an **sadiq** saye2 : some day **kan** lazen na5ud our **marks** then **kant 3alamti** a3la men 3almet my **friend**.	1-sadiq/friend 2-Kan 3-marks/3alamti	1-semantic cognates 2-bilingual homophone 3-semantic cognates	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	One of the example for bad friends, one day, we took our grades and my grades were higher than my friend's.	4-Kant	4-bilingual homophone	
196.	da2eman **kant** a very good friend to me. *She was always a very good friend to me*	Kant	Bilingual homophone	Following
197.	Besraha **ana mn** elnas elli **i** don't have so many friends Honestly, I am from these people who do not have so many friends	1-ana/I 2-Mn	1-semantic cognates 2-Bilingual homophone	unidentified
198.	because ana b7s ano mo muhm their number ahm **shi** ykono honest with me *This is because I believe that the number is not important, but they have to be honest with me*	Shi	Bilingual homophone	Combining
199.	W ana kman mreet friendships **kant** fashleh bs ana t3alamet from them kteer *I also tired bad friendships, but I learnt from them so much*	Kant	Bilingual homophone	Combining
200.	w asln you don't know **who** is your real friends ella **mn** elmoa8f elsa3be *Actually, you do not know who is your real friends unless through hard situations*	1-Who 2-mn	1-2Bilingual homophone	Unidentified

201.	Ana ndmanh because zman **kan** 3ndi friends bs ma kanu metli from inside. *I regretted because in the past, I had friends, but they did not resemble me from inside*	kan	Bilingual homophone	Combining

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
202.	**mn** 5elal my experiences a little tlaqii sa7bh tqder t7kulha all things 3n 7alk *According to my experience, there are few friends whom you can talk to them about all things*	Mn	Bilingual homophone	Following
203.	bs mmkn 3tber sa7beti Sondos l2no **she** stand with me **fe** kteer positions *However, I consider my friend, Sondos, as a good friend because she stand with me in many situations*	1-She 2-Fe	1-2Bilingual homophone	Combining
204.	Ana **men** el nas yle sa7bet kteer 7da bs ma **kant** good abdn *I am from people who had many friends but they were not good*	1-Men 2-Kant	1-2Bilingual homophone	Following
205.	Kont mfkr eno I **had** the best friends bel denya *I thought that I had best friends in the life*	Had	Bilingual homophone	Following
206.	Even though **had** al ashi marat bkhli some people fake their own **life** bna?n 3ala some circumstances bmru feha b**7yat**hom *Even though, this thing, sometimes, makes some people fake their own life for some circumstances they met in their life*	1-Had 2-life/7yat	1-Bilingual homophone 2-semantic cognates	Unidentified

207.	when **she** sees I am in trouble awal hda beejii ysa3dnii btkoon **heeh**. *When she sees me in trouble, she is the first person coming to help me*	She/ Heeh	Semantic cognates	unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
208.	**i** was feeling like eno **ana** bs ba8de fun time ma3hom *I was feeling that I was only spending time with them*	I/ Ana	Semantic cognates	Unidentified
209.	Also My realtives mo kteer b**7ki** m3 hom becase they **talk** 3n m3d kteeer so b5t9erhom *Also, I do not have good relationship well with my relatives because they talk about themselves bad.*	7ki/Talk	Semantic cognates	Unidentified
210.	Sa7b al sa7 2l **btqder** tkon m3o marta7 and you **can** t7kelh kul shi *A good friend whom you can be comfortable with him and you can inform him of everything*	Btqder/ can	Semantic cognates	Unidentified
211.	Ma 3ndi **sa7bh** as a good **friend** *I do not have a good friend*	Sa7bh/ Friend	Semantic cognates	Unidentified
212.	But kont 3'ltan l2no el **sa7eb** appeared bl mwaqef bs my **friend** e5tfo bhay elmeaqef *But I was wrong because a friend appears in bad situations, but my friends disappeared in the situations*	Sa7eb/ Friend	Semantic cognate	Unidentified

213.	I have **friends** on social media and akeed mu5talefen 3an el **a9dega2** el real l2nu humeh ash5as inside our phones only *I have friends on social media and they*	Friends/ A9dega2	Semantic cognate	Unidentified

No	Sentence	The Cognate	The Type of Cognate	The Position of Codeswitching
	are different from real friends because they are known by phones only			

Appendix E Reasons of Using English Orthographic, Numbers and Symbols

The participant	Why to use English orthographic	Why to use numbers and symbols instead of Arabic sounds
1	Using English is easier than Arabic	We use numbers because we don't have English alphabets for some Arabic sounds.
2	I think that by this way I can enhance English learning especially, spelling	These numbers become popular among all Arab people who use code switching. Thus, we use them to replace sounds that are not presented by English alphabets.
3	Using English is more likely to be abbreviated and shorter than Arabic	These numbers become popular among people, so we them to show the exact sounds of Arabic and make the word easy to understand
4	To save effort and time. Using English is easier than Arabic.	These numbers become popular among all Arab people who use code switching. Thus, we use them to replace sounds that are not presented by English alphabets.
5	People can understand Arabic written in English but not vice versa	These numbers become popular among all Arab people who use code switching. Thus, we use them to replace sounds that are not presented by English alphabets.
6	More prestigious. because most people use this style of language for prestige	These numbers become popular among all Arab people who use code switching. Thus, we use them to replace sounds that are not presented by English alphabets.
7	First, writing in English is easier than in Arabic. Also, by this way we can practice English which could improve our English.	These numbers become popular among all Arab people who use code switching. Thus, we use them to replace sounds that are not presented by English alphabets.
8	The reason of code switching in general is to show our abilities in English, so it can be more prestigious	These numbers become popular among all Arab people who use code switching. Thus, we use them to replace sounds that are not presented by English alphabets.
9	In terms of code switching, using English	These numbers become popular among all
	is more easy and understandable than using Arabic alphabets.	Arab people who use code switching. Thus, we use them to replace sounds that are not presented by English alphabets.

10	We use English alphabet because they are easier. Also, it becomes a popular style, and if you use Arabic alphabet, no one will understand you.	These numbers become popular among all Arab people who use code switching. Thus, we use them to replace sounds that are not presented by English alphabets.

Appendix F Facebook Comments Answering Focus Group Questions

This section includes Facebook comments answering focus group questions. However, the comments of first question and other some comments in other questions have not permitted by participants.

Also, depending on the participants' viewpoints, the researcher delete some personal information using (Paint- Tools- Eraser).

- **(1) Comments of First Question**
  Participants did not give permission to publish the comments of this question because they have some personal information.
- **(2) Comments of Second Question**


First of all , ana 3njd habet elfekra kteer because it makes me think bkteeer nas b hayatiii w hmh sho 3mlo b their life , actually elhada ele I think eno f3ln she deserves eno a7ki 3nha my friend , i met her lma kona bl school 6 years ago , kona b nfs el class , kan 3nda kter mshakel with her family especially her father , awl eshii homeh mnfslen and both of them etzawjo w hyh kant 3aysheh with her grandma, kant jd kteeer mwhobeh , she is a public speaker, she knows how to work in everything, awl eshii fatat b elmsr7 as an actor w nj7t kteer bs because of the tawjihi requires ma 2drt eno tkml f blsht blrasm w blsht to creat ashya2 tkon hlweh w ma bdha hl2d emkanyat bs at the same time creative , w f3ln nj7t blmwdo3 w rsmt w 3mlt 7ata m3rd rasm w kman she helped even others to share their works kman , bs unfortunately ma nj7t bltawjihi , w m3 dlt tsht3'l w tdros w ana t2rebn wslt my second year bl university lhata hyh nj7t w hon she started her journey, drst t2rebn 1 year bt5osos bt7bo bs because of the financial problems ma 2drt tkml w trkt elsho3'ol w rj3t l her work w kmlt b mwdo3 elrasm w f3ln kan elmwdo3 kteeer mne7 , y3ni mafe hada can y3teha flos bs she had never asked anyone for anything, a5r eshiii twaslt m3 university bara elbald mkan ma her mother mwjodeh w she decided to go there w trkt kol eshii hon w hala2 hyha honaak 3m tdros w tsh3'l too , my purpose is that e7na kona b nfs el3omor bs f3ln lw ana kont in her situation kan jd most7el a2dr akml anything w kont ma b3rf what to do aw 7ata from where i had to begin .

For me, I see (Nada Naser) inspiring me, heh katebh gr2tlha ketab esmuh (3ala matni 7gebh/على متن حقيبة) ketab jamel u baset kteer , and at the end of the book laget the username of her instagram account , u kan 3endi fudul a3rf alkatebh l2nha kteer 2thrt feh u kalamha kteer ra23, and I want to say 2nu t3rft 3ala hai alkatebh bs ma gdert ashufha l2nu ma laget pictures bs lget 2nha insanh kteer baseth , also she is an amazing artist l2nu lget 2nha btursum kteer 7elu , and 2ktshft inah 7ada kteet creative be kul she bt3meluh, kaman 3endha GYM small bi betha u multazemh feh kteer u mu7afedh 3ala jamalha u se7t jesmah, bardu laget inha muhtameh be aklha kteer o nu3 o kamet aklha, also she go shopping by her self u ma bt3temd 3ala someone in her life and she live alone. Finally laget 2nha fashion designer .
She is 10 persons in on person and I hope that some day I can be like her inshallah❤️
This is a picture from her amazing book .

First ,I'm sorry for being late. Honestly the first person came to my mind hwehhh my mom , mama is my friend w o5tiii w hayatiii kolhaaa , lamaa akon b7ajet 7daa aw 2e sheee she is always there for me , I'm so lucky to have a mother like her , The person who sacrifices for me.

أعجبني · رد · منذ ١٤ س

Bs shoft el question 5atrle kteer characters bs belnesbeh ele my favorite character my ante (mother's sister) cuz he kteer 7da tamoo7, hye really can do many things, hye lawyer and hye kman kteer clever in kter sh3'lat zay Arabic language w poetry , hye btshaj3ne dayman and ana kteer b7b el character ele elha. She is the best bel nesbeh l2ly.

أعجبني · رد · منذ ٢٣ س · تم التعديل

Marhaba, ra7 a7ki 3n French writer raheeb, esmu Victor Hugo. He's one of my favourite writers enu jad you never get bored lama taqra2lu kotb. Howa shakhsyeh syaseh kter muhemh bl French history. I read Les Miserables, one of the most amazing novel I have ever read😍 w I recommend you to read it. Wb7b kman 3ola alfares, ba7b shaksyetha al8wyeh wtare8t tafkerha. I'm following her on Snapchat w Twitter.
W in general b7b alsongs al3arbyeh al ordnyeh w mughanenha l2nu this makes me proud as a Jordanien.
Wbas

أعجبني · رد · منذ ٢٣ س

Aktr figure bhbha he the great novelist Mary Shelley. Lma el wahad y8r2 el literary works tb3haa one can realize gadeesh he hdaa smart. El interest tb3iii b her character ejaa lma 8r2t her novel Frankenstein. Kont lazm a8r2 3n el background La her life. W lmaa 8r2t w hdrt movie 3n hyathaa 3njad konet fascinated. Hyat.haa kanat kteer difficult w she struggledd b mo3zamha , b her novel Frankenstein bngdr n3mal deep analyses w nshoff sh5seet.haa mn 5lal el monster eli bl novel. Most importantly, kanat Mary feminist gabal ma tkonn aslan fkrt el feminism mwajoddeh on earth. Daf3t 3n el rights of women w enu lazm ynshuru their writings w hekk. Her husband Persey Shelly kann mn aktr el nas supportive elhaa m3 enuu b kteer awgat he mistreated her l2nuu as a literary figure kann 3nduu afkar m3ayneehh bl lifestyle. Bnsah 2aii hda that doesn't know her enu y8r2 3nhaa l2nhaa jadd hdaa kteer inspirational w bt5lii el human beings yfkr enu at that time kann fe hdaa haekk 3ayesh w 3m bewajeh kteer problems bs m3 haek she didn't give up abdann.

أعجبني · رد · منذ ٢٣ س

When i read this post, ma 2dert afaker b ay 7add 3'er my parents, l2enhom aktar tneen farjooni how to live life in the best way possible, o keef akoon myself and how to be happy. O matta ma knt b7ajet 7add both of them were there for me, o kteer bakoon proud bas ashof 7ad feehum o howe b sho3'lu addeh bekoon mabsoo6 o hard working 😊

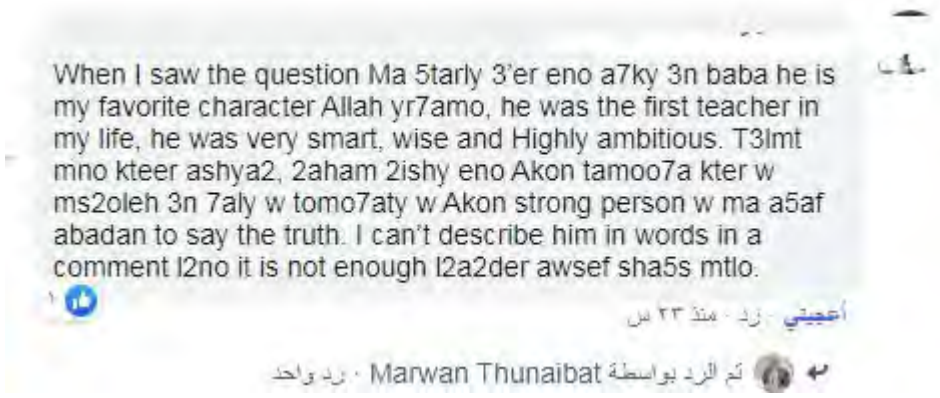
أعجبني · رد · منذ ١٥ س

Marwan Thunaibat كل الشكر لكم,, و نحن نعلم حجم الوقت الذي نأخذه منكم لتزويدنا بهذه البيانات, وأجركم عند الله

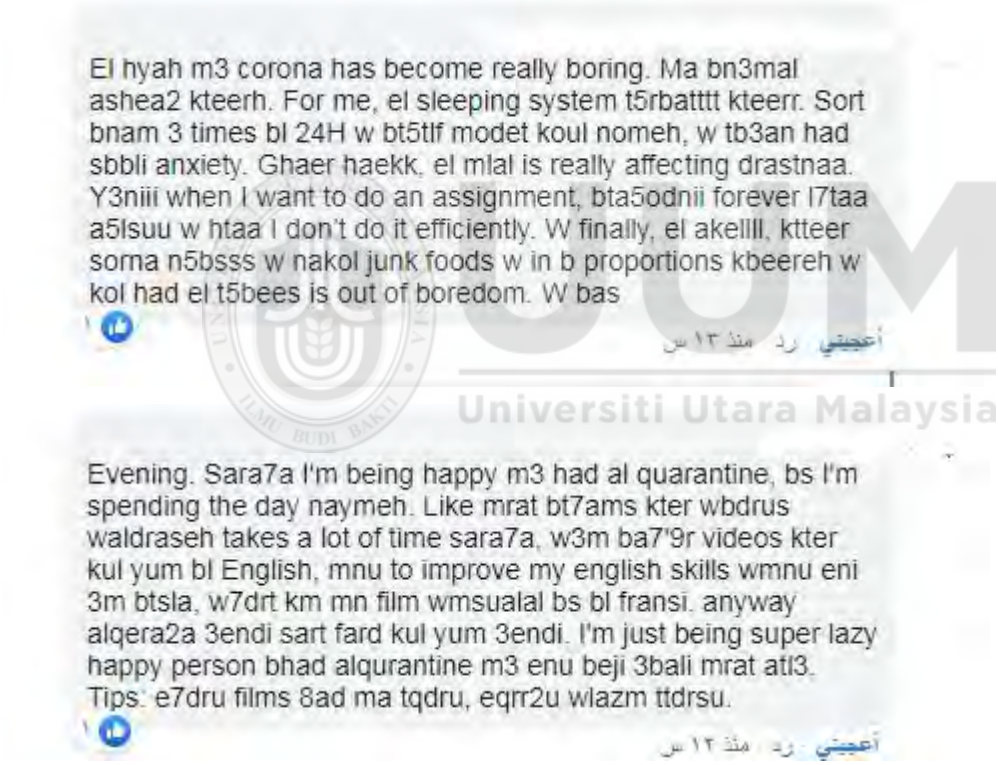
أعجبني · رد · منذ ١٥ س

Marhaba ana 7abeh a7ki 3n my uncle because hwe insan kteer ambition w ma tnazl 3n his dreams despite the circumstances elli mr fiha. W blro3'm ano his family was very poor hwe 8dr yjib mo3adl 3ali bltawjihi but because his family was too poor ma 8dr yfot handaseh so he decided to work and study bnfs elwa8t m3 enoh his major in university kteer 9a3b bs hwe 8dr yna6'm his time between everything w 8dr yjeeb emtiyaz w 5ala his family kteer proud of him. Ba3den after he graduated mn el University hwe 8rar eno lazm y5li my father to complete his study so safr to Saudi Arabia l7aloh mshan yjame3 money w ydares my father w t7aml kol el6'orwf. W 8dr y7a88 all what he wanted w bs.

أعجبني · رد · منذ ١٣ س · تم التعديل



- **(3) Comments of Third Question**



Corona virus ymken blyoom bsm3haa more than 1000 times , awl eshiii all of us fkrna eno hwa eshii b3ed 3na w ma r7 yosal Jordan abdan w eno we will never ever start fighting it bs ll2sf Kol eshi sar 3ks hek la kter reasons awlhom the lack of awareness 3nd elnas ! Instead of focusing on the virus ehna 3m n3ml kol johdna to keep them blbyoot , they are all complaining zy elz3'ar , tani eshii ma 3na kteeer jahzeh b kteer nawa7i for example , elta3lem 3n bo3d , ana as a student kteeeer 3m ba3anii b taslem el assignment w a7dr el mo7adra online w 3'er 3n eno eza msh elnos most of our doctors ma 3m yltzmo b w2t el lecture w hek ana btl 3ndi w2t la ay eshiii tanii . Mn na7yh taneh as a human being 3ayesh b stress if I wash my hand wela la2 .If I touch my face wela la2 . Eza hada eja 3na lazm a38em kol el ashya2 , Eza mredt hata law eshi 5fef direct bft7 google to search for the Corona virus symptoms, 3'er eno lazm no one can come to our house w e7na ma bn2dr nro7 3nd hada kman , eza fe eshi mohem w lazm ttl3 you have to call 911 , Elsa3a 8:00 pm all of us lazim nft7 3la el Tv 3shan n3rf el news , adeh fe 3na 7aleh jdedh what we have to do for the next day , it's the same rule wela fe eshi jded we have to apply it again, kteeer nas lost their jobs , kteer nas khesrt kteer flos because they can't open their shops , 7ata el poor people sara7a kolna 3m nfkr fehom y3ni eza fe nas bdhom ysa3dohom they cannot now l2no mmno3 hada ytl3 w homeh they don't have money to get their basic stuff to live . Nws3 elmjal shwi our friends ele homeh asasn ajaneb ele 3ayesh b Italy w ele b USA We love them w bn5af 3lehom kman w 3ndhom mafe sytra abdn w elwade3 llaswa2 . To be honest, elwade3 5ateer w we need to think w and rethink lkol eshii 3m n3mlo , lazm n3ml stop shwi w nrj3 nshof elomor w ma nd7k 3la 7alna b ashya2 that it doesn't exist or matter , the most important thing hala2 eno n2dr ntl3 mn elwade3 w kol ele bn7bhom with us w bdon 5asa2er laelna w ll balad kolha . I Hope 3njd eno yn7l elmwdo3 b asr3 w2t w nrj3 l our life style zy ma kant aw 7ta a7sn ya raab

I hate any word bt5os mawdo3 corona virus, cuz bsm3 hay el kelmeh kteer, our life sart kteer momelh w ma feha ay fayde cuz we stay at home wl 23deh bl home kteer give negative energy, tb3n we forced at home bs hayatna 3bara 3n food w sleep, without system kaman, bl home fe kmeyt ksl i cant describe it. elayam sart same , nfs el behavior nfs kol shi, I hope eno yroo7 had el virus w nrj3 l our normal life.
God protect us.

أعجبني · رد · منذ ١٠ س

Sara7a kteeer elw9'e3 et3'iar , for example elnom became very bad , bs7a belleal w bnam kol alnhar , the sleep in this way kteer mt3beh ,
But there is something good , eno 9ort at3lam cooking and make sweet 😊
W ana kol yoom b7l my assignment and after that b79'ar movie I hope eno nrja3 n3ee$ with out the virus and back to university .
Ya rab

CORONA VIROS 🦠 Inshallah benthi gareebn u bnrj3 la 7ayatna al6be3eh.
7ayati now during this hard time sara7ah eating, sleeping, sometimes cooking and some homework's.
I didn't leave my home ela marten 5elal el 7ajr el se7i just for emergency 🚑 and of course kont labseh gloves u mask.
Unfortunately most people ma kanu multazemeen be ejra2at el salameh el 3ameh 7ata kan ma3hum their children I don't know why!
Sh3'leh kteer 3'arebh kaman , why people who infected with corona virus and they know that they have it be7tku be el nas u ahlhum u kul 7ada be3rfuh?! Had she kteer shufna examples 3aleh 5elal fatret el7ajer.

أعجبني · رد · منذ ٧ س · تم التعديل

In my opinion el quarantine 8rar momtaz a5datoh el dawleh 3shan t7mina mn intishar the coronavirus, In spite of this sadness that the country is going through and we are going through l2no our work is interrupted bas bra2ye lazem nst3'l had el wa8et l2no each of us had postponed actions such as reading a book, draseh mo2ajaleh, or even a skill that he wanted to acquire but his time does not help him so had el wa8et altaweel fee el home momken ysa3ed l2enjaz akbar 8radar mn al2ashya2.
Ana bsara7ah esta3'let kol la7za bel quarantine, I'm trying to put my studies on the priority list w bnafs el wa8et bmares my favorite hippies , elhoamdolelah 8dert a5les ktab mblsheh fih mn ayam aldawam w la7ad el an 7dert 3 films, w 3ndy hiwayet el tabe5 fa t3lmet new things w 3ndy hiwayet el tasweer 8a3deh 7alyan batawer feha aktar.

أعجبني · رد · منذ ٧ س

Kol day badalnii Wake until 7am. I try to change my nomtiii bs mo 3arfhhh. B97aa at 4pm, bakul m3 my family b3den I watch TV barnamj 3n al fashion ma b7bo bs 3shan Ahlii I Watch it. After that badrs or bakhod course 3la net. B3d Al 1 am. B7der series or movie a7ynn I read katab. Sometimes bsa3d My mother fe matbak bs ma b3rf a 3mal food.

أعجبني · رد · منذ ٢ س

Part three hweeh corona virus, corona routines is boring kteeer , I spend my life during el 7ajer sleeping , eating and studying , online classes and assignments are the worst thing , daily routine kteeer malaal, but on the other side I read books watching series and movies , el 2she el wa7ed el 7elw bl 7ajer .

أعجبني · رد · منذ ٨ س

- **(4) Comments of Fourth Question**

Mn wjhet nzari, el saheb hoeh awal hda that comes to my mind lmaa akoon mhtajehh ahkiii m3 hdaa. W bgdar a2meenn 3la had el friend. Brdu baheb my friend tkoon 3arfeh enu fe ashea2 btz3jniii fa bttjnb t3mlhaa w when she sees I am in trouble awal hda beejii ysa3dnii btkoon heeh. Another thing enu bahebbb ana w sahbetiii nkoonn interested bnfs el ashyaa2 bs msh bshkeel kamel because 7yseer el wade3 boring. Lazm ykonn fe differences bennaa bs akeed we both have to respect ara2 b3ddd. Anaa mn el nas eli I struggled l 7ta laget el sahbehh el sahh. Maret b kteer friendships msh mnah abdann bs a5r suhbeh elii is worth keeping forever and ever.

أعجبني · رد · يوم واحد

WOW , 3njad elmwadee3 kteeeer 7lweh blnsbh eli l2no kolha bt5leni a7ki kteeer awl eshiii I do believe eno kol hadaa fenaa blnehayeeh ma rh y2dr yt3aml aw ymshi ela m3 elnas ele literary mtlna inside and outside , for me ana aktrr eshii b7bo bl7yah my friends b3d my family , hala2 sa7batiii ele ana ma safrt m3hom wla 3sht m3hom bl3'orbh I do love them bs ma b2dr a7kom 3la ay eshii ela lma njrb , bde a7ki 3n my experience b china , ana safrt m3 sa7bti ele hyh t2rebn a2rb hada 3la 2lbii w 3shan sawa b nfs el room for 6 months or more , blbdayeh everything was good w kna 3m nktshf w nsafer w heek bs ele sar eno we discovered eno ehna totally different, kona nfkr eno ehna we lovethe same things and the same for the things we hate , bs no kol wa7deh fena 3ndha teba3 w 3adat bt5lf , how to deal with the problems and how to control your self bkteeer ashaya2 rh tser m3k kan kl hada fena 3ndo rdt f3l m5tlfh , shwiii 5lana nb3d 3n ba3ad w sar f bena misunderstanding bs ehna kona wa3yeen f a3dna m3 ba3ad w hakena kol eshii la ba3d w sho elhal elwast bena w heek e7na 7lina elmawdo3 , sa7bati ele kano blsakan knt kteeer atl3 w aji m3hom w nshr sawa w kan elmwdo3 bjnn w sa7abtii ele ana tol 3mri with them , our relationship ma t2thrt abdn b hay elmodeh bl3ks we got closer hata , ektshft eno fe 7yatna ma bnf3 n7ot kol our expectations b one person, lw jd nshof elmwdo3 deeply kol hada 3na by3tena eshi wa7d bss , one of them will listen to you , one of them will make you happy and so on . How to control the relationship ? bs eno nkon 3la tabe3tna had ahm eshi w tani eshi to be honest with them , hala2 ana saraha mo mn elnas ele bsor3a mmkon yser ay hada my friend I cannot, lazim ashofha kteer 3shan a3rf at3wd 3leha. Hala2 fe nas ehna ma bn3tehom el chance to become our friend btzkr fe bnt ana daymn kont asm3 3nha 7aki tl3na ana w yaha b nfs el class w we started to talk and laugh w ejt elforsa nsafer la7alna 3la mkaan I can't say how hard it was for me eno elbnt tl3t btjnn mn kol eshi w kant a7la mrh bsafer feha hon 7aset eno zlmtha eno f3ln ana ma 3mri sm3t mnha aw a3tetha forsa bs nw3n ma sm3t elhom , kman eshii fe nas kont afkt enhom my friend bs

7abeet hal so2al bsara7ah , hala2 ma ba7eb ykon 3ndy kteer friends, bs b7b Ykonn km friend in my life.We don't choose our friends el mawa8ef he yli bt5tar masala el friend who can understand us without speaking , wli bewajjehna lltareq al sa7e7 , wli ma byifhmni 3'lat , w da2iman bysma3ni w ma bytrikni bilra3'em eni marat bazawedha, wli by7fad asrari hwi eli friend eli lazim atmasak fi. W Kaman $a3'leh aham $ey Bill friendship eno ma y3'aro mn ba3ad wla y7ko 3n ba3d bad things.
So7bet el mazaher ma btdoom abadan bi ra2eyeh w who befriends his friend because of his appearance bkon $a5es fare3' l2no el mazaher ma btdl el jawhar bowehh eli bedal.
W bel nesbeh I keef ba3raf the real friend mn el ma3aref , el mawa8ef hieh eli btbayen had el $ey.

أعجبني · رد · يوم واحد · تم التعديل

For me e5tear my friends akeed bekun 7asab el tafahum between us and ekun fe insejam be $5seatna u tafkerna.
For me I hate elnas eli kteer behtmu bel madaher l2nu el madaher mu 7ukum 3ala tafkerhum au 3ala their personality akeed.
Friends:- bekunu more close and the relationship m3hum betkun more strong and informal, also we see friends daily or weekly .
el ma3aref :- The relationship with them betkun formal and less strong than friends and we see them sudaf au bel munasabat or for a specific reason and for work etha kanu Co-worker.
I expect from my friends akeed el ma7beh , e7teram , musa3adeh (when we need it) and of course to spend a great time with them and to have fun.
An example 3an sadiq saye2 : some day kan lazen na5ud our marks then kant 3alamti a3la men 3almet my friend then she became so sad because of that.
Also an example 3an good friend:- I have an amazing friend and she is with us here , el7mdullah da2eman kant a very good friend to my.

أعجبني · رد · منذ ١١ س · تم التحديل

Besraha ana mn elnas elli i don't have so many friends, because ana b7s ano mo muhm their number ahm shi ykono honest with me. W ana kman mreet friendships kant fashleh bs ana t3alamet from them kteer. For me the most important thing eno ykono beshbahuna from in side w 3endhom nafs eltafkeer w asln you don't know who is your real friends ella mn elmoa8f elsa3be. Elma3ref our relationship between them betkun kteer sat7ieh bs for friends we must have close relationship between them. Elgood friend hwe elli bo8af ma3na all the times and he never left us w kman bkon sade8 ma3na w mo hypocrite w ma b3'yroh elnas aw ay relationship jdedh in his life. Ana ndmanh because zman kan 3ndi friends bs ma kanu metli from inside bs i was feeling like eno ana bs ba8de fun time ma3hom w 5ala9 bs honestly this is a big mistake because our friends aktr nas be2thrw 3alyna.

أعجبني · رد · منذ ١١ س · تم التحديل

Halla bl nesbeh eli i always give people chances, ba7awel akoon friendly as much as possible 3shan ba7eb ykoon 3ndi s7ab kteer, el fare2 been el acquaintance o el actual friends howe mn na7yet el e3temad, if you can count on them no matter how hard it is o fe3lan sa3adook o wa2afu janbk hadool bkono true friends, ama el acquaintances bkoono bas sho3'ol hang outs o heek. What I expect from s7abi el mo8arabeen is to always have my back whenever i need them 😊

أعجبني · رد · منذ ٩ س

Ma b3raf to choose my sahbatii, 3ndi friends kteer bs 3elaqti not close (sat7i) mn 5elal my experiences a little tlaqii sa7bh tqder t7kulha all things 3n 7alk. Also My realtives mo kteer b7ki m3 hom becase they talk 3n m3d kteeer so b5t9erhom. Sa7b al sa7 2l btqer tkon m3o marta7 and you can t7kelh kul shi. Ma 3ndi sa7bh as a good friend bs mmkn 3tber sa7beti Sondos l2no she stand with me fe kteer positions bs sar m3i moqf kteer bad ma l2yit sa7bh behind me b3dh I don't trest any sa7bh.

أعجبني · رد · ٢١ دقيقة

- **(5) Comments of Fifth Question**

Good questions , first of all the Internet is very important in our daily life , siwa2 ll fun or for learning. Fe elo kteer benefits awal $ey drasetna a3'labha blended fa mo3dam el doctors by3mlo groups ltdom el students w had bshel 3al tolab kteeer w b3d el doctors byst5dmo applications tanieh like what'sApp, zoom,edumode,...etc
W mtl ma fi ll internet ejabiyat fi a$ya2 sibiyeh , ahmha wasting our time for nothing ,w fi ba3d el a7yan momkin t3rd 7yatna ll5tr 3n 9ree8 al ta3amol m3 dangerous people or curiosity to search for things the public talks about like (dark web) .
Ana br2yeh el students lazim ynzmo aw8at joloshom 3l internet w kman ystthmiro el wa8et bt3lom new things .
Bilnesbeh ll social sites yli btonshr news m$ da2eman btkon sa7 w marat el social media btsa3ed enha tonshor rumours w bt3ml mashakel lhek lazim n8ra2 daima man sites mawtho8ah to get the real news.

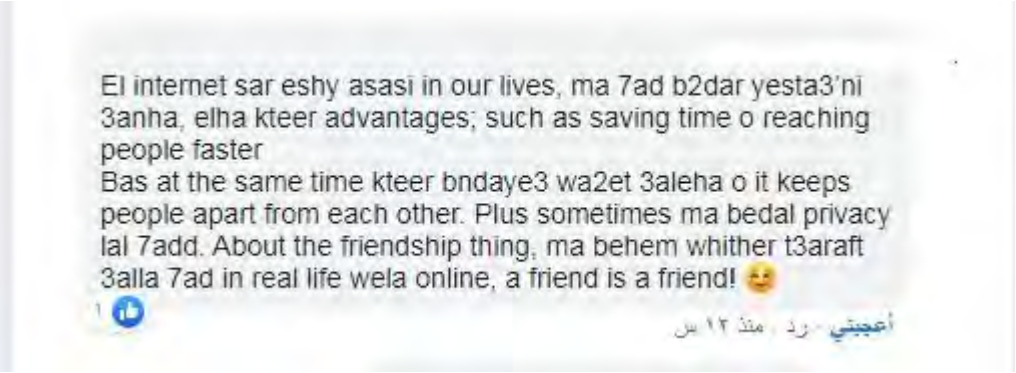
أعجبني · رد · يومان

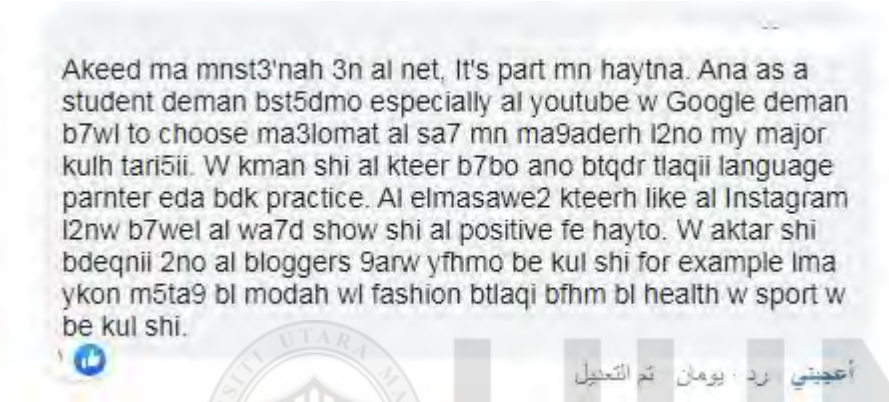
Al internet has a huge part b7yatna, sd8n ma btkhyl hyati Kef htser bdunu! W mbs2yn ana e3tmadi 3lwh bdrasti 99% f law mafi internet I think I won't do the things I do now. W recently I was thinking about it wallah! W about Al social media w gheru, bs ma 7d bqdr yenkr atharhm alsalbyeh 3ala our daily life. Hal2 I believe in somehow enu al social media helps us ln3br 3n shakhsyatna bwdo7 w soholeh aktar! Even though had al ashi marat bkhli some people fake their own life bna2n 3ala some circumstances bmru feha b7yathom.
W like everything else in life, internet has some great aspects and some negative, and it all depends on us Kef e7na mnstkhsmu, wbs

اعجبني رد يوم واحد

Of course the Internet become 3unsur asasi be kul home, school, university, Bank, company and everywhere. Also in the Restaurant or any shop the internet exists because kul Si 7alen bekun men 5elaluh such as online ordering, see the products or read the menu for some shops.
Akeed fe advantages w disadvantages for everything as well as the internet . Etha kan est5dam sa7e7 akeed btkun hay fa2edh w etha kan est5dam sae2 btkun men msau2 el interne and thats means enu kul $a5s u kef best5dem el internet (huih begrr est5demuh be $akl mufed au 3'er mufed)
Also for students fee some students best5dmuh be shakel sa7ee7 for learning, and assignment and definitely fee some students best5dmuh b$kel kteer sae2 (and any person)
Keef ast5dem el internet be shakel mufed la derasrty: watch video to improve the language we study (as a language student) and to search about new information or specific information for some subjects. And for me I can contact with native speaker I elbiu3'ah ele bt3lmha m$an akeed akun fluent feha.
Yes I have friends on social media and akeed mu5talefen 3an el a9dega2 el real l2nu humeh ash5as inside our phone's only and uala marh elt8et fehum face to face and finally of course el news ele bna5udha men el social media betkum muhemh l2nu also our government has an account and they post some news on it, but in the same time fee a5bar u e$a3at 3ala el internet ma betkun sa7e7h .

أعجبني رد يومان تم التعديل


El internet sar eshy asasi in our lives, ma 7ad b2dar yesta3'ni 3anha, elha kteer advantages; such as saving time o reaching people faster
Bas at the same time kteer bndaye3 wa2et 3aleha o it keeps people apart from each other. Plus sometimes ma bedal privacy lal 7add. About the friendship thing, ma behem whither t3araft 3alla 7ad in real life wela online, a friend is a friend!
أعجبني · رد · منذ ١٢ س


Akeed ma mnst3'nah 3n al net, It's part mn haytna. Ana as a student deman bst5dmo especially al youtube w Google deman b7wl to choose ma3lomat al sa7 mn ma9aderh l2no my major kulh tari5ii. W kman shi al kteer b7bo ano btqdr tlaqii language parnter eda bdk practice. Al elmasawe2 kteerh like al Instagram l2nw b7wel al wa7d show shi al positive fe hayto. W aktar shi bdeqnii 2no al bloggers 9arw yfhmo be kul shi for example lma ykon m5ta9 bl modah wl fashion btlaqi bfhm bl health w sport w be kul shi.
أعجبني · رد · يومان · تم التعديل

Actually one of the most important thing is the Internet for many reasons , awl eshi we can use it ay w2t ehna bdna , ay mosa3dh b ay aspect, tani eshi you can find many resources to depend on , alot of online course bt2dr ta5dhom for free , even you can get a full scholarship through the internet, for me , there is no disadvantages l2no eza bdna nfkr feha we use the internet not the internet use us so eleshii by3tmd 3lena ehna w eza fe 3'lt fhwa mna we cannot blame the internet, as a student the internet helps me alot in different ways and sometimes I find it easier 3shan afhm elshare7 especially b el literature aspects. But some student misunderstanding the way befkro eno yala copy paste . Sorry to say that bs kman el doctors do that y3ni ana hala2 kter 3m ba3anii l2no bla2i 2 videos not more than 5 minutes w ana lazm afhm mnhon w a7ll w ashr7 theme w symbol ll story, it doesn't work for me sara7a. Ma nnsa kman eno el thesis kman we can find it online 🍋 for the social sites I really love all of them , eltanwo3 fehom b5lek t3rf enta sho bt7b w sho btkrh for example elnas ele they prefer to give their piece of advice aw ysharko afhkarhom they can use Facebook, Twitter bs elnas ele b7bo ynzlo swr w videos they can use the instagram and so on. Tab3an they help us to make friends 7ata lw bnfs elbalad aw lw bara fe nas bn3rfhom w bn7bhom mn elashya2 ele byktboha . El influencer hay elayam kteeeer 3m ystfedo mn el followers ele 3ndhom to make money, sar el internet business kman. Hala2 yes lesh ma n3tbrhom real friends y3ni ana b7b a7ki m3 32l bfkr mo 3shan ay sbb tani . For the news , it depends on the pages ele ana 3amleh elhom follow aw elnas ele 3ndi so eza ana bs 5let elnas ele i can trust them b2dr a7ki eno yes i can get easily to the important news

أعجبني · رد · يومان

Ma hda begdar ynkor el importance tb3 el internet nowadays!
W bahesss, on a personal level, maa bgdar at5eal hyatii bla ma ykon fe internet w social media 😬
B3rff enuu fee kteer disadvantages eluu bs el wahad bedgar y3ml control ll treega eli best5dmuu fehhaa.
Anaa bgdar ahkii enu kteer bstfeed mn el internet,bst5dmu l agwii el English tb3ii, to know what is happening bl3alamm
W most importantly atwasal ma as7abii w heekkk.
So, br2yeii el internet eshii momtazzz bs lazeem el wahad y3rf how to deal with it!

أعجبني · رد · منذ ١٨ س

Appendix G Certificate of Translation of Data to English

مركز النجداوي للترجمة المعتمدة

Al-Nagdawi Center For Legal Certified Translation

Al- Najdawi Center for Translation certifies that the following texts have been duly translated:

Student Name : Marwan Mohammad Althunaibat

Specialized : School of language/ Applied Linguistics

School Name : Universiti Utara Malaysia

2022

البوابة الشمالية للجامعة الاردنية- عمارة رقم 31- موبايل 0780026288