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Exploring Cross Linguistic Influence on Algerian Learners' Written Production in English as an Additional Language.

A Case Study of First Year Students At Ecole Normale Supérieure Bouzareah (ENSB)

Thesis Submitted in Fulfillment of the Requirements for the Degree of Doctorate in Applied Linguistics and TEFL

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Abstract

This study aims at exploring crosslinguistic influence in the written production of Algerian students in English who have Algerian Arabic and/or Tamazight as first language, Algerian Arabic/Modern Standard Arabic as a second language, French as second or third language for some students have English as a third or additional language. Hence, the present study is intended to gain insights into the production of a third or additional language (English) lexis and syntax and more specifically into the role played by the factors affecting cross linguistic influence and language transfer from the previously acquired languages. More specifically, the present study has the following objectives: (1) to explore the source language of transfer in the production of English, (2) to investigate if there is a difference in the source language of transfer in the production of lexical and syntactic items, (3) to discuss how the different factors of crosslinguistic influence highlighted in the literature namely (proficiency, recency, psychotypology, typology, and L2 status) condition lexical and syntactic transfer. To achieve these objectives, 45 first-year students at the Ecole Normale Superieure Bouzareah participated as research informants. To collect data, different tools were conceived, a Language History Questionnaire (LHQ.3) has been adapted from Li et.al (2019) to examine participants' language background and experience. The second data tool was the participants' written documents, and the last research tool was the language perception questionnaire. To analyse data, descriptive statistics were deployed for the two questionnaires, besides the written productions were respectively analysed qualitatively utilizing content and thematic analysis that depict all the instances of lexical and syntactic errors of the participants. Findings revealed that the source of language transfer comes from all the previously acquired languages i.e. from Modern Standard Arabic and French, also there is a difference in the source of language transfer among lexical and syntactic items. French was the source of transfer at the lexical level however Modern standard Arabic was the dominant source of transfer at the syntactic level. The CLI factors examined in this study revealed their significance in predicting the source of transfer in English as third or additional language.

Proficiency level had a greater impact on the selection of the source of transfer whereas, typology can be considered as a predictive factor of cross linguistic influence. Psychotypology found to be one of the most influential factors of cross linguistic influence in where students' perceptions about language closeness between the previously learned/acquired languages affect their production to a great extent. The conclusion can also be drawn that language production in English as a third or additional language can be greatly affected by all the previous languages that interacted in the mind. Following an in-depth analysis of the research results, some recommendations for examining and measuring cross linguistic influence factors is needed. The present study examined only the written mode further research in oral production is required that may reveal more effective factors in addition it is important to control the learners-based variables that can enable future researcher to predict instances of cross linguistic influence.

Keywords: Crosslinguistic Influence (CLI), Language transfer, Third Language Acquisition (TLA), Multilingualism.

Dedication

To My Loved Ones!

Acknowledgements

List of Abbreviations

AA: Algerian Arabic

CLI: Cross-Linguistic Influence

CEM: Cumulative Enhancement Model

CS: Code-Switching

En: English Language

Fr: French Language

Ger: German Language

L1: first language (mother tongue)

L2: Second Language

L3: Third Language

L3A: Third Language Acquisition

Ln: Additional Language

LHQ: Language History Questionnaire

MSA: Modern Standard Arabic

NL: Native Language

Sp: Spanish Language

TAM: Tamazight Language

SLA: Second Language Acquisition

TL: Third Language

TLA: Third Language Acquisition

TPM: Typological Primacy Model

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General Introduction

Introduction

Nowadays, multilingualism is spreading all over the world and it affects almost every society and country. Algeria is an example of a multilingual society in which different languages coexist. Scholars described the linguistic situation in Algeria as complex due to the interaction and contact of many languages within the same society. Taleb-Ibrahimi (1997) mentioned that "Ce qui frappe l'observateur lorsqu'il est confronté à une situation semblable à celle de l'Algerie, c'est la complexité de cette situation ; situation complexe par l'existence de plusieurs langues ou plutôt de plusieurs variétés linguistiques ». (p.22). In schools, Algerians are required to learn other languages than the daily spoken ones. According to the National Education orientation Law (No-41), Algerian learners should be able to control at least two foreign languages in addition to the L1 (Modern Standard Arabic) and the second national language (Tamazight), the two foreign languages in the Algerian educational system are French as the first foreign language or as L2 for those who don't learn Tamazight language and as L3 for those who learn Tamazight, and English as the second foreign language i.e. L3/Ln.). Chachou (2013) explained the multilingual complexity in Algeria in terms of the interaction of modern standard Arabic as Algerians' first official language with French, on one hand, and Algerian Arabic with varieties of Berber -Tamazight languages, as the second national language, on the other hand in addition to other foreign languages taught in school such as English.

The linguistic complexity of multilingual societies necessitates reconsidering their focus on second language acquisition (SLA) studies to a new area of research which is the study of third and additional language acquisition (henceforth, TLA). Third Language Acquisition (TLA) is practically a new topic of research that has increasingly drawn the attention of many scholars (e.g: Garcia Mayo & Rothman,2012; Rothman, Cabrelli Amaro, 2010; De Bot & Jaensch, 2015; Rothman, Iverson, & Judy, 2011; De Angelis, 2013). The study of multilingualism and the acquisition of additional languages (third, fourth or any additional

languages beyond the second language) has had a very important development which has been a subject of many publications (Cenoz and Jessner 2009; Cenoz et al. 2001, 2003). TLA cannot be viewed as an extension of the study of second language acquisition. It has unique properties and specificities that differentiate it from second language acquisition SLA/ L2. It has become apparent that TLA can bring new evidence concerning some controversial issues in the language acquisition area such as the interaction and the influence of more than two languages in one mind.

1. Statement of the problem

Cross-linguistic influence has been generally defined as a phenomenon that occurs in the human mind caused by the interaction of different languages. Research reveals its potential to be at the core of bilingual/ multilingual studies. It has been argued that no account of SLA and TLA is complete without acknowledging the role that previously acquired and learned languages have in the acquisition of second/ third or additional languages. Cross-linguistic influence is one of the major areas where the differences between bilingualism and multilingualism can be discussed. The term Crosslinguistic influence (hereafter, CLI) was coined by Kellerman and Scharwood Smith (1986) as "the interplay between early and later acquired languages" (p.1), and Kellerman and Sharwood Smith (1986) argue that CLI is a relatively new and theory-neutral one to subsume under one heading such phenomena as 'transfer', 'interference', 'avoidance', 'borrowing'. De Angelis and Selinker (2001) argued that:

> "CLI is generally used as a super-ordinate term, thus including instances of native language transfer, interlanguage transfer, avoidance due to influence of another system, and even 'reverse transfer' from an interlanguage back into a native language". (p.42).

Cross-linguistic influence (CLI) is an umbrella term used in TLA studies, it addresses various (positive /negative) interactions between the pre-acquired languages and the recent ones in one mind. These interactions might be observed at the productive and receptive levels in any of the target languages. Some of these phenomena are typical of naturalistic communication in multilingual and

multicultural settings (borrowings), while others are characteristics of the foreign language classroom (language transfer).

In a multilingual context, CLI not only takes place between L1 and L2 but also with L1, L2, and L3 or Ln. The process of acquiring an additional language can be affected by the fact that language learners have already faced the task of acquiring a second language (L2). Jessner (2006) states that "Experienced learners express their cross-linguistic awareness by making use of two supporter languages during the production of the third (typologically related) language." Moreover, additional language learning can be influenced not only by the first language but also by other languages already acquired. Therefore, the study of third language acquisition or additional languages is potentially more complex because it involves all the factors related to second language acquisition plus other additional factors.

Language transfer was often considered the result of sloppiness and a lack of sound thinking (Jarvis & Pavlenko, 2008). The transfer came to be seen as "an unavoidable feature of language learning and use [which was now being explored] as a linguistic, psycholinguistic, and sociolinguistic phenomenon" (Jarvis & Pavlenko, 2008, p. 3). Transfer in particular is considered a highly insightful phenomenon, as it can guide our understanding of the full capacity of humans to acquire language (Wang,2016). Therefore, the present study aims to contribute to this line of investigation, by exploring CLI in the production of English language by Algerian students as multilingual learners. Investigations in the field of third language acquisition pointed out that transfer may affect all language features syntax, semantics, lexis, and phonology (Cenoz, Huffeisen & Jessner, 2001; Dewaele, 2001; Jessner, 2006) i.e. learners may commit errors in terms of lexis (form), syntax and meaning in their written production as well as mispronunciation in their oral performance. The present study will examine the lexical and syntactic errors of the participants in order to find out the source of language transfer and CLI. The present thesis will adopt a psycholinguistic perspective in examining CLI/ transfer as a phenomenon subject to a range of effects, including cognitive, linguistic, and social factors (Jarvis & Pavlenko, 2008).

The researcher will conduct her research in Algeria as an instance of a multilingual context as reviewed by other researchers such as (Taleb Ibrahimi,1997; Dourari,2003; Bouhadiba,2002; Benrabah,2007; Chachou,2013; among others). The diversity of the linguistic landscape of Algeria made it a fertile land for research in multilingualism and Third Language Acquisition (TLA). The Algerian linguistic diversity will enable the researcher to examine the transfer from cognitive, linguistic, and psycholinguistic perspectives, in which learners can draw on multiple languages (MSA, Tamazight, French.) while encountering a gap in the target language (English). This thesis therefore directly addresses what De Angelis (2007a) calls "the most challenging issue of all, which is how to predict multilinguals' behaviour […] [and] which of the languages already in the mind is most likely to become the learner's preferred source of information during the acquisition process." (p. 28). Hence, the major aim of this study is to explore the source of language transfer in instances of the production of Algerian students of English as an additional language to identify which of the previously learned or acquired languages is the influencing source of transfer.

 Previous research has established several factors that seem to contribute to the selection process. The four most prominent factors are the level of proficiency in a background language, recency (or exposure), psycho/typology, and the L2 status (Bohnacker, 2006; Cenoz, 2003a; De Angelis & Selinker, 2001; Williams & Hammarberg, 1998; Bardel & Falk (2004;2007). Therefore, the present study will examine these factors as affective variables of CLI in TLA.

This linguistic phenomenon can be observable in Algerian learners' linguistic production in writing, where their linguistic repertoire can interfere in the production of a target language i.e. previous languages L1 Arabic or L1 Tamazight languages and L2/L3 French may affect, and interfere, in the written production of the additional language English (L3/Ln). The present study aims to explore the influence of the previously acquired languages L1 (Arabic)/ L1/L2(Tamazight) and L2/L3 (French) in the production of L3/Ln (English) and find out which of the previously acquired/learned languages L1 or L2 play the role of the source

language of transfer. Therefore, this research seeks to explore cross-linguistic influence in Algerian learners' written production in order to identify the factors behind CLI and which language Algerian students use as a source language of transfer in their production.

2. Research Questions

The present study aims at finding answers to the following questions:

Q1. How do the previously acquired languages Arabic (L1), Tamazight (L1/L2), and French (L2/L3) interact with one another during L3/Ln English production?

Q2. Which of the previously learned languages Modern Standard Arabic, Tamazight, or French is the source language of transfer?

Sub-Questions:

- Q2.1 Which of the previously learned/acquired Languages (MSA, TAM, FR) is the source of lexical transfer in the production of English?
- Q2.2 Which of the previously learned/acquired languages (MSA, TAM, FR) is the source of syntactic transfer in the production of English?

Q3. What are the CLI factors that dominate one language over another in the production of English as Ln?

Sub-Questions:

- Q3.1 Does language proficiency in one of the previous languages lead to language transfer?
- Q3.2 Can language recency be an influential factor in language transfer?
- Q3.3 Does Psycho/typology play an important role in the choice of the source language of transfer?

3. Aims of the Study

Studies on CLI generally focused on Indo-European languages like German, Spanish, Basque, Swedish, or Finnish as these languages share more similarities than differences, languages that are typologically related. The Algerian

educational context has at least three typologically distant languages, this diversity stands as a motivation for this study. The first aim of this research is to explore CLI and more precisely lexical and Syntactic transfer in students' written production in L3/Ln English. The second aim is to identify which of the previously acquiredt languages L1 MSA or L1/L2 TAM or L2/L3 Fr interfere more and influence the production of L3/Ln English as well as to find out which of these languages is the dominant one that can be a source of language transfer. After examining CLI in students' production and investigating which of the previous languages influence the development and the production in L3/Ln. The third aim of the study is to discuss the factors of CLI highlighted as significant factors in the literature, such as proficiency, typology, psychotypology, recency, or L2 status. Even though this thesis intends to answer limited number of questions that seek to achieve the major aims of the investigation, CLI is considered a broad and complex phenomenon, so it was impossible to address all problems regarding CLI.

4. Significance of the Study

The present study will report the findings of the influence of L1 Arabic or L2 Tamazight or L3 French on English as an additional language. TLA as a new field of research covers multilingual phenomena at different levels: sociolinguistics at a macro level, education as the most affected field by this linguistic phenomenon at the meso-level, and CLI in third language acquisition at a micro-level. Sociolinguistics at the macro level presents the Algerian context of multilinguality and diversity where more than three languages interact. This research can be significant for future research on Algerian sociolinguistic studies in which results of this study will shed light on some particularities of the Algerians' linguistic repertoire. The meso-level presents the corpus study of this study which is the educational context where the CLI phenomenon can be observed and discussed. The results of this study will help teachers to reconsider their views of students' errors in language production and it will help them understand the source of errors and how they will give feedback to the students. However, the microlevel discusses the CLI as a psycholinguistic phenomenon that can occur in the previous levels. The findings of this study will add important insights to CLI studies in TLA. The

three levels of multilingual phenomena can interact with each other. The present study focuses on all the levels and how the Algerian sociolinguistic context can affect students' production at the educational level and how CLI at a cognitive level in a multilingual context can be explored .

Another reason to conduct TLA research, TLA has been mainly conducted in European and North American countries as pointed out by (Jessner,2006). As for European countries, the promotion of multilingualism by the Council of Europe has enhanced the development of TLA in the EU (Jessner,2006). Contrarily, to the author's humble knowledge, Algeria as a multilingual country has little attention in this field of research.

For the development of TLA research, studies must be conducted in areas that have little TLA research. Therefore, the present thesis will shed light on multilingualism and TLA research in Algeria (Algerian Educational Context) where there is little attention and a large gap in this field.

5. Research Procedures

Since this research aims to examine CLI in the written production of Algerian students to identify which of the previously learned languages L1 (Arabic) or L1/L2 (Tamazight), L2/L3 (French) interfere more in the learning and production of English. The following research procedures would facilitate the achievement of this aim:

The first objective of this research is:

- to select a representative sample for the study

The second objective of the study is concerned with the collection of data. The primary concern of the researcher is the use of valid and reliable tools that will enable her to collect relevant data to answer the research questions of the study. The research instruments used in this study have a complementarity relationship that seeks to cover the phenomenon under investigation and is expected to yield reliable results where data is collected in the following order:

- collect data employing a Language History Questionnaire (LHQ.3)
- collect data from students' written productions in L3.
- Confirm the previous results with a language perception questionnaire.

The third objective of the study relates to the analysis of the collected data which the researcher will treat using the following procedures:

- Analyse the data obtained from the LHQ.3 using the SPSS.21 as a statistical instrument to analyse the different aspects of the questionnaire such as students' proficiency, students' language use, language exposure .
- Analyse students' written productions using Meriläinen's (2010) classification of lexical errors.
- Identify the linguistic instances of language transfer.
- Classify the errors in specific categories i.e. categorizing the lexical and syntactic errors.

The fourth objective of the study deals with the link between all the research tools.

- Combine the results of the first questionnaire with the written compositions of the participants and the language perception questionnaire.

The final objective of the study is:

- To determine the factors of linguistic influence and language transfer in English as an additional language. In other words, identify which of the previously mentioned factors: proficiency, recency, psych/typology, and L2 status is the main influencing factor of CLI.

6. Motivation of the Research

The researcher chose to conduct this research because of the great interest in language acquisition and language processing. One of the main motivations was the possibility to investigate a linguistic phenomenon that attracted researchers' attention in multilingual research during the last three decades and affected the production of the target language of non-native speakers. In addition, this gives the opportunity to compare the results of this study that takes place in an an Algerian

context that has more than three languages that are typologically distant from previous works done in different contexts. The researcher conducted this study because there is a need to know the source of interference that prevents Algerian students from reaching an accurate level in their writing in an attempt, to help language teachers in their assessment and evaluation of students' production and give the correct feedback when knowing the sources of errors and mistakes students committed in their written production from one side, a further contribution would consist in rising students' awareness about linguistic diversity and linguistic awareness of the languages they acquired or learned since childhood from the other side.

7. Structure of the Thesis

This thesis consists of four main chapters, each chapter has different sections. Chapter one is devoted to a review of the literature and is divided into four sections. Section one focuses on the distinction between bilingualism and multilingualism it reviews the differences between bilingualism and multilingualism and between SLA and TLA. It also highlights different psycholinguistic models that explain the difference between the two concepts. Section two is devoted to the main concept of the study 'Cross-Linguistic Influence CLI'. It provides the major conceptions of CLI which are assumed to influence the acquisition and the production of third and additional languages. It further explores the various influencing factors of CLI mentioned in the literature and presents the different types of transfer. Section three presents the Algerian sociolinguistic context; it aims at presenting the corpus studied in this research. It reviews the different historical periods of language use and language development in Algeria. It also reviews the language contact phenomenon found in the Algerian context such as bilingualism, multilingualism. The last section of the literature review is concerned with a review of empirical studies. It summarizes most of the studies reviewed and is used as a reference in the present research.

Chapter Two provides an account of the research methodology and Design. It presents the methods and methodology used to explore CLI. It starts by discussing the research philosophy of this thesis. It highlights the difference between

quantitative and qualitative research approaches. It presents the research strategy opted in this study as well as the sample participated. Chapter two presents the different instruments used to collect data as well as the analysis procedures of each instrument. The chapter ends with a discussion of the validity and reliability considerations of the present study.

Chapter three is devoted to the analysis of the data and results presentation. This chapter is subdivided into three main sections. Section one entitled 'Data Analysis and Results of the LHQ.3', reports the results obtained from the language history questionnaire. Section two is about 'Results of Students' Written Production'; it presents the results of the analysis of the students' error analysis. It is divided into two sub-sections lexical error analysis and syntactic error analysis. The last section in chapter three entitled 'Data Analysis and Results of the Language Perception Questionnaire', reviews the analysis and the results of the language perception questionnaire.

Chapter four is "Discussion of the Results". It discusses the main results of the research included in chapter three section (3.1) section (3.2) section (3.3) and brings answers to the research questions. It also sheds light on the limitations of the study and presents some suggestions for further research.

Chapter One: Literature Review

Introduction

The present study aims at investigating crosslinguistic influence in the acquisition of English as a third or additional language by Algerian learners. This chapter aims to present and determine all the constructs of the present study namely *multilingualism, third language acquisition, and crosslinguistic influence.* It also aims at presenting the corpus of this study that represents the Algerian context to demonstrate the importance of this psycholinguistic phenomenon in the Algerian educational context. Multilingualism is a major area of interest within the field of language acquisition. In the last two decades, scholars have long debated the need to separate multilingualism from bilingualism while one major theoretical issue that has dominated the field of language acquisition for many years concerns crosslinguistic influence. Despite the importance of CLI in the acquisition of L3/Ln, there remains a paucity of evidence on the impact of the previously acquired languages on L3/Ln acquisition. Therefore, this chapter will shed light on these constructs in four main sections.

Section one entitled "Bilingualism vs. Multilingualism"; introduces the two major controversial concepts in the present study: *Bilingualism* and *Multilingualism* as two psycholinguistic constructs. It first introduces the terminology of the two phenomena under investigation and highlights the differences between them according to the literature. Then this section will discuss the psycholinguistic models of language production that cover language lexical organization, language access, and language activation. It also argues that SLA and TLA are not the same phenomena and that TLA cannot be seen as an extension to the SLA nor can it be used interchangeably (eg. Cenoz, 2003, 2005; Hufeisen,2005; De Angelis, 2011). The underlying objective of the first section is to show that multilingualism is a separate phenomenon from bilingualism and that language production differs between bilinguals and multilingual.

Section two provides insights into "Cross-linguistic Influence" as a psycholinguistic phenomenon in a multilingual context. This section presents an exhaustive account of the two core constructs of this study namely 'CLI' and 'Language Transfer', each construct is presented and discussed from different perspectives by highlighting the various definitions in the literature relying on different theories of cross-linguistic influence. This chapter also discusses various predictive factors of the source language of transfer presented in the literature such as language-based factors (proficiency, Psycho/Typology, L2 status, and recency) and learners'-based factors (age, educational background, and frequency) as well as different types and areas of language transfer like lexical, semantic and syntactic transfer that will enhance our understanding of the phenomenon under investigation.

Section three of the literature review presents the "Empirical Studies". This section is devoted to discussing CLI studies that investigated lexical and syntactic transfer, focusing on the influencing factors that have shown evidence of negative transfer in L3 written production such as proficiency, L2 status, recency, typology, and psychotypology, to determine the importance of CLI in third language acquisition. It presents different studies of CLI from different perspectives using different methodologies.

The fourth section is about "The Algerian Sociolinguistic Context", which aims at presenting the Algerian linguistic and sociolinguistic context to briefly depict the linguistic complexity of the Algerian context which impacted the multilingual situation of the Algerians. In this section, the Algerian historical overview is presented and discussed chronologically according to the conquests and wars which left a historical and linguistic heritage in the area. This section also aims at presenting the language contact in Algeria and the different sociolinguistic phenomena that occur due to different sociolinguistic conditions.

Section One: Bilingualism vs. Multilingualism (SLA Vs. TLA)

Introduction

The use of the concepts of bilingualism and multilingualism has been a debatable issue in the last decades. Scholars disagree on the use of the two terms, some use bilingualism interchangeably with multilingualism others consider it a separate phenomenon. The present study considers multilingualism as a separate area of research that has its specificities. The current section discusses the two concepts from different perspectives to highlight the differences between them. This section also presents models of language representations for bilinguals such as the Revised Hierarchical Model (RHM), The Distributed Feature Model, The Modified Hierarchical Model, and models of language representation for multilingual such as The Cumulative Enhancement Model, the L2 Status Factor Hypothesis and the Typological Primacy Model.

1.1.1 Bilingualism

Bilingualism is an increasingly important area of research in second language acquisition and Applied linguistics in general. Acquiring a second language has long been a question of great interest in a wide range of psycholinguistic research and investigations in the 1990s. It has been defined from different perspectives. A basic definition of bilingualism is the knowledge of two languages i.e. native language plus a second language. The bilingualism definition had a strong monolingual bias, a number of scholars tend to qualify the bilingual as the one who had native-like control of two languages (Auer & Wei, 2007). This qualification of the bilingual speaker made the definition of bilingualism very restrictive which creates theoretical and methodological difficulties for researchers. It had been very difficult to find an accurate standardized definition of bilingualism as well as how to measure it. However, scholars tend to link it to the proficiency level of the speaker. The level of proficiency of bilingual speakers follows the equation: the higher the number of words used, the more proficient the speaker is (Hufeisen 1991, 2004). Gradually, and due to research conducted in the field a need for a

consistent definition of the construct was highly recommended, the conceptualization of bilingual individuals has become broader and considers anyone who has minimal competence in one of the languages' four skills (reading, writing, listening, speaking) as a bilingual individual whether in second or any other language except the first one. According to Oksaar (1983), bilingualism was "the ability of a person to use here and now two or more languages as a means of communication in most situations and to switch from one language to the other if necessary" (Oksaar 1983, p. 19 as cited in Szubko-Sitarek, 2015; p.7). Grosjean (2010) pointed out that the bilingual individual is not necessary to be fluent in all topics in the two languages and she explained this by the complementary relationship between the languages that differ according to the context, the interlocutors, and the purpose of using this language.

To avoid confusion and ambiguity in the definition of 'bilingualism', Cook introduced the term "L2 users" to refer to anyone who uses L2 for different purposes in his or her everyday life (Cook & Bassetti, 2011). Cook claimed that users of many languages develop "multi-competence" which affects their cognitive representation of grammatical and lexical categories with languages that have very different categories. In the same vein, Cook (2002) highlighted the complexity of defining the term bilingualism and mentioned that bilingualism "(…) has so many contradictory definitions and associations in popular and academic usage that it seems best to avoid it whenever possible" (Cook 2002, p. 4).

By the end of the 1990s and with the spread of globalization and technology people were obliged to know more than two languages, which means a second language plus the third or fourth language in addition to the first language. Though, the term bilingualism was used to describe this situation of using the term for speakers of more than two languages, scholars by the 2000s claimed that the construct 'bilingualism' is no more a cover term for the phenomenon of knowing more than two foreign languages, a new word must be used to distinguish between the two situations.

1.1.2 Multilingualism

Multilingualism is the new term that was used to describe people who know more than two languages after the first language. After the monolingual bias in defining bilingualism, the bilingual bias in defining and conceptualizing the term multilingualism made the scholars disagree on the differences between the two constructs and claim that the two terms refer to the same phenomenon and no need to differentiate between L2, L3 and Ln learners claiming that the processes behind non-native language acquisition are essentially the same (De Angelis 2007). Sharwood Smith (1994) pointed out that "Second language acquisition (SLA) normally stands as a cover term to refer to any language other than the first language learned by a given learner or group of learners" (p.7).

In many studies, a debate is taking place over bilingualism and multilingualism. Several studies have reported that the two terms are the same and the two phenomena share many similarities both at the psycholinguistic as well as at sociolinguistic levels. Grosjean (1992) for instance, saw bilingualism as "the regular use of two (or more) languages, and bilinguals (as) those people who need and use two (or more) languages in their everyday lives" (p. 51). Wei (2007) pointed out that although the word bilingual is primarily used for someone using two languages, it can also be taken to include the many people in the world who have varying degrees of proficiency in and interchangeably use three, four, or even more languages. Scholars refer to the phenomenon as a quantitatively specified subtype of bilingualism. Also, they are considered "albeit a common one" (Herdina and Jessner,2000, p. 84) suggesting no qualitative differences between the two phenomena.

On the other side, other researchers claimed that the two phenomena are not similar, and they do not share the same psycholinguistic characteristics. According to Herdina and Jessner (2002) "learning a third language differs essentially from learning a second—something third language learners themselves intuitively perceive" (p. 96). In an attempt to differentiate between the two constructs Cenoz and Genesee (1998) point out:

"Multilingual acquisition and multilingualism are complex phenomena. They implicate all the factors and processes associated with second language acquisition and bilingualism as well as unique and potentially very complex factors and effects associated with the interactions that are possible among the multiple languages being learnt and the processes of learning them" (p. 16).

Cenoz and Genesee (1998) supported the view that bilinguals should not be equated with multilingual as they are not extended bilinguals, just like a bilingual is not the extension of a monolingual. Hoffman (2001) described multilingualism as a detached phenomenon from bilingualism and mentioned: that "multilingualism has characteristics of its own" (p. 3). Studies on L3/Ln acquisition from the research on bilingualism (Cenoz and Jessner 2009; Aronin and Singleton 2012) note that factors affecting third or additional language acquisition are much more numerous and much more complex than those involved in the process of L2 learning.

In the present study, the construct multilingualism/ multilingual which means to know more than two languages will be used as the most expressive and descriptive term for the participants under investigation since it represents and their linguistic repertoire.

1.1.3 Multilingualism from Different Perspectives

For a long time, monolingualism has been the norm, and bilingualism and multilingualism were considered to be the exception. Recently, this view shifted; bilingualism and multilingualism are the norms rather than an exception (Herdina & Jessner, 2002; Auer & Wei,2007; Aronin & Singleton, 2008; Grosjean,2010). In education all over the world, they encourage the acquisition of a third or fourth language rather than a second language (De Angelis,2007; Szubko-Sitarek,2015). Despite the importance of multilingualism in the world, scholars still did not reach one conclusive definition of the concept. Aronin & Singleton (2012) mentioned that definitions of multilingualism are "many and still wide-ranging" (p.1).

Cenoz and Genesee (1998) defined the term as the outcome of the process of acquisition of several non-native languages. De Bot et.al (2015) define it as "the daily use of two or more languages" (p.4). Multilingualism is generally used to refer to the individual level and is defined as the use of "three or more languages, either separately or in various degrees of code-mixing" (McArthur, 1992, p.673). Multilingual require the knowledge and the use of more than two languages in their daily lives in different situations for different purposes.

Several Previous studies on multilingualism have shown a significant increase in making a distinction between multilingualism at the individual/psycholinguistic level and multilingualism at the group/sociolinguistic level. Neuser (2017) mentioned that "Multilingual may use multiple languages due to social, cultural or economic reasons" (p.7). Where De Bot (2015) claimed that "Multilingual groups do not necessarily consist of multilingual individuals" (p.3). Wei (2008) considers multilingual as "anyone who can communicate in more than one language, be it active (through speaking and writing) or passive (through listening and reading)" (p.4). Wei (2008) emphasized the individual ability to use more than one language in communication regardless of the level of proficiency in the four skills.

1.1.4. Individual Multilingualism

Many recent studies have postulated a convergence between individual and societal multilingualism, especially in the Francophone tradition (Wei, 2007). Multilingualism can be considered as an individual ability or as the use of language in a particular society. Individual multilingualism is sometimes referred to as plurilingualism. The Council of Europe website defines plurilingualism as the "repertoire of varieties of language which many individuals use" so that "some individuals are monolingual, and some are plurilingual." In this definition, they used two alternative terms for multilingualism: *Individual multilingualism* and *plurilingualism*. The term individual multilingualism was coined by Cenoz and Genesee (1998) it focuses predominantly on language systems and language codes. The second term plurilingualism is considered a literal translation from the French word '*plurilinguisme*' which means the individual ability to use several languages.

The term plurilingualism is usually used in contrast to '*multilingualism'* which denotes the multilingual nature of a particular society.

Multilinguals are learners who can use more than two languages in their daily-life use. Multilinguals are not equated with bilinguals; they are not extended bilinguals but are language learners/users of their rights with their characteristics. Individual multilingualism, nowadays, is considered a frequent rule for the population of the world as monolingualism was, perhaps even more frequent (Auer and Wei 2007; Aronin and Singleton 2012). Multilinguality refers more to the "inner constructs of a single speaker" (Cenoz 2000, p. 39). Aronin and Ó Laoire (2001) also claimed that multilingualism is related to the personal and interpersonal aspects that shape the individual linguistic identity.

1.1.5. Societal Multilingualism

Another type of multilingualism is societal multilingualism. The Council of Europe (2007) website defines multilingualism as "the presence in a geographical area, large or small, of more than one 'variety of language'. . .; in such an area individual may be monolingual, speaking only their variety". In everyday life, multilingual learn languages when they are exposed to all of them and are mixed in their environment. Aronin (2007) and Aronin & Singleton (2008) applied the concept of 'new word order ' to describe the current sociolinguistic situation that has shifted from the restriction of monolingual societies to the recent prerequisite need for multilingualism all over the world. As Auer and Li Wei (2007) point out:

> "it is a reasonable assumption that the marginal role research on multilingualism has played within linguistics until some decades ago is a result of the monolingual bias of (particularly) European thinking about language which came into being during a phase of European history in which the nation-states defined themselves not in the least by the one (standard) language which was chosen to be the symbolic expression of their unity" (Auer and Li Wei 2007, p. 1).

The next section will present the multilingual language acquisition process and how it is different from bilingual acquisition.

1.1.6. Multilingual Acquisition

Many studies in the field of language acquisition, which began as early as the 1960s but were not fully developed until the late 1990s, have acknowledged the advantages of bilingual speakers over monolinguals when acquiring an additional language (Cenoz,2003). The multilingual acquisition has attracted more interest in the last few years. As the field of multilingual acquisition is a much more recent field than SLA is considered more complex and diverse than SLA (Cenoz,2005). Hufeisen (2005) posits that studies on language acquisition need to go beyond the acquisition of the first FL to mark the end of an era in which theoreticians have been working on models which only account for the acquisition of two languages, hardly reflecting the reality of language learners today. A final terminological refinement concerns the name of the field dealing with the acquisition of languages beyond L2. As De Angelis (2011) notices there are four different labels regularly used in the literature about the field itself: Third Language Acquisition (TLA), Third or Additional Language Acquisition, Multiple Language Acquisition (MLA), and Multilingual Acquisition. Multilingual acquisition relies on the different directional relations that can appear when the learner knows more than two languages (Herdina and Jessner 2002; Auer and Li Wei, 2007; Kemp 2009) according to which linguistic and psycholinguistic research should no longer be modeled on the monolingual speaker but should take multilingualism as a point of departure, measuring other variables. They are still, however, unable to provide conclusive answers to many multilingual issues such as explaining multilingual lexical storage, processing, and retrieval by children and adults, or accounting for complex multilingual development, nor are they able to agree on the precise definition of this multifaceted phenomenon. The next subsections will introduce some of the models that explain the language acquisition process and language representations for both bilinguals and multilingual.

1.1.7. Bilinguals and Multilinguals Speech Production

In discussing models of multilingual speech production, it is felt useful to discuss two influential models in monolingual speech production, Dell (1986) and Levelt (1989) that are considered the starting point and the base of many bilingual

and multilingual proposed models. Then we will examine the major bilingual models that are argued to be used for multilingualism. This section focuses on psycholinguistic models of lexical and syntactic representations. Due to an integral part of TLA in SLA and the development of multilingual studies that have emerged from previous research in the second language, different theoretical bilingual models will be discussed before multilingual models. "L3/Ln linguists working within formal linguistics theory have recently proposed several hypotheses and models accounting for whether the L1 or the L2 or both influence the L3/Ln." (Slabakova, 2016,p.3).

1.1.8 Bilingual Mental Lexicon

This section highlights the major bilingual speech production models such as Weinreich's Model, the Revised Hierarchical Model, The Distributed Feature Model, and The Modified Hierarchical Model. This section aims at describing the second language production process.

1.1.8.1 Weinreich's Model (1953 / 1974)

Weinreich (1953) in an attempt to answer questions about the interconnectedness between different languages within one mind proposed a three-fold model that illustrates the relationship between languages: Coordinate, compound, and subordinate, respectively. The coordinate bilingual system connects a signifier that matches two different meaning representations. In such a system the bilingual individual would have two separate conceptual representations and two separate words in L1 and L2. Weinreich notes, that for a speaker of English and Russian, the word *Kniga*, would be linked to a particular concept, whereas, the English translation equivalent, *book*, would be linked to a separate conceptual form. **(Figure 1)**. In the compound bilingual system, the two signifiers (word form) are identified with a common meaning representation in which two-word forms are represented in the same conceptual system for instance the words *Kniga* and *book* would be linked to the same conceptual form but would not be directly linked to one. The last type is the subordinate system is a word association model where the meaning representation of an L2 word is accessed

through the meaning representation of the word of the mother tongue; this system describes a situation where one language is dominant over the other keeping the above example, to access the meaning of *book* the speaker would link the word directly to the one in L1 *kinga* and then access the concept evoked by L1 word.
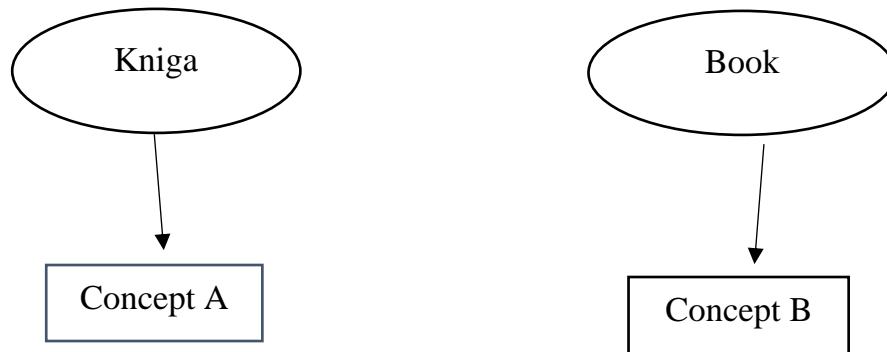
Representation of a Coordinate System
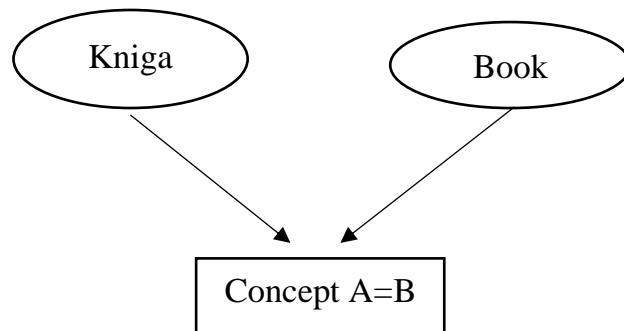
Representation of a Compound System
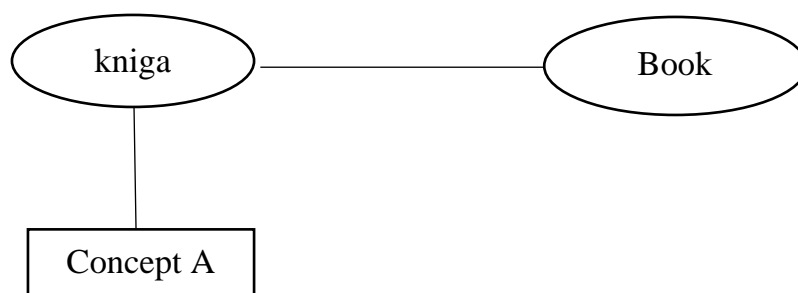
Representation of a Subordinate System

Figure 1.1 Weinreich's Three types of lexical associations (Illustration from Wei, 2009, p. 10)

According to Weinreich (1953), these types of relationships are not mutually exclusive but may co-exist in an individual: some words may form coordinate associations, while others may form compound or subordinate associations.

Weinreich's use of De Saussure's linguistic sign and the distinction between the signifier (the word form) and signified (the semantic content) in a bilingual lexical organization represents what later models call lexical and conceptual levels of representation, and it makes it the basis to many subsequent elaborations in the field of bilingualism and multilingualism.

Most models after Weinreich's (1953) seminal proposal have focused on two of the suggested relationships: compound & subordinate representations and association between the word form and the concepts in developing models of the bilingual lexicon. Ervin and Osgood (1954) suggested that the coordinate or compound representation of two languages depends on the modalities of L2 acquisition e.g. a coordinate representation will be developed when an individual learns two languages in separate cultural environments. Whereas an individual learning two languages together in the same context will develop a compound structure and an individual learning a second language after a certain age in a formal context will develop a subordinate representation.

Many models that have been proposed were similar to Weinreich's model but are known by different names such as the ***Word Association Model*** (see figure 1.2) which is similar to the subordinate system suggested by Weinreich and the ***Concept Mediation*** *Model* similar to the compound system. The two models are presented by Potter, Von Eckhart, and Feldman (1984). The word association model proposes that the learner access the concept of the L2 word through the translation equivalents in the L1 (figure 2). Whereas the concept mediation model proposes that L2 words are directly linked to the conceptual structure just as L1 words are linked to the conceptual structure. Many researchers supported the concept mediation model and concluded that this model more closely represents the bilingual mental lexicon. Potter et al (1984) assume that the difference between the word and concept association model and Weinreich's model is that conceptual representations are not language-specific but are abstract and belong to a separate system. Kroll and Sunderman (2003) argued that this view is supported by the evidence from picture naming tasks and translation studies, which show that

bilinguals can translate most words and that there is evidence of cross-linguistic interference in picture naming tasks. Consequently, Kroll and Stewart (1994) proposed the Revised hierarchical model.

L1 ←→ L2

L1 → Concepts

Word Association Model

L1   L2
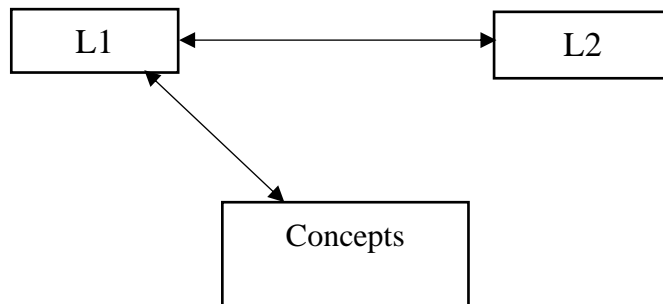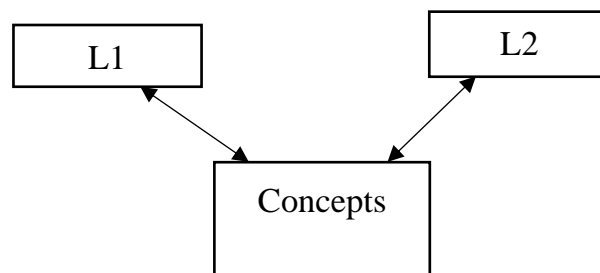
Concepts

Concept Mediation Model

Figure .1.2. Word Association and Concept Mediation Model

1.1.8.2 The Revised Hierarchical Model RHM (Kroll & Stewart, 1994)

The model proposed by Kroll & Stewart (1994) adopts the ideas of word association and concept mediation (Potter, et, al, 1984), it maintains the idea of independent lexical representations for the two languages known by the bilingual and of a shared conceptual system for both languages. Kroll & Stewart (1994) mentioned that "developmental shift in second language learning from reliance on word-to-word connections to reliance on concepts" (p.151). The model includes a developmental dimension that advocated that a shift from lexical to conceptual mediation takes place in connection with increased proficiency and which includes an asymmetrical degree of strength between L1 and L2 lexical links. The RHM assumes that the lexicon of the L1 is larger than that of the L2 and argued that

proficient learners know more words in their L1 mother language than in their subsequently learned languages. It is postulated that translating from L2 to L1 entails direct access to the L1 lexical form. Whereas translating from L1 to L2 is supposed to activate not only the corresponding translation equivalent in L2 but also the conceptual representation of the L1 word thus engaging a semantic route as well. Eventually, as the learner achieves proficiency, a direct link from the L2 word to the conceptual structure is established. According to Kroll (1993), the original lexical links remain present in a weaker form with increased proficiency. It also, presupposes that the connection between L1 and L2 and the concept system are supposed to be asymmetrical and reflect the modalities of L2 acquisition. Altarriba and Mathis (1997) criticized the Revised Hierarchical model for its description of the shift from word association to concept mediation and mentioned that the shift occurs naturally as a function of language fluency. Alttariba and Mathis contend that it is not the proficiency level of the learners that drive the links presented in the model but the previous knowledge of the L2 which determines the shift from word association to conceptual representation.
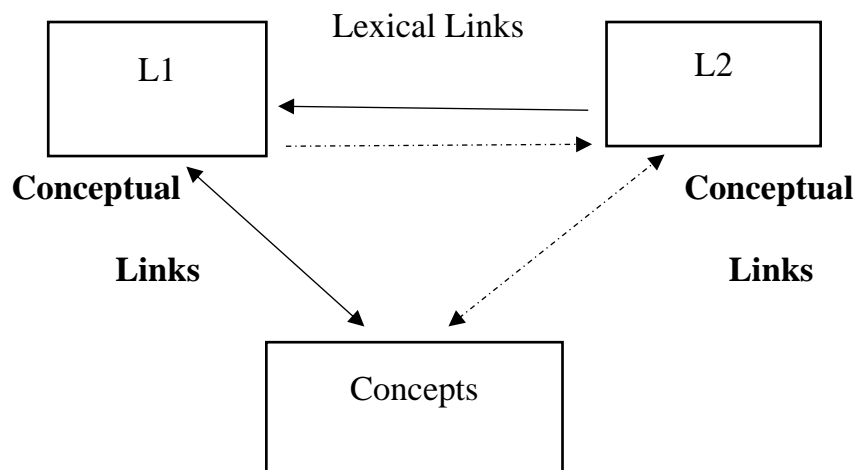
Figure 1.3: Revised Hierarchical Model

1.1.8.3 The Distributed Feature Model De Groot (1992)

The Distributed Feature Model (DFM) is one of the widely cited models that describe bilinguals' memory representation. The model accounts for presenting the differences in semantic overlap and representations that exist for different word types. De Groot (1992) claimed that concrete words that are rated high in concertedness and imagery i.e. easy to form an image, are translated faster as compared to abstract words that are rated low in concertedness and in which it is more difficult to form an image. De Groot (1992) suggested that concrete and abstract words differ in the degree of semantic overlap between translations and claimed that the conceptual representation can be either fully shared, partially shared, or completely separate. In the DFM, concrete word translations are described as sharing more "**conceptual nodes**" as compared to abstract words (de Groot,1992). For example, the English word *father* and its Spanish translation *padre* share more conceptual nodes than more abstract translation word pairs such as *advice-Consejo*, which may share only a subset of features across languages. In terms of the retrieval process that occurs during lexical access, increased semantic overlap between concrete translations is thought to have a direct impact on spreading activation, such that the more nodes shared by a translation pair, the greater the activation (essentially resulting in faster translation).

Though the DFM is too limited, in which it rests on the main prediction those concrete items will be recognized faster than abstract items due to a greater degree of featural overlap and the lack of details on how the degree of overlap may affect the recognition of words. It is important to highlight the importance of the degree of overlap as a factor that influences the speed of lexical access during word processing.

To conclude, DFM should strongly be considered when trying to account for how different word types are processed. The degree of overlap should also be considered when examining how words with multiple translations are activated and retrieved from memory.
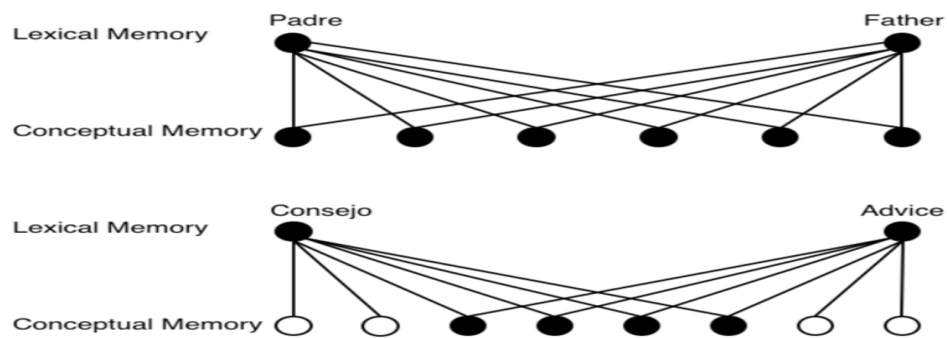
Figure 1.4: The Distributed Feature Model Adapted From De Groot (1992)

1.1.8.4 The Parasitic Model Hall (1993, 1996, 1997) Hall and Schultz (1994) Hall and Eck (2003)

The Parasitic Model proposed by Hall (1993, 1996, 1997) and Hall and Schultz (1994) support the view that L2 words are initially accessed through the L1. The Parasitic model describes words as being composed of three parts: form, the frame, and the meaning (conceptual structure). The model assumes that the first stage of learning a new word is the establishment of the form in L2 i.e. written (orthography) and oral (pronunciation). After the establishment of the form of the word, it is initially attached to the frame representation of the translation equivalent in the L1 then the learner applies the frame and the meaning of L1 to L2. In case no translation equivalent exists in the L1 the learner will construct his/her representation of the word that will directly be linked to conceptual structure. Whereas, If the L2 word is cognate with the L1 word, it is assumed that this word will have a direct connection to the cognate form in the L1. However, with false cognates, the learner would need to reconfigure the connection once the error is discovered. The parasitic model is one of the models that has been extended to the multilingual lexicon by Hall and Ecke (2003).

1.1.8.5 The Modified Hierarchical Model (2009)

Building on Kroll and Stewart's (1994) and De Groot's (1992) models, Pavlenko (2009) presented an in-depth discussion of both theoretical and methodological issues of previous models of a lexical organization labeled the Modified Hierarchical Model (MHM). MHM aims to function as a transitional model which

26

preserves the earlier findings while asking new questions and positing new hypotheses by retaining the developmental progression from lexical to conceptual mediation in L2 learning. The key question in Pavlenko's model is what is shared and what is separate in particular lexical concepts. The MHM differs from the previously mentioned models in three main aspects: 1) organization of the conceptual store: in which the conceptual representation may be fully shared, partially overlapping, or fully language-specific, and 2) conceptual transfer, it predicts the two levels of presentation conceptual and semantic representation. and 3) L2 learning as conceptual reconstructing: is seen as a gradual process in which L2 learning conceptual reconstructing and development of target L2 linguistic categories can take place in implicit memory(Pavlenko,2009) see figure (1.5) bellow extracted from Pavlenko(2009)
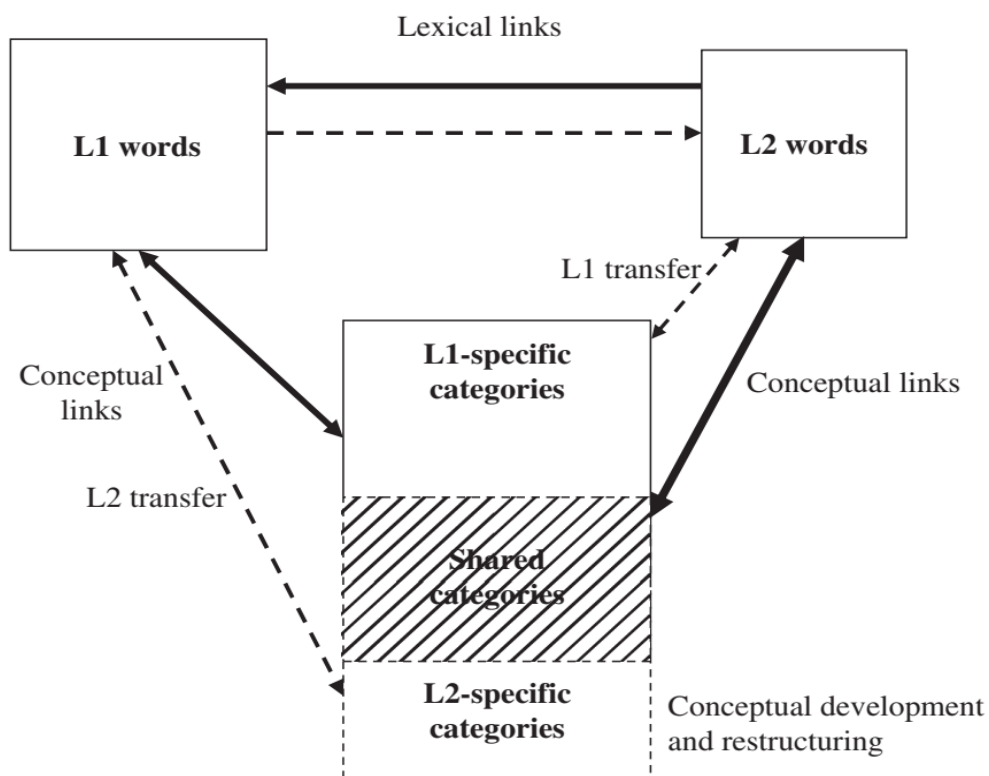
Figure 1. 5: The Modified Hierarchical Model

Pavlenko (2009) highlighted the priming effects in cognates where it is assumed that "There should only be cross-language priming if both languages access a common conceptual memory representation" (Kroll, 1993, p.57). Thus, Pavlenko (2009) suggested that cognates share a conceptual representation in the mind

whereas non-cognates do not share any conceptual representation. Pavlenko (2009) discussed the implementation of her model on both positive and negative transfer and summarised it as follows:

1. ***conceptual equivalence*** facilitates L2 vocabulary learning through positive transfer; the main learning task in this context is the establishment of links between L2 words and already existing concepts.

2. ***partial non-equivalence*** facilitates learning through partial overlap (positive transfer), yet also complicates it when learners assume complete equivalence and display negative transfer; the main L2 learning task in this context is conceptual restructuring.

3. ***non-equivalence*** simultaneously complicates learning, as learners have to develop new categories, and facilitates it through the absence of competing representations; the L2 learning task here involves the development of a new linguistic category that allows learners to map a new word onto real-world referents; this task may be easier in the case of new objects and more challenging in the case of abstract or emotion categories. (Pavlenko, 2009, pp. 152–153)

Pavlenko (2009) highly criticized the interlingual connection assumption between word forms and the faster reaction which in turn is attributed to shared meaning. "the strength of interlingual connections may be affected by a host of other factors, including bilinguals' levels of proficiency in the languages in question, the context of their acquisition, the context of their use, the level of activation of respective languages, the similarity of word forms and the frequency of co-activation of particular word pairs" (Pavlenko, 2009, p. 127).

This means that it is not defined that strong connections are a function of shared meaning. Pavlenko (2009) argued that "lexical properties, such as word frequency, or semantic properties, such as polysemy, should not be confused with conceptual properties, and that tasks that examine interlingual connections do not necessarily illuminate the structure of conceptual representations." (p.152).

1.1.9. Multilingual Mental Lexicon

De Angelis (2007b) and Singleton (2003) point to the lack of theoretical models of language learning beyond L2. All the above-mentioned models of lexical storage and access presumed the involvement of only two languages and often implied that the acquisition of a third would occur in the same way (Hufeisen, 2004; Szubko-Sitarek, 2015). One main question raised when the field of L3 acquisition emerged is how third languages can be successfully incorporated into the mind of the multilingual mind. Multilingual accounts of a lexical organization are most often an extension of bilingual models, rather than radically different models. In this section, we will present some multilingual lexical models.

1.1.9.1 Factor Model (Hufeisen, 2005)

In her *Factor Model*, Hufeisen (2005) attempts to identify the different factors that play an important role in the acquisition of a third language. She proposed that they are more influencing factors in the learning process as more languages are incorporated into the learner's mind. Huffeisen (2005) assumed that any addition to the acquisition process will cause further complexity since more relations among the different languages are established and many other factors come into play. One of the major factors discussed in the Factor Model is the CLI of L1 and L2 in the additional language L3 in which the previously acquired languages can exert a great impact in the process of acquiring the L3. Other factors mentioned in the multilingual model are specific experiences in learning foreign languages and learning and communication strategies. The following figure is an illustration of the Factor Model from Hufeisen (2005)
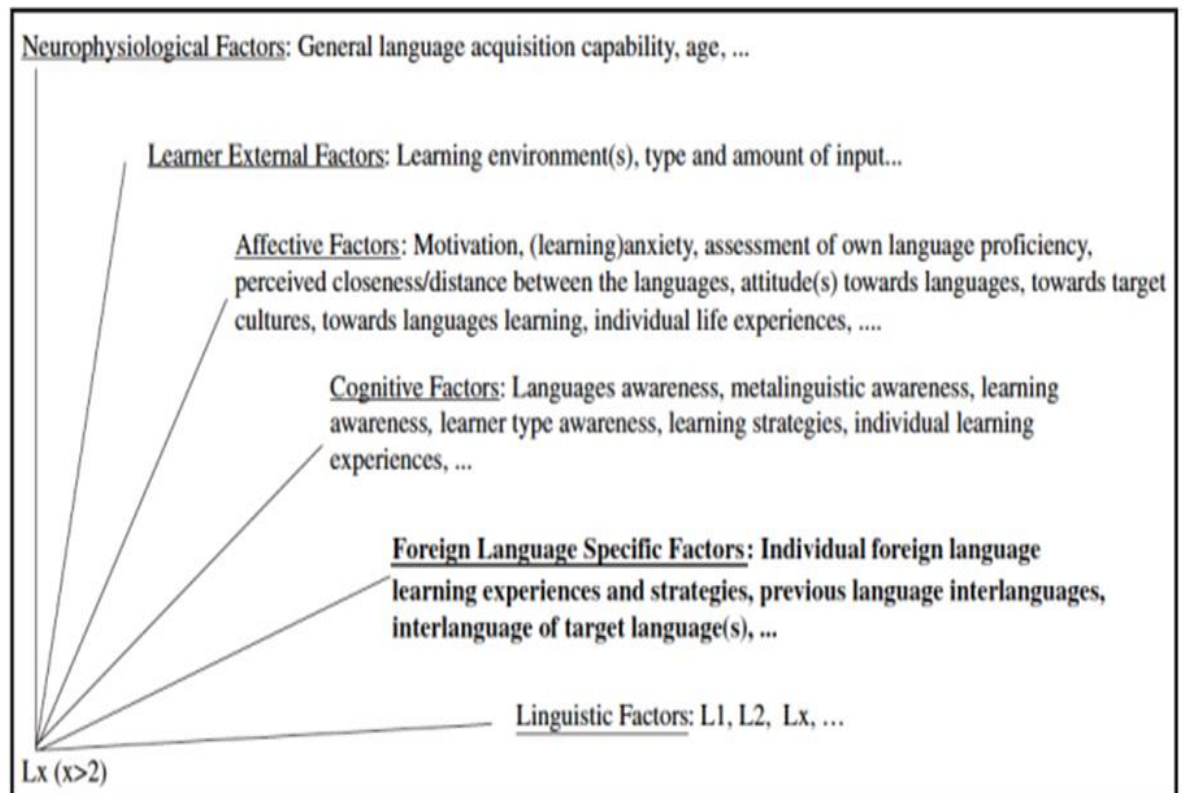
Image 1.1: The Factor Model from Hufeisen (2005)

1.1.9.2 The Polyglot Speaking Model

The *Polyglot Speaking Model* by Williams and Hammarberg (1997, 1998) and Hammarberg (2001) sets out to identify the specific functions that each language has in the multilingual learner's repertoire. By observing William's daughter, Sarah Williams' language learning process over approximately two years, the authors found out that the influence of some of the languages she knew such as Spanish, Italian, and French- was minimal in her Swedish oral production-, but the influence of others –i.e. English and German- was considerable. Moreover, it was found that the type of influence exercised by English and German was different. Whereas L1 English was used for metalinguistic comments and was, thus, an external instrumental language, German worked as a source language (a default supplier language), that is, she resorted to German when she had not acquired a word in Swedish, and so she derived rules in Swedish from German ones. In addition, L1 English had a long-term influence on her L3 Swedish. The influence of L2 German, on the other hand, decreased as the learner obtained more

proficiency in the L3. The L3 gradually took over both instrumental and supplier functions. This model is an excellent example of the importance of both CLI from the L1 and ILT and of the complex relations that are established in the learners' linguistic repertoire. However, it is also important to take into consideration that Williams and Hammarberg's (1997, 1998) and Hammarberg's (2001) studies and, thus, this model, are based on the analysis of the production of one single learner, also the co-author of the study and the linguist herself.

1.1.9.3 Cumulative Enhancement Model

The cumulative Enhancement Model (CEM) as proposed by Flynn, Foley & Vinnitskaya (2004) is focused on the cross-linguistic influence in L3 acquisition at the syntactic level. it is considered one of the earliest models in L3 acquisition the CEM assumes that either L1 or L2 may act as a source of transfer in L3 production. According to Flynn et al. (2004), the CEM suggests that "language learning is cumulative, [and that] all languages known can potentially influence the development of subsequent learning" (p. 474). In other words, both L1 and L2 play an important role in the learning of L3 it also implies that the pre-acquired languages do not have any negative effect on learning L3.

The CEM's main concern is to focus on how multilingual learners construct grammar in the target language. One of the premises of the CEM is that the accumulated linguistic knowledge of the previous languages should enhance the subsequent language. Flynn et al. Studies focused on examining and comparing the use of three types of relative clauses by both adults and children. Flynn conducted two important studies; Flynn's (1983-1987) study of L2 investigated adult Japanese and Spanish and Flynn et al's (2004) study of L3 acquisition investigated Kazakh L1 Russian L2 speakers learning L3 English. These studies seek to elucidate language development by contemplating the development of the language-specific Complementizer Phrase (CP). Results of these studies revealed that to examine how the CP develops, it is necessary to test learners on their handling of free relatives because free relatives appeared to be developmental

precursors to headed relatives in the process of building a full-fledged, language-specific CP architecture (Flynn et al. 2004; Flynn et al. 2008).

The results of the first study revealed that L1 Japanese learners of L2 English scored significantly higher on free relatives than on any of the lexically headed relative types whereas the Spanish L1 group did not do significantly better on any of the three types of relatives in their L2 acquisition of English. These observations led the researchers to conclude that the free relative clause structure appears to be a developmental precursor to the lexically-headed form. In the L3 study, results indicated that the development of the CP structures in the TL of L3 learners patterned with that of bilingual learners. Flynn et al. (2004) study of L3 acquisition led to the postulation of the Cumulative Enhancement Model (CEM) for language acquisition. The CEM claims that:

a. Development of the CP structures in a prior language or languages determines the course of future language-specific development.
b. Having integrated language-specific CP features with universal knowledge of the CP in earlier language acquisition, the learner can draw upon that developmental process or template created by this earlier developmental experience in later acquisition.

Interestingly, In Flynn et al. (2004)'s discussion, they raised the question of whether it could be "that the last learned language (i.e., L2) determines the next language learned (i.e., L3) in some sense" (p. 13). The possibility that the L2 may play a dominant role in the acquisition of L3 goes with the notion of the L2 Status Factor proposed by Bardel & Falk (2007) discussed in the next section.

1.1.9.4. L2 Status Factor Hypothesis

The L2 status Factor implies that if the learner has more than one background language the L2 may outrank the L1 as a significantly stronger source of transfer. Hammarberg & Williams (2009) claimed that the L2 can be considered as an option in the role of "external supplier Language", that is the learner can rely on the L2 that serves as a linguistic supply during the production process of L3. Falk & Bardel (2010) argued that L2 can be an important source of transfer because of

the higher degree of cognitive similarity and the typological and genetic relatedness between L2 and L3, than between L1 and L3. Falk & Bardel (2007) in their first study compared two groups learning a sentence negation in Swedish and Dutch as an L3. One group has English as an L2 and the second group has Dutch as an L2. The study is mainly concerned with the initial state but also the development in the use of the target-like structures (i.e., post-verbal or verb-second) in a series of recordings. The results showed that the group of Dutch as L2 had no major problems in negation post-verbally whereas, the English L2 group displayed incorrect placement of negation. The difference between the groups was highly significant in that it was attributed to the L2 status as a major factor of transfer, they argued that in "L3 acquisition, the L2 acts as a filter, making the L1inaccessible" (Bardel & Falk, 2007, p. 480). The L2 status factor had been investigated by many scholars at the initial stages of learning an L3; however, the effect of L2 status at higher proficiency levels almost remains unknown.

Falk & Bardel (2010) in a further study examined word order and the placement of object pronouns in the production of German as L3 from groups of L2 English and others with L2 French who were at the intermediate level. The result showed a negative transfer from both L2 English and L2 French of the two groups which supports the prediction made by the L2 status factor. In Bardel & Falk (2011) they discussed the L2 status factor as a Hypothesis that explains transfer from L2 and not L1. Bardel & Falk (2011) highlighted the differences between the native language and non-native language that might explain the reason for the L2 effect on L3 production. "A formally learned L2 and a formally learned L3 have many cognitive and situational features in common that they do not share with an L1." (Bardel & Falk, 2012; p.11). The L2 Status Factor had been criticized due to the consideration of L2 as the only source of transfer in L3 production. Many scholars argued that other varying factors can interact with the L2 status in production. Falk, Lindqvist, and Bardel (2013) discussed the notion of the metalinguistic knowledge of the L1 "They argued that a high degree of metalinguistic knowledge ofL1 would generate a stronger possibility for transfer in L3 acquisition and acknowledged the need to look at the factors more interactively rather than merely positing the L2 as

the strongest transfer source in L3 acquisition." (Wang,2018 p. 66). Therefore, the focus on L2 as an exclusive source of transfer has been shifted to other interacting factors that could influence L3 language production such as language typology. Language typology as an influencing factor is presented in the next section.

1.1.9.5. The Typological Primacy Model

The typological Primacy Model (TPM) stems from the collaborative work of Rothman & Cabrelli Amaro (2010) and later Rothman's articles (2011, 2013, 2015) and Gonzalez Alonso & Rothman (2017). The TPM is considered a modified version of CEM where psycho(typology) may be a factor for cross-linguistic influence in L3 acquisition. It advocates that it is the nature of previously acquired languages, rather than their order that determines morphosyntactic transfer. TPM contends that structural proximity between the L3 and the L1/L2, as determined by the learner's internal parser, is the main factor driving the selection of a transfer source.

The early versions of the model were not completely clear as to how the model understood the notion of language proximity. On the contrary, the latest versions are very clear as they defined typology as the proxy for linguistic structural similarity. Any instances of negative transfer are explained on the basis how the parser is likely to determine structural similarity across the target L3 and the previous linguistic systems i.e. L1 and L2. Given the fact that the TPM is not concerned with surface structural similarity but rather with those "linguistic properties that overlap cross-linguistically at the level of mental representations" (Rothman, 2015, p. 179). The next section will present a more recently suggested model that explains language interaction and how the previous language interacts in the acquisition of the third language.

1.1.9.6 The Scalpel Model

One of the latest models that have been proposed recently is the Scalpel Model proposed by Slabakova (2016). As a new model in the field of L3 acquisition, the researcher takes advantage of the previously proposed models of multilingual language transfer, Slabakova (2016) incorporates some features of the CEM and

others from the TPM, while crucially suggesting other claims of the model. According to Slabakova (2016), "this view of L3A argues that the activated grammatical possibilities of the L1-plus-L2 combined grammar act with a *scalpel-like precision*, rather than as a blunt object, to extract the enhancing, or facilitative, options of L1 or L2 parameter values." She argued that L3 acquisition happens property by property and feature by feature.

Slabakova built her model from the view shared by many psycholinguists in the field of L3 acquisition research such as Cook's multicompetence proposal (1991) and others. According to these views, a multilingual mind is not three or more separate monolinguals in one brain and the languages are not functionally separate but as a natural proliferation of sub-grammars and a process that enhances L3 acquisition even if they are not represented in the L1 and L2. The Scalpel model has the following set of claims:

a. Neither L1 nor L2 has a privileged status as a source of transfer
b. Opposite to the CEM transfer cannotonly be facilitative or neutral but it could be detrimental (Slabakova & Garcia Mayo, 2015)
c. The initial transfer is not wholesale.
d. Cross-linguistic influence can be due to other factors beyond L1 transfer, L2 transfer, or language (psycho)typology such as construction frequency, availability of clear unambiguous input, prevalent use, structural linguistic complexity, and others.
e. Different learning patterns for different properties, depending on structural linguistic considerations and language activation and use.

In a nutshell, "the scalpel model of L3A, a model that argues against wholesale transfer at the initial stages and against transfer being facilitative only. Various additional factors may induce crosslinguistic influence in L3/Ln acquisition beyond L1 and/or L2 influence." (Slabakova, 2016, p.11)

1.1.9.7 The Linguistic Proximity Model

The Linguistic Proximity Model is one of the latest models in L3 acquisition suggested by Marit Westergaard, Natalia Mitrofanova, Roksolana Mykhaylyk & Yulia Rodina (2016) it addresses the following research questions: Do both languages contribute to CLI in L3 acquisition or is one of them chosen as the sole source of influence? Is CLI always from a typologically more similar language? Is CLI always facilitative, or can it also be non-facilitative?

Westergaard, et .al claimed that "L*n* acquisition involves incremental property-by-property learning and allows for both facilitative and non-facilitative influence from one or both previously acquired languages. Crosslinguistic influence occurs when a particular linguistic property in the L*n* input reveals the abstract structural similarity with linguistic properties of the previously learned languages." (P.13)

According to Westergaard et al.(2016), the LPM argument is as follows:

a. In the course of L3A, learners have access to all previously acquired linguistic knowledge. The acquisition is cumulative, and no part of previous linguistic competence is blocked at any stage of the process.

b. CLI occurs property-by-property, based on similarity or overlap between the grammars, not necessarily identity.

c. Facilitative influence is based on structural similarity: Learners parse L3 input and make predictions by consulting previously acquired grammar.

d. Non-facilitative influence occurs when learners misanalyse L3 input (and/or have not had sufficient L3 input) and mistakenly assume that a property is shared between the L3 and either or both of the previously acquired languages.

Conclusion

The first section of the literature review aims at highlighting the differences between bilingualism and multilingualism. This section emphasized the differences between the second language acquisition (SLA) process and the third language acquisition process (TLA). In doing so, theoretical models of the

bilingual and multilingual mental lexicon have been provided and illustrated. To conclude multilingualism cannot be considered as bilingualism nor SLA as TLA, each field has its properties, and TLA should be seen as a separate area of research. The models provided in this section proved the complexity of the multilingual lexicon in which many factors intervene in the development and production of the TL where there is an influence from more than one language. The next section will discuss this phenomenon exhaustively.

<center>**Section Two: Cross-Linguistic Influence (CLI)**</center>

Introduction

The present section presents Crosslinguistic influence and language transfer as two psycholinguistic phenomena in the study of language acquisition. It defines Crosslinguistic influence as an umbrella term that encompasses language transfer, the construct has been defined from different linguistic perspectives to demonstrate its importance in language acquisition. The present section also aims to determine the different influencing factors of CLI and language transfer discussed in the literature such as language proficiency, L2 status, recency, typology, and psychotypology. This section also presents the two areas of language transfer that will be examined in this study namely lexical transfer and syntactic transfer.

1.2.1 Definition of CLI and Transfer

Language variability is something obvious in learning languages. Language provides us, as humans, with the means to describe, categorize, and ponder everything around us. Each language has its way of expressing feelings, emotions, desires, thoughts, and needs (O'Neil et al, 2005). According to Jarvis & Pavlenko (2008), the notion of CLI exists since antiquity. CLI was a controversial topic not only for linguists and researchers but also, for ordinary people. This interest in CLI appears in ancient Greek literature as a reference to CLI and language interaction. Linguistic diversity was known in ancient times and instances of language contact which appear in a variety of legal and commercial documents, personal letters, and even epitaphs (Jarvis and Pavlenko, 2008).

Numerous definitions were offered for the concept of CLI in books, articles, and scholarly research. The CLI has always been used interchangeably with the term "transfer". In Applied Linguistics 'transfer' is defined as "a process in FLL whereby learners carry over what they already know about their first language to their performance in SL" (Crystal, 1981, p.2). From behaviourist psychology, it is defined as "The automatic, uncontrolled, and subconscious use of past learner behaviours in the attempt to produce new responses" (Dulay et al, 1982; p.101). Kellerman and Sharwood Smith (1986) proposed a more neutral definition of the

term CLI as "the full range of ways in which a person's knowledge and use of another language" (cited in Jarvis & Pavlenko, 2008, p.3). Sharwood Smith & Kellerman's (1986) mentioned that the term Cross-linguistic influence has provided a neutral, holistic, superordinate term that contains all "Those processes that lead to incorporation of elements from one language to another" (Kellerman & Sharwood Smith, 1986, p.1).

CLI has been considered a broad phenomenon since it is used as an umbrella term that includes not only transfer but also phenomena such as language interference, avoidance, borrowing, code-switching. More recent definitions defined CLI as "The influence of a person's knowledge of one language on that person's knowledge or use of another language" (Jarvis & Pavlenko,2008, p.1). Or "The influence of that a person's recognition, interpretation, processing, storage and production of words in another language" (Jarvis, 2009, p.99). Odlin's (1989), Jarvis' (2000), and Ellis's (2008) definitions go in the same line by considering CLI as Any instances of learner data where a statistically significant correlation (or probability-based relation) is shown to exist between some features of the target language and any other language that has been previously acquired. On another side, Cook (2003) claims that CLI is a linguistic phenomenon that includes also a lack of transfer, under-production, and overall facilitation of learning and strategies of communication, these definitions arise a controversial issue among scholars where the term has been criticized. Since they advocate that the influence of one language on another in a person's mind may be the manifestation of an "*integrated multicompetence*", and not merely the manifestation of two or more separated competencies in mind (Jarvis & Pavlenko,2008, p.4).

Though scholars disagree about the features involved in CLI and how to define them, the suitability of the terms transfer, CLI can certainly be called into question. They will be used as the most conventional cover terms for referring to the phenomenon under investigation in this research. Several researchers and linguists stated explicitly that the two terms CLI and transfer can often be used interchangeably as theory-neutral cover terms to refer to the phenomenon in

question (Jarvis & Pavlenko, 2008; p.3). Though specifications that transfer and CLI are synonyms (Odlin & Yu, 2016), other researchers stated implicitly through their choice of wording such as Ecke (2015) who pointed out that "Most studies to date have focused on the Prominent negative *transfer* [Emphasis added] interference of another language in L3 production, although the positive effect of *CLI* [Emphasis added] will usually outweigh the negative ones" (p.146). The next section will present the different theoretical views of the CLI such as the behaviourist view, the mentalist view, the cognitive view, and the multilingual view.

1.2.2. Theoretical Overviews of CLI

CLI has been defined from different theoretical perspectives, the following section will discuss major linguistic and psycholinguistic theories and approaches that discussed CLI such as the Behaviourist theory, cognitivist theory, and mentalist theory.

1.2.2.1 Behaviourist view

The behaviourist view of language transfer was reduced to habit formation, which was a process of stimulus responses. Behaviourists/structuralists advocate that the difficulties in learning languages depend on how the target language and native language are similar or different. During the 1950s and the 1960s, the study of language transfer was linked with "Contrastive Analysis" and most works were influenced by Lado's (1957) ideas. Lado (1957) put forward the theory of CAH (Contrastive Analysis Hypothesis) which held the view that:

- The level of difficulty experienced by the learners will be directly related to the degree of linguistic differences between L1 and L2.
- The difficulty will manifest itself in errors; the greater the difficulty; the more frequent the errors.

According to Lado (1957), the linguistic elements of the FL that are similar to the learners' native language will be learned easily, whereas; the elements that are different will have a higher degree of difficulty this is because learners tend to

transfer the forms and meanings and distribute the forms and meanings of their native language to the FL. Lado's CAH assumed that by comparing and contrasting the similarities and differences between two languages as well as setting up the hierarchy of difficulty, it will be possible to predict and explain learners' errors and learning difficulties. The predictor of transferability was the typological or structural similarities and differences between L1 and L2. According to Lado (1957) in comparing and contrasting the surface structure of the native and target languages "The student who comes in contact with a foreign language will find some features of it quite easy and others extremely difficult. Those elements that are similar to his native language will be simple for him and those elements that are different will be difficult". To sum up, within the contrastive analysis framework all errors made by L2 learners could be attributed to transfer from the L1 and could be avoided by processes of habit formation.

The value of CAH has been debatable for decades because the predictive validity of its analysis seems questionable (Odlin,1989). Wardhaugh (1974) proposed two versions of CA as priori, which is also called the predictive or strong version, and posteriori, which is sometimes called the explanatory or weak version according to Schachter (1983), CA a priori is said to be a point-by-point analysis of the phonological, morphological, syntactic, or other subsystems of the two languages. While posteriori by observing difficulties and problems made by learners and trying to find solutions and is said to be a subcomponent of the field of Error Analysis.

Questions have been raised about the worth of CA in the classification of learners' errors in studies that become known generically as error analyses (Richards,1971). Learners' errors provide evidence of the system of the language that the learner is using i.e. what they have learned at a particular point. One of the major challenges for error analyses is deciding what category to assign a particular error to. Some errors seem to arise not because of language transfer but from other sources or processes. Another notion that should be taken into consideration in the classification of errors is fossilization (Lakshmanan,2009). Fossilizable linguistic

phenomena are linguistic items, rules, and subsystems that speakers of a particular native language tend to keep in their interlanguage, that is, the particular version that the speaker makes about a particular target language. Selinker (1972) defines IL as "a separate linguistic system based on the observable output which results from a learner's attempted production of a target language norm" (p.211). Later on, other theories tend to explain CLI from a completely different point of view such as the mentalist view of Chomsky (1959).

1.2.2.2 Mentalist View of CLI

In the same period, a major theoretical shift was taking place and Chomsky's theory of language acquisition and transformational syntax were dominant. After the strong criticism made by Chomsky (1959) of Skinner's (1957) behaviourist approach to LL, the spread of Universal Grammar (UG) and changes in methodology that cause research in the field of language acquisition to be empirically based, there were important changes on the way language transfer was viewed and analyzed. Chomsky put forward the theory of mentalism, which was also called conceptualism and psychologism. The theory believed that human language ability was born by nature, and everyone would eventually master a language because there was Universal Grammar (UG) in language learning, and it was universal grammar rules that determined the mastery of every language, in other words, language is not simply verbal behaviour but also a complex system of internalized rules underlying this behaviour. It was assumed that L1 and L2 learning is determined by universal innate principles or inborn capacities that enable the person to create an infinite number of original sentences. Following the mentalist perspective, several researchers, such as Dulay & Burt (1977) and Krashen (1982) argued that adult L2 acquisition is very similar to child L1 Acquisition and that this process is not much affected by the learner's L1 background. Dulay and Burt's study (1977) concluded that children construct their L2 as an independent system and they did not rely on language transfer or comparison with their L1 to construct their L2. Dulay and Burt's conclusion of their study severely attacked CAH. Under the influences of the mentalist view and UG, Dulay and Burt (1977) put forward their Creative Construction Hypothesis

(CCH) which describes the idea of the L1=L2 hypothesis. In addition to Dulay and Burt, Krashen (1982) claims that language learning ability only depended on UG and he denied complete native language transfer. Mentalists recognized that their conclusions were very limited and highly theoretical in which they faced a lot of criticism because of the lack of evidence and empirical support. Zobl's (1980) attempt to explore the relationship between the native language transfer and UG argued that formal properties of L2 and universal developmental principles determined the transferability. Although the mentalists are no longer in a position to deny native language transfer, they are still under criticism for their theory not having much empirical support which allowed for another theoretical wave known as cognitivism to discuss the phenomenon from a different view.

1.2.2.3 Cognitive View of CLI

In the late 1970s, the drawbacks of the Mentalist view stimulated the development of the cognitive view of transfer. The cognitive view of transfer is considered to be much more rational and objective regarding the function of the native language (NL). In the 1970s native language (NL) is no longer taken as the exclusive source of learners' errors. Instead, from a cognitive point of view, NL transfer, as a complicated cognitive process, is said to be an important strategy employed by learners in language learning. also is believed that language learning involved the same cognitive systems as learning other types of knowledge: perception, memory problem solving, information processing, (Kellerman, 1977). In this era, researchers' focus shifted from the phase of over-emphasizing the role of NL influence in SLA to factors that constrain native language transfer, that is, when and how language learners make use of their native language. "It is generally acknowledged that typological similarity or difference cannot on its own serve as a predictor for transfer, but interacts with other (linguistic) factors". (Faerch &Kasper.1986, p.121).

Factors of CLI have been analysed from various dimensions including linguistics, sociology, and cognitive psychology for the sake of having more comprehensive results of language transfer. Ellis (2000) suggested other factors

such as language level, social factors, markedness, prototypicality, language distance and psychotypology, and developmental factors. From a cognitive perspective, Kellerman (1983) claims that:

> "if a feature is perceived as infrequent, irregular, semantically, or structurally opaque, or in any other way exceptional, what we would, in other words, call psycholinguistically marked, then its transferability will be inversely proportional to its degree of Markedness". (p.117).

Kellerman, in his later studies, shifted the concept "psycholinguistic markedness" to "prototypicality" which is in nature the markedness theory from the perspective of learners' perception. Kellerman has conducted a series of research on the relationship between prototypicality in semantics and syntactic structures and their transferability to verify this hypothesis. Corder (1983) as a cognitive researcher highlighted the notion of Language distance as an influencing factor Linguists believe that distance can be a linguistic term or a psycholinguistic term. Corder (1983) pointed out that language distance led to positive language transfer "Other things being equal, the mother tongue acts differently as a facilitating agency. Where the mother tongue is formally similar to the target language, learners will pass more rapidly along the development continuum than where it is different".

Linguistic factors influencing language transfer will be discussed in the coming sections in detail.

1.2.2.4. Multilingual view of CLI

The research to date has been concerned with the study of multilingual language contact. Conversely to the previous theoretical views of CLI and language transfer, a broader perspective has been adopted and argues that CLI occurs not only in SLA but also in the acquisition of a third or additional language. While the study of TLA, and particularly its relationship to language transfer, is still in the process of defining its scope and specificity as well as an appropriate methodology (Cenoz, 2001; De Angelis & Selinker, 2001; Dewaele, 1998, 2001; Hammarberg, 1998; 2001). Several recent studies investigating language transfer have been carried out from the multilingual perspective and have intensively addressed its difference from the previous perspectives. Multilingual scholars

reported that the perspective is rather different from others in one main point which is considering acquisition as simply an extension of second language learning and learners not as monolinguals acquiring a second language, researchers view multilingual learners learning a third or additional language who have already acquired two or more languages as different from bilingual learners who are learning two languages with only one previous language, therefore, they consider them as individuals with a unique and specific linguistic configuration (De Angelis and Selinker, 2001). Overall, these studies suggested that the effect of the previous languages will not be the same for L3 and L2 learners and language transfer will be influenced by more than one native language and many other influencing factors will emerge. In this study, the multilingual perspective will be used in exploring the influence of previously acquired languages in learning an additional language.

1.2.3. Types of Transfer

FL learners consciously or unconsciously are influenced by their mother tongue in their learning process this can be distinguished into two different types of transfer these types are positive transfer and negative transfer.

1.2.3.1 Positive Transfer

Positive transfer is also known as 'facilitation'. It takes place when the mother tongue of an individual influences his/her learning process of a foreign language positively according to Ringbom (2007) positive transfer could be described as "the application of at least partially correct perceptions or assumptions of CL similarities. That perception only partially correct still have the main effect is particularly relevant for comprehension" (p.31) In other words, CL similarities mean facilitating the language learning process of FL learners. Moreover, Wolfram (2007) defines positive transfer as "the incorporation of language features into a non-native language based on the occurrence of similar features in the native language". Learners will face fewer difficulties in learning the FL when two languages L1 and L2 share the same features. Furthermore, Liberman & McDonald (2016) sustain that "when learning in one context improves learning or

performance in another context this is called the positive transfer" (p.4). It means that positive transfer is all about facilitating the FL learning process and it occurs when one language helps in learning the other language which prevents learners from committing grammatical errors. Richards & Schmidt (2013) went in the same line and stated that "positive transfer is learning in one situation which helps or facilitates learning in another later situation." (p.67) ibid.

1.2.3.2 Negative Transfer

The second type of language transfer is known as a negative transfer. Liberman & McDonald (2016) claim that "Negative transfer occurs when previous learning or experience inhabits or interferes with learning performance in a new context" (p.4). Previous experiences or learning can hinder the learning of new concepts in the FLL process. In other words, the negative transfer is the obstruction of new learning or performance, because of the previous learning that an individual has. Richards and Schmidt (2013) stated that "Negative transfer is learning in one situation which interferes with learning in another later situation" (p.607). Language interference is most often discussed as a source of deviation, which occurs when learners transfer items and structures that are not the same in the target language. This means that learners lack certain linguistic knowledge and awareness when they perform the target language in various communicative contexts.

Moreover, Rajmanickan (2004) claims that "in learning some new task the previously learned material may interfere and hamper the learning of the new task. We call this negative transfer". He added, "In learning generally stimulus is attached to the response. But if a new response is attached to the old stimulus then the effect is a negative transfer". That is to say, the negative transfer occurs when there is a conflict between the previous learning languages and the new ones, which makes the learning process difficult for FL learners. So, the negative transfer takes place when there are no similarities between the target language and the previous languages. In other words, the differences between the rules of an individual's native language and the language he/she is learning make some

difficulties in learning the target language (TL) which led to the production of errors in that language. However, the negative transfer can evolve and split into two types of interference. These types are called "*retroactive inhabitation*" and "*proactive inhabitation*". In this regard, Selinker and Gass (2001) pointed out:

> "Retroactive where learning acts back on previously learned material, causing someone to forget (Language-loss) and proactive inhabitation where a series of responses already learned tend to appear in situations where a new set is required. This is more akin to the phenomenon of second language learning because the first language in this framework influences inhibits/modifies the learning of the L2". (p.68).

Hence, retroactive inhabitation is the result of the new learning language on the old learning one where the individual human mind forgets the previous knowledge because of the newly learned one. However, proactive inhabitation is the opposite of retroactive inhabitation, it makes an individual forget the knowledge of the new learning, because of interference from old learning.

1.2.4. Dimensions of CLI

CLI is an increasingly important area of research. Recently, new trends in multilingual research have led to renewed interest in the fundamental features of the phenomenon where a considerable literature has grown up about the different characteristics of CLI in L3 acquisition, the following section will be devoted to highlighting the eight major characteristics of CLI

Area of language knowledge/use	Phonological, orthographic, lexical, semantic, morphological, syntactic, discursive, pragmatic, and sociolinguistic.
Intentionality	Intentional, unintentional
Directionality	Forward, reverse, Lateral, bi-multi directional
Outcome	Positive, negative
Channel	Aural, visual
Cognitive Level	Linguistic, Conceptual
Form	Verbal, non-verbal

Mode	Productive, Receptive
Type of Knowledge	Implicit, Explicit
Manifestation	Overt, Covert

Table 1.2.1: CLI Dimensions (Adapted from Jarvis & Pavlenko, 2008, p.20)

1.2.4.1. Intentionality

Reviewing the literature, the researchers found out that transfer is used by language learners differently, consciously, or unconsciously which leads learners to produce erroneous or incomprehensible sentences. As far as *intentionality* is concerned, Jarvis and Pavlenko (2008) defined *intentional transfer* with CLI as a conscious communicative strategy and *unintentional transfer* with making interlingual mental associations and identifications, as a distinction between the types of transfer intentionality as a very complex phenomenon. For this reason, lexical transfer in TLA seems not to have been examined from the perspective of intentionality (Jarvis&Pavlenko,2008 p.24). It is only investigated by Hammarberg (2001) who, in his examination of different functions of non-adapted language switches, distinguished between switches with a pragmatic purpose and those without an identified pragmatic purpose, although they do not use explicitly the terms intentional or unintentional.

1.2.4.2. Directionality

Another dimension discussed by Jarvis and Pavlenko (2008) can be characterised by *Directionality*. Jarvis and Pavlenko (2008) classified it into three directions a ***forward transfer*** is logically a transfer from L1 to L2 or L2 to L3 and a ***Reverse transfer*** is a transfer from L3 to L2 or L2 to L1. Jarvis and Pavlenko (2008) in the classification of forward and reverse transfer relied on the order of acquisition of the languages i.e L1, L2, L3, L4, and so forth, and they do not emphasise other relevant factors or L1's unique status, the authors also proposed the term ***lateral transfer*** as a third direction covering examples of CLI between "post-L1 languages whose status is problematic or irrelevant"(Jarvis, Pavlenko 2008, p.22). Lateral transfer is considered a problematic type in CLI due to the order of acquisition is ambiguous and irrelevant so it refers only to instances of

transfer from two post-L1 languages which do not have L2, L3, L4, and so forth. The function of post-L1 languages as a source of transfer is not determined, De Angelis (2001) highlighted that the effect of post-L1 languages usually cannot be pinned down to the specific sequences in which they were acquired.

A *bi- or multidirectional transfer* can be applied to languages that perform the function of both source and recipient languages simultaneously (Jarvis, Pavlenko 2008, p.22). in which it could be both forward and reverse transfer i.e. L1 to L2 or L2 to L1 for bilingual learners or L2 to L3 or L3 to L2 for multilingual.

1.2.4.3. Outcome

Examining transfer cases from the perspective of whether the *outcome* is *positive* or *negative* applies mainly to the traditional distinction between *transfer in production*, when similarities resulting from language relatedness may cause the violation of grammatical norms, and *transfer in reception* when the close language typology resulting in significant synergies between two languages leads to a positive transfer. It must be emphasised that research on lexical transfer in TLA has focused on language transfer in production. Dealing with transfer in production, many scholars represent a more recent approach and examine the effects of CLI without regard for whether the result is positive or negative taking into account that violating grammatical norms is not the only indicator of perceiving an instance of transfer as being negative. An error may be also the outcome of the mental interlingual process of the identification of similarities, which could reflect a highly developed metalinguistic awareness and lead to success in communication when, although wrong or inappropriate, it is still comprehensible.

1.2.4.4. Channel

Another dimension of transfer that can be characterised is the distinction between *transfer that involves speech* versus *transfer that involves writing* (*channel: aural versus visual*). According to Ringbom (1987), "limited control in speech situations causes CLI to occur more often in speech than in writing" (p.128). Longitudinal studies such as (Ringbom,2001; De Angelis,2005) focused

on written production. Whereas others such as Dewaele (1998) and Cenoz (2001), as well as De Angelis and Selinker (2001) and Hammarberg (2001), who conducted longitudinal case studies, focused on oral production. Few studies such as Dentler (2000) combine written with oral production and Gabryś-Barker (2012) examines written production (translation) with oral thinking-aloud protocols. In this study, the research opts only for written production as a channel for CLI examination. The next dimension is the cognitive level that discusses the different levels in which CLI can occur.

1.2.4.5. Cognitive level

Language transfer can occur at different levels either linguistic or conceptual levels. Researchers distinguished between the two levels and claimed that transfer is not only from one mental representation from one linguistic system to another linguistic system but there may be several cognitive levels that may exert an influence from one linguistic system to another one. As Jarvis (2007) states: "As a theoretical construct, the conceptual transfer can be characterized as the hypothesis that certain instances of crosslinguistic influence in a person's use of one language originate from the conceptual knowledge and patterns of thought that the person has acquired as a speaker of another language" (p. 44). According to Jarvis and Pavlenko (2008), cross-linguistic influence can originate from either conceptual knowledge or processing. Jarvis (2007) has divided conceptual transfer into concept and conceptualization transfer. The former refers to transfer related to the inventory of concepts in the learner's mind, either to lexicalized or grammaticalized concepts, and conceptualization transfer, which refers to the processing of that knowledge, more specifically, Jarvis (2007) refers to it as "Transfer arising from cross-linguistic differences in the ways L2 users process conceptual knowledge and form temporary representations in their working memory" (p. 53).

1.2.4.6. Form, Mode, Type of language knowledge, and Manifestation

Jarvis and Pavlenko (2008, p.20–25) in their classification proposed characterising every instance of transfer across the ten dimensions, three of them:

type of language knowledge – implicit versus explicit, **form**: verbal versus non-verbal performance, and **manifestation:** overt versus covert types of CLI, have not been investigated empirically in TLA research.

Second language acquisition Researchers (e.g: Ellis,2002; Jarvis,2004) claimed that the type of knowledge plays a significant role in investigating the effect of CLI, they explained that the distinction of knowledge type whether implicit or explicit has an important implication for CLI that enable them to explain how the languages are stored and processed in the mind. For instance, Jarvis (2003) mentioned that CLI effects are often more evident where implicit knowledge is involved. The other dimension is the Mode, which distinguishes between productive and receptive skills. Investigations on CLI generally covered the four language skills writing, reading, listening, and speaking. These skills have been distinguished in terms of productive and receptive skills. Many empirical studies focused on instances of CLI in learners' errors in syntax, lexis, phonetics, while others focused on learners' perceptions, understanding, comprehension.

Recent studies in CLI shifted from focusing on verbal communication to non-verbal communication in which many studies revealed that gestures and bi/multimodal communication can give insightful information about language transfer in L2 development. Kellerman (2001) mentioned that the languages the speakers know can influence their use of linguistic and paralinguistic features in bi/multimodal communication. The next section is devoted to the different variables that affect CLI and discusses its various types.

1.2.5. Variables that Affect Cross-Linguistic Influence

the following two sections will present a brief account of the findings determined the variables that have been investigated and cited as major studies in CLI including a discussion of the variables that can interact to facilitate language transfer in both L2 and L3 acquisition. The most important variables that had much attention in the literature are proficiency, language use and exposure, psychotypology, age, language background. These factors can be loosely divided

into two categories language-based variables and learner-specific variables independent of the individual learner.

1.2.6. Language-Based Variables

Some researchers, such as Ringbom (1987,2001,2005), Cenoz (2001), Williams and Hammarberg (1998) Jarvis (2000), De Angelis & Selinker (2001), Hammarberg (2001), Odlin(1989); Odlin & Jarvis (2004), Navés at al.(2005) Jarvis & Pavlenko (2008), Pavlenko (2009) have considered the role of language typology, psychotypology, recency of use, L2 status, and proficiency as the main factors affecting the appearance of CLI in foreign language production. Therefore, the following part will discuss major variables related to CLI that have been most widely researched.

1.2.6.1 Proficiency

the level of proficiency is one of the most variables that has been extensively investigated in second and third-language acquisition and is considered a key concept that led to the revealing of CLI studies (Cenoz,2001). Studies on CLI focused on the level of proficiency of the individuals to know which of the pre-acquired languages that the learner knows plays the role of a source language of transfer and leads to some ungrammaticalities in their linguistic production (Gass & Selinker,2008). Researchers (e.g.: William & Hammarberg, 1998; Tremblay, 2006; Lindqvist & Bardel, 2014) have found that errors and language switch the learners made are related to their proficiency level in the language being acquired. Odlin (1989) agreed that negative transfer occurs more frequently at lower levels of proficiency, whereas certain types of transfer, such as cognate vocabulary use, occur even at high levels of proficiency. Many researchers explained that the lower level of proficiency in the target level is related to the small vocabulary that the learners have in the target language and concluded that the smaller the vocabulary the learner has the higher transfer will be. Therefore, the higher the proficiency level increases the more transfer is reduced (e.g.: Ringbom,1987; Williams & Hammarberg,1989; Hammarberg,2001; Dewaele,2001).

Language proficiency has been investigated in both second language acquisition and third language acquisition to predict which of the languages is the source language of transfer i.e. the native language or the second one. In the 1980's they considered CLI and language transfer as a strategy that consisted of the use of previously learned languages to fill a gap in the L2 because learners had not reached a high level of proficiency in L2 that enable them to use it as a reference frame "learners have very little else to rely on than the hypothesis that the L2, will any many, or at least in some, respects work similarly to their L2" (Ringbom, 1987,p.63). Cummins (1976) suggested what is known nowadays as '*the Threshold Hypothesis*' which postulates that bilinguals need to attain a certain level of proficiency in L2 to experience the cognitive benefits of being bilinguals. Since learners often draw on their L1 to fill a lexical or syntactic gap when they lack the linguistic means of expression in the L2.

In the same line but within the multilingual framework, Ringbom (1989) and Williams (2001) were among the first researchers to claim the existence of the threshold level suggested by Cummins (1976) to consider L2 as the potential source of transfer. Despite the importance of the level of proficiency in CLI in TLA, L3 researchers hardly ever make it the focus of their studies. Instead, they highlighted the effect of L2 proficiency level in L3 production. A key study exploring the level of proficiency is that of Tremblay (2004) in which he stressed the role of L2 proficiency in L3 production and reported that the higher the level of proficiency of the learner in L2 the higher the impact on L3 in other words, the impact of L2 on L3 depends on the level of Proficiency in L2. Tremblay also mentioned that if the learner reached the threshold in L2, the L2 will be a source of transfer in L3 production. The main assumption in CLI for multilingual speakers implies that the less proficient the speaker is in the L3, the greater the influence from L1 or L2. This might be because the well-mastered L2s might lose their status of an L2 and behave more like an L1 (Falk & Bardel, 2010). In the same vein, Ecke and Hall's (2013) study on tip of the tongues revealed that most cases of CLI originated from the languages they were highly proficient in such as L1 German

and L2 English, whereas CLI from the less stable L2s like Spanish and Russian are very infrequent.

So, in TL the source language of transfer could be any language the learners are proficient in and not only L2, and the influence will be stronger at the early stages of learning. Ortega and Celaya (2013) confirmed this assumption in their study where they examined the lexical production of Catalan learners who have L3 English and L2 Spanish and found that the higher the proficiency in L2 Spanish and L3 English the fewer the instances of CLI produced. These results pave the way to another assumption that the more the learner is proficient he/she can keep all the languages apart and therefore, there will be less interaction among them.

Jarvis (2001) asserted that there are different ways in which proficiency can affect CLI: proficiency can cause CLI to decrease, increase, remain, constant, decrease nonlinearly, increase non-linearly, or remain continually fluctuating. Jarvis asserted these ways because of the variation of results in investigating the level of proficiency due to the lack of one consistent standardized methodology. Proficiency level might be an important factor that has a crucial impact on CLI and the acquisition of any additional languages, but other major factors have been mentioned in the literature as affecting factors in CLI that must be discussed such as language recency in use.

1.2.6.2. Recency

Recency has been argued to be one of the major psycholinguistic affecting factors in the choice of the source language in CLI. Recency has been conceptualized from different perspectives, some scholars discuss it from the viewpoint of recency in the acquisition of language, and others conceptualize it from the perspective of the languages recently used. Williams and Hammarberg (1998) and Hammarberg (2001) were the pioneers to discuss the concept of recency as a potential exploratory factor. Williams & Hammarberg's (1998) studies show that the language the participants in the study had acquired most recently had a greater effect on their production. Hammarberg (2001), on the other hand, suggests that the learner uses the most recently acquired languages as a

source for transfer. Hammarberg (2001) stated that the most recently acquired language as a source of transfer is used in the case of multiple L2s, to, establish which of them is the most likely source of transfer. Furthermore, Jarvis and Pavlenko (2008) claimed that the language learned just before the target language would be the most likely transfer source.

On the other hand, a key study by Sitarek (2015) argued that the recently used language is the highly activated one, which in turn leads to more transfer from this language. To date, there is no empirical study that employs such a definition of the concept, but it appears rather plausible when considered in the context of Grosjean's Model of language mode. But in the same line (Hall & Eck, 2003; Jessner,2006; Tremblay, 2006) found that the language used most often has been found to affect the source language of transfer. Many references have been made to refer to the construct of recency in the literature as exposure, daily use, or active use, rather than recency.

As Pavlenko and Jarvis (2002) suggested the mix of exposure and the context in which it takes place play a decisive role concerning the type and extent to which CLI occurs and these variables deserve to become the focus of further work. The high the amount of L2 exposure, the higher the L2 influence is on the L3 (Tremblay, 2006). Fouser (2001) claims that exposure to the L3 in an L3 context could lead to a backward influence on L2 production. "Recency of thinking about a certain language, its country of origin, culture, or personal experience with that language" (Angelovska & Hahn, 2012, p.27) can also trigger the activation of background language.

1.2.6.3. L2 Status

L2 status has been considered as one of several possible interacting factors that may determine the transfer source (Cenoz 2001, De Angelis 2005,2007). Hammarberg (2001) defines the L2 status factor as "A desire to suppress L1 as being 'non-Foreign' and to rely rather on an orientation towards a prior L2 as a strategy to approach the L3" (p.36-37). The L2 status phenomenon was observed early on by Meisel (1983) who labeled it the *"Foreign language effect"*. There is

a notable study by Bardel & Falk (2007) that specifically discussed the importance of L2 status, Bardel & Falk (2007) argued the importance of the L2 status as an interacting factor to determine CLI in TLA in their study, which isolated the typologically close language and the second language so that they were not the same. The authors observed that the L2 status factor was notably stronger than the (psycho) typology factor in L3 acquisition. In support of the L2 transfer hypothesis, which assumed that the L2 would supersede the L1 as a source of transfer, they claimed that "the L2 acts as a filter, making the L1 inaccessible" (p.480).

Falk & Bardel (2010, 2011), suggested that the L2 status factor is an outcome of the higher degree of similarity between L2 and L3 than between L1 and L3, regarding the age of onset, outcome, learning situation, degree of metalinguistic knowledge, learning strategies and degrees of awareness in the process of language appropriation. De Angelis (2007) proposes that two constraints block L1 influence in favour of non-native language influence *Perception of Correctness* and *Association of foreignness*. She asserts that: "perception of correctness predicts that multilingual resist incorporating L1 information into the target language as L1 information is perceived to be incorrect from the start, and this results in an increased acceptance level for non-native words into the target language" (De Angelis, 2007; p.29). Jessner (2006) assumed that the learners who tend to use the L2 form rather than the L1 in their L3 are those who have learned the L2 in a formal setting. He argued that L3 learners have acquired metalinguistic awareness, learning strategies, and methods in L2 that may facilitate foreign language learning and are required from a learner to succeed.

In the same line, Leung (2005) argued that "In online processing/performance terms, 'L2 status' is usually used to express the idea of the general tendency to activate L2(s) rather than the L1" (p. 102) due to the conceptual representations of L2 in the production of L3. The L2 status factor has mainly been investigated in syntax (Bardel & Falk, 2007; Falk & Bardel, 2011; Leung, 2005; Rothman &

Cabrelli Amaro, 2010), and also in lexical transfer (Cenoz, 2001; De Angelis, 2005b, 2007).

Although studies have recognized L2 status as an important factor of CLI, research has yet to question the influence of a typologically more related L2 on L3 and explore its effectiveness whether it is primarily a result of typological similarity, L2 status, or a combination of both or other factors. The next section presents one of the most controversial language variables that is Psychotypology.

1.2.6.4. Psychotypology

Psychotypology or Language distance in CLI is one of the most investigated factors in L3 acquisition. Psychotypology has been introduced in the literature with a range of many terms. It was first introduced by Kellerman (1977) as psychotypology or typological proximity, Ringbom (1987) refers to it as language distance, Odlin (1989) used the term similarity distance, whereas Jarvis (2000) refers to it as relatedness distance. Yet in this study, Psychotypology will be used interchangeably with the term Language distance. The concept of Psychotypology has been a controversial and much-disputed subject in the field of L3 acquisition due to its abstraction many definitions have been given to it. Psychotypology could be described as the subjective degree of similarity between two languages, i.e. the degree of congruence learners perceive between languages. De Angelis (2007;p.22) states that language distance refers to the "distance that a linguist can objectively and formally define and identify between languages and language families." In her definition, De Angelis (2007) explained that "formal similarity refers to the relationship of similarity between the features or components of two or more languages without necessarily implying a genetic relationship between them". (p.22). Ecke (2015) argued that the psychotypological similarity of specific lexical items from two genetically distinct languages seems to have affected language production and led to a CLI. Jarvis and Pavlenko (2008) further argue that transfer is based on the perception of similarity and not of difference. So far, however, they defined Psychotypology as learners' subjective perceptions of similarity between languages. "Subjective

psychotypology determines the degree to which learners rely on different background languages when learning or producing the target language" (Jarvis & Pavlenko, 2008, p. 178). It is crucial to recognize the distinction between what is objective and what is subjective concerning language similarity (Jarvis & Pavlenko, 2008). Odlin (1989) made a distinction between subjective and objective perceptions and mentioned "*An objective* estimation of language distance can sometimes be misleading about the likelihood of transfer: in some cases, *the subjective* estimation of distance by learners can override an objective measure" (Odlin, 1989, p. 142, emphasis in the original). Hammarberg (2009) assumed that "it is a similarity as perceived by the learner that is relevant as a cause of crosslinguistic influence" (p. 129).

Falk and Bardel (2010) suggest a different classification of language distance that has three different connotations: (a)language proximity/distance based on genetic relatedness, e.g. Romance or Germanic languages, (b) typology in the sense (1990), e.g. typological similarity of particular structures, the formal similarity mentioned before, and (c) psychotypology, as coined and defined by Kellerman 1983), e.g. the learner's perception of similarity of languages.

A further distinction provided by Jarvis and Pavlenko (2008) is perceived versus assumed similarity between languages. While perceived similarity refers to a learner's judgment that "a form, structure, meaning, function or pattern […] in the input of the recipient language is similar to a corresponding feature in the source language", assumed similarity, by contrast, is a learner's "hypothesis that a form, structure, meaning, function or pattern that exists in the source language has a counterpart in the recipient language, regardless of whether the L2 user has yet encountered anything like it in the recipient language" (p. 179). The role of Psychotypology and language distance as an influencing factor in CLI has been recently extensively studied (Cenoz, 2001, 2003; De Angelis, 2005; Singleton & OLaoire, 2006; Rothman, 2010) to illustrate the close relationship between similarity judgements and of individual items and psychological beliefs at language general level. Rothman (2010) in his model the Typological Proximity

Model (TPM) (discussed in Section One) highlighted the importance of typology closeness over the typological distance yet did not deny that the perceived similarity can play an important role in the selection of the source language of transfer in L3 as well as it has a positive as well as a negative effect on CLI. García Mayo (2012,p.137) points out:

> "Like the CEM, the TPM argues that transfer in the L3 initial state can come from any previously acquired languages (L1orL2/Ln) but unlike the CEM, the TPM Hypothesizes that the process will be constrained by either actual Typological-Proximity or perceived typological proximity (Psychotypology) between the three systems."

Psychotypology as an influential factor in CLI can be decreased and changed over time with increased exposure to and proficiency in the target language. Therefore, the notion of psychotypology is closely linked to the concept of linguistic/metalinguistic awareness.

1.2.6.5. Typology

Another key factor in CLI is *language typology* also introduced as language Closeness or Language Proximity. Early studies in language acquisition and language transfer emphasized the importance of typological closeness and congruent structures between the acquired languages. Recently, Liceras & Alba de la Fuente (2015) bring into play two more terms to refer to language typology: *typological proximity* and *typological similarity* and suggested that the two terms cannot be used interchangeably or defined as a univocal concept. They argued four main reasons to not refer to the same concept:

1. " There is a continuum when it comes to language families.
2. typologically close languages such as Spanish and French may differ in terms of many formal universals or occupy a different place in terms of Accessibility Hierarchies.
3. typologically distant languages such as Spanish and Arabic may share typological or formal universals.

4. the distinction between typological similarity and typological proximity may depend on the linguistic analysis that we adopt." (Liceras & Alba de la Fuente,2015; p.7-8)

One of the most cited studies about language typology is that of Falk & Bardel (2010) in their Typological Proximity Model (TPM) who assumed the importance of language typology in the acquisition of a third language. Falk & Bardel (2010) in their investigations established a distinction between language relatedness, to refer to the genetic or formal relationship between languages, and typology, to indicate similarity in language structures. Lindqvist (2015) also defined language typology as the "similarity of certain linguistic structures between languages that are not genetically related" (p.232). Recent studies in L3 identified that language typology or typological closeness between L2 and L3 facilitates language transfer (Odlin, 1989; Jarvis & Odlin, 2001; Cenoz,2001; De Angelis & Selinker,2001; Hammarberg,2001; Ecke,2003). Research revealed that the importance of typology as an influential factor in CLI cannotbe assumed as the only factor. Studies investigating typology as a factor in CLI have shown that other factors such as proficiency, language exposure, and even psychotypology interact with the production process of L3. Cenoz (2001) in her comparison of participants' production who have related L2 Spanish and unrelated L1Basque in the production of L3 English found an important effect of typology from the typologically related language L2 Spanish than from the distant one L1 Basque. She also indicates that language transfer is not only because of the typological closeness but combines it with the L2 status and mentioned that the older learners who have more linguistic awareness and more exposure tend to transfer less than the others. Thus, typological closeness cannotbe investigated alone but with interaction with other variables that may lead to language transfer.

1.2.7. Learner-Based Variables

Many scholars consider learner-Based variables as the major factors affecting the appearance of CLI in L2 and L3 acquisition. Thus, the following section will discuss the major learner-based variables such as the language mode, linguistic

awareness, age, educational background and language frequency by highlighting the main studies conducted in each variable.

1.2.7.1 Language Mode

The concept of *language mode* (Grosjean, 1995, 2001) has guided many recent studies of cross-linguistic influence (Dewaele, 1998, 2001; Fuller, and others). Grosjean (2001) claims that the amount of language transfer, in particular lexical transfer, depends directly on the speaker's language mode, defined as "the state of activation of the bilingual's languages and language processing mechanisms at a given point in time" (p. 2). Language mode is a continuous variable ranging from the monolingual to the bilingual poles, whereby the base language that frames the utterance is always in a state of total activation because it governs language processing, and the guest language can range from either low activation (no language known by the speaker can ever be completely deactivated) to nearly total activation (see Figure 1below). When the speaker is in monolingual mode, the guest language is at low activation and there is no code-switching or lexical borrowing, but in bilingual mode, the guest language is near as activated as the base language and causes frequent code-switches and lexical borrowings. The figure bellow is a visual representation of the language mode continuum. The bilingual's positions on the continuum are represented by the discontinuous vertical lines and the level of language activation by the degree of darkness of the squares (black is active and white is inactive).
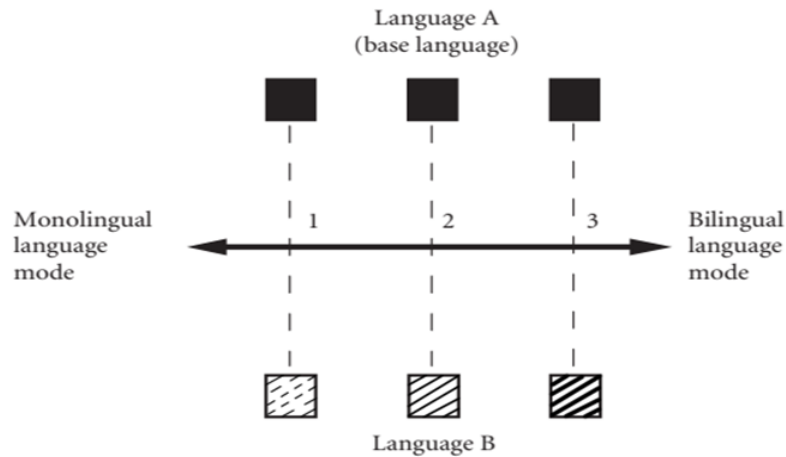
Figure 1.2.1: Language Mode

1.2.7.2. Linguistic Awareness

The learner's linguistic awareness is a key variable in his language performance and acquisition processes and is often related to his educational background. Awareness is not limited to linguistic structures and semantics but also affects phonological, pragmatic, and sociolinguistic knowledge, and cross-linguistic influence can occur in any of these domains. Concepts such as psychotypology, congruence, and structural variables that facilitate language transfer depending on the learner's ability to notice native- and target-language linguistic features. While a discussion of the different roles of conscious and unconscious awareness is beyond the scope of this study, it is clear that multiple levels of awareness are operative during transfer (Kellerman, 1983,1995; Odlin, 1989). Cook (1992, 1995), Grosjean (1995, 2001), and De Angelis and Selinker (2001) claim that the linguistic awareness of an L3 learner is substantially different from that of monolingual learning her first L2. Cook's notion of *multi-competence* refers to multilingual linguistic competence characterized by increased metalinguistic awareness, greater creativity and cognitive flexibility, and more diversified mental abilities. He insists that characteristics of L3 learners such as unintentional code-switching and lexical access errors should not be viewed as failures in monolingual L3 production but rather, as evidence of the multilingual's unique and flexible linguistic configuration. Mägiste (1986) holds a more constrained view, pointing out that evidence shows that while L3 learners do show instances of negative

transfer such as lexical interference and a slower rate of acquisition particularly when they are active bilinguals, passive bilingualism facilitates L3 acquisition because the learners can maximize the positive transfer effects while reducing the potential for negative transfer. Mägiste's active/passive distinction supports the claim that frequency of use leads to higher activation and therefore, to a greater likelihood of transfer, but the positive effects of passive knowledge of another language support Cook's claims of multi-competence.

1.2.7.3.Age

The general guideline regarding age and language transfer seems to be that child learners are less likely to draw on their L1, particularly in a pervasive way that leads to fossilization, than adult learners. Selinker and Lakshmanan (1993) argue that second language acquisition by young children is driven by UG and target language input, following a similar process to first language acquisition, and that native language influence cannot be considered a significant factor. However, Odlin (1989) advocates a more nuanced approach, stating that although children exhibit less L1 influence in phonology, the ages 4-10 are marked by "syntactic conservatism" during which children tend to stick to one syntactic pattern, whereas adults are more flexible. So the "younger is a better" principle, while generally true, must be approached carefully, taking into account other possible variables.

1.2.7.4EducationalBackground

Odlin (1989) includes educational background and literacy as a factor in positive language transfer. Learners who have highly developed language skills (such as reading, writing, and richness of vocabulary) in their native language will most likely find that these skills facilitate second language acquisition. However, Odlin (1989) cautions that the facilitative effects of high L1 literacy may be the result of the transfer of training as much as, if not more than, language transfer. It is interesting to note that educational background is less often explored in language

transfer studies than other variables such as L1 background and proficiency, perhaps because it is so difficult to dissociate from transfer-of-training.

1.2.7.5.Frequency

The frequency with which a particular linguistic item or feature appears increases its likelihood of being transferred to the L2. From the perspective of learner perception, an infrequent item will be considered "psychologically marked" and therefore less transferable (Kellerman, 1983). From a language processing perspective, highly frequent L1 lexical items are likely candidates for unintentional lexical transfer due to their high activation levels during the early stages of L2 learning (Faerch & Kasper, 1986; Poulisse & Bongaerts, 1994). Poulisse and Bongaerts claim, based on their empirical evidence from native Dutch speakers' L2 English productions, that the frequency effect of L1 items can override language activation and is inversely proportional to proficiency and the amount of L2 exposure. This means that at low L2 proficiency and particularly with limited L2 exposure, highly frequent L1 items can be unintentionally incorporated into an L2 utterance even when the speaker is in monolingual mode. This is inherently different from strategic forms of lexical transfer such as intentional code-switching to fill a lexical gap, the transfer of cognates, or the borrowing of words from another language for pragmatic purposes.

This section discussed CLI and its constraining factors such as age, frequency of use, language exposure, and educational background. Moreover, many factors can interfere with CLI and TLA like proficiency, typology language similarity, and language distance which can affect the language production of the target language. The next section presents areas of transfer where the source language of transfer can manifest itself in the production of L3

1.2.8. Areas of Transfer

Different types of transfer have been investigated in previous research. Many studies investigated one type or area of transfer that is examined primarily

linguistic forms and structures. The following part is devoted to only two areas of transfer that the researcher will examine: lexical and syntactic transfer.

1.2.9. Lexical Transfer

The lexical transfer has been defined by many researchers from different perspectives, De Angelis & Selinker (2001:43) defined this type of transfer as "the use of an entire non-target word in the production of the target language"; while Jarvis & Pavlenko (2008) as "is the influence of word knowledge in one language on a person's knowledge or use of words in another language." (p.72). Word knowledge in linguistics and psycholinguistics entails the knowledge of six main dimensions of each word: accessibility, morphophonology, syntax, semantics, collocation, and association. Word knowledge also entails the linguistic awareness of the use and occurrence of a particular word, in which a specific word can be a completely correct word in the target language, but not be used in specific contexts by native speakers. Jarvis & Pavlenko (2008) added an important dimension of word knowledge which is the conceptual knowledge of the word associated. Later on, Jarvis (2009) elaborated on Jarvis & Pavlenko's (2008) definition and defines word knowledge as "the influence that a person's knowledge of one language has on that person's recognition, interpretation, processing, storage and production of words in another language." (p.99). The lexical transfer includes both form and function. Ringbom (2001) identifies the transfer of form to be common across related languages. Transfer of semantic patterns and word combinations to nearly always based on the first language the following Table distinguish between the transfer of form and transfer of meaning or semantic transfer:

Lexical Transfer					
Formal			**Semantic**		
Borrowing	Foreignizing	Spelling	Lexeme matching	Semantic extension	Direct translation

Table 1.2.2: **Types of Lexical Transfer Adopted from Neuser (2016, p.18)**

1.2.9.1 Formal Lexical Transfer

Formal transfer as one type of lexical transfer has three main sub-types borrowing, foreignizing, and spelling interference.

*a-***Borrowing:** also referred to as '*code-switching*' it is a non-adapted language switch in which the learner shifts completely a word from one of the previous languages without any modifications in the source of the item. Borrowing generally occurs at the initial stages of acquisition due to the lack of proficiency in the target language.

*b-***Foreignizing***:* is also referred to as hybrids, blends, word constructions, lexeme copying, coinages, lexical inventions, or relexifications. A foreignizing is thus an SL item that has undergone certain morphological, orthographic, and/or phonological changes to increase its acceptability in the TL (De Angelis & Selinker, 2001; Dewaele,1998; Hammarberg, 2001; Singleton, 2001; Williams & Hammarberg, 1998)

c- Spelling: this is another type of transfer that can occur in written production. Spelling interference is common with cognates that have the same meaning and a form that is close to another language, yet not identical.

1.2.10. Semantic Transfer

a-Lexeme Matching: is referred to as '*interlingual identification*', '*deceptive cognates*', or '*false friends*. Is the use of an existing word in the TL that matches another word in L1 or L2 in form but does not share the same meaning.

b-Semantic Extension: This is referred to as **'***generalization***'** in which the learner transfers polysemy or homonymy in a source language to the target language, thus giving it additional meanings that it does not have (Bardel, 2015).

c-Direct Translation: known as 'loan translation' or 'calques', it represents a word-by-word translation from the previous languages.

1.2.11. Syntactic Transfer

Syntactic transfer is another area of transfer that will be examined in the present study. Syntactic transfer is generally defined as the influence of the native language's grammatical structures on the comprehension and production of the target one. The influence of the native language on syntax has generally been more controversial than its role on the lexicon (Odlin, 1987, p.85). The syntactic transfer has been deemed less convincing at the initial stages of acquisition in which learners tend to avoid difficult and less frequent syntactic structures and may overgeneralize or undergeneralize grammatical structures, thus transfer is more implicit and consequently biased. For instance, the transferability of word order has been argued with some researchers finding it to be rigidly a transferable property and others doubting its CL importance of it. Rothman (2013) maintains that the crux of the TPM is that structural proximity between the L3 and the L1 and/or the L2 determines L3 transfer. Several recent studies on L3 syntax have propagated that L2 is one source of transfer in L3 acquisition (Berkes & Flynn, 2012; Flynn, Foley, & Vinnitskaya, 2004; Leung, 2005, among others) and some studies even have indicated that L2 takes on a stronger role than L1 in the initial state of L3 acquisition (Bardel, 2010; Bardel & Falk, 2007,2012; Falk & Bardel, 2011). The general belief among researchers is that morphemes are more likely to be transferred from the first language if they are free rather than bound (Kellerman 1983). Jarvis and Odlin (2000) argue against this and suggest that bound morphemes can be transferred not just by the means of negative transfer but can have a facilitative effect on second language acquisition, especially between typologically close languages such as Finnish and Estonian. A more recent study by Leung (2005) compared the L2 and L3 acquisition of articles in French, by L1 Vietnamese (L2 French) and L1 Cantonese with L2 English (L3 French). Both Cantonese and Vietnamese have no articles and no marking on the DP for the definite feature, however, this feature is present in English and French. In the written production task, she found that the L3 group significantly outperformed the L2 group in all three areas tested: definite (suppliance of correct articles in the context given), specific indefinite, and non-specific indefinite.

Conclusion

The present section has offered an overview of the CLI phenomenon as a psycholinguistic phenomenon that affects the acquisition of third or additional languages. It starts with presenting relevant terminology and constructs of the present study (*CLI and Language Transfer*). This section also discussed the CLI concept from different perspectives, which suggests different definitions and different views on this psycholinguistic issue. As well as it defines different constructing factors of CLI and discussed them exhaustively as major variables of the investigation like language proficiency, typology, Psychotypology, recency, and L2 status. It consequently represents different areas of language transfer and language dimensions by introducing empirical works in the TLA field.

Section Three: Empirical Studies of CLI

Introduction

The current study investigates lexical and syntactic CLI in English as L3 by examining the factors discussed in the literature as affecting factors in CLI such as proficiency, typology, Psychotypology, exposure, and L2 status. Therefore, this section is devoted to discussing CLI studies that investigated lexical and syntactic transfer, focusing on the influencing factors that have shown evidence of negative transfer in L3 written production to determine the importance of CLI in third language acquisition. Key studies such as Cenoz (2001), Odlin & Jarvis (2004), Hammerberg (2001), Jarvis & Pavlenko (2008), Falk & Bardl (2010), Bardel & Lindqvist (2007) bring new methodological considerations to the field of multilingualism in general and CLI studies particularly. Ellis (1994) claimed that "the kind of data used in TLA research is the same data used for SLA in which it can be deliberately elicited from L3 learners in their unguided language use". (p.669-676). Therefore, this section will highlight a few empirical studies that used different methodologies and data collection procedures in examining and exploring CLI and the influencing factors of CLI.

1.3.1 Data Collection Approaches in CLI

In data collection, researchers adopted two approaches in investigating CLI known as the intersubjective approach and the intra-subjective approach. According to Jarvis & Pavlenko (2008), the intersubjective approach is opposed to the intra-subjective that tracks the specific of how CLI manifests itself in the language of individual language users, to test hypotheses and formulate generalizations to determine the mental process underlying CLI and enhance the understanding of the complexity of TLA (Jarvis & Pavlenko, p.29). Few researchers opted for the intersubjective approach in their investigations, which relied on large-scale-longitudinal studies, for instance, Ringbom (1987, 2001) analysed the written essays of 11000 subjects.

Some researchers used data deliberately elicited from L3 learners in their unguided language use like recordings, interviews and retellings, for example,

Dentler (2000) asked the subjects to write an answer to a letter where they were interviewed about their daily life. Another data collection tool was used by Cenoz (2001) in which participants were asked to tell a picture story of "Frog Where are you?" in English. Similar to Cenoz's (2001) data collection tool Odlin & Jarvis (2004) informants were asked to write a summary of Charlie Chaplin's silent movie whereas, Odlin & Jarvis (2008) informants were asked to write narrative texts in their L3 English.

While the aforementioned researchers used data deliberately elicited from the unguided use of L3, other prominent studies combined different types of data used. Hammarberg (2001) analysed a corpus of conversations, interviews, picture stories, narrative discussions, and introspective comments. In Gabryś-Barker's (2006) study informants were asked to translate newspaper articles in two different languages to L3 and while performing the task they simultaneously verbalize their thoughts and emotions which were recorded and transcribed as so-called TAP (Think Aloud Protocols). In contrast with Hammarberg (2001) and Gabryś-Barker (2006), the present study opt for an intra-subjective approach where data is deliberately collected from unguided use of L3 writings.

1.3.2. Lexical Transfer Studies

Almost all the studies examining lexical transfer on TLA relied on Qualitative and exploratory methods to investigate the source language of transfer. These methods enabled the researchers to establish potential theories, generate hypotheses, and unveil new linguistic and psycholinguistic phenomena. While few studies used quantitative methods by applying some inferential statistics such as (Neuser, 2017). Qualitative studies were highly criticized because of the sample size in which most of them used a case study strategy with small size access that affect the reliability and validity of most studies. This is evident in the case of Ringbom (1983) who conducted qualitative research in his analysis of two groups of learners having L1 Finnish and with and without knowledge of Swedish learning English. In this research Ringbom distinguished between two types of CLI, the first type is Borrowings (False friends, hybrids, cognates, relexifications) and

negative transfer (semantic extension and loan translation). Results showed very little transfer from Finnish into English from both groups. Thus, more transfer and borrowing were found from Swedish into English from the group with Swedish knowledge. Whereas learners who did not know Swedish tended to transfer more from other closely related languages to English rather than Finnish. Ringbom (ibid) hypothesized that in the early stages of learning, storage is based on formal rather than semantic similarities and that the formal similarities between languages are stored near each other such as English and Swedish. Ringbom (ibid) also mentioned that transfer occurs at the early stages of development where source language that shares similarities with the target language is often activated in their production.

Another study conducted by Singleton (1987) using a case study, examined transfer effects in the production of multilingual learners having English as their native language and learning French who also spoke Irish, Latin, and Spanish. Singleton recorded the participant's production in conversations with native French speakers and then asked them to reflect on aspects of his language production. Results revealed a higher number of Spanish expressions in L3 French, compared to other background languages such as English, Latin, and Irish. Results also showed that participants' perception of languages affects their production, the participant's perception of French and Spanish to be structurally close languages led him to borrow words from Spanish in his French production unconsciously.

More recent studies investigated the influencing factors of CLI in L3 among them Cenoz (2001) investigated whether factors such as linguistic distance, age, and L2 status factor affected CLI in the production of L3 English content and functional words. In this study participants were two different groups of learners, one group with L1 Basque and L2 Spanish and the other group with L1 Spanish and L2 Basque, learning L3 English in elementary and secondary school. Data was collected through a storytelling oral task. Results revealed that in general content words were transferred more than functional words. Cenoz's study showed also that age is an important factor in that older learners had more transfer instances

than younger learners. Also, learners' perceptions of language closeness affect their production where more words from Spanish are used than Basque, irrespective of the learner's L1 Spanish was the source of transfer. Spanish was perceived as typologically approximate to English, hence the L2 status was not an affecting factor because learners favoured language proximity rather than L2 status. Cenoz (2001) confirmed again her results in Cenoz (2003).

Falk & Bardel (2010) conducted a longitudinal study in which they observed the effect of typology, proficiency, and L2 status in L3 Italian of L1 Swedish with different L2s in English, French, and Spanish. Data were obtained through recordings in four steps before, during, immediately after, and six months after an intensive course in Italian.

1.3.3. Syntactic Transfer Studies

Garcĭa-Mayo & Slabakova (2015) and Slabakova & Garcĭa-Mayo (2015) conducted two experimental studies investigating Topicalization and null objects in the interface of Spanish, Basque, and English. Four groups of participants were involved in the study, two controlled groups first Bilinguals with L1 Spanish and L2 English, and second monolinguals with L1 English. And two groups of trilingual with varying L1 Spanish and Basque (L1 Spanish, L2 Basque, L3 English) and (L1 Basque, L2 Spanish, and L3 English). Informants were exposed to stories in written and aural mode, the ratings from all experimental groups revealed the successful acquisition of the English pronominal patterns. However, both trilingual groups confirmed a predominance of Spanish CLI which contradicts the prediction of the L1 factor and the L2 status hypotheses. In Garcĭa-Mayo &Slabakova (2015) the result was that "neither L1 positive transfer nor L2 positive transfer on their own can overcome the adverse effects of a conflicting value in the L2 or the L1 respectively" (Garcĭa-Mayo &Slabakova,2015, p.221)

In both studies, Slabakova and Garcĭa-Mayo (2015) and Garcĭa-Mayo & Slabakova (2015) argued that the presence of non-facilitative transfer strategies from Spanish features in L2 and L3 English did not support the CEM (Cumulative Enhancement Model, discussed in section.1.4.2.3) hence support the TPM

(Typological Primacy Model, see Section.1.4.2.5) which predicts that the whole grammar of typological similar languages is available for transfer. In Garcĭa-Mayo & Slabakova's (2015) second study results showed that regardless of whether Spanish is the participants' L1 or L2 it had the same drastic effect in terms of reducing their ability to acquire Topicalization in English.

In an attempt to explore the TPM and the recency factor in syntactic transfer Cheung, Mathews, and Tsang (2011) investigated backward transfer from L3 German in the use of L2 English tense and aspect. The authors examined the use of the present perfect and past simple distinction in learners' written production in English. The participants in this study were in two groups, the first was trilingual with L1 Cantonese, L2 English speakers, and L3 German. And a second group with L1 Cantonese and L2 English. In the analysis of the written production, the authors found evidence of the influence of L3 German in the comparison between English and German essay versions. Results also revealed a tendency to extend the use of the perfect tense had been correctly used in German which supports the TPM and the recency factor influence in language production.

Another notable example in syntactic transfer studies is Falk & Bardel (2011) who investigated syntactic transfer from trilingual learners with L1 English, L2 French, and L3 German at an intermediate level of proficiency in the target language by testing the placement of object pronouns in the both main and subordinate clause. The authors relied on a Grammar Judgement Correction Task that showed both positive and negative transfer from the learner's L2 French supporting the L2 status factor.

1.3.4. Investigations of CLI Influencing Factors

Several studies conducted CLI research explored different influencing factors that led to language transfer at a lexical and syntactic level to understand the choice of a source language of transfer and how, when, and why a certain language can play the dominant role over another. This part will present some great research in identifying the factors affecting CLI (Cenoz, 2001; Odlin & Jarvis, 2004; Falk & Bardel, 2010) such as proficiency, Psycho/typology, L2 status, and recency.

Though research tried to identify exactly which of these factors is more influential, the inconsistent results failed in presenting the accurate constraining factors "While it is commonly accepted that multilingual learners exhibit transfer from multiple languages, there remains uncertainty about what combination of factors influences the predominance of source language" (Neuser, 2017, p.47).

In TLA research, It's generally assumed that high proficiency in a source language leads to a greater amount of transfer from that language, supporting the results found by Ringbom (1987, 2001) Bardel & Lindqvist (2007,2010, 2014). In most of the studies investigating CLI, we found that transfer from a highly proficient language is predominant. It seems that many studies invoke proficiency factors in multilingual contexts that exclude the L1 when discussing the effects of proficiency because the learners usually have the highest proficiency in L1.

A key study in proficiency conducted by Bardel & Lindqvist (2007) found that learners relied more on low-proficiency background languages when the TL was also at low proficiency. Bardel & Lindqvist (2007) conducted a longitudinal study in which they observed multilingual learners with low-proficiency L2 Spanish and low-proficiency L3 Italian. They found that with increasing proficiency in TL transfer from L2 Spanish decreases while transfer from high proficiency L1 French or Swedish increases. The second study concerns a bilingual Swedish- Italian L1 speaker learning L3 Spanish, using the same procedures as the first study. Italian L1 is used for both code switches and word construction attempts. Bardel & Lindqvist (2007) suggested that high-proficiency levels may well be activated for both purposes.

Bardel & Lindqvist (2014) in their article "Exploring the Impact of The Proficiency and Typology Factors: Two Cases of Multilingual Learners' L3 Learning" (2014) examine lexical CLI from L1 and L2 in two cases of L3 learning. The study concerns Swedish learners of Italian L3 with English, French, and Spanish as L2s. The results showed that low proficiency Spanish L2 was the background language that was most used at the beginning of the acquisition process of Italian, especially in the use of code-switching High proficiency French

L2 was also used but differently -in word construction attempt. Bardel & Lindqvist (2014) Highlighted that the source of language transfer varies according to the stages of development in the L3.

L3 researchers do control proficiency variables in their studies but hardly ever make it the focus of their investigations. In most studies, proficiency was examined with other factors such as age, typology L2 status (Sànchez 2015), or language exposure (Tremblay, 2006).

Sànchez (2015) investigated syntactic transfer and examined the role of non-native L2s in learning L3 in Spanish / Catalan. Sànchez (2015) used a storytelling task plus narrative tasks a cloze test to measure L3 proficiency and a background questionnaire. Participants were 80 learners of L3 English with different proficiency levels varied between low proficiency, intermediate proficiency, and pre-intermediate proficiency. Results revealed that low levels of L3 pushed the activation of L2 knowledge which plays a dominant role in language transfer.

Tremblay (2006) investigated the effect of L2 proficiency and L2 exposure on CLI from L1 English L2 French on L3 German. Comparison of 3 groups of L3 learners with different levels of L2 proficiency and amounts of exposure to L2. Results indicate that L2 has a greater influence on the L3 of learners, who have had made more exposure to their L2. It suggested that unless a threshold level of L2 proficiency is achieved, cross-linguistic influence from L2 on L3 is very marginal. Using a proficiency test in L2 French, participants were asked to write a German L3 proficiency test and a French proficiency test and collect oral Samples in German -tape-recorded.

Another prominent study exploring the key factors of CLI is Bardel and Falk's (2007) investigation entitled "The Role of the second language in third language acquisition: the Case of Germanic Syntax". It examines the role of L2 status and Typology in the acquisition of L3. The study presents two groups of learners with different L1s and different L2s acquiring Swedish or Dutch as L3. Results indicate that syntactic structures are more easily transferred from L2 than from L1 in the initial stages of development of L3 acquisition the study involved two sets of

participants who were beginners. The first set (data collection A) consisted of five learners of Swedish as an L3, who were recorded during group lessons. The second set (data collection B) was made up of four learners of either Dutch or Swedish as L3, recorded individually. The difference between the two groups in their production of pre-verbal and post-verbal negation was significant in that the number of utterances involving negation is higher than those for group A. The data support the hypothesis that the L2 status factor is stronger than the typology factor in L3 acquisition. Thus, seems to favour transfer from L2 to L3, but not from L1 to L3. in L3 acquisition, the L2 acts like a filter, making the L1 inaccessible.

Though studies report strong arguments in favour of the L2 status in language transfer, the psychotypological factor cannot be excluded. Lindqvist (2015) examined the language proximity perception by learners and how psychotypology affects both lexical transfer and grammatical CLI in written production in French as L3 of L1 Swedish speakers who have English as L2 Lindqvist elicited data from a story-retelling corpus that was coded for word-level instances and code-switching. Results revealed that most lexical and grammatical CLI came from English L2 compared to Swedish L1 in Lexical transfer (70% English, 25% Swedish) and grammatical transfer (24% English, 13% Swedish). In this study, informants were asked to complete a perception questionnaire that revealed that learners find English easier to learn; they also believed to be closer to French than Swedish confirming the hypothesis that learners transfer more from the language they perceive approximately to the L3.

Conclusion

The study of how one language influences the acquisition and processing of a subsequent one is a very important aspect of studying multilingualism. The results of CLI studies in multilingualism might give evidence from the organization and processing of the existence of three or more languages in one mind and also can help elucidate questions regarding the mental lexicon, which are related to the degree of activation/inhibition or interconnectivity among the languages and which constraining factor is more influential in determining the source language

of transfer. The table below presents a summary of relevant studies in the area of CLI, referred to and cited in the present study in both Section -1- and Section -2- which look for the role of previous languages on the TL using different methodologies.

Authors	The Goal of the Study	Languages	Tools	Results
Cenoz (2001)	To investigate factors that interact with CLI	L1- Basque or Spanish L2- Basque or Spanish L3-English	Oral narrative based on the wordless picture story Frog, where are you?	The factors of linguistic similarity and L2 status are influential in third language acquisition (TLA).
Hammarberg (2001)	To investigate the role of L1 and L2 in the acquisition and production of the L3.	L1 -English L2- German L3- Swedish	Audiotaped conversations, and retrospective comments.	L1 had a more functional role, whereas L2 had a supplier role.
Ringbom (2001)	To investigate transfer from the L1 and L2 into the L3.	L1-Swedish L2- Finish L3- English	Translation Tasks	L2 status and typology are more influential in third-language processing.
Ecke (2001)	To investigate the acquisition, organization and processing of L3 words.	L1- Spanish L2- English L3- German	Translation Task	More influence from within the L3 and L2 in CLI.
Vinnitskaya, Flynn & Foley (2002)	To investigate the role of L1 and L2 in L3 acquisition	L1- Kazakh L2- Russian L3- English	Listening and repeating sentences with relative clauses	Point to the influence of both L1 and L2 in the acquisition of the L3.

Bardel & Falk (2007)	To investigate the placement of negation in the the initial state of L3 acquisition.	L1- Albanian, Hungarian and Italian L1 or L2 Dutch, English, and German. L3- Dutch and Swedish as L3	Recorded oral communication during classes	Typological proximity seems to favour transfer from L2 to L3, but not from L1 to L3
Flynn (2009)	To investigate the acquisition of relative clauses in the L3.	L1- Kazakh L2- Russian L3- English	An elicited imitation task	The most influential language in TLA is the L2.
Perales, Mayo & Liceras (2009)	To investigate the acquisition of negation in the L3	L1- Basque L2- Spanish L3- English	Telling stories from picture wordless books and a movie.	Learners tend to reproduce their L1s when using negation in English.
Rothman & Amaro (2010)	To investigate syntactic transfer	L1- English L2- Spanish L3- French and Italian	A grammaticality judgment/correction task and a context/ sentences matching task.	The L2 status factor is a better predictor of the source of influence in TLA.
Rothman (2011)	To investigate the acquisition of adjectival interpretation in the L3.	L1- Italian L2- English L3- Spanish and L1- English L2- Spanish L3- Brazilian Portuguese	A semantic interpretation task and a context-based collocation task.	The strongest factor that determines multilingual syntactic transfer is typological proximity

Falk & Bardel (2011)	To investigate syntactic transfer from L1/L2 in the acquisition of object pronouns in the L3.	L1- French L2- English L3- German	A grammaticality judgment test and a correction test.	The L2 has a stronger role than the L1 in TLA.
Falk, Lindqvist & Bardel (2013)	To investigate the role of explicit metalinguistic knowledge in the acquisition of adjective placement in the L3	L1- Swedish L2- English L3- Dutch	An oral production task with prompt cards	High explicit Metalinguistic knowledge in the L1 leads to better accuracy in the L3.

Table 1.3.2: Empirical Studies of CLI

Section Four: The Algerian Sociolinguistic Context

Introduction

This section aims at providing an exhaustive overview of the Algerian history that marked its linguistic and sociolinguistic situation. It presents the various invasions that Algeria witnessed before 1830 to the French occupation. This section also aims at presenting the language contact in Algeria and the different linguistic phenomena that occur due to different sociolinguistic conditions such as bilingualism, multilingualism, code-switching, and diglossia. As well as to present the different language planning and policies that affect its educational system and that represent the linguistic complexity of the Algerian context.

1.4.1. Algerian Historical Background

Before introducing the sociolinguistic background of Algeria, it seems important to refer to Algerian history as a significant part in shaping the linguistic structure of the country. This part will be devoted to the historical evolution of Algerian society at the social and political levels.

1.4.1.1. Algeria up to 1830

Since the early ages, North Africa in general, and Algeria, in particular, were the subject of many invasions and conquests mainly from Europe, the East, and the Mediterranean. Many reasons made the Northern part of Africa an attractive land for invasion. For many reasons, ranging from economic, religious, cultural, and agricultural reasons. The geographical situation of Algeria has always aroused invaders to invade and benefit from its natural resources as it is considered an easy access point to both Europe and the Middle East.

Tracing back to history it is recorded that the native inhabitants of North Africa were the Berbers in the 15th century B.C., called that time the Numidians according to the kingdom of Numidia. Numidia was extended from Carthage, nowadays Tunisia to Algeria, Libya, and some parts of Morocco. Berbers had a quite simple life with their traditions and customs. They were landowners whose work was

based mainly on agriculture. The language used by Berbers (Numidians) was the Berber language like Kabyle, Shawiya, and Mozabit.

Later on, in 1200 B.C. Phoenicians settled in Algeria where Berbers found themselves obliged to fight against them. Unfortunately, the Phoenicians forced the Berbers to move to the countryside and leave their lands. Hence, Berbers use their native language in the countryside and the Punic in the cities. The Punic is an extinct Semitic variety of Phoenician language.

Romans invaded Carthage and took control of the whole area; they ruled it for more than six centuries. The expansion of the Romans on the Berber's lands caused a wholesale dislocation of the Berbers. They turned out to be workers for the Romans when they took almost the fertile lands in the area. Most of the Berbers were leaving on the edges of the country under the control of the Romans while others became quasi-nomads. At that time, Latin was the spoken language in the cities, while Berber was used only among Berbers.

After the Romans, it was the Vandals' invasion in 455 A.C of Algeria. The Vandals are an East Germanic tribe that entered the late Roman Empire during the 5th century. The vandals did not last long in Algeria as far as its cultural and linguistic influences were as weak as the short period they spent in the area.

In the 6th century, the coming of the Byzantine. They put an end to the Vandals in 534 A.C. Byzantines settled in Algeria for a period of more than a century. Until the invasion of the Arabs. Berbers were always living on the edges of the country under the domination of different settlers who were obliged to preserve their language, culture, and identity in small groups located in mountains and deserts.

Berbers witnessed several invasions where they were melted with their customs and traditions and even languages. The problematic situation of the native inhabitants is that their history was written in the invaders' languages such as Latin and Greek, but not in their language which showed their total linguistic and cultural Assimilation as mentioned in Maougal (1997) "With the establishment of the first Berber kingdoms that we know; the history of the Berber people and dynasties will

be transcribed in the Greek and Latin languages. Under the Romain occupation particularly, the language written by the Berber kings proves their total linguistic and cultural assimilation to the Hellenism and Latin".

The coming invaders changed Algeria radically and had the most impact on its history, was the expansion of Islam and the Arab civilization as is discussed in the next section.

1.4.1.2. The Arab Conquest

The Arab conquest is considered the long-lasting and pervasive conquest in North Africa and Algeria. It starts in the 7th century and early 8th century (the 1st century of Hijri in the Islamic calendar). The Arabs' conquest reason was quite different from the other invaders. Arabs' aim was the expansion of a new Religion called 'Islam' and a new religious language called 'Arabic'. Arabs brought with them a new language, a new political system, and a new socio-cultural norm. The Arabs sought to eradicate the existing hierarchy between the Vandals, Byzantines, and Berbers and worked to provide unity and alliance among the people.

The Arab conquest wasn't easy, they faced many struggles mainly from the Vandals, Byzantines, and Berbers the Arabs lasted undefeated for many centuries. In 670 *Uqbah Ibn Nafae* was signed as the commander of North Africa, 674 he built the *Kairaoune* situated in what is known in modern days *Tunisia* to take control of the Berbers Land that they called '*Bilad El Maghrib'* or '*Lands of West'* as an army base for further military operations.

There was a quiet difference between the native inhabitants and the Arabs in the fields of science, art, and poetry in addition to the military power that gave it a high status with a great influence after melting the natives' life. Due to the economic and commercial and social relations, a linguistic conflict emerged between the Arabs and the natives where a remarkable progressive loss of the Berber language makes of the Arabic language to gain the first used language in the area among the natives and the Arabs. Classical Arabic became the language used for all religious, written, and communicative purposes.

1.4.1.3. The Spanish and Ottoman Conquest

The crusades had exercised a heavy influence on the political and naval history of Algeria North Africa, and the Mediterranean basin countries such as Spain. By the end of the 16ᵗʰ century, Catholic Spain took over crusading leadership. In 1492, after taking control of Granada and the collapse of the last Muslim kingdom, the Spaniards massacred thousands of Andalusians and pursued those who escaped to North Africa. With a deeper religious hatred for Muslims, the Spanish moved toward the Algerian coast. The Unable Algerian inhabitants called for help from two Muslim corsairs.

The Barbarossa Brothers, who are known for fighting against Christian crusaders. Kheireddine Barbarossa gave the name EL-Djazàyir and also gave the same name El-djazayir to its capital the town of Algiers nowadays in 1517. The Barbarossa are considered the true founders of Modern Algeria under the protection of the Ottoman Empire. Following the internal strife in Turkey, the Barbarossa sought the protection of Tunis, then they expanded their activities to the cities of Bejaia and Jijel till the full expansion in Algeria.

The Turks originally came to Algiers as Muslim saviors and not as conquerors hence, Arruj and Keireddine Barbarossa were perceived as heroes of Islam and rapidly their reputation spread all over the cities that were under Spanish occupation. They set out to expel the Spaniards from Algerian territory and contain their incursions on its coastal cities.

The Turks adopted the containment and domestication policy that enabled them to ensure the loyalty of the elites and influence the local politics, culture, and society. Ottoman invasion opened up the way to Sufi institutions, a kind of alternative authority in the form of "Zawiyah", for teaching language and religion. Turks had loyalty and obedience towards '*taswwuf*' and its practitioners. According to Ladjal & Bensaid (2014), The Alliance of Ottoman and Sufi brought a noticeable spread and domination of Sufi thought which later on attracted migrants from East and West.

1.4.1.4. The French Occupation

After nearly 400 years of Ottoman rule, the French brought an end to this empire in Algeria. In July 1830 a French expeditionary force conquered the city of Algiers. Thus, Algeria became a part of France but not a colony or protectorate. Up to 1870, it was under French military rule, and it was divided into three administrative departments: Algiers, Oran, and Constantine. For more than 130 years the French had administrative and political domination that worked on destroying all the political, cultural, and social norms of the Algerians. It expanded its power in all the institutions used and ruled by the elites imposing the French rules over them.

Native inhabitants were completely deprived of their social rights. Both Arabs and indigenous Berbers evolved in one social class without any administrative or institutional role. The French policy worked to exterminate the Algerian language and reduce strictly Arabic languages and cultures and imposed French as the official language. The French government adopted a policy of depersonalization and acculturation of Algerians (Taleb-Ibrahimi, 1997b)

1.4.2. Linguistic Situation in Algeria

In the first part of this section, we presented the history of Algeria and how native people reacted to each invasion. The indigenous inhabitants of Algeria got melted with the various cultures and languages of the invaders, though some minorities kept using their native language among each other. In the present section we will present the languages used in Modern Algeria that shows the complexity of the linguistic situation and language interaction within the society as explained by Taleb Ibrahimi(1997b) who mentioned that "Les locuteurs algériens vivent et évoluent dans une société multilingue où les langues parlées, écrites, utilisées, en l'occurrence l'arabe dialectal, le berbère, l'arabe standard et le français, vivent une cohabitation difficile marquée par le rapport de compétition et de conflit qui lie les deux normes dominantes (l'une par la constitutionalité de son statut de langue offcielle, l'autre étrangère mais légitimée par sa prééminence dans la vie économique) d'une part". Taleb Ibrahimi (1997) divided the existent languages in

Algeria into three parts and called them "les Sphéres Linguistiques", the first sphere is "la sphere arabophone" The second sphere is "La sphere berbérophone" The last sphere is "les langues dites étrangéres". So, Algeria is reviving an example of a multilingual society. All these spheres will be presented in the coming subsections.

1.4.3. Berber or Tamazight

The term Berber or Tamazight is a common label in Algeria and the Maghreb area (Algeria, Morocco, Tunisia, Libya) to name the indigenous people of the region or to refer to their language. The main enquiry about the two terms is their origin and meaning. We need to give an etymological definition of each term.

1.4.3.1. Etymology of Berber

The origin of the Berber is a controversial issue, in which many opposing definitions are given to it in the literature. Some researchers supposed that the term "Berber" comes from the word 'Barbarian' and it was first used by Romans to denote foreign people. Simpson and Weiner (1989) stated that the term already existed in many civilizations like ancient Greece, Ancient China, and ancient Rome. They added that the first use of the word was a reference to Sanskrit 'Barbara' which means stammering, to indicate how the speech used by foreigners sounds. A more recent study on the etymology of the word 'Berber' supposed that it comes from the Arabic word 'Al-Barbar' that is used to refer to the speakers of foreign languages. Messaoudi (2009) opposed the aforementioned suppositions and claimed that the Arabs and Romans had contact with several people who spoke different languages like Kurds, Copts, and Persians, therefore, he assumed two views based on lexical and linguistic relations. The first assumption that the word 'Berber' is generated from the term 'Iberber' which means nomads in the Touareg language (South Sahrawians), and then it was generalized to all foreigners. The second assumption is also linked to another lexical word 'Sberber' which means to be covered either with clouds or the sky or to protect someone or somebody by one's body in the Kabyle language.

1.4.3.2. Etymology of Amazigh

The term Amazigh seemed to appear in many contexts in ancient civilizations such as the Egyptian civilization and ancient Greek in addition to the Arabs' literary and historical works notably the works of Ibn-Khaldun. In his article, Messaoudi (2009), after an analysis of many works like Nicolas (1950), Prasse (1972), and Chaker (1991) claimed that the term 'Amazigh' would come from the Berber verb 'jjey' which means 'to walk boastfully' in the Tuareg or Nomad language. The Tuareg refer to themselves as 'amajgh' which means 'Nobel'. Therefore, 'Nobel' is the most credible etymology for the word Amazigh. Many lexical words have been derived from the Amazigh word like 'Imazighen' which refers to the plural word of Amazigh, 'Tamazgha' to refer to the territory of Berbers, and 'Tamazight' to refer to the language used by Amazigh.

3.2.1.3 Tamazight Language

Tamazight has recently been recognized as a second official language in Algeria after being only a national language for a long time. The Tamazight language lost its significance in written form since antiquity. It was transmitted orally among generations and elites were using the Latin language to write. Anthropologists found an ancient alphabet called "*Tifinagh*" used by Tuareg. It is thought to have derived from the ancient Berber script. Nowadays the 'Tifinagh' symbols are used to write in Tamazight Language. As Haddadou (2002, p.210) puts it:

> "present Berber descends from Libyan, a language which was spoken in North Africa since high antiquity. Ancient Greek and Latin authors signaled this language, which was distinct from that of the Phoenician colonizers, but unfortunately, no one of them [the authors] describes it. In the 5th century, St Augustine noted that indigenous tribes of North Africa spoke one language; however, we do not know if he hinted at the unity of the Libyan language of which he had known different spoken varieties, or a particular dialect which was widespread in his time or spoken in a certain region of the country" (Quoted in Benali – Mohamed; 2007 p.38)

The University of Laval documentation (2005) recognizes twelve different Berber dialects in Algeria; ***Thaqbaylit, Shawiyya, Tamazight, Thashelhit,***

Thumzabt, Thaznatit, Thamahaq, Shenoua, Thamazight Tidikelt, Thamazight Temacine, Thagargrent*, and *Thadaksahak.
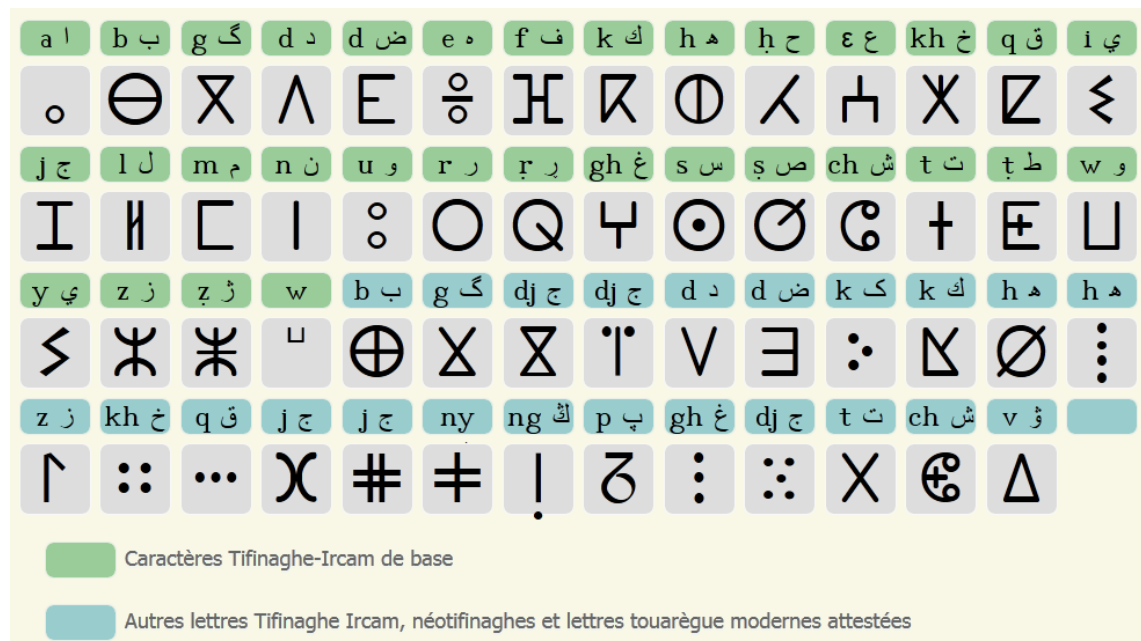
Image 2: Tifinaghe symbols from:

https://www.atmzab.net/index.php?option=com_content&view=article&id=1366:
tiginagh-latin-arab&catid=89&Itemid=144

1.4.4. Arabic Language

The Arabic language is the first national and official language in Algeria. It is the dominant language used in all governmental institutions and education. Arabic has many varieties, in Algeria for instance, they use the Algerian Arabic variety in everyday communication, and they use the Modern Standard Arabic in official documents. In the sketched subsection below we will highlight the difference between the two Arabic varieties used in Algeria.

1.4.4.1. Modern Standard Arabic (MSA)

Modern Standard Arabic or shortly MSA, is the standardized version of Arabic it has its own written and spoken form with its alphabet and is a Semitic tongue related to Hebrew, Aramaic, and Amharic. MSA is spoken in all the MENA region (the Middle East and North Africa) and generally for Muslim adherents, yet there is no native MSA speaker as a mother tongue or first language instruction it is

mainly used for religious, political, or cultural purposes. For Arab speakers, MSA is known as '*Al-Arabiya El-fus'ha*' i.e. eloquent Arabic.

Another standardized variety of Arabic known as Classical Arabic (CA); is the most written language of Arabic that is irrevocably associated with Islam. It is the variety in which the holy book the Quran was revealed and spread in the world. Therefore, the Quran is the main source for the use of CA. Though the use of CA is restricted to religious settings like mosques and practices such as prayers by all Muslims regardless of what their mother tongue is. Due to its restrictions to religious purposes, CA has been considerably valued as a highly respected language that is often referred to as "sacred" or "pure" language. CA has an eminent and prestigious status among all the languages of the world.

MSA is seen as a simplified version of the CA that has been simplified to meet the needs of modern life and express the realities of the modern world and serve some new social and scientific situations and technological development that Classical Arabic cannot cover, mainly at the lexical level, semantic extensions of new words and borrowing of words from foreign languages. Nowadays, MSA is the most used language all over the world. Benrabah (2007) defines it as: "A written form of Arabic readily associated with the modern media which was developed in the 19th century as part of the cultural revival, or Nahda, in the middle east" (p.46). Benrabah's definition of MSA is due to the given Labels to this variety of language such as 'literary language', or 'Journalistic Arabic'. Taleb Ibrahimi (1995, p.33)
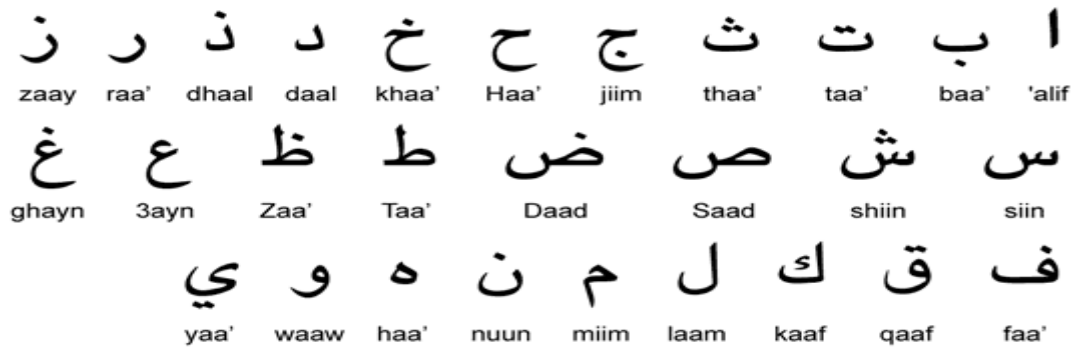
Image   3.2   Arabic   Alphabet

https://www.myeasyarabic.com/site/what_is_arabic_alphabet.html

1.4.4.2. The Algerian Arabic Variety

As it is mentioned before the official language of Algeria is the MSA whereas Algerians don't use it in their daily life, they use another variety of Arabic, which is considered less prestigious than the MSA, their mother tongue the Algerian Arabic to interact with each other. Algerian Arabic is a distinctive variety from the MSA in all linguistic levels namely grammar, vocabulary, phonetics. Algerian Arabic is referred to as a low variety of MSA. From a sociolinguistic perspective, AA is seen as a dialectal language of Arabic used by the Algerians as a mother tongue, the dialectal Arabic known as 'Daridja', or 'El-Ammiyya' i.e the general language used by all the people. AA has distinct regional varieties that differ from one region to another in dialect and accent. Benrabah (2007) presented a division of regional varieties in Algeria into four main regions:

1. Western Algerian Arabic is used in an area that extends from the Moroccan border to Tunis.
2. Central Algerian Arabic has spoken in the central zone which extends to Bejaia and includes Algiers and its surroundings.
3. Eastern Algerian Arabic spoke in the High plateaus around Setif, Constantine and Annaba extend to the Tunisian border.
4. Saharan Algerian Arabic spoke by around 100,000 inhabitants in the The Sahara Desert.
5. In Ethnologue (2004) ; Queffélec et al. (2002) ; Taleb Ibrahim (1997).

The AA encompasses many words from foreign languages, particularly French. though it is a non-codified language it is not used only in speaking but also, write it using Latin or Arabic alphabets.

1.4.5. French Language

The long-lasting colonialism of the French had a great impact on the linguistic repertoire of the Algerians. The French language is the first foreign official language in Algeria. Most of the population before and after the independence speak the French language fluently. The French had a profound impact on the cultural, linguistic, and social dimensions of Algerian society. All the governmental institutions in Algeria work in French as a second official language. The French use did not cease with the independence, FR becomes an integrated language in the linguistic repertoire of the Algerians. Fr shares the same high status as MSA in Algerian society in all public sectors.

1.4.6. English Language

"English has been gaining dominance in several sectors: the oil industry, computing, and scientific and technological documentation" (Bouhadiba, 2002, p.16). The role of English in the world has become a controversial issue which leaves little space to mention the positive aspects of a common international language democratically. Technically, speaking English is apprehended as a second foreign language in Algeria. Its teaching competes with the French language since the year 2000 at the first-grade level of middle school. However, in universities, 95% of undergraduate and postgraduate courses in sciences or medicine are taught in the French language (Miliani, 2001). In short, the desire to promote English in Algeria is due to high cooperation with the United States of America and Canada who are committed to freely supporting this educational reform policy in Algeria. This aid concerns the making of textbooks, the training of teachers of English, and the introduction of new technologies.

1.4.7. Language Contact in Algeria

As mentioned before several languages are entrenched in the linguistic repertoire of any Algerian and must be mentioned in the discussion of any linguistic situation in Algerian society: MSA, AA, Tamazight FR, or EN. Contact between these languages created a particular sociolinguistic situation in the Algerian context that is characterized by different phenomena. Some of the language contact phenomena will be discussed here.

1.4.7.1. Bilingualism

In Section -2- bilingualism has been presented and defined from a psycholinguistic perspective, in the present Section bilingualism is discussed from a sociolinguistic perspective particularly bilingualism in Algerian society. Bilingualism is a situation where two languages are used by an individual or a group of people in a given society. Many definitions has been given to the concept of Bilingualism. Some scholars classified bilingualism according to the speaker's competency and level of proficiency, others to the alternation between two languages to fulfil a gap. In Algeria, the contact of several languages due to historical events led to the creation of a bilingual situation. In the Arab conquest, Arabs had contact with the Berber language, then in the French colonialization, another language came into contact with the previous languages, French, Arabic, and Berber languages. The use of two languages was unavoidable during the colonization and after independence when Algerians used MSA + FR, AA+FR, TA+ FR to communicate.

1.4.7.2. Multilingualism

According to the Council of Europe (2007), multilingualism is the presence of several languages in a given geographical area; however, in the fields of sociolinguistics and bilingual education, the term multilingualism is preferred to bilingualism to express the idea that there is more than one language or linguistic variety involved in the particular sociolinguistic situation under consideration (Hoffmann, 2001). The confusion exists because there is no agreement on the minimal number of languages involved in a situation to be considered

multilingual/plurilingual; for some (Council of Europe, 2007; Herdina & Jessner, 2002) multilingualism involves two or more languages, while for Lasagabaster (2000), it involves three or more languages.

In this study, Multilingualism is used to refer to the functional knowledge of two or more genetically unrelated languages: MSA, Berber, French, English. During the colonialization, Algerians acquired French in childhood and in schools and they attained a native-like proficiency equally to the French people; They acquired as a second language besides their mother tongue AA or Tamazight. In addition to this they learn English in middle schools as a second foreign language.

1.4.7.3. Code Switching

Code-switching (henceforth CS) is a result of language contact of two or more languages in society. Bilinguals or multilingual alternate between words or sentences of two or more languages to fulfill a communicative purpose in a conversation. Gumperz (1982) described it as "the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems" (p.59). Whereas Myers Scotton (1993) defines CS as "the selection by bilinguals or multilingual of forms from an embedded language (or languages) in utterances of a matrix language during the same conversation." (p.4). Another definition given by Trudgill (1992) defines code-switching as "the process whereby bilingual or bidialectal speakers switch back and forth between one language or dialect and another within the same conversation" (p.16). Trudgill's definition of CS added another dimension of considering a bilingual speaker who alternates not only between two different languages but also alternates between two varieties of the same language i.e., the standardized language and the dialectal language. In the case of the Algerian context, CS occurs not only between languages like Arabic and French or French with Berber but also Arabic and Algerian Arabic.

Grosjean (2001) in his Bilingual model assumes that the bilinguals speech mode differs from the monolingual speech mode in the alternation of words and the use

of languages and proposed many factors that affect both modes such as the interlocutor, the settings, topic, and he says the following:

> "Bilinguals find themselves in their everyday lives at various points along a situational continuum that induces different language modes. At one end of the continuum, bilinguals are in totally monolingual language mode, in that they are interacting with monolinguals of one - or the other -of the languages they know. […] At the other end of the continuum, bilinguals find themselves in a bilingual language mode, in that they are communicating with bilinguals who share their two (or more) languages and with whom they normally mix languages (i.e., code-switch and borrow). These are endpoints, but bilinguals also find themselves at intermediary points, depending on such factors as who the interlocutors are, the topic of conversation, the setting, the reasons for an exchange, and so forth." (p.38)

Poplack (1980) distinguishes three types of conversational codeswitching:

1) **Inter-sentential code-switching** refers to the alternate use of utterances from two codes in a single conversation, i.e., in this case, the switches occur at sentences or clause boundary, "between sentences" (Myers Scotton, 1995).

2) **Intra-sentential code-switching**: in this type, the switches happen between two languages within the same expression or even inside the word. It is also referred to as code-mixing (Cited in Romaine, 1994), i.e., it occurs in a single sentence.

3) **Extrasentential code-switching:** means the use of tag questions inside the base language.

Due to the linguistic diversity in Algeria C.S is a part of the Algerian daily conversations where people switch between AA and AR, AA and Fr, AA and Tamazight. Generally, C.S is used to facilitate communication and to ensure clarification in a particular conversation particularly when there is a lack of vocabulary items or expressions. However, views towards C.S differ, some see it as a lack of competence or a low-level proficiency of the speaker that prevents him from expressing himself in a particular language variety, while others considered it as a linguistic skill in producing a speech and fulfilling any linguistic gap in one of the used languages. As Hymes (1968) describes it as: "used as a strategy of

communication to compensate his lack of competence by using sometimes one language, sometimes the other to maximize the efficiency of the communication" (p.200).

1.4.7.4 Diglossia

Charles Ferguson (1959) is the pioneer in describing and defining the term "Diglossia" referring to situations where two varieties of the same language are used for different social functions, he defined diglossia as follows:

" Diglossia is a relatively stable language situation in which, in addition to the primary dialects of the language (which may include a stand and or regional standards), there is a very divergent, highly codified (often grammatically more complex) superposed variety, the vehicle of a large and respected body of written literature, either of an earlier period or in another speech community, which learned largely by formal education and is used for most written and formal spoken purposes but it is not used by any sector of the community for ordinary conversation." (Ferguson, 1959, p.16)

However, Ferguson was not the first to introduce or to invent the term diglossia he borrows it from the French Arabist M. Marçais in 1930 who first put forward the concept of diglossia in the thirties when he described the large gap between spoken Arabic varieties and MSA in North Africa. Marçais distinguished between two varieties of Arabic in terms of social functions; each variety is used for special purposes, namely speech, and writing. According to him, there is a high variety and a low variety of Arabic. The dominant variety is used in formal settings and the other variety is used in informal spheres. Romaine (1994) summarizes that The High (H) and Low (L) varieties differ not only in grammar, phonology, and vocabulary but also concerning some social characteristics namely: function, prestige, literary heritage, acquisition, standardization, and stability.

Bensafi (2002) claimed that the phenomenon of diglossia present in Algeria is linked to the various transformations the original language of the Qur'an went through during the history of the Maghreb (in Arabic: what exists in the West). We stress that the split between Literary Arabic and Algerian Arabic began

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with the Spanish settlement (1509-1555) by the phenomenon of borrowings. (qt. in Chemami, 2011, p. 228).

1.4.7.5 Borrowing

Gumperz (1982) describes borrowing, he says: "[Borrowing consists of] the introduction of single words or short, frozen, idiomatic phrases from one language into the other. The items in question are incorporated into the grammatical system of the borrowing language and they are treated. They are treated as part of its lexicon, take on its morphological characteristics and enter into its syntactic structure". (p. 66). Dulay et.al (1982) conclude that: "Linguistic borrowing […] is something that has happened whenever these have been bilinguals. It is, in fact, unthinkable without the existence of bilinguals and inevitable where there is a considerable group of bilinguals." (p.263)

1.4.8. Language Planning and Language Policy

In the late 1950s, another sociolinguistic concept emerged under the name of language planning and language policy. (the need for language standardisation). The term was first used by Haugen (1959) to refer to the process of developing a new standard national language in Norway, following independence from Denmark. Haugen defines LP as the following: "[By language planning I understand] the activity of preparing a normative orthography, grammar, and dictionary for the guidance of writers and speakers in a non-homogeneous speech community. In this practical application of linguistic knowledge, we are proceeding beyond descriptive linguistics into an area where judgment must be exercised in the form of choices among available linguistic forms". (Haugen, 1959, p.8)

According to Haugen (1966), the process of preparing orthography, grammar and vocabularly is in itself a language planning process. Later on, he considered them as outcomes of language planning. Another definition was provided by Weinstein (1980) who claims that: "language planning is a government-authorized, long-term, sustained, and conscious effort to alter a language's function in a society to solve communication problems". (p. 56)

The term LP has been referred to as a language problem-solving activity that is characterized by formulations that will be evaluated to find the best by language planners. LP aims at changing the linguistic behaviour of a speech community i.e., proposing a new word.

1.4.8.1 Arabization Policy

Right after independence, Algeria aimed at eradicating the imposed French language imposed by the colonization in order to give back the Arabo-Islamic identity of the Algerian and to raise the sense of nationalism among people. Algerian leaders after independence were keen on applying the policy of Arabization to ensure cultural and linguistic independence, therefore they committed themselves to promoting MSA, the language used for formal and official documents and used in education. That is not used by everyone in everyday communication. The Arabization policy aims to create a new language planning to standardize one official language that will restore a new Algerian national identity and personality. The implementation of the Arabization policy was greatly supported by radical Arabists who were in the government at that time. Who claimed that the only national language of Algeria is MSA, Islam is the only religion, and Arabity is the only national identity.

The alternation of a foreign language as the dominant language by MSA was not an easy task for the Arabists; the French language was strongly used in mostly all the sectors of education, journalism, and administration as well as some linguistic practices of the Algerians.

The Arabization policy has gone through periods. As a first step was on October 5th,1962 when President Benbella Announced the MSA as the national and official language of Algeria. The president ordered that in the new school year of 1963, the MSA will be taught in parallel with the French language in all Algerian schools, aiming at integrating MSA into education. Consequently, the teaching hours of MSA increased from seven hours to fifteen hours per week. In 1964 the FLN held a meeting for the sake of speeding up Arabization in schools. FLN party faced a problem among educators of MSA the lack of Algerian-qualified teachers who can

teach MSA. They called for help from Middle Eastern countries such as Egypt, Iraq, and Syria as well as from Quranic schools of the Maghreb such as Zeytouna in Tunisia. By the year 1964-1965, MSA became the first language of instruction in primary schools although the use of French still dominated other sectors like media, administration, and governmental institutions. In 1968, MSA was imposed on the civil service, all civil servants had to learn and work in MSA within a period of three years. Though the implementation of MSA in mostly all sectors, higher education resisted the application of MSA. In 1971 the teaching of MSA was gradually introduced in higher education. Here are some major events Algeria witnessed due to the application of the Arabization policy.

- 1975 the primary schools were fully Arabized with French being taught in the fourth grade.
- In 1976 an educational reform set up the fundamental school.
- 1977-1978 conflict between Mr. Lachref Minister of Higher Education and Mr. Rahal Minister of Education about the application of Arabization in Higher education.
- 1979-1998 Berbers called for freedom of expression and the recognition of the Tamazight language as a national official language.
- 1980 a decree introduced the total Arabization of the 1st year of social and political sciences, law, and economics.
- 1988 political turmoil
- 2001-2002 April 2001 "Cultural Berber Movement" against Bouteflika's refusal to recognize the Tamazight language officially.
- Oct 2001 President Bouteflika announced that Tamazight would be the national language of Algeria "constitutionalization of Tamazight as a national language at the time of the next amendments to the constitution".
- Tamazight is in the same rank as MSA national and official language.
- 2002 Reform in education, FR in the second grade of primary school, EN taught in the sixth grade (1st year in middle school) while some subjects like Maths are taught in French.

1.4.8.2 The High Commission for Amazighity (HCA)

Another example of language policy in Algeria is The High Commission for Amazighity which was created by presidential decree on May 29, 1995, following the agreement of April 22, 1995, reached between the government of Algeria and the representatives of the Amazigh movements of Kabylia (MCB Coordination Nationale), Aures (MCA), and Mzab. This agreement came as teachers and students (over a million of them) in the Kabyle region continued their eight-month school boycott to press for official recognition of the Amazigh language (Tamazight). The Commission for Amazighity was created to give importance to the teaching and history of the Berber language (Tamazight). It tended to achieve the following missions:

• The rehabilitation and promotion of Tamazight as one of the foundations of Algeria'sidentity.

• The introduction of Tamazight in the educational and media sectors.

• To identify, analyse, prepare, and elaborate all the elements necessary to carry out its mission of rehabilitation of Tamazight.

• To elaborate, in conjunction with all the sectors involved, annual programs for the introduction of Tamazight in the educational system and determine its future status in the media.

• To ensure the coordination and execution of these programs.

As a result of the recommendations stated above, Berber was given a certain evaluation and importance in comparison to past states. It is now taught at schools, in addition to its promotion for media purposes, a situation which may improve the language career prospects.

Conclusion

The theoretical review presented in this section, confirms the complexity of the linguistic situation in Algeria, because of the several languages and dialects left due to the successive invasions and occupations of the country which resulted in the appearance of different linguistic phenomena. Hence, this section provided a

humble account of the historical events of various invasions in Algeria and focused on the linguistic side left by each colony. Also, we shed light on several aspects of language contact phenomena such as bilingualism, multilingualism diglossia, and code-switching and borrowing to show the switching between the languages and the varieties of the same language in the Algerian community. This section also presented an exhaustive description of the Tamazight language as well as the Arabic language and its two different forms starting with the prestigious variety which is MSA and moving to the vernacular less prestigious one which is AA or the daily used language by all the Algerians. At the end of this Section, the linguistic policy in Algeria has been discussed chronologically to present the effect the language has in building the societies.

To conclude, this section confirmed the multilinguality of the Algerians where more than two different languages interacted together such as MSA, Tam, Fr, and En in addition to some varieties of MSA and Tam that differ from one region to another.

Chapter Two: Research Design and Methodology

Introduction

This chapter provides a detailed account of the adopted design and methodology in this study. This chapter discusses the research philosophy and the research methodology that opts for both qualitative and quantitative methodologies. It also presents the research strategy used to examine CLI and the sample that participated in the study. This chapter presents the research instruments devoted to collecting data that aim to cover the different factors of CLI and predict the source language of transfer. It describes the tools and the various procedures used for the collection and analysis of the data obtained from the three research sources. The research methodology chapter ends with a discussion and careful consideration of the threats to the validity and reliability of the research.

2.1 Research Philosophy

The first step the researchers take in their quest for knowledge is to determine a research philosophy based on what they believe about the world and the topic the researcher aims to investigate. The research philosophy also depends on their belief in how knowledge is constructed (Saunders et.al.,2009) and will determine what methods researchers will employ when answering questions and collecting data. The researcher, earlier on in this study (See section 4, p.6), stated that the aim is to investigate CLI and language transfer in the Algerian context and to identify the factors that lead to language transfer, and not to change any of the aspects which would be investigated. This has led the researcher to make decisions based on some working assumptions before the commencement of the study. The research follows the objective approach to social science to identify the underlying basis that is used to construct a scientific investigation.

Cohen et al (2003) claim that social reality can be understood from both an external viewpoint and within levels of individual consciousness. Burrel and Morgan (1979) indicate that "to be located in a particular paradigm is to view the world in a particular way". Therefore, this study uses two philosophical approaches namely the positivist and the interpretivist to achieve a holistic view of CLI and

language transfer. In this research, we have tried to avoid what may be characterised as methodological monism, i.e. using a single research method. However, we believe that all methods are valuable if used appropriately. This research includes elements of two approaches in which the researcher uses both the *Positivist* and *Interpretivist* approaches with different paradigms.

The first paradigm is "*The Positivism /Functionalism Paradigm*" as a primary paradigm for organizational study. It is based on *positivism*, in which, the reality is stable and can be observed and described from an objective viewpoint this paradigm assumes rational human action and it is realistic, deterministic, and nomothetic that gives explanations to social people. It is objectivistic so social truths are outside human beings (Karnevio, 2007). The researcher used a 'functionalist', and 'positivist' paradigm to characterise epistemologies (What is known to be true) that seek to explain CLI as a psycholinguistic phenomenon and predict what happens in a social context while using multiple languages. In addition, the functionalist-positivist perspective seeks answers to theory-driven questions (Creswell & Tashakkori, 2007, p.306) and this paradigm paves the way for the researcher to explore some theoretical aspects of CLI and its factors and examine it in a different social context.

The second paradigm is *"the Interpretive Paradigm"* which belongs to the sociology of regulation and its purpose is to understand the world from the individual's viewpoint. In this paradigm, researchers attempt to observe ongoing processes to better understand individual behaviour (Burrel & Morgan, 1979). The researcher chooses the interpretive paradigm because it provides the researcher with an understanding of the world in which She lives, and this paradigm serves the aim of the study which seeks to understand CLI in an Algerian context as a social context that enables the reader to understand the sociolinguistic context of Algeria and raise awareness about its linguistic diversity and how this social linguistic diversity can affect language production in L3/Ln.

Hussey and Hussey (1997) indicated that positivism and interpretivism are two poles of the same continuum. By relying on interpretivism (social constructivism)

and positivism (functionalism) as philosophical paradigms, it enables the researcher to design the methodology of the research in which each paradigm employs different research methodologies. The social constructivist paradigm employs inductive logic and qualitative research methods, and the positivist paradigm employs deductive logic and quantitative research methods. The particularity of CLI studies in the field of TLA allows the combination of the two ways of thinking i.e. deductive and inductive paradigms which is believed to achieve the ultimate goal of the present study which is to know the source language of transfer in English as L3/Ln and to deduce and induce the various factors that can affect language production.

2.2 Research Design

MacMillan and Schumacher (2001) defined design as a plan for selecting subjects, research sites, and data collection procedures to answer the research questions. Durrheim (2004) considered the research design as a strategic framework for action that serves as a bridge between research questions and the execution, or implementation of the research strategy. The study attempts to explore CLI in the Algerian context, therefore the researcher opts for an *Exploratory Research Design* to explore the main predictive factors of this psycholinguistic phenomenon in the production of Algerian students in English as an additional language. Exploratory research is defined by Burns and Groove (2001) as research conducted to gain new insights, discover new ideas, and for increasing knowledge of the phenomenon. The main aim of exploratory research is to identify the boundaries of the environment in which the problems, opportunities, or situations of interest are likely to reside. The aim of exploratory design serves the aim of our investigation, in that the researcher aims at identifying CLI as a complex linguistic phenomenon that can affect learners' written production and development and to explore the Algerian sociolinguistic context, by spotting the light on its linguistic diversity that can, in a way or another, affect the acquisition of L3/Ln. This study also aims at identifying the factors that cause CLI and affect learners' written production and this aim can only be achieved

through an exploratory design that seeks to identify the salient factors or variables that might be found there and be of relevance to the research. Opting for an exploratory design will enable us to gain new insights about CLI that will help researchers and teachers to cope with the phenomenon. The choice of a research design enables the researcher to plan the methodology and the methods that will achieve the main aims of the research. The methodology used will be discussed exhaustively in the next section.

2.3 Research Methodology

Schwardt (2007) defines research methodology as "a theory of how an inquiry should proceed" (p.195). This involves analysis of the assumptions, principles, and procedures. This research has adopted a mixed research approach. Mixed methods research is known as a "third wave" or third research movement that moves past paradigms by offering a logical and practical alternative. Many researchers advocate a mixed research methodology. These include (Green et al. 1989, Patton,1999; Johnson, and Onwuegbuzie,2004; Taylor et al. 2008; Creswell,2011; Creswell and Clark,2011). Kemper et.al (2003) define mixed methods design as a method that includes both qualitative and quantitative data collection and analysis in parallel form (concurrent mixed method design in which two types of data are collected and analysed in sequential form). Burk and Onwuegbuzie (2005) view mixed methods research "as the class of research where the researcher combines or mixes qualitative and quantitative research techniques, methods, approaches, concepts or language in a single study" (p.1). Bazely (2003) defines this method as the use of mixed data (numerical and text) and alternative tools (statistics and analysis) but applying the same method. It is a type of research in which a researcher uses the qualitative research paradigm for one phase of a study and a quantitative research paradigm for another phase of the study. And this type of research method seems to fit our study because the researcher is using both types in data collection and analysis. In the first phase, the researcher collected qualitative data based on Participants' written productions in English on responses to the LHQ.3 and their responses to the language perception questionnaire. The collected data were analysed both qualitatively and quantitatively. The

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combination of qualitative and quantitative data yields a more complete and holistic analysis of the cross-linguistic influence in written production and each type of data will complement the other. A mixed-method approach is especially well-suited because the present study aims to both confirm previous results and explore new aspects. Since the factors of CLI under investigation (proficiency, recency, psychotypology, typology, L2 status) are already well established in the literature, a confirmatory statistical approach offers the generalizability of previous findings and will contribute to the advancement of knowledge in the field. The mixed-method approach offers a degree of comprehensiveness to CLI, which one method alone cannot achieve. In an attempt to replicate the methodological approach in previous research, it has been difficult to separate different factors and examine the effect of one factor in isolation. However, the LHQ did not cover the participants' perceptions of the languages, the use of another instrument that can measure this construct was needed therefore a language perception questionnaire is used as a complementary tool to cover all the factors. To avoid issues of confoundedness, a mixed method was required to investigate the relevance of CLI factors mentioned in the literature.

2.3.1 Qualitative Research Methodology

The researcher relies on qualitative data as the first step in data collection to study CLI in a natural setting, attempting to make sense of this linguistic phenomenon and interpret it. The objective behind the use of qualitative research is to promote a better understanding of CLI and how transfer/ language interference appears in the written production of Participants and increase insights about the factors of CLI that can affect students' production and development in the acquisition of L3. The qualitative approach enables the researcher to gain an understanding of CLI in the Algerian context. According to Creswell (2009), qualitative research ensures that the setting from which data is drawn is naturally descriptive and presented in words and human behaviours. Also, the objective of using the qualitative approach first is to obtain real, rich, deep data which enables us to examine accurately CLI and its factors. In addition, the qualitative

methodology can generate rich, detailed data and provide a context for the phenomenon being studied.

2.3.2 Quantitative Research Methodology

According to Van der Merwe (1996), the quantitative research approach is aimed at testing theories, determining facts, demonstrating relationships between variables, and predicting outcomes. The quantitative research methodology is used to ensure objectivity, generalizability, and reliability. The application of both qualitative and quantitative approaches is justified by the fact that the study entails both social aspects as well as purely linguistic features. Leedy and Ormrod (2001) have stated that "quantitative methodology involves putting data together so that information can be quantified and subjected to statistical analysis" (p.14). In this study, transcribed data will be categorized based on statistical counts, frequencies, and percentages.

Despite the predominance of the qualitative approach, the study also partially applies the quantitative approach to complement, and fully capture other key aspects that can be crucial in the study of CLI and need to be quantified. The quantitative analysis of this thesis is confirmatory, allowing us to test established factors and determine their statistical significance.

2.4 Research Strategy

In this study, the researcher will use a case study method as the most suitable strategy. Case study research enables the researcher to examine well the phenomenon under investigation as a complex issue and add strength to what already exists in the literature or previous studies. Yin (1984) defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not evident, and in which multiple sources of evidence are used. Robert E. Stake, Helen Simons, and Yin (1984) have accounted case study research and suggested techniques for organizing and conducting successful research by following six steps:

- Determining and defining the research questions.

- Select the cases and determine data gathering and analysis techniques.

- Prepare to collect the data.

- Collect data in the field.

- Evaluate and analyse the data.

- Prepare the report.

The present study will follow the same steps of case study research to gain insights about CLI in the production of English as L3 and confirm its theoretical factors. According to Bromely (1990), it is a "systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest" (p.302). The strength of case study research is its depth, and multi-faceted exploration of complex issues rather than its breadth. Case study plays a crucial role in exploratory research design, and it is widely used because it may offer insights that may not be achieved with other approaches.

The case study strategy serves the objectives of this study aimed to explore a complex psycho-linguistic phenomenon. Case study research uses a variety of evidence from different sources such as documents, artifacts, interviews, surveys. Some of these sources are used to investigate CLI in this study by utilizing descriptive research which aims to have an in-depth investigation of the Algerian students' written production as individuals, groups, community.

2.5 Population and Sample

The participants in this study are first-year Algerian students from the English department at Ecole Nationale Superieur -Bouzareah- (ENSB) Algiers. The whole population at this school amounts to more than 250 students and is divided into (4) groups. Their ages ranged from 17 to 19 years old. They use Algerian Arabic and/ or Tamazight as their mother tongue, Arabic as L2, French as L2/L3, English as L3/L4 Spanish/ German as L4/L5. Participants attend this school to be trained to work as high school teachers of English. The participants of this study are enrolled in 5 years of training to be high school teachers. Since the English language is taught only in two levels in Algeria, the school provides two different training

systems for each level. Participants who choose to be middle school teachers will be enrolled in the school for 4 years, in the fourth year, they will have training in middle schools with other teachers for 1 month. However, Participants who choose to teach at the high school level will be enrolled for five years. They will get their training in their fifth year in different high schools with experienced teachers at these high schools. Students in ENSB will have merely the same courses as any university students studying for a university degree in the English language in addition to more pedagogical and didactic courses and training.

2.5.1 Sample Technique

Sampling refers to the process of selecting a portion of the population that conforms to a designated set of specifications to be studied. A sample is a subset of a population selected to participate in the study. The researcher uses a random sampling technique for this study as it is regarded as one of the most reliable methods to obtain a representative sample, De Vaus (2000) argues that "the surest way of providing the equal probability of selection is to use the principle of random selection" (p.60) the randomizing technique enables every member of the group to have a chance of being selected for participating in the research.

The choice falls on the first-year students' group (group four) which is a mixed group (2 males and 45females) it consists of (47 students), only 45 students participated in the study one refused to be part of the study from the beginning and one refused to answer the language perception questionnaire; that led the researcher to not include her in the study. The participants are first-year students of English (undergraduate). The researcher chooses first-year students at the university level because at this level participants are required to produce more in English i.e., have much output in comparing them to high school learners that are limited to the curriculum and syllabus in addition to having more input rather than output. Participants at this level are also assumed to be cognitively mature at this age as well as they may have developed a metalinguistic awareness According to Flynn et al (2004), the study of adult multilingualism helps refine what is known about the mental constitution of grammatical knowledge. This knowledge enables

them to focus attention on language as an object in itself and to think abstractly about language. Rothman (2008) claims that all successful bilinguals/ multilingual should theoretically be able to transfer properties from more than one system in the process of L3/Ln interlanguage development.

2.6 Data Collection Instruments

As mentioned before in this chapter (see section 2.5) the researcher opted for a case study research strategy that entails a small-scale group. Therefore, an intersubjective study approach is used to track the specificities of how CLI manifests itself in the language of individual language users. An Intersubjective approach enables the researcher to determine mental processes underlying CLI and enhance the understanding of the complexity of L3 acquisition. In this research, three major instruments are used to obtain a better understanding of CLI in a restricted multilingual context. The tools used are Language History Questionnaire (LHQ.3), students written documents, and a language perception questionnaire. The tools used in this study have a complementarity relationship where one tool is expected to complement and confirms the results of the previous one. The instruments used in this research aim at finding answers to all research questions that cover any extraneous variables that can affect the results of the research, as well as to ensure the research triangulation. As a starting point, the researcher collected the data from the LHQ.3 to obtain enough information about the linguistic history and background of the informants. The second tool used is a collection of compositions written by the Participants which are examined and analysed concerning the lexical and syntactic errors found. The third tool is the Language Perception Questionnaire which aims at complementing the data gained from the language history questionnaire and answering the questions that are not covered by the LHQ. Each of the three instruments is exhaustively described in the next sections.

2.6.1 Language History Questionnaire (LHQ.3)

As mentioned in the previous sections, the researcher adopted a Language History Questionnaire version.3 (LHQ.3) developed by (Li, Zhang, Tsai & Puls,

2019). The purpose of the questionnaire is to assess the linguistic background of bilinguals or multilingual learners so that the researcher has a way of generating self-reported linguistic measures in multiple languages. Li et al. (2006) developed the LHQ.2 after examining 41 published studies and identifying the most commonly asked questions in those studies (eg: Marian, Blumenfeld & KaushnasKaya,2007; Anderson, Mak, Chahi & Bialystok, 2018). The LHQ is based on previous studies that address questions that were typically related to important theoretical constructs in bilingualism and multilingualism research, such as the age of acquisition, L2 proficiency in writing, reading, comprehension, and speaking.

The adapted questionnaire includes 28 questions divided into four parts, the first part of the questionnaire covers participants' background and includes questions about social background, and demographic information such as age, education, parents' languages. and other items attempt to elicit information about languages the participants can understand and speak, where they learned the languages, and at what age. The second part of the questionnaire elicits items of self-rated proficiency for speaking, understanding, reading, and writing in the indicated languages. The third part covers items aimed at eliciting information about languages exposure and use in different life stages (infancy, primary school) and language interaction in specific contexts with different interlocutors (family members, friends, colleagues) in different situations (home, school, work) and activities (reading, chatting). The last part of the questionnaire is concerned with language dominance of the languages acquired as well, there are questions regarding language-mixing in different contexts and the questionnaire ends with language use preferences in different contexts.

The language history questionnaire has been used to obtain information on the participants' language acquisition background; as well as, to ensure that all the participants share a similar linguistic repertoire. The language profile encompasses the areas suggested by Ellis (2000) in the literature such as age, social, educational, and cultural background, language background, motivation, type and amount of

target language exposure, target language proficiency, language distance between L1 and the target languages and provides us with a self-assessment of proficiency. This questionnaire is a key tool in ensuring the participants' suitability for participation since it covers most of the learners-based factors mentioned in the literature that can affect students' L3 production. According to Li et al. (2019), The purpose of the questionnaire is to assess the linguistic background of bilinguals or second language learners in which the outcomes from such assessments are often used as independent variables to predict or correlate with learners' linguistic performances derived from behavioural or neuroimaging experiments. The researcher assess only the participants linguistic performance in this study. Therefore, the researcher has a way of generating self-reported linguistic measures in multiple languages. The outcomes of the language history questionnaire will help the researcher to correlate them with learners' written performances in English.

2.6.2 Students' Written Documents

In linguistic research, it is often argued that when studying cross-language influences, only the sample products could be interpreted; their underlying processes, however, could only be guessed (Dewaele 1998; Sharwood Smith 1994), since they are usually unspoken, unseen, unobservable. Therefore, the second means of data collection used in the investigation will be the written compositions produced by the participants of the study. Students' written compositions are the most important instrument in this study. Participants were asked to write freely three different tasks with different topics that differ in content and length. In the first free writing task, participants wrote a paragraph about something special and unique in themselves, the paragraph shouldn't exceed five sentences. In the second task, the participants Wrote a letter to a foreign penfriend from England, where they introduced themselves and will talk about their families, their studies, their hometown, their hobbies, ambitions and interests, and any other aspects of their life and liking which they deemed interesting to the pen friend to know. In the third written production, learners watched a short video (silent movie) about "The Little Riding Red Hood" story then they wrote it in their style. The

video was silent without any voice, they saw only the images then they wrote the story according to what they watched.

The themes of the written productions were selected because they did not impose any constraints on the type of language vocabulary and grammatical structures. The three tasks provided learners with freedom in writing where they activated their imagination and employ a wide range and variety of words and structures. Thus, it is assumed that it will allow Participants to deploy as much linguistic knowledge in English as possible. Participants had no limitations regarding their writing but had to restrict themselves to the topic given and the instructions. With these topics, participants are expected to reveal differences in their writing styles, vocabulary repertoire, and knowledge about the topic. Students' written compositions varied in length (some Participants exceed 500 words in their writings), content, linguistic structures (grammar, vocabulary, word choice), and lexical items.

The collection of the written samples lasted a period of three months, one topic in a month in the written subject session. The first task was written in December 2019. The second task was written at the end of January 2020 and the last one was in February 2020. The researcher intended to collect more written data from the participants to proceed with an in-depth analysis of language transfer however, the covid 19 pandemic prevented the research from this because of the lockdown that made it impossible. The participants' written productions were gathered before the administration of the third research tool in this study namely 'the language perception questionnaire'.

2.6.3 Language Perception Questionnaire

The last instrument used in this study is a language perception questionnaire that will complement the previous instruments that enabled the researcher to explore more the source language of transfer and help identify CLI variables that are not covered in the LHQ. The language perception questionnaire is more likely than an opinionnaire. An opinionnaire is defined as a special form of inquiry used by the researcher to collect the opinions of a sample of the population on certain

facts or factors regarding the problem under investigation. The items in the questionnaire revolved around the perceptions and attitudes of the participants toward the English language, its structure, pronunciation system, and their cognitive process while writing. The language perception questionnaire is used to complement and validate the previous methods used namely LHQ and the written documents of the participants and to have in-depth data on the topic of investigation.

The language perception questionnaire is a semi-structured questionnaire, it contains an open-ended question, and dichotomous questions to capture the specificity of the CLI phenomenon. The open-ended questions are useful for investigating complex issues such as CLI and fit the research's exploratory nature. The Dichotomous questions provide an unequivocal response. It also aimed at reducing the problems of respondents' guessing answers. The researcher did not rely on open questions to avoid any redundant irrelevant information and to minimize the bias of the questionnaire. The use of this kind of questionnaire is beneficial especially when it is necessary to know Participants' attitudes towards something they use, it is a good decision in research where it may be fruitful to spot the lacuna or a gap in the existing literature can be easily constructed by researchers. The questionnaire elicits responses to the statements or questions on different aspects of the problem under investigation such as language grammar, language vocabulary, and language pronunciation.

The questionnaire started with items related to participants' attitudes about languages. The attitudinal language items involved the participants' personal views of the language in terms of communication and identification. The second part of the questionnaire contains items on psychotypology presumably encountered by the language learners involving items on language proximity (in syntax, pronunciation, vocabulary, morphology) in comparison to their previous languages. The last part of the questionnaire contains questions about translation during the writing and about languages used in thinking while writing in English. The ultimate objective underlying asking the participants such questions was to

make a comparison and contrast between their linguistic perceptions and their errors in language production linking it to their linguistic background and proficiency level.

Personal perceptions of languages are sought in this questionnaire therefore a mixed-method approach is required in which a quantitative approach is aimed to reflect the students' data and the qualitative is to measure their language proficiency, dominance, and language use concerning their perceptions. The use of the qualitative and quantitative approaches in the analysis of the language perception questionnaire enables the researcher to empirically investigate the impact of psychotypology reduction on L3 production to get a general grasp of participants' writing process.

2.7 Piloting the Questionnaires

2.7.1 Piloting the LHQ.3

The data collection of the LHQ questionnaire went through two phases: the first phase consisted of researching the accurate questionnaire that suits multilingual learners to be adopted. It took place in December 2019 with the distribution of ten (10) questionnaires whose aim was to check the clarity and readability of the questions and to calculate the time each individual took in answering. Piloting the questionnaire enabled the researcher to omit some items from the questionnaire and adapt it to the Algerian context to make it more comprehensible and easier to respond to. The second phase includes the distribution of the questionnaire to the target sample population. The researcher introduced the questionnaire to the respondents. This took place in January 2020 after the winter holidays. The questionnaire was handed to first-year students at ENSB in the writing subject session. The respondents took approximately 45 minutes in answering the whole questionnaire. The researcher explained some linguistic terms like mother tongue, Second or Additional Language, Language acquisition, language proficiency before the start of answering the questionnaire.

2.7.2 Piloting the Language Perception Questionnaire

The language perception questionnaire was first formulated as an interview and has been piloted with first-year students at Algiers -2- University in the academic year 2019-2020 in the reading and writing course. The interview has been conducted a year after the data collection from the LHQ and the written compositions due to the COVID-19 pandemic and the lockdown all over the country.

The interview was piloted in a classroom with 5 students, and it was audio-taped using the research personal smartphone.The researcher limited the number of Participants to 5 to minimize the risk of contamination and to ensure the use of safety measures from a social distance, putting masks, and using sanitiser after each interview for the researcher, the table, and the used phone.

In piloting the interview, the researcher focused on some research requirements such as clarity and ease of the items and instructions as well as on the way of asking questions and the time spent in answering each question. To protect the participants of the study and to reduce the risk of Covid-19 contamination the piloted interview turned to a written questionnaire.

The questionnaire was used for the second time to ensure its validity and reliability for another academic publication that aimed to investigate the effect of psychotypology. The questionnaire was conducted with first-year students at the high school of fine arts with another colleague in the English language at the beginning of the first semester of the academic year 2020/2021. The piloted questionnaire reflected some inconsistencies in measuring the students' subjective similarity between the background languages and the third language which led the researcher to elaborate more on the items asked in the present study.

The data of this research has been processed in different steps that are explained in the following section.

2.8 Data Analysis Procedures

As mentioned previously in the same chapter, it was mentioned that the research had been built on mixed-method research in both collecting and analysing data. Johnson & Onwuegbuzie (2004) noted that "its logic of inquiry to include the use of induction (or discovery of patterns), deduction (testing of theories and hypothesis), and abduction (uncovering and rely on the best of a set of explanations for understanding one's results". Otwinowska & De Angelis (2014) noted that "recognizing the multilingual nature of societies and multilingualism of individual citizens in a commonplace is a long and challenging process", therefore, the researcher will examine the data collected separately in three phases first, analysing students' language history questionnaire then examining their written compositions to depict all the lexical and syntactic errors, and then analysing their language perceptions to have a holistic view of the phenomenon under investigation. The researcher seeks a link between the three research tools to confirm and depict the affective factors of CLI and to ensure triangulation.

The focus of this study is on the content of the data sources thus a content analysis is an approach used to explore CLI and its factors. Content analysis is a strict and systematic set of procedures for rigorous analysis, examination, and verification of the contents of written data. The process used in analysing the content of the data obtained from the research instruments is based on summarising the data and then interpreting it. Cohen et al. (2007) define content analysis simply, as the process of four 'C's, i.e., Coding, Categorising, comparing, and concluding. Coding is used to reduce or simplify the data while emphasising their specific features to connect them to broader concepts. While categorizing is developing meaningful categories into which words, phrases, sentences, as the units of analysis can be grouped. The last two analysing processes are comparing and concluding which involve making connections between categories and then drawing theoretical considerations based on the text and the results of the analysis. (Cohen et al. 2007, p.475). The content analysis of the present study used the four C's process in which the data obtained from all the research instruments used have been coded first then it has been categorized into specific categories and sub-

categories. Later the findings of this study are compared to previous studies to come up with a conclusion drawing theoretical considerations based on the study findings.

2.8.1 Content Analysis Procedures

This section describes the coding procedures and conventions used for both collecting and analysing the CLI and the source language of transfer. The data was collected from the same group that responded to the three data sources. During the analysis participants' names were hidden and given numbers instead to ensure the confidentiality of the participants' identities. Numbers from 1 to 45 refer to every single participant. The order of the Participants was random, each participant's code was used in responding to the LHQ then each written production is attached to the LHQ response after hiding the participants' names. The same procedure was used for the language perception questionnaire.

The analysis of the CLI phenomenon is generally perceived by the researcher and considered self-evident. The lack of well-established criteria for the analysis of CLI made each ungrammatical utterance an instance of language transfer and CLI. Jarvis & Pavlenko (2008) claimed that "CLI has often been treated as a you-know-it-when-you-see-it phenomenon" (p. 27). The transfer instances can be depicted only through the written utterances of the Participants in which each utterance that bears resemblance to a corresponding L1 or L2 can be identified as an instance of transfer. Jarvis and Pavlenko (2008) have argued that "the all-too-common practice of assuming the liberty to label as transfer any or only the language use data that the researcher subjectively deems as such, is inadequate" (p. 27).

However, scholars addressed the question regarding the identification of transfer instances that look like transfer, but are not, and transfer cannot be detected by simply looking at the data. Jarvis and Pavlenko (2008), suggested that three types of evidence should be employed in any identification of CLI:

- ***Intragroup homogeneity****:* Evidence that the behaviour in question is not an an isolated incident but is instead a common tendency of individuals who know the same combination of languages.

- ***Intergroup heterogeneity****:* Evidence that the behaviour in question is not something that all language users do regardless of the combinations of L1s and L2s that they know.

- ***Crosslinguistic performance congruity****:* Evidence that a language user's behaviour in one language is motivated by her use (i.e., the way she demonstrates her knowledge) of another language. (Jarvis & Pavlenko, 2008, p. 35)

Jarvis & Pavlenko (2008) proposed three types of transfer identification concerning methodological rigour. However, they argue that all three types do not necessarily need to be verified through rigorous tests but can be drawn either implicitly or explicitly from external sources such as previous works, existing language corpora, or from common knowledge. Odlin (2003) also suggested that researchers can often make an uncontroversial case for transfer.

Intragroup homogeneity is a phenomenon that exists whenever a group of language users have the same comparable knowledge in the source and recipient language and behave similarly in the recipient language. Intergroup heterogeneity refers to the similarities and differences in the use of the recipient language that is exhibited in most of the areas of language use. Besides the homogeneity and heterogeneity intergroups, the crosslinguistic performance congruity is conspicuously similar to intergroup homogeneity where participants are expected to show a similar level of homogeneity in the source and recipient language.

2.8.2 Content Analysis of the Transfer Errors

In the analysis of the participants' written productions, some transcription principles were used. In the transfer of words, Transfer was only considered to mean the use of one or more terms. The transferred item that is the focus of the example appears in bold (see chapter III, section -2-). Each transfer example is followed by the source language that resembles to originate from. The corrected

form of the transferred item was written in brackets and Italics. In the case of more than one transfer item, the focused one is in bold while the other is preceded by an asterisk. In the meaning transfer sentences, the whole sentence is written in bold and followed by the correct sentence.

2.9 Analysis of Language History Questionnaire

As has been previously mentioned in the literature (see chapter I, section -1- p.13), scholars distinguished between L2 and L3 acquisition and consider distinct variables that may influence L3 acquisition. It is mentioned that L3 acquisition factors are divided into two main categories Learners'-based variables and Language-based variables. As the first phase in data analysis, the researcher examines the participants' language history Questionnaire (LHQ) to determine learners based variables such as proficiency, target language exposure, use of target language, language mode). Participants' responses to the questionnaire will help the researchers to classify learners' differences according to their linguistic repertoire.

The researcher analysed each item from the questionnaire individually and later used statistical equations to calculate language dominance, language proficiency, and language immersion. The first part of the questionnaire explores demographic information from the participants. It comprises learners-based variables such as age, sex, and their stream at the high school, their native language, second language and the other subsequent languages, and language acquisition context.

The second part analyses the participants' self-rated proficiency in all the languages they learned/acquired and in all the areas of language use (reading, writing, listening, speaking). The data analysed are presented in tables that contain descriptive statistics of their language proficiency.

The third part of the questionnaire analyses the participants' language use and exposure it contains items about the age of exposure and the number of years Participants are exposed to each language foreign language. Moreover, the questionnaire contains items about the participants' familial context and the

languages known and used by the parents. In addition, it proposed a question about the amount of time using each language in their daily activities. All these items have been analysed statistically.

The last part of the questionnaire contains items about code-switching and code-mixing in different contexts as well as language use preferences. The following table summarises the categories of the LHQ and the items corresponding to each category .

	Categories	Items
Learner-Based Variables	Age	1
	Educational Background	2
	Frequency	15-16-17-18
	Language use	19-23-
Language-Based Variable	Proficiency	8
	Recency / Exposure	9-10-11-12-13-14
	Code-mixing	21

Table 2.1 LHQ Categories

After analysing the LHQ and coding the profiles, we proceeded to analyse students' written production.

2.10 Analysis of Written Production

Because of the complexity of the phenomenon under investigation (CLI), the researcher has analysed only a few specific features in which language transfer or language interference may appear. In this study, the researcher focuses on morpho-syntactic (semantics/discourse) and lexical errors that learners produce in their written expressions. The researcher has set out to identify any lexical error made by the participants in their writings since written errors are features that are different from the native (Corder,1983). In addition, written discourse is more structurally complex and more elaborate than spoken discourse and this can lead participants to commit more errors; therefore, the researcher will be able to explain

why participants made such errors by relating them to CLI factors. This is an important stage in this study as it attempts to provide explanations for the occurrence of those errors. Two main procedures were used in the analysis of the Participants' writings. The first procedure was breaking down texts into units of analysis. The second was to undertake a descriptive statistical analysis of the units. The next subsection will present the units of analysis in more detail.

2.10.1 Categories of Written Production Analysis

The written production analysis aims to examine language-based variables of L3 acquisition which are L2 status, psychotypology, typology, and recency, that enable the researcher to answer the research questions and determine the source language of transfer. The present study investigates both lexical and syntactic patterns. The lexical transfer refers to the phenomenon where one's knowledge of native language words influences the acquisition of target language words (Jarvis & Pavlenko, 2008, p.72). Whereas syntactic transfer refers to phenomena that concern the structural characteristics of the native language and the target language.

2.10.1.1 Lexical Transfer Analysis

A major study in the analysis of Lexical transfer conducted by Nation (2001) claimed that the word knowledge is a very complex concept in itself an explicit framework has been developed by Nation (2001, p.27) encompasses three main divisions of word knowledge needed to be mastered (form, meaning, and use). The three-way division of word knowledge was used by Merlăinen (2010, p.70) as a starting point in classifying lexical transfer patterns. The present study uses Merlăinen (2010) classifications of lexical transfer illustrated below.

Word Knowledge	Transfer Categories
Word Form	- Substitution - Relexifications - Orthographic transfer - Phonetic transfer

	• Morphological transfer
Word Meaning	• Loan Translation
	• Semantic Extension
Word Use	• Collocations
	• Functional Transfer

Table 2.2: Categories of Lexical Transfer (From Merlɑ̈inen, 2010, p.70)

Merlɑ̈inen's (2010) classification of lexical transfer categories encompasses both written and spoken aspects of the language i.e. how the word is written and pronounced, as far as the present study examines only written form the phonetic transfer subcategory will not be taken into consideration. As revealed by Merlɑ̈inen (2010) categories of word form lexical transfer comprise:

a. Substitutions: Complete language switches caused by insufficient awareness of L3 linguistic form, instead of which a complete L2 or L1 word is used in the production of L3. It results in an English non-word.

b- Relexification: also known as Hybrids or Blends caused by insufficient awareness of L3 linguistic form, in which a word, which etymologically has one part derived from one language and the other part from the previous languages, is used. Or a lexical item, in which a free or bound morpheme from any of the three languages involved is combined with a free or bound morpheme from other languages, is used. The difference between substitutions and relexifications is that the writer has modified the word to fit the word-formation norms of the target language (Ringbom 2007, 82).

c- Orthographic Transfer: it is a deviation in the spelling of the target language word due to some conventions from the L1 or L2 writing systems, in which lexical items in the L3 have been altered orthographically from one of the previously known languages. Though deviant spellings of L3 items in a text can be seen as instances of language transfer, not all of them are transfer induced. Even native English speakers are notorious for committing many spelling errors on account of the lack of correspondence between spelling and pronunciation in English

(Ringbom, 1987, p.73). Merläinen (2010) in her study of language transfer of Finnish-English speakers uncovered three types of orthographic transfer by Finnish learners, the first one, is the writing of compound words in English wherein Finnish is written as one word whereas in English are written as separate words or hyphenated and closed. Secondly, conventions of the use of capitalizations like names, and nationalities. Thirdly, an equivalent word form between Finnish and English that is spelled differently can confuse.

d. <u>Morphological Transfer</u>: morphological transfer refers to the deviant use of affixes caused by native language influence.

e- <u>Deceptive cognates</u>: deceptive cognates caused by the awareness of an existing L3 form, in which words look alike in the three languages but have different meanings. The words may be partially or deceptive and result in the existing English word.

The second category of lexical transfer is concerned with the semantic level of language and it is the transfer of meaning that refers to other instances of lexical transfer that affect the meaning and the understanding of linguistic production. Word meaning transfer encompasses two sub-categories are:

a- <u>Loan translations</u>: or *Calques* of multi-word units (compounds, phrasal verbs, and idioms) borrowed from another language by literal, "word for word" or root-for-root translation resulting in a construction that either has no meaning in the target language or a meaning that differs from the one that is intended.   Calques are caused by the awareness of existing L3 units but not of relevant semantic/collocational restrictions.

b- <u>Semantic extensions</u>: semantic extension is caused by mismatches between words and semantic restrictions of different languages, which are lexical items used in L1/L2 language contexts in which similar L3 words are used. Each of these words has a meaning, but it does not match the one found in L3 i.e., a native language word has multiple equivalents in the target language, and the learner has

chosen to use an equivalent that is unidiomatic due to an incomplete mastery of the meanings of the target language words.

The last category of word knowledge is word use, it "involves knowing the patterns in which a word occurs, what other words tend to occur with that word, and in which contexts the word can be used" (Nation, 2001, p.27). Where producing the writer does not possess a full understanding of the contexts in which a certain word is used. Word use knowledge contains two subcategories of language transfer collocations and word function.

a. <u>Collocations:</u> collocations are caused by mismatches between words that have practical meanings but different context usage and resulted in an unidiomatic word choice caused by ignorance of the use of the certain word. Merläinen (2010) gives two-word pairs *do vs make* and *end vs finish* as examples of this subcategory and states that "the semantic contents of these verbs are practically the same, and that the transfer is a result of their incomplete knowledge of the contexts in which these words should be used and which words they tend to collocate with" (p.96).

b<u>. Functional Transfer:</u> functional transfer refers to instances of transfer of function words as opposed to content words i.e. misuse of function words such as pronouns, articles, particles in a sentence that is syntactically correct. Scholars agreed on the difficulty of separation between lexical and syntactic transfer as it is not salient as in the previous categories. Merläinen (2010) in a study found seven types of functional transfer (auxiliaries, reflexive pronouns, definite pronouns, indefinite pronouns, conjunctions and connectors, and focusing particles.). The analysis of the data of this study is not limited to Merläinen's (2010) types of functional transfer therefore, other function words may occur and have a functional transfer effect.

2.10.1.2 Syntactic Transfer Analysis

In syntactic transfer, the grammatical structures of the previous languages influence the comprehension and the production of the target language structures. Odlin (1989) claimed that "the influence of the native language on the syntax has

generally been more controversial than its role on the lexicon" (p.85). Whereas Jarvis and Pavlenko (2008) argued that syntax and morphology were considered immune to CLI. The syntactic transfer is generally deemed to be implicit and less convincing for scholars because learners tend to avoid difficulty, less frequently occurring syntactic structures, which makes the detection of syntactic transfer harder. Hence, the influence of the previous languages on TL syntax is less acknowledged. The syntactic units of this study will constantly focus on the students' syntactical errors without the adaptation of any previous classifications. The specific features of syntactic transfer investigated in this study are listed below:

- Articles use
- Prepositional constructions
- Subject-verb agreement

The features listed above are the syntactic errors found in the participants' productions. Syntactic errors are not limited to the errors found in this investigation, there are many areas where a syntactic transfer can occur, but they are not feasible in the present study.

In the next section, the validity and reliability of the research instruments used in this investigation as well as the different procedures used to limit the threats are discussed.

2.11 Validity and Reliability

The validity and reliability of any research address how the research design can obtain valid and generalizable results in other populations and prove that this study gives answers to the research questions using the appropriate methods and procedures. Each of these factors is discussed in internal and external validity subsections. In addition, an explanation of the consistency of the research instruments and procedures is provided in the reliability subsection.

2.11.1 Internal validity

Internal validity yields the extent to which the effects reported on the dependent variable in the experiment are confined to the independent variable instead of other

variables (Ladico et al. 2010). According to the literature, variables such as proficiency, L2 status, Recency, and typology/psychotypology can affect the source language of transfer in L3 and not vice versa. Assigning the terms dependent and independent variables to the variables of this study is necessary to determine the causal relationship between them. In the present study, it was clearly stated that the dependent variables are psychotypology, L2 status, Recency, and proficiency that affect the source language of transfer in English.

Airasian et.al (2000) defined internal validity as "the condition that observed differences on the dependent variable, not some other variables" (p.345). in this study, proficiency, L2 status, Recency, and typology/psychotypology are the main variables related to language transfer and CLI. In addition, operational definitions of all the dependent variables have been provided in the literature review chapter (Section 2) to avoid any intervening or threatening variables that can affect the result of this study in which the effect of the variables was uniformly directed.

2.11.2 External Validity

According to MacMillan and Schumacher (2001, p.407), validity is the degree to which the interpretations and concepts have mutual meanings between the participants and the researcher.

External validity, on the other hand, is "the extent to which the results of a the study can be generalized to and across populations, settings, and times" (Johnson & Christensen, 2000, p. 200). The results of the present study can be generalized only to the Algerian context with the same linguistic background. Even if the findings have high internal validity, this does not mean that they can be generalized outside of the study context. The descriptive statistics of this study try to reach conclusions that go beyond the immediate sample and its context only thus the researcher cannot be certain that the results will be found in another context with different linguistic backgrounds and dependent variables. Though generalizability cannotbe conclusive or exhaustive, it can reasonably yield the same outcome in another context by making predictions and probabilities based on the results of this study.

External validity can be understood as the extent to which the findings of a study take over the sample. The study sample which is around 20% of the population is representative as discussed in Hays et.al (2012). The sample is purposively complying with a set of criteria in terms of multilinguality, age, languages, educational background, language acquisition contexts.

To ensure the validity and reliability of the content of the questionnaires in terms of measurement procedures. Therefore, validity is the ability of an instrument to measure what it is designed to measure. According to Li et.al.(2018), The validity and reliability of the LHQ questions have been tested by many previous studies that correlated LHQ results with other behavioural tests and outcomes of bilingual experience (Bidelman, Gandour & Krishnan, 2011; Bidelman, Hutka & Moreno, 2013; Calvo, Garcia, Manoiloff & Ibáñez, 2016; Carlson, Goldrick, Blasingame & Fink, 2016; Dong & Zhong, 2017, Chandrasekaran, Krishnan & Gandour, 2009; Hartanto & Yang, 2016; Jonczyk, Boutonnet, Musial, Hoemann & Thierry, 2016; McLeod & Verdon, 2017; Yang, Gates, Molenaar & Li, 2015). (as cited in Li. et al 2019).

For ensuring the validity and reliability of the data and lend credibility to the research, the researcher used two processes in this study namely triangulation and thick description. An account of each follows next.

2.12 Triangulation

According to Cohen, Manion, and Morrison (2000), triangulation is the use of two or more methods of data collection to study a particular phenomenon. Triangulation is viewed as a verification procedure whereby researchers search for convergence among multiple and different sources of information to form themes or categories in a study. It is a system of sorting through the data to find common themes or categories by eliminating overlapping areas. In the present study, the triangulation process was employed. 45 Participants were identified to complete the research methods (LHQ.3, language perception questionnaire, and their written production). The sample was heterogeneous in terms of sex though the majority

share the same linguistic backgrounds, language proficiencies, language acquisition context, and language use and exposure.

Providing multiple sources of information i.e., relying on more than one research instrument enables the researcher to set themes and categories for the responses provided by the participants. The three sources of data are placed at the points of a triangle, where each data source provides a philosophical starting point for the other data sources. In addition to the data sources of the present study, namely: Language History Questionnaire, Language perception questionnaire, and student written documents, the researcher used also the literature review as a source of information to provide secondary data which assisted the researcher in formulating questions of the language perception questionnaire and choosing the appropriate Language background questionnaire. The language perception questionnaire was drawn directly from the literature review and tried to fill the gap found in the LHQ and answer the rest of the research questions.

Triangulation was used for both data collection and methodology. Data sources varied in this study and three sources are used. While Methodological triangulation concerns itself with the use of both qualitative and quantitative methods in the same study.

The triangulation enables the researcher to provide valuable insights through the use of different sources that cannotbe obtained from the literature alone or a single source. Triangulations enhance the possibilities of minimizing the inadequacies of the research and ensure validity and reliability. The data triangulation in the study of CLI enabled the researcher to cover all the variables under investigation in which each source complements and verifies each other. It also provides a piece of richer and more comprehensive information in the sense of exploring and examining language transfer and how to determine the source of language transfer from various data sources.

2.13 Thick Description

The thick description is used in qualitative research to ensure validity and reliability. The thick description procedure is concerned with describing the settings, the participants, and the themes of a qualitative study in rich detail. The participants of this study were university students whose ages ranged between 17-18 years old they are multilingual and study English as a foreign language. A full description of the student's language background and the setting has been provided in the presentation of the qualitative findings of all the research instruments where the actual words of the participants have been used constantly. The qualitative analysis enabled the researcher and the readers to understand well the participants and their linguistic contexts. In addition, it provides a new prospect in the classification of the students' unidiomatic and erroneous sources that affect language production.

The purpose of reporting the findings using thick descriptions is to provide as many details about CLI and the source of language transfer as possible for the readers. The thick description creates the 'verisimilitude', that is, statements that produce the readers' feeling that they have experienced, or could experience, the events being described in the study and makes the existing phenomenon more real and acceptable. It provides the reader with the ability to make decisions about the applicability of the findings of the study to other similar linguistic contexts.

Conclusion

Owing to the investigation of CLI and its factors in this study, a range of research sources has been used. Language background questionnaire, language perception questionnaire, and written documents. In order to examine CLI a sample of 45 informants participated in this study. This chapter also accounts for the procedures followed to achieve the ultimate goal of this investigation which is to explore the source language of transfer through the examination of the main predictive factors mentioned in the literature. It also describes the different steps used to pilot the questionnaires as well as the processes used to code and categorise

the data from the research tools. Both the internal and external validity of this study have been examined and discussed.

Chapter Three: Data Analysis and Results Presentation

Introduction

The third chapter of the study presents the results and the data analysis. The present chapter reports the results obtained from the three research instruments namely the Language History Questionnaire, the participants' written documents, and the Language Perception Questionnaire, therefore this chapter will be divided into three major sections that present the findings of each research tool.

The first section of this chapter is the data analysis and results obtained from the presentation of the Language History Questionnaire (LHQ). The quantitative analysis of the LHQ was mainly descriptive statistics presented in the form of frequencies and percentages. The results presented in the first section are divided into four major parts that cover the variables investigated in this questionnaire. These parts are participants' language background, language proficiency, recency, language use, and exposure. The results of this questionnaire are presented in tables and graphs that demonstrate the quantitative analysis of the questionnaire.

The second section presents the results of the content analysis of the students' errors in their written productions. The researcher analysed it both qualitatively and quantitatively to obtain a holistic description of specific instances of transfer of their writing errors. To have a systematic review of the results, we present them broken down into categories depending on the error and the type of transfer. It seems worth noting that this section presents the results with an evaluative assessment and a certain type of interpretation; a discussion of what the results reveal will be followed in chapter four. Categories are presented according to their appearance in the students' productions. The analysis of the written data comprises the researcher's independent, subjective evaluations, a second reviewer was not used. For the sake of transparency, every instance of transfer is presented in the Analysis, so that my reasoning can be independently evaluated and verified.

The third section of this chapter includes the presentation of the language perception questionnaire. This section aims at presenting the participants' perceptions of the English language as the target language under investigation. The

results cover two main variables of the study namely psychotypology and typology that are not covered in the LHQ. The language perception questionnaire was also analysed using the SPSS and the result are presented in tables and graphs. The statistics of the language perception questionnaire are descriptive. All the results are presented in detail in the next sections.

Section One: Data Analysis and Results presentation of the LHQ.3

Introduction

The present section presents the data analysis and results of the participants' responses to the LHQ.3. All the statistical analyses presented in this section were carried out using SPSS software (version. 22). The results of the LHQ.3 were divided and classified into five parts that cover participants' language background and proficiency in all the learned and acquired languages. The first part presents general information about the participants it includes responses like their age, stream, native and second language. The second part of the questionnaire gives insights into the learned and acquired languages and how each language is learned/acquired. The third part includes participants' language proficiency in different languages they learned and in different skills. The fourth part of the questionnaire presents the language use and exposure of the participants, and the last part gives insights about the languages mixed by the participants and their language use preferences. The results of this chapter are given in terms of percentages and frequencies and illustrated in pie or histogram graphs depending on the variables. Some statistics are not presented in this chapter due to the load of information in this questionnaire, only the most important ones are illustrated, they are presented in the link provided in the appendices.

3.1 Participants Language History

3.1.1 Participants General Information

The researcher starts the questionnaire with some demographic information that will help the researcher to know more about the participants and their language history and language experiences.

3.1.1.1 Age:

The students' age in this research ranged from 17 years old to 19 years old which 33.3% (15 out of 45students) are 17 years old, 57.8% (26 out of 45 students) are 18 years old which makes the majority of the group and 8.9% (4 out of 45 students)

are 19 years old. Students' age is a very important factor in the research it enables the researcher to know more about the linguistic history of each one.
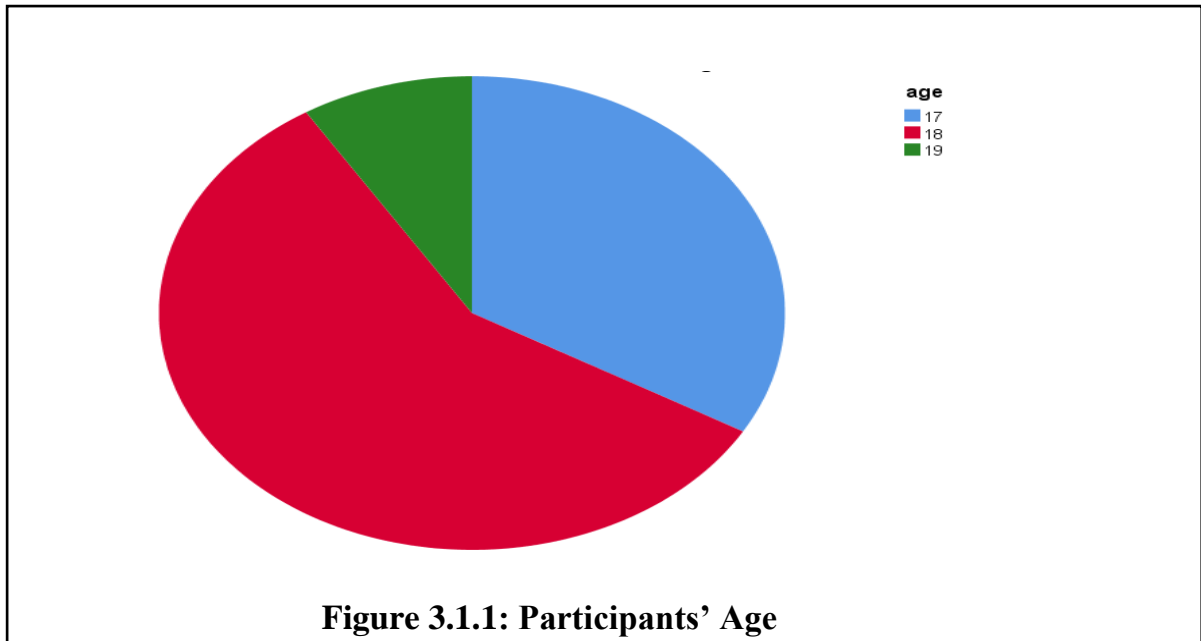
Figure 3.1.1: Participants' Age

3.1.1.2 Sex:

The sample under investigation is a female-dominated group in which 43 students are females which make up 95.6% of the group and only 2 males which make up only 4.4%. Female domination in language fields is considered a standard rather than an exception in the Algerian context. Studying languages is seen as a more female-oriented field rather than a male-oriented one. Sex is not considered an influential factor in the study but is just an ice-breaking introductory question. Sex percentages are presented in Figure (3.2) below.

Figure 3.1.2: Participants' Sex
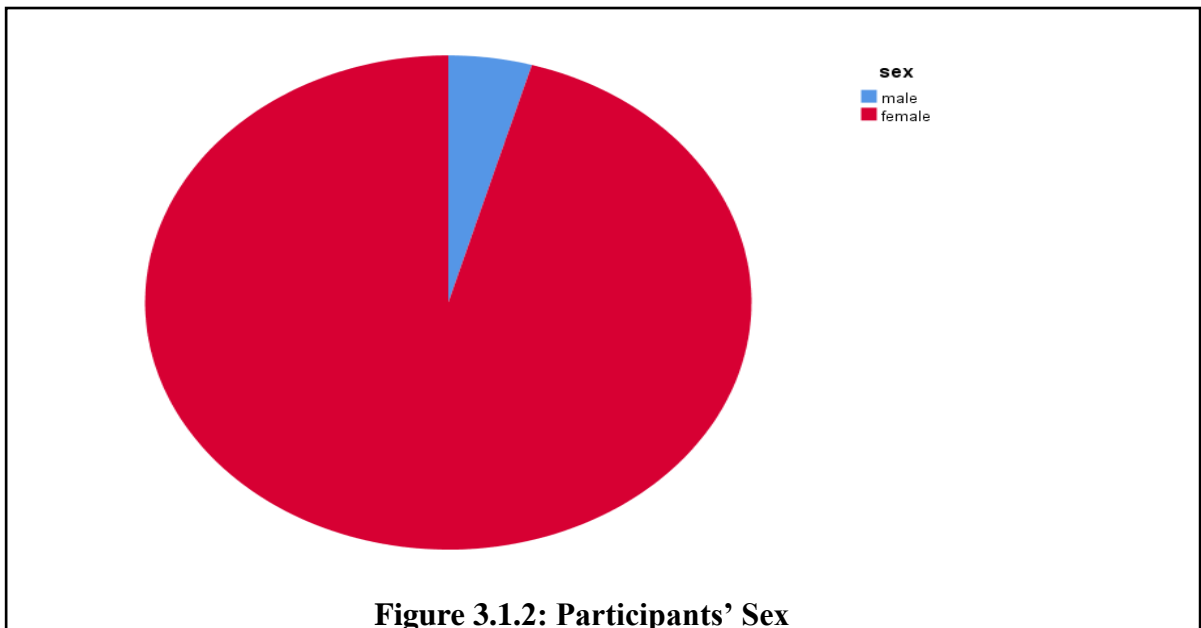
3.1.1.3 Stream

The learning stream is important information about students' educational backgrounds and orientation. Before admission to the university Algerian students have three years at High school and there are two options scientific stream or the literary stream the former focuses more on scientific and mathematical subjects whereas the latter focuses on philosophy and languages. As far as English is considered an academic language the hourly volume will be different in the two streams, this question aims to know how much English language exposure students had in high school. 97.8% (44 students) were in the literary stream and 2.2% (only one student) were in the scientific stream.

Figure 3.1.3: Learning Stream
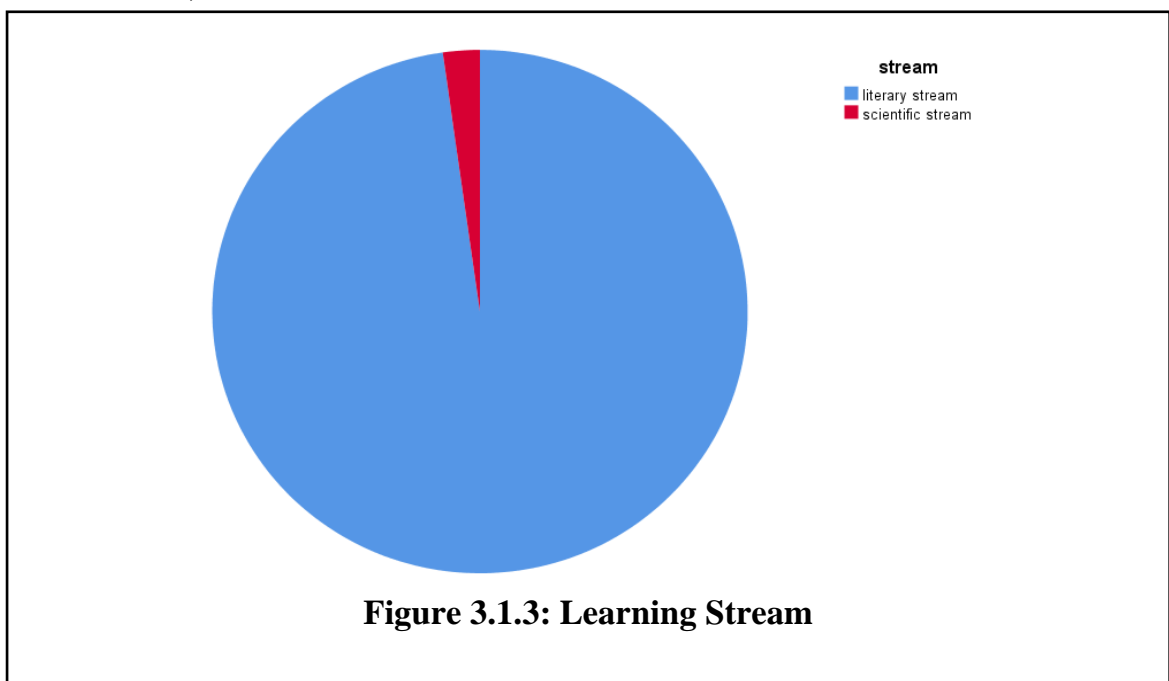
3.1.2 Language History

This part of the analysis of the results is concerned with questions (2,3,4,5,6and 7) and their sub-questions. This part of the questionnaire aims at knowing the participants' SLA, it answers the questions of what the participants' SL is, how they learned/acquired it, and at what age it is acquired in both home and school contexts. It also analyses participants' additional language (beyond their L2) and the age of acquisition. This part is divided into two sub-sections, the first sub-section presents the participants' SL history and the second sub-section shows their additional language history. The results are illustrated in pie charts followed by comments that provide percentages for each question.

3.1.2.1 Native Language

In the first question about the participants' native language, 34 students answered that Algerian Arabic (AA) is their native language which makes 75.6% native speakers of Algerian Arabic (mixture of Arabic, French, Tamazight, Spanish, …) whereas 11 students answered that Tamazight language (particularly Kabyle language) is their native language.

Figure 3.1.4: Participants' Native Language
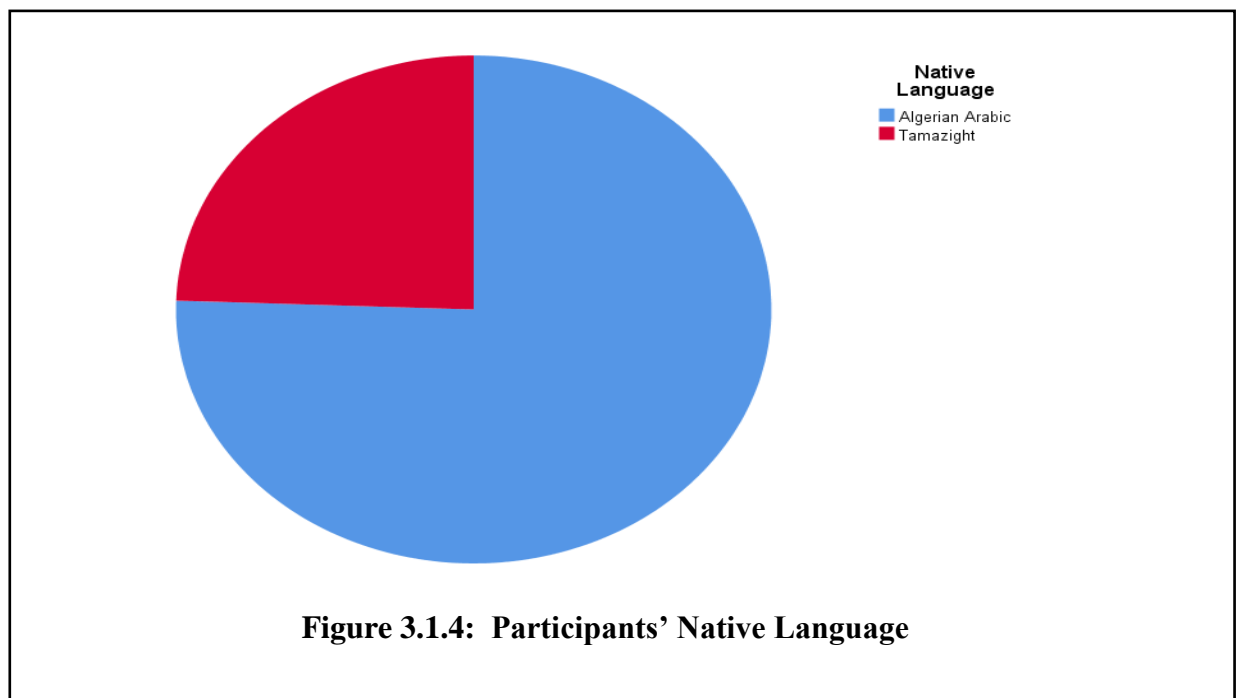
The next part of the questionnaire will examine the second language history of the participants. This part will include questions about the SL and the age of acquisition of the SL, more details are provided next.

3.1.2.2 Second Language

All the students gave a positive response to the second question (see Appendix) as to whether they have a second language. In the third question about what is the second language 84.4% answered Modern Standard Arabic (MSA) and 15.6% answered French, which means 38 students have MSA as their second language and 7 students have French as their second language. Among the seven students who claimed that they have French as an SL 6 of them have TAM as L1 (S5, S9, S11, S16, S34, S45), and 1 student has AA as L1 (S4)

Figure 3.1.5: Participants' Second Language
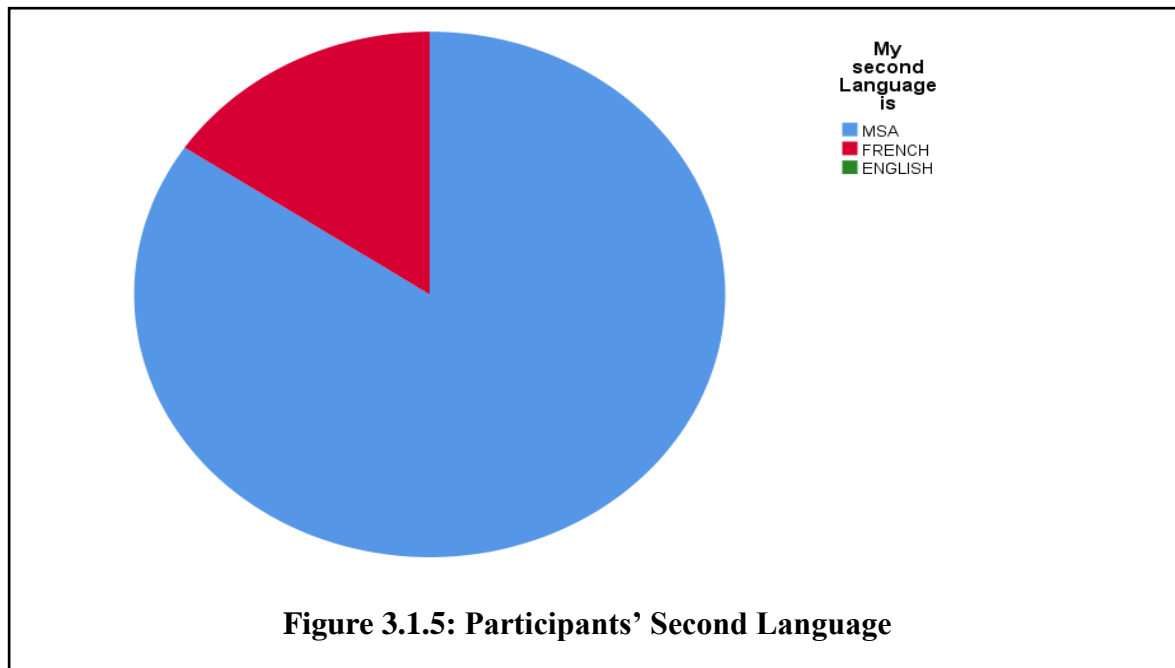
3.1.2.3 SL Learning Context

In multiple-choice question number -4- students answered how they learned their second language. Figure (3.6) shows that 80% of the students answered they had learnt their second language from classroom instruction and 20% answered a mixture of the above which means a mixture of classroom instruction, home and family interaction, and interacting with people. Most of the students stated that they acquired/learned their SL in a formal learning context where SL is used as an instructional tool.

Figure 3.1.6: Second Language Learning Context
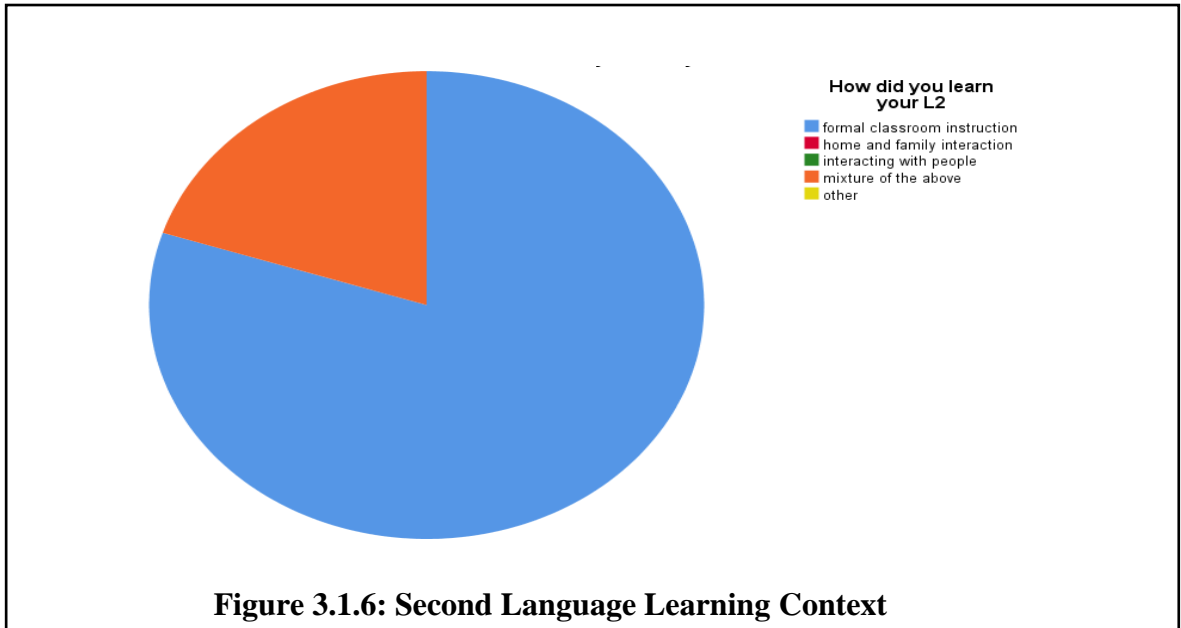
3.1.2.4 Age of Second Language Learning at Home

Learning a second language at home seems to differ among students in this study. Participants' age in learning SL was between 3 to 5 years old. 7 students learned their SL at the age of 3 years old, 13 students started learning an SL at the age of 4 years old, and 25 students started at the age of 5 years old.

Figure 3.1.7: SLA Age at Home
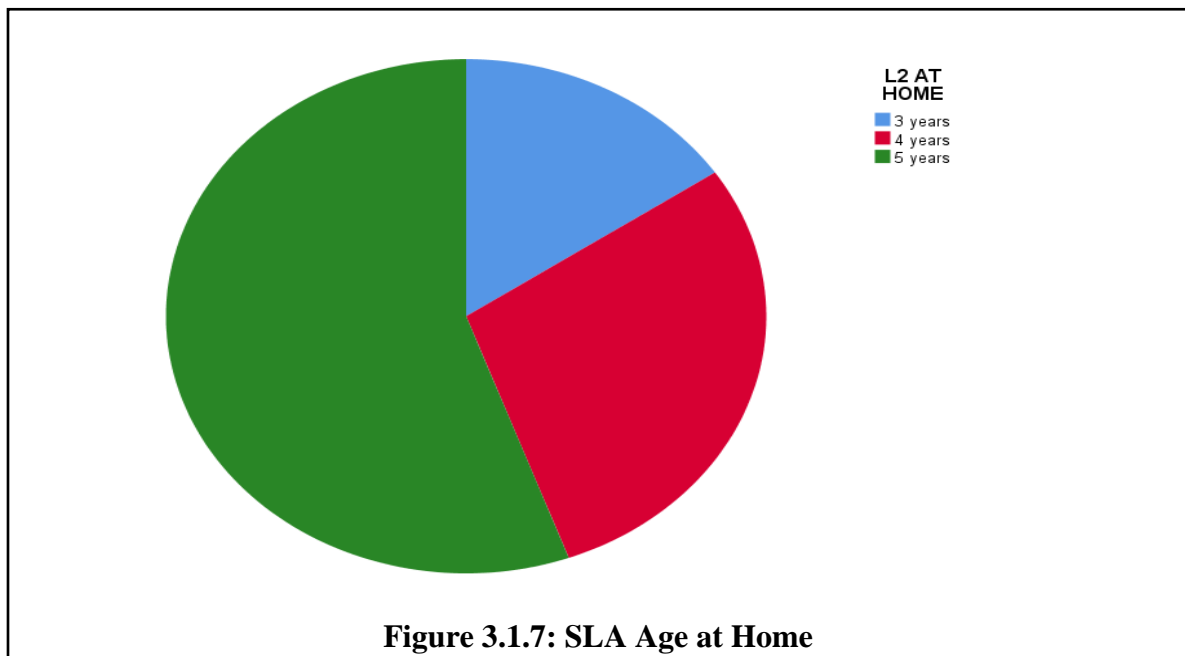
3.1.2.5 Second Language Learning at School

Different responses related to the learning of a second language at school were obtained. 15 students (33.3%) learned L2 at the age of 5 in school and 24 students

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(53.3%) at the age of 6 and 1 student (2.2%) at the age of 7 and 5 students at the age of 8. As we found different second languages among the students such as MSA, and Fr, we found different ages of learning them. Most of the participants learned SL at the age of 5 or 6 which is the school age required in Algeria (6 years and 5 in some exceptions).

Figure 3.1.8: SLA Age at School
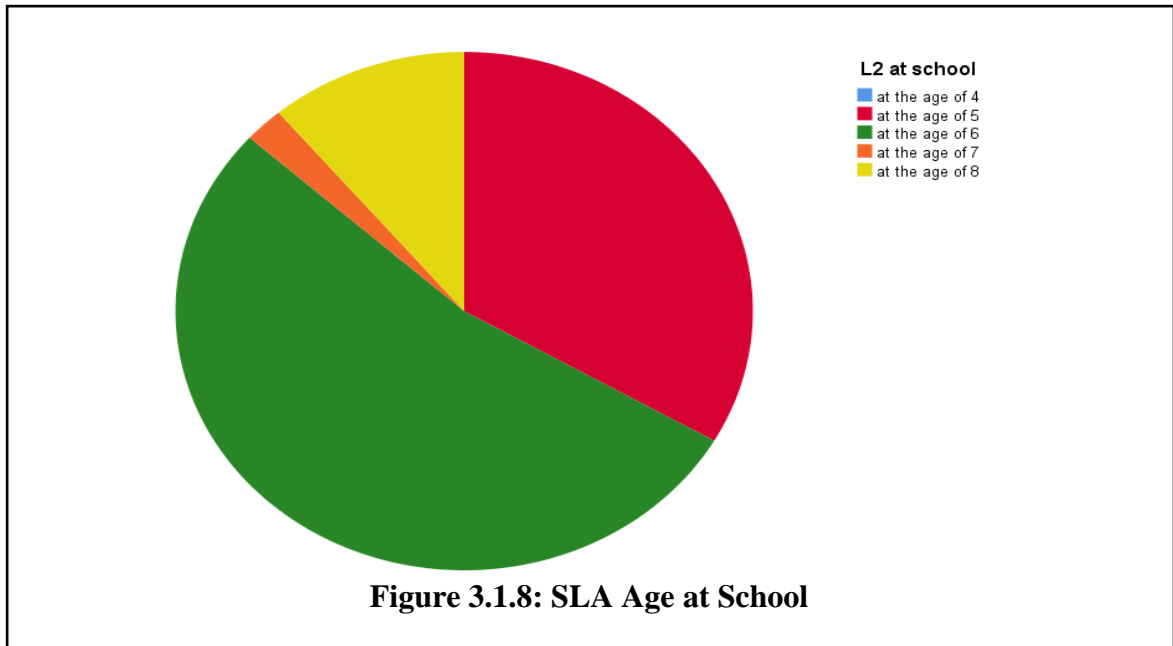
3.1.2.6 Participants' Additional Languages

All the participants in Q.5 answered "yes" they have an additional language. The participants mentioned two languages MSA and Fr. 38 students mentioned Fr as their foreign language and 7 students mentioned MSA as a Foreign Language. The pie chart below illustrates the languages reported by the participants as their additional language.

Figure 3.1.9: Participants' Additional Languages
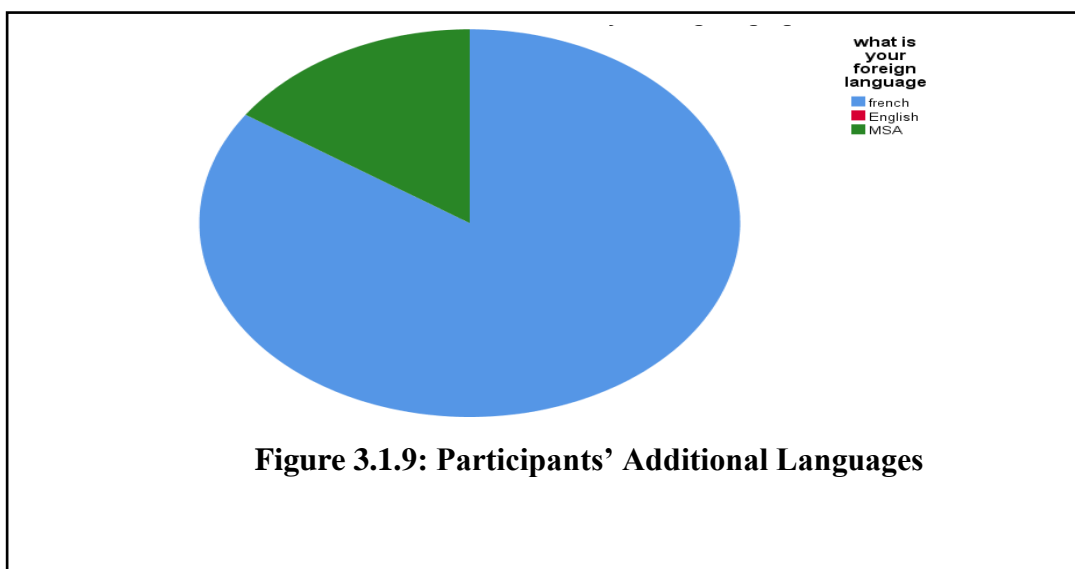
3.1.2.7 Age of Additional Languages Acquisition at Home

Different age categories emerged in the learning of Ln among the participants at home. 7 students claimed that they learned Ln at the age of 4 years old, 7 others at the age of 5 and 9 students at the age of 6, 7 students at the age of 7, and 13 students at the age of 8 whereas 2 students mentioned that they don't use Ln at home at all (S5 and S9).

Figure 3.1.10: Age of Foreign Language at Home
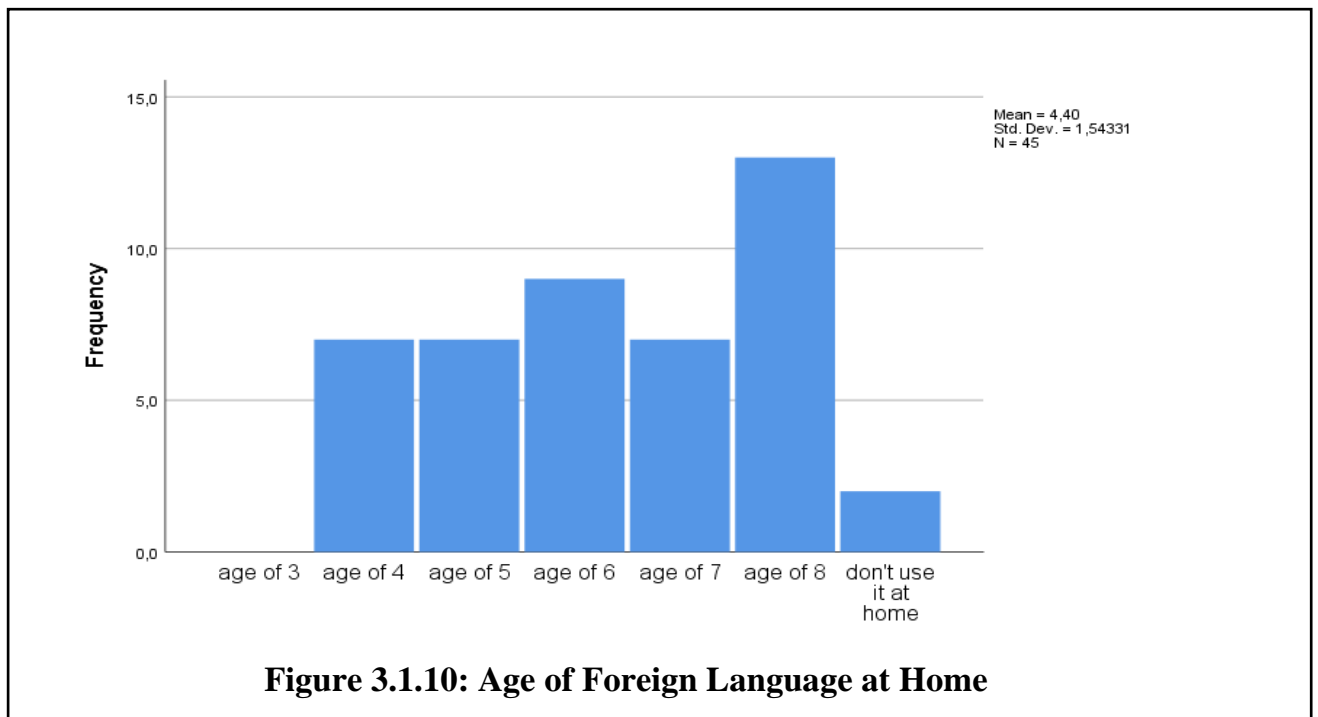
3.2.1.8 Age of Additional Language Acquisition at School

The figure above presents three age categories in learning Ln at school. 7 students (16%) learned Ln at the age of 6 years old, 9 students (20%) at the age of 7 years and 29 (64%) students at the age of 8 years.
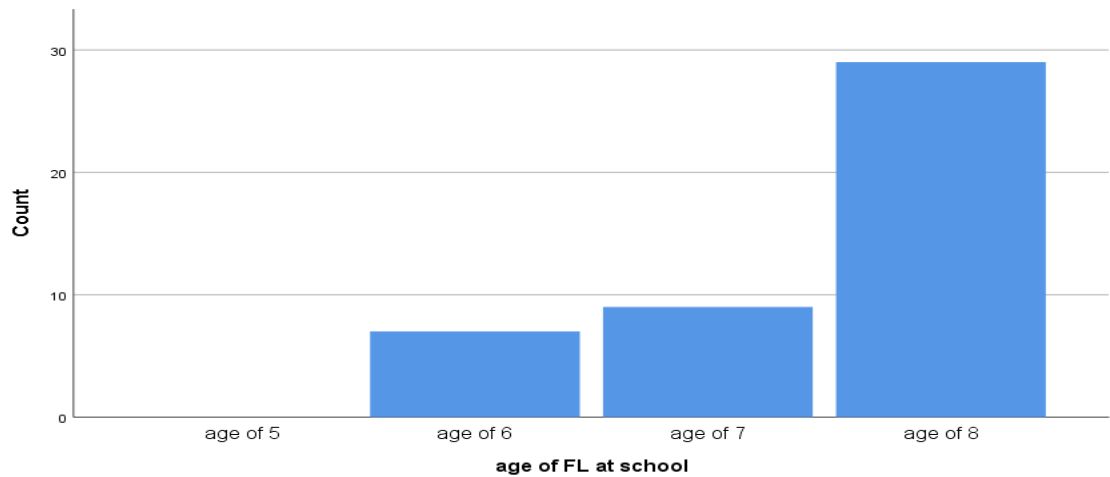
Figure 3.1.11: Age of Foreign Language at School

3.1.2.9 Additional Language Learning Context

Participants learned their Ln in different ways. 56% (25 students) of the participants learned their Ln through different exposures such as classroom, family, and interactions while 42% (19 students) learned their Ln mainly through classroom instruction however 2% (one student) learned Ln through home and family.
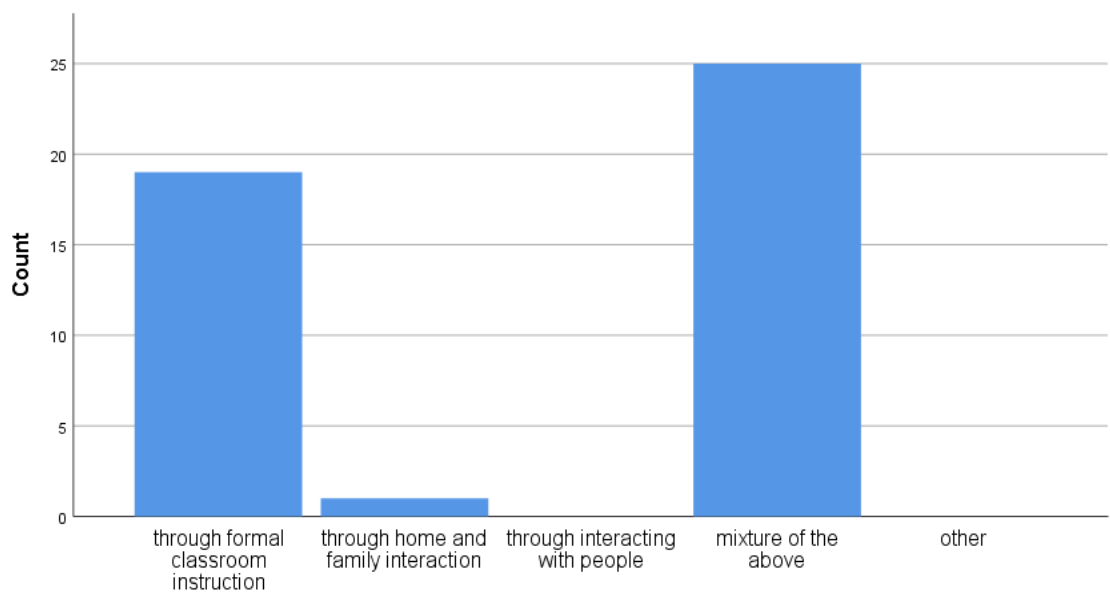
Figure 3.1.12: Additional Languages Learning Context

It is apparent from the analysis of the first part of the LHQ.3 that the participants learned/acquired different languages at different ages from different contexts. What is interesting about the results of the first part is the revealing of a wide range in the order of the languages learned/acquired by the participants. The languages' order identified from their responses can be summarised and classified. The first group acquired their languages in the following order: AA+MSA+FR, the second group: TAM+FR+MSA, the third group: TAM+MSA+FR, and the last group: AA+ FR+MSA. The AA and TAM are generally the participants' mother tongues however MSA and Fr are the second or the additional languages participants learnt at school. What is striking about the results is the age of acquisition. Different age categories in all the languages among the participants e.g., the age of SLA was between 3 to 5 years old at home and from the age of 4 to 8 at school whereas the additional language age ranged between 4 to 8 at home and 6 to 8 years old at school. The second part of the analysis will cover the Participants' language proficiency in all their languages.

3.1.2 Language Proficiency

This section of the questionnaire required respondents to give information about their proficiency level in all the languages they learned/acquired by ranking themselves on a seven-point scale of their proficiency in each language starting from 1 which stands for 'very poor' level to 7 which stands for 'native-like' proficiency level. This part analyses only Q.8, about the students' proficiency in each language then it provides statistical analysis of each skill in each language separately. In this chapter, only the results of the writing skill proficiency are displayed. The statistical data is presented in terms of percentages, Mean, Standard deviation, and Standard Error. Finally, a comparison between writing skills in all languages is presented. The frequency analysis of the data presented in this chapter is provided in the appendices (see Appendix 4).

3.1.2.1 Language Proficiency in Arabic

Descriptive Statistics							
	N	Minimum	Maximum	Sum	Mean		Std. Deviation
						Std. Error	
	Statistic	Statistic	Statistic	Statistic	Statistic	Error	Statistic
Reading proficiency in Arabic	45	4,00	7,00	291,00	6,4667	,11721	,78625
Writing proficiency in Arabic	45	4,00	7,00	266,00	5,9111	,14503	,97286
Speaking fluency in Arabic	45	3,00	7,00	267,00	5,9333	,16330	1,09545
Listening ability in Arabic	45	4,00	7,00	290,00	6,4444	,12125	,81340
Valid N (listwise)	45						

Table 3.1.1: Language Proficiency in MSA

According to the participants' responses to the question (8) about their proficiency level, MSA was the first language listed by them; a range of responses was elicited. As it is illustrated in Table (3.1) the minimum rate mentioned by the participants in MSA proficiency was (4) functional proficiency and the maximum rate was (7) native-like proficiency. In the analysis of the means, the receptive skills present the highest average with which reading was (6.46) and listening was (6.44). In the reading skill, 62% (28 students) responded that they have native-like proficiency in reading MSA, 24% (11 students) have a very good proficiency level, and 11% (5 students) have a good proficiency level whereas, 2% (only one student) has a functional level in reading MSA. While in listening ability 62% (28 students) have a native-like ability in Arabic and 22% (10 students) have a very good level and 13% (6 students) have a good listening ability in Arabic and only 2% (1 student) have a fair level.

For speaking skills, the mean was 5.93. Responses related to the speaking skill varied between good proficiency and native-like proficiency. 40% of the

participants (18 students) speak Arabic fluently as a native-like speaker, 27% (12 students) have very good fluency in MSA and 22% (10 students) have a good speaking fluency whereas, 9% (4 students) have a functional level and 2% (1student) have a fair level. The writing skill as the main explored skill in this study presents variance in the responses in comparison to the other skills of the same language. It represents the lowest mean 5.61, the table below displays the summary statistics for writing proficiency in MSA.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**functional**	4	8,9	8,9	8,9
	good	11	24,4	24,4	33,3
	very good	15	33,3	33,3	66,7
	native-like	15	33,3	33,3	100,0
	Total	45	100,0	100,0	

Table 3.1.2: Writing Proficiency in MSA

33% of the participants (15 students) reported that they have a native proficiency level in writing in MSA the same population reported they have a good level in writing MSA, 24% have a good level, and about 9% (4 students) have a functional level in writing in Arabic. Table (3.2) reveals that the participants reported a significant proficiency level in Writing in MSA. Though in a few cases reported a functional level, the majority report a good to an advanced level in writing in MSA.

3.1.2.2 Language Proficiency in French

The second language mentioned by the participants was French. Different rates were given to different skills. Table (3.3) shows the descriptive statistics obtained from the participants' responses to the proficiency level in French.

Descriptive Statistics							
	N	Minimum	Maximum	Sum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Reading proficiency in French	45	1,00	6,00	226,00	5,0222	,14733	,98832
Writing proficiency in French	45	1,00	6,00	191,00	4,2444	,15940	1,06931
Speaking fluency in French	45	2,00	6,00	199,00	4,4222	,15072	1,01105
Listening ability in French	45	2,00	6,00	221,00	4,9111	,13417	,90006
Valid N (listwise)	45						

Table 3.1.3: Language Proficiency in French

Table (3.3) shows that the minimum rate was very poor (1) and the maximum rate was very good (6). No native-like proficiency was mentioned in the French language. The mean differs from one skill to another and from one participant to another. For instance, in reading proficiency in French 31% (14 students) responded that they have very good reading proficiency in French, and approximately half of the students 51% (23 students) reported that they have a good reading proficiency, 11% (5 students) claimed that they have functional level and 4% (2 students) have a fair level while 2% (1 student) have a very poor reading level.

The analysis of the listening skill reveals that half of the respondents have a good listening ability in French (51%) and 24% (11 students) have a very good listening ability, 18% (8 students) have a functional level and 4% (2 students) have fair and 2% (1 student) have a poor listening ability. In speaking 36% was the percentage of both good and functional level in speaking fluency in French (16 students in each group), 13% (6 students) reported that they have very good speaking fluency, 11% (5 students) have a fair level and 4.5% (2 students) have poor speaking fluency. A remarkable difference was found in the writing skill in French, it has the lowest mean average responses varied among the participants

from the very poor level to the very good level. Table (3.4) below provides an overview of the participants' self-rate in writing proficiency in French.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**very poor**	1	2,2	2,2	2,2
	Fair	9	20,0	20,0	22,2
	functional	18	40,0	40,0	62,2
	Good	11	24,4	24,4	86,7
	very good	6	13,3	13,3	100,0
	Total	45	100,0	100,0	

Table 3.1.4: Writing Proficiency in French

Most of the participants responded that they have a functional writing proficiency level in French 40% (18 students) whereas, 24% (11 students) have a good writing level and 13% (6 students) have a very good writing proficiency level while 20% (9 students) have a fair level and 2% (1 student) have a very poor level. Data from this table and Table (3.3) can be compared with data in Table (3.1) and Table (3.2) which show a slight difference in the mean of writing proficiency in the two languages. The mean writing proficiency in Arabic 5.91while in French was 4.24. What stands out in this difference is that participants are more proficient in writing in Arabic rather than French.

3.1.2.3 Language Proficiency in English

Participants listed the English language as a third language, though English wasn't mentioned at all in the first part of the questionnaire. Participants rated themselves in English language proficiency in all the skills where some remarkable results have been found. Students' proficiency means are illustrated in Table (3.5) below.

| | N | Minimum | Maximum | Sum | Mean | | Std. Deviation |
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Reading proficiency in English	45	4,00	7,00	244,00	5,4222	,09790	,65674
Writing proficiency in English	45	3,00	6,00	220,00	4,8889	,09652	,64745
Speaking fluency in English	45	2,00	7,00	213,00	4,7333	,13999	,93905
Listening ability in English	45	3,00	7,00	231,00	5,1333	,11721	,78625
Valid N (listwise)	45						

Table 3.1.5: Language Proficiency in English

In reading proficiency, in English, 47% assessed themselves as having a good reading proficiency in English and 44% have a very good level in reading English, while 7% have a functional level only 2% have a native-like level in reading English. For speaking fluency in English on the one hand, more than half of the respondents 58% claimed that they have good speaking fluency in English, on the other hand, responses varied in which 18% have a functional level and 11% have a very good speaking fluency, whereas 9% reported a fair level and 2% equally for poor and native-like level contrary to listening ability in English 58% have a good listening ability in English and 27% have a very good level 9% have a functional listening ability while 4% fair level and 2% have a native-like listening ability.

Over 64% reported that they have a good writing level in English and 20% have a functional level and 13% have a very good writing level, but 2% have a fair writing level.

		Frequency		Percent	Valid Percent	Cumulative Percent
Valid	**fair**	1		2,2	2,2	2,2
	functional	9		20,0	20,0	22,2
	good	29		64,4	64,4	86,7
	very good	6		13,3	13,3	100,0
	Total	45		100,0	100,0	

Table 3.1.6: Writing Proficiency in English

3.1.2.4 Language Proficiency in Spanish

As an answer to the fourth language, results revealed differences in the languages listed by the participants. 26 students mentioned that they have learned Spanish, and percentages are counted out of 26 and not the total group number i.e., 45 participants. Students' proficiency in Spanish is illustrated below.

	N	Minimum	Maximum	Sum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Reading proficiency in Spanish	26	3,00	6,00	127,00	4,8846	,12803	,65280
Writing Proficiency in Spanish	26	2,00	5,00	105,00	4,0385	,15172	,77360
Speaking fluency in Spanish	26	2,00	5,00	99,00	3,8077	,14696	,74936
Listening ability in Spanish	26	3,00	6,00	119,00	4,5769	,12616	,64331
Valid N (listwise)	26						

Table 3.1.7 Language Proficiency in Spanish

Reading proficiency in Spanish 47% of respondents responded with a good reading level and 4% responded with very good and fair reading proficiency and 2% have functional reading proficiency in Spanish. For speaking fluency in Spanish, 31% reported functional speaking fluency and 16% have fair speaking fluency and 9% have good speaking fluency in Spanish and 2% have poor level speaking fluency. In listening ability in Spanish, 31% have a good listening ability and 22% have a functional level, 2% for both fair and very good listening levels.

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In the writing skill proficiency, results revealed that 38% have a functional level in writing in Spanish and 13% have a good writing level, while 4% have a poor writing proficiency and 2% have a fair level. Most of the participants have a functional level in writing in Spanish in comparison to the previously listed languages like MSA, French, and English. Students' results of writing proficiency are presented in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**Poor**	2	4,4	7,7	7,7
	Fair	1	2,2	3,8	11,5
	functional	17	37,8	65,4	76,9
	Good	6	13,3	23,1	100,0
	Total	26	57,8	100,0	
Missing	**System**	19	42,2		
Total		45	100,0		

Table 3.1.8: Writing Proficiency in Spanish

3.1.2.5. Language Proficiency in German

As a fourth language, 18 participants mentioned that they have learned the German language. In reading proficiency in German, 20% have a good reading level in German and 11% have a very good level in reading German for low levels of proficiency we find 7% have a fair reading level and 2% have functional reading proficiency in German. Speaking fluency in German 24% have a functional speaking level in German, 9% have a fair level and 4% have a good speaking level whereas 2% reported a poor level of speaking German**.** Listening Ability in German 9% has a good listening ability while 7% have a fair listening level and 2% for both functional and very good listening ability levels.

| | N | Minimum | Maximum | Sum | Mean | | Std. Deviation |
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Reading proficiency in German	18	3,00	6,00	88,00	4,8889	,24103	1,02262
Writing proficiency in German	18	3,00	6,00	78,00	4,3333	,16169	,68599
Speaking fluency in German	18	2,00	5,00	68,00	3,7778	,17255	,73208
listening ability in German	18	3,00	6,00	84,00	4,6667	,19803	,84017
Valid N (listwise)	18						

Table 3.1.9: Language Proficiency in German

Results revealed that the highest rate in the writing proficiency level is the functional level in which 24% reported functional writing proficiency and 11% good writing proficiency while the lowest percentage is 2% for both very good and fair writing proficiency. It can be said that the participants have a low proficiency level in writing in German.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**fair**	1	2,2	5,6	5,6
	functional	11	24,4	61,1	66,7
	good	5	11,1	27,8	94,4
	very good	1	2,2	5,6	100,0
	Total	18	40,0	100,0	
Missing	**System**	27	60,0		
Total		45	100,0		

Table 3.10: Writing Proficiency in German

3.1.2.6 Language Proficiency in all the Languages

To ensure the reliability and validity of the study the researcher used the same aggregated scores developed by (Li, Zhang, Yu & Zhao; 2019) in the adapted

questionnaire to represent participants' overall proficiency, dominance and immersion levels of each language. To know the proficiency level of each learner Li. et al (2019) set the following equation:

$$proficiency(i) = 1/7 \sum_{j} = (R, l, s, w)wj^{p,j}$$

(**R, L, S, W**) stands for language skills, Reading, Listening, speaking, and writing

$P^{i,j}$ stands for participants' self-related proficiency level.

J^{th} component of his i^{th}Language is a 7-point Likert scale, we use a scaling factor of 1/7 to

W_j it represents the weight assigned to the jth linguistic component and it is measured at 25%.

The researcher gathered the self-related score proficiency of each skill (Reading, writing, speaking, and listening). The score of the skills was combined to get the whole average of proficiency in each language then we multiplied by the summary in 0.25 (the weight of each skill) to obtain the mean. The results were divided by 7 to get the proficiency mean of each student in each language. The same process has been adopted for all the languages as illustrated in the following table (3.11). The table below displays only a few instances, the whole language proficiency means are presented in the appendix (see appendix).

Proficiency Mean_AR	Proficiency Mean _Fr	Proficiency Mean_EN	Proficiency mean_SP	Proficiency Mean _GE
0,893	0,128	0,750	0,679	0,000
0,893	0,128	0,857	0,000	0,643
0,893	0,128	0,750	0,679	0,000
0,750	0,107	0,643	0,500	0,000
0,893	0,128	0,679	0,000	0,607

Table 3.1.11 Language Proficiency Means

As Table (3.11) shows there is a significant difference in the proficiency means between the languages in which MSA has always the highest mean however Fr has the lowest proficiency means among all the mentioned languages. An illustration of Five students is presented in this table. After a statistical analysis of S.1 self-reported proficiency who has Spanish language as an additional language in high school, the following pattern emerges the highest mean of S1 was in Ar (0.89) then in En (0.75) then Sp (0.67), and the lowest mean was in Fr (0.12). it is apparent from this data that S1 has a high proficiency level in Ar and a low proficiency level in Fr. Another example of S.5 who has Ger as an additional, we find that he/she is more proficient in Ar (0.89) than En (0.67) the Ge (0.60) while Fr (0.12). Table (3.11) is quite revealing in several ways. First, it presents a highly proficient language for the students. Secondly, it enables the researcher to identify one of the most important variables in this study which is language proficiency. As this study emphasises writing skills, writing proficiency is a crucial aspect that is analysed in the next section.

3.1.3 Skill Proficiency

After analysing the proficiency of each language, we calculate each skill alone. For instance, we added reading in Arabic + reading in French + reading in English + reading in Spanish or German, and we divided by the overall score which is 28 (7 points for each skill) to know the proficiency means of each student in each language skill.

Proficiency Reading	Proficiency Writing	Proficiency Speaking	Proficiency Listening
0,785714	0,642857	0,75	0,821429
0,821429	0,642857	0,75	0,892857
0,75	0,714286	0,75	0,821429
0,75	0,714286	0,571429	0,714286
0,785714	0,714286	0,642857	0,821429

Table 3.1.12: Skills Proficiency

Table (3.12) shows the proficiency skill of the first five participants. S1, for instance, she/he has a mean value of (0.78) in reading skills in all languages and writing proficiency she/he has (0.64) while in speaking fluency she/he has (0.75) and in listening ability, she/he has (0.82). Data from this table can be compared in which there is a significant difference between two groups of skills, i.e., the receptive skills and the productive skills. In other terms, reading and listening vs. writing and speaking where receptive skills have a remarkably high mean value in comparison to the receptive skill. As presented above, the Listening ability has always the highest mean value in comparison to the other skills, however, writing has always the lowest mean value (e.g. S4: 0.75 in Reading, 0.71 in listening while in writing 0.71 and in speaking 0.57). Analysing the participants' skills proficiency enables us to know what kind of multilingual they are, in other words, from the data we can see that most of the participants are passive multilingual that have more proficiency in reception to languages in comparison to its production. A close examination of writing proficiency is presented in section (3.2.8)

3.1.3.1 Writing Proficiency

As far as the focus of this study is on writing skills. An analysis of the writing skill in all the languages is needed. The results of the writing proficiency analysis are illustrated in Table (3.13) below.

	Writing proficiency in Arabic	Writing proficiency in French	Writing proficiency in English	Writing Proficiency in Spanish	Writing proficiency in German
Mean	5,9111	4,2444	4,8889	4,0385	4,3333
N	45	45	45	26	18
Std. Deviation	,97286	1,06931	,64745	,77360	,68599

Table 3.1.13: Comparison of Writing Proficiency in all the Languages

What stands out in Table (3.13) is the high proficiency level in writing in Ar which is valued at 5.91 in comparison to En (4.88) and Fr (4.24). As in general language proficiency, students reported a low writing proficiency level in Fr compared to En as both FL/Ln. Ger and Sp cannot be compared with AR, Fr, and En because not all the students have the same languages (26 have Sp as L4 and 18 have Geras L4) consequently, the writing proficiency means will be higher in comparison to the number of students learning this language.

The next part of the results will present the language use and exposure of the participants as one of the main variables investigated in this study.

3.1.4 Language Use and Exposure

This part of the results presents data about the participants' language use and exposure. It analyses questions from Q.9 to Q.19. results are presented in terms of frequencies and percentages and are illustrated in histogram graphs. This part summarises the participants' language acquisition history in terms of age, the number of years using each language and each skill by focusing on the writing skill as well as its analysis of the participants' language use in their family context and analysis of their language exposure through different language uses. Participants' language use and exposure are presented in different sub-sections that cover different questions. The statistical presentation of this part is presented fully in the appendix.

3.1.4.1 Number of Years Learning the Languages.

The number of years differs according to languages and their order of acquisition. In Arabic participants reported that they have 12 to 14 years of learning the Arabic language.

Figure 3.1.13: Number of Years Learning Arabic
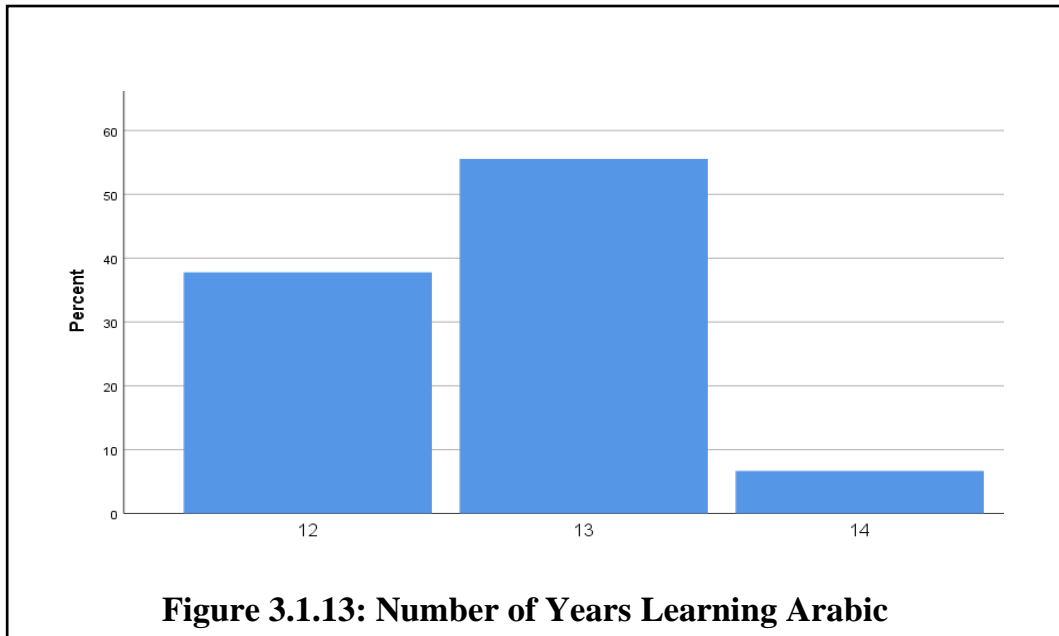
For the French language, they have been learning it for 10 years to 14 years French was taught from primary school to high school level.

Figure 3.1.14: Number of Years Learning French
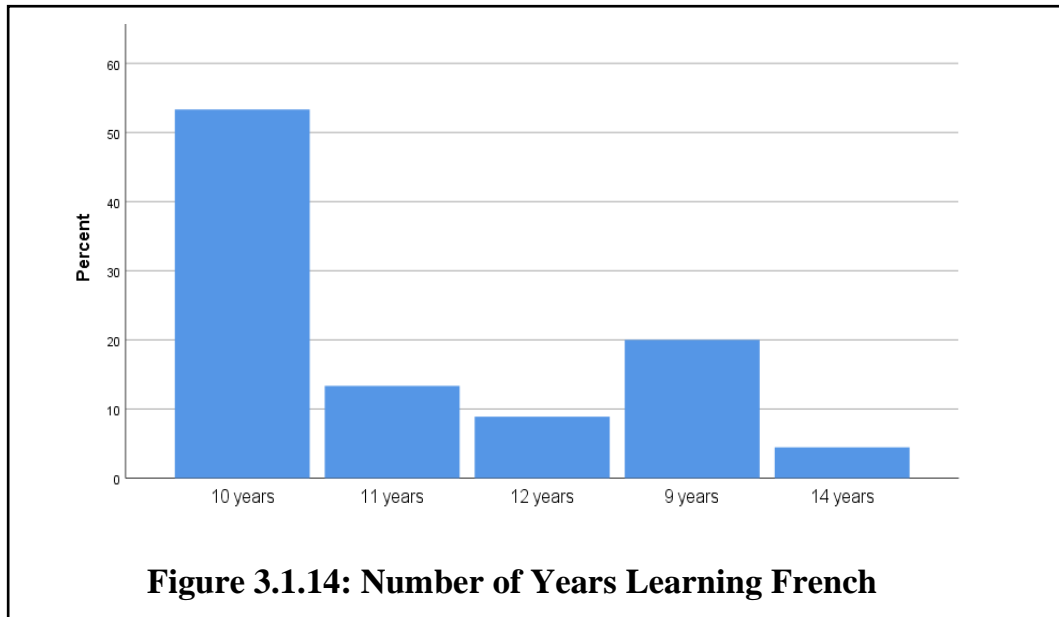
While English is between 7 years to 9 years participants learned English at Middle school level till High school level.

Figure 3.1.15: Number of Years Learning English
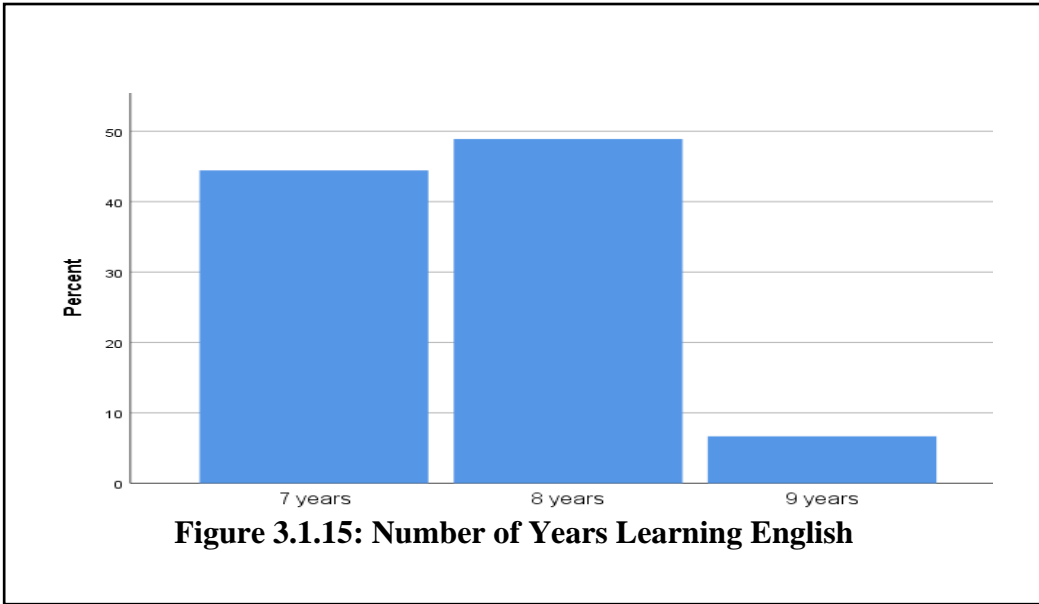
Spanish and German for 2 to 3 years. An illustration of the number of years learning each language is presented in the figures below.
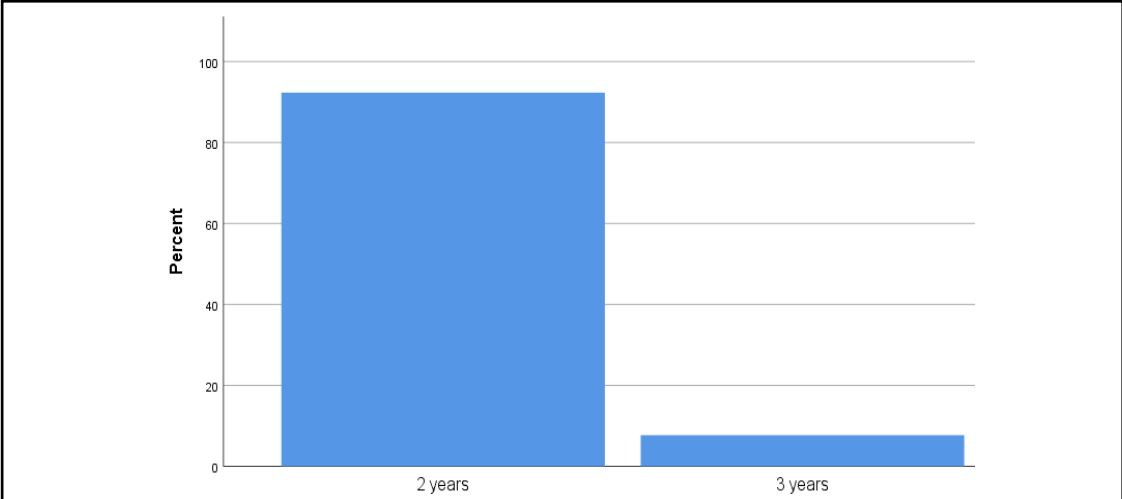
Figure 3.1.16: Number of Years Learning Spanish
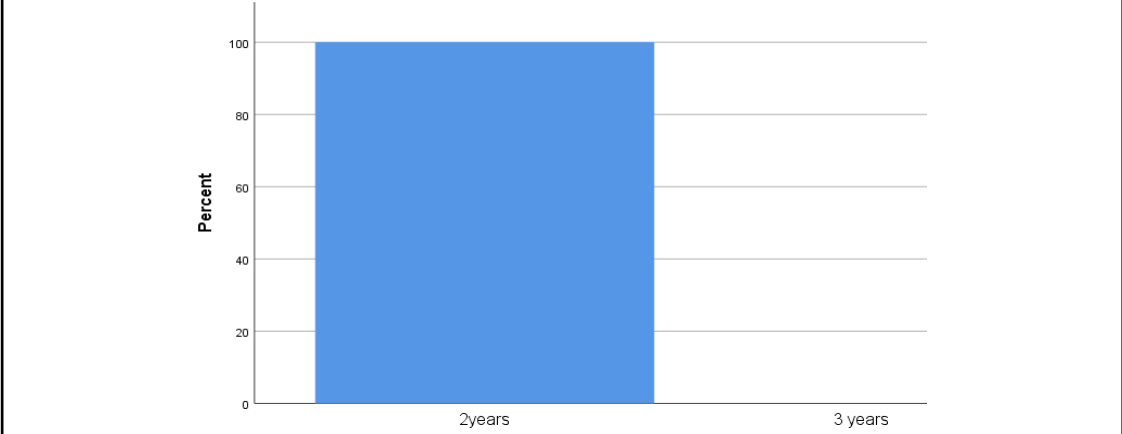
Figure 3.1.17: Number of Years Learning German

Percentages differ in the acquisition of skills of the same language in Arabic we find that language acquisition age is ranged between 4 to 6 years old and it also differs in the acquisition of different language skills in speaking Arabic, for instance, we find that 51% starts speaking Arabic at the age of 5 years old, 33% starts at age of 6 years old and 16% at the age of 4 years old, whereas in reading Arabic we find 47% starts at the age of 5 years old, 49% at the age of 6 and 4% at the age of 4. In writing, 56% start writing Arabic at the age of 6 and 42% at the age of 5 but only 2% at the age of 4 years old**.**

3.1.5 Age of Acquisition of Second and Additional Languages

The age of acquisition of French differs among respondents we find a large age range in the French language it starts from 4 years old to 9 years old. In speaking French there is 60% start at the age of 8 years old, 18% at the age of 7 years, 9% at the age of 9 years old 7% at the age of 5, 4% age of 4, and 2% age of 6 years old. A similar pattern emerges in the reading skill we find that 67% starts reading at the age of 8 years old, 18% at the age of 7 years old, and 7 % at the age of 9 whereas 4% for both age of 5 and age of 6 years old. In writing skill, 67% of respondents start at the age of 8 years 20% at the age of 7 years old, and 7% at the age of 9 years while 4% starts writing at the age of 6 and only 2% at the age of 5 years old. It can be said that the participants acquired the French language at an early childhood age. As far as the writing skill is concerned in this study, an illustration of the age in the writing skill is required. Following is an illustration of the writing skill age in the French Language.

Figure 3.1.18: Age of Writing in French
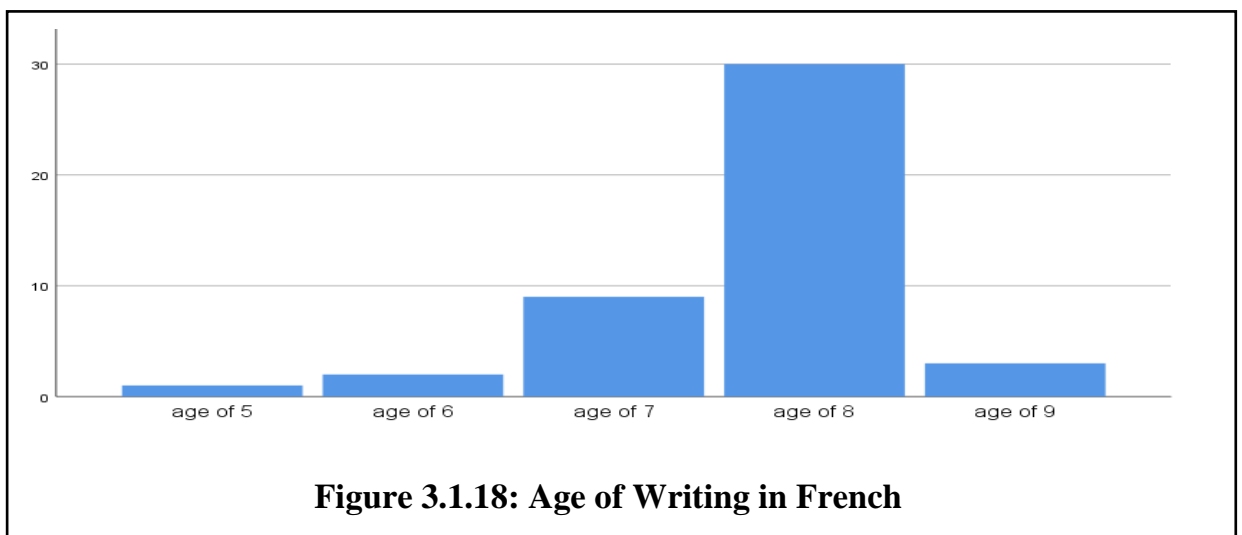
The age of acquisition of English ranged between 10 to 12 years old. 53% started speaking English at the age of 11 and 29% at the age of 10 years whereas 18% at the age of 12 years. For the reading and speaking of English, we find that respondents reported both at the same age with which 64% started reading and writing English at the age of 11 years and 22% at the age of 10, and 13% at the age of 12. The age of writing in English is illustrated in the graph below.

Figure 3.1.19: Age of Writing in English
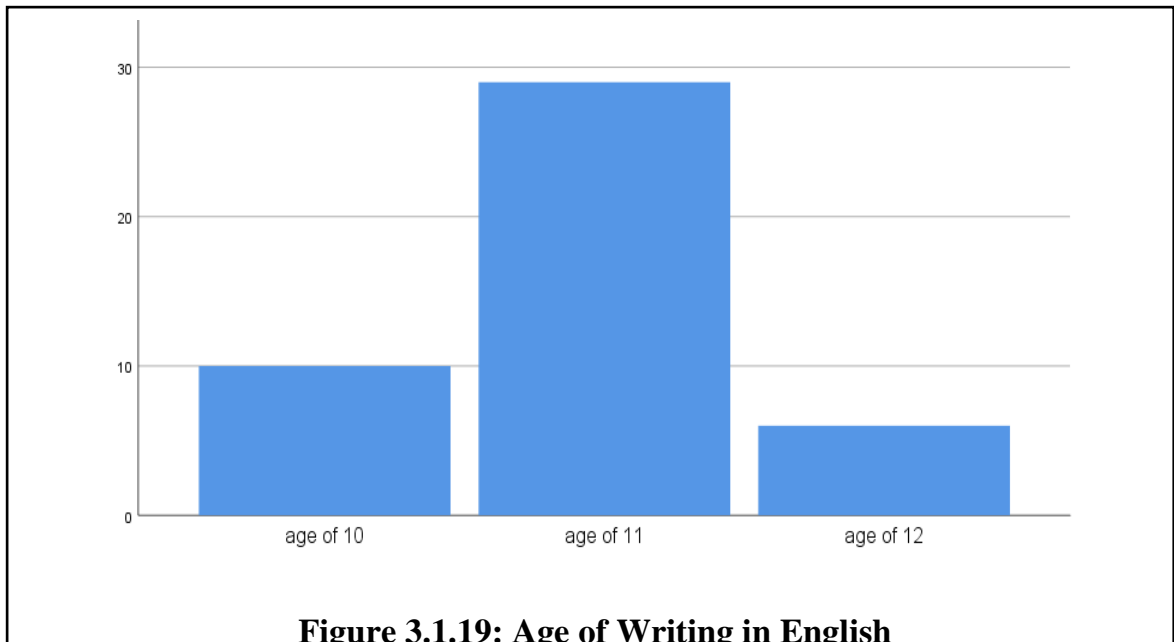
As it has been mentioned previously, only 26 respondents have learned Spanish as an additional language. The age of acquiring Spanish is between 15 and 17 years old and we find the same percentages in acquiring the three skills speaking, reading, and writing. 22% start reading writing and speaking at the age of 16, 20% at the age of 15, and 16% at the age of 17.

Figure 3.1.20: Age of Writing Spanish
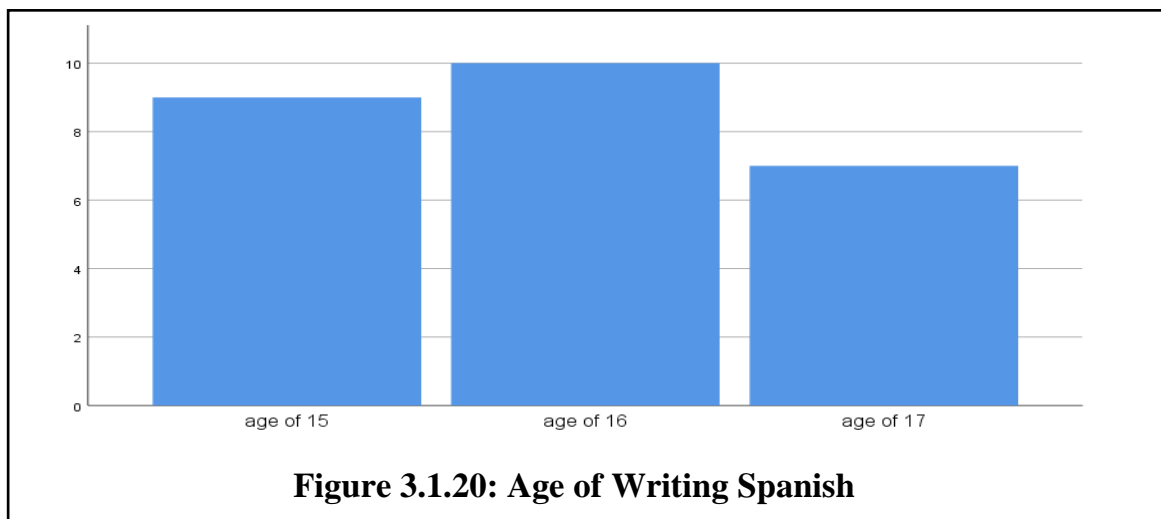
18 respondents have learned German. They acquired all the skills at the same age some differences have been found in the age of acquisition in which 24% start reading, writing, and speaking at the age of 16 years old, 9% at the age of 17 years, and 7% at the age of 15 years old.

Figure 3.1.21: Age of Writing in German
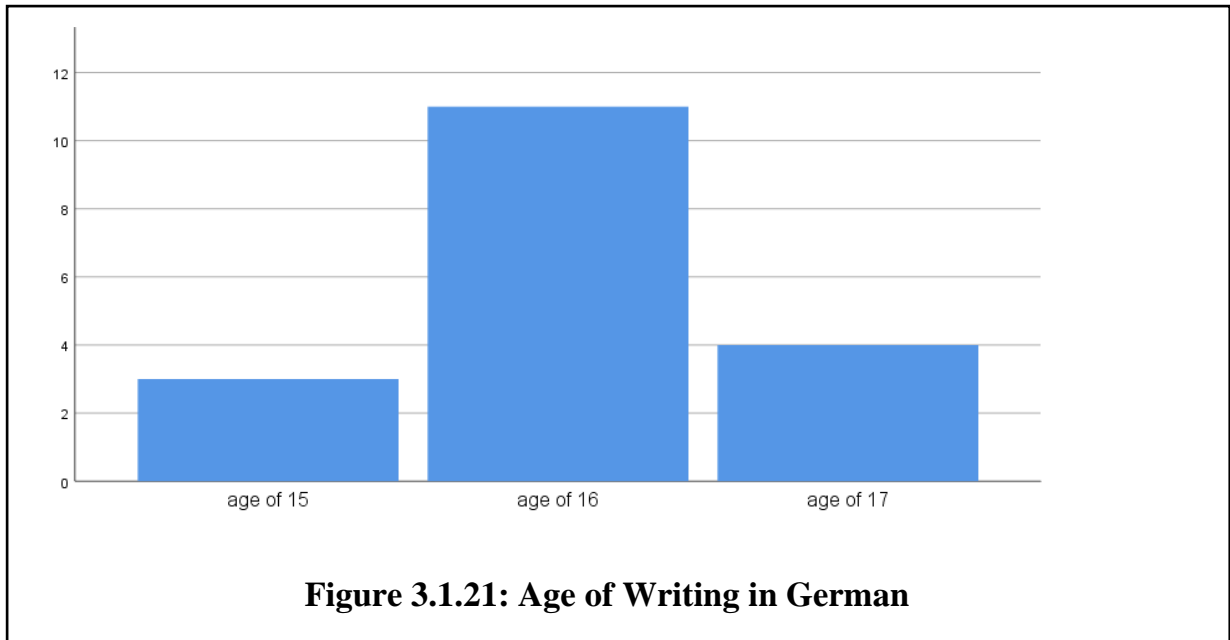
3.1.6 Language Immersion

Language immersion is an important concept in this study. Though it is not examined as an independent variable it gives insight into how much each participant has been immersed in each language. The researcher used the equation suggested by Li & Zhang (2019) to calculate and analyse language immersion. The equation used is:

$$Immersion(i) = \frac{1}{2} \sum_{j} \left(R, W, S, L \right) WJ \left(\frac{Age - AOAj}{AGE} + \frac{YOUi}{AGE} \right)$$

In the immersion equation age stands for the actual age of students AOA stands for Age of Acquisition and YOU stands for Years of Use

The informants give their age of acquisition of each language in the questionnaire. By applying this equation we find that age $= \frac{Age - AOAj}{AGE}$ for instance, informant -1- his actual age is 17 and age of acquisition of Arabic is 4 and his age of speaking,

reading, and writing Arabic is 5 so the operation will be: $(\frac{(17-5)+(17-5)+(17-5)}{17})3$

Then we calculate $\frac{YOU}{AGE}$ years of use is given by the informants in the questionnaire so it will be $\frac{17}{12}$. To get a final result of language immersion which is (Age- AOA+ $\frac{you}{age}$) /2 and get the final result of immersion in each language that is limited between 0 and 1.

Keeping the examples of the first five students, the following table illustrates their language immersion in all the languages.

IM_AR	IM_FR	IM_EN	IM_SP	IM_GE
0,339	0,170	0,382	0,118	
0,321	0,482	0,389		0,111
0,339	0,170	0,382	0,118	
0,250	0,125	0,421	0,105	
0,304	0,455	0,389		0,111

Table 3.1.14: Language Immersion

The results of the immersion analysis summarised in Table (3.14) show several immersions amounts for each participant. For instance, S1: Ar: 0.33, fr: 0.17, En: 0.38, and Sp: 0.11. we can say that S1 is more immersed in Ar and En than Fr and Sp. However, if we compare En with Fr immersion we consider Fr as an active language though is the least immersed because the participant learned Fr at an earlier age before En and still uses it less frequently than En.

3.1.7 Language Use and Exposure

3.1.7.1 Languages Used at Home

Respondents reported that they speak with their fathers either in Algerian Arabic, Tamazight, Algerian Arabic, and French or Tamazight and French. While with their mothers they speak Algerian Arabic, Modern Standard Arabic, Tamazight, or a mixture of languages like French+ Tamazight+ Arabic or Arabic+

French or Tamazight + French or Algerian Arabic+ Tamazight or MSA +French + English. We find that respondents' parents know or use approximately the same languages as their children in which they speak Arabic, French, and Tamazight to a high degree but few of them use English. The graphs below illustrate the participants answer.

Figure 3.1.22: Languages Used with Mother

Figure 3.1.23 Languages Used with Father
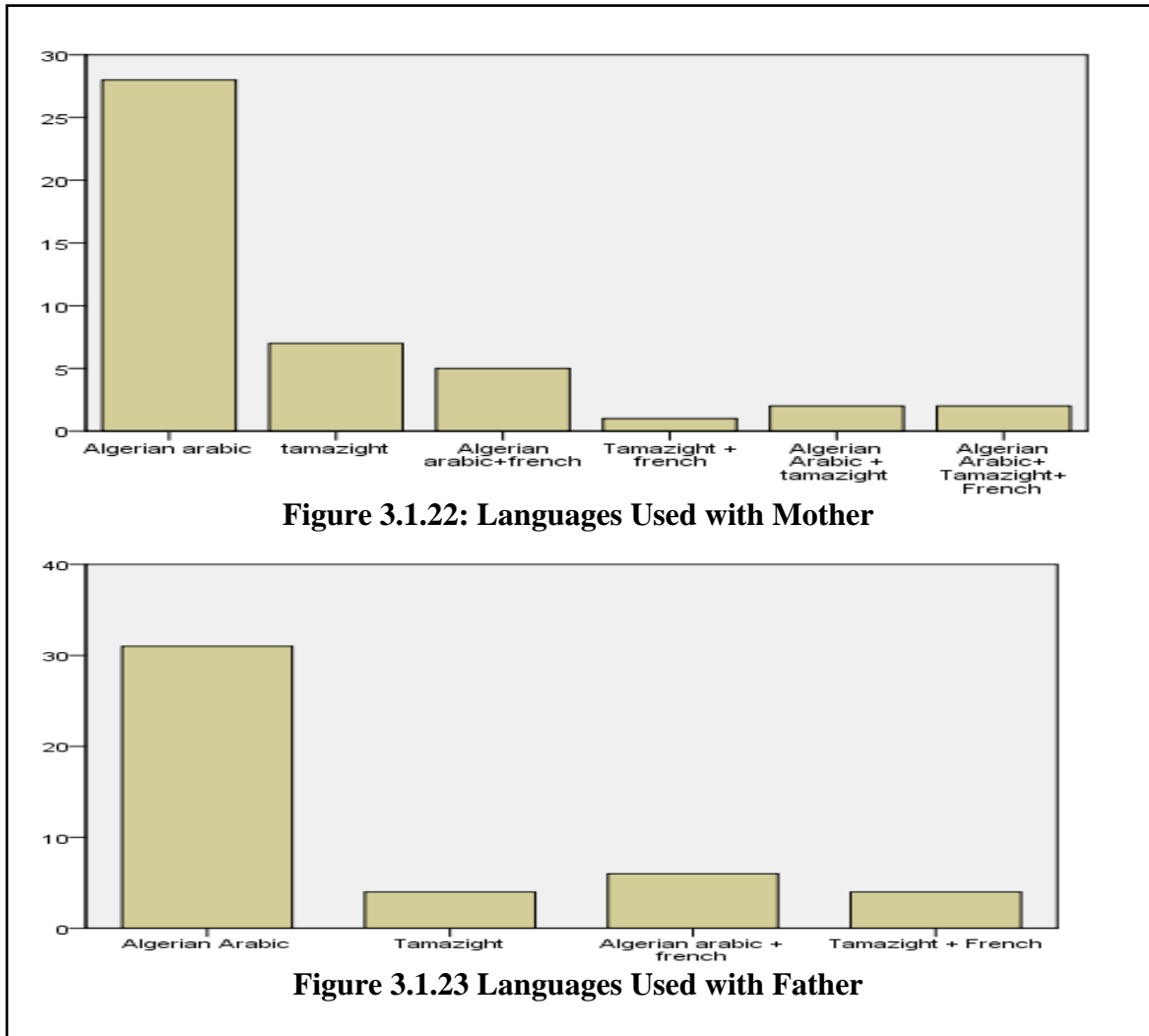
3.1.7.2 Language Instruction

All the students had the same language instructions in primary and middle school in which they learned Arabic and French in primary and English in middle school, only 5 students had Tamazight language in addition to Arabic, French, and English. In high school, 26 respondents had instruction in MSA+ French + English + Spanish and 14 respondents had MSA+ French + English + German while 2 students had MSA+ French + Tamazight + English + German and 2 have only 3

languages MSA + French + English and 1 had Tamazight in addition to the three languages. Whereas, at university, they are all English students at ENSB.

Figure 3.1.24: Instruction in Primary School

Figure 3.1.25: Instruction in High School
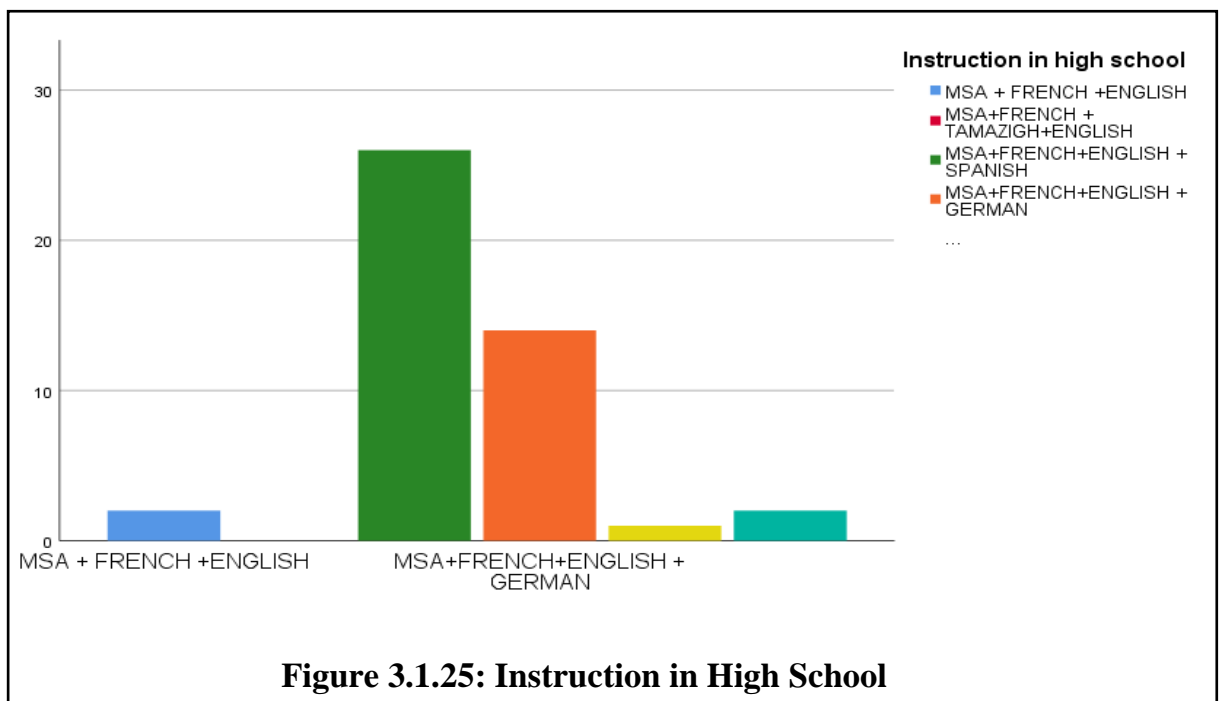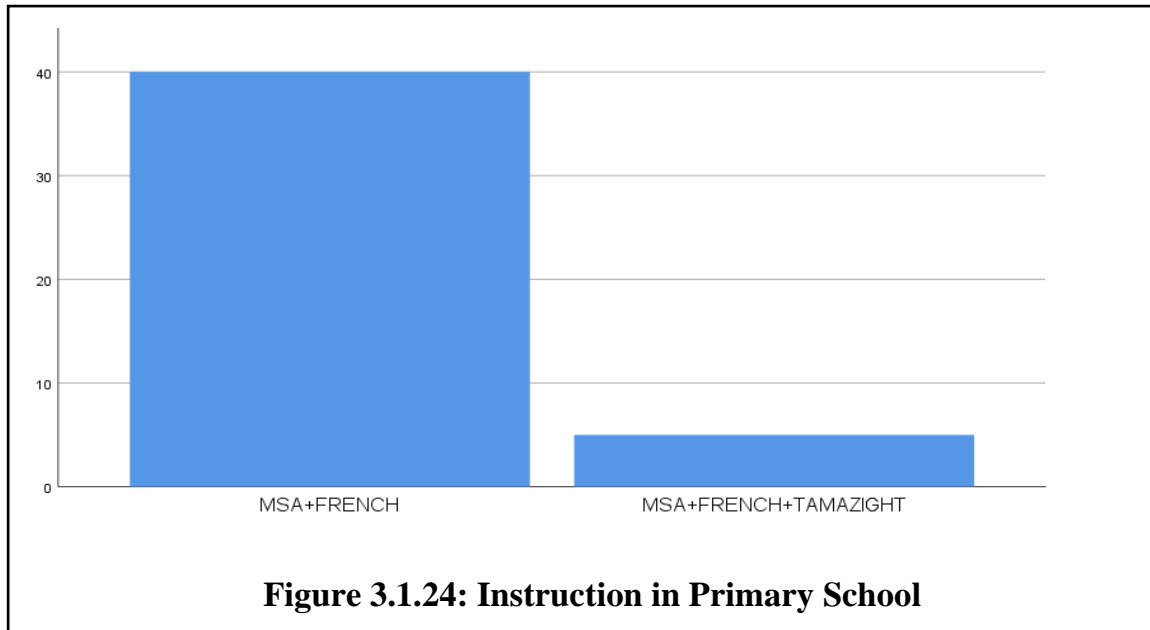
3.1.8 Language Use

Participants were asked about their language use in their daily life, responses differ among the students according to the context. For instance, in answering the language used in school the majority (36 participants) answered English while the rest mentioned other languages such as Fr (6 participants), MSA (1 participant), and AA (2 participants). However, at home, most of the participants (30 students) reported AA and the rest mentioned TAM (7 participants) Fr (4 participants) En (3 participants) and only one student use MSA.

Figure 3.1.26: Mother Tongue Use

Figure 3.1.27: L2 Use

Figure 3.1.28: English Use
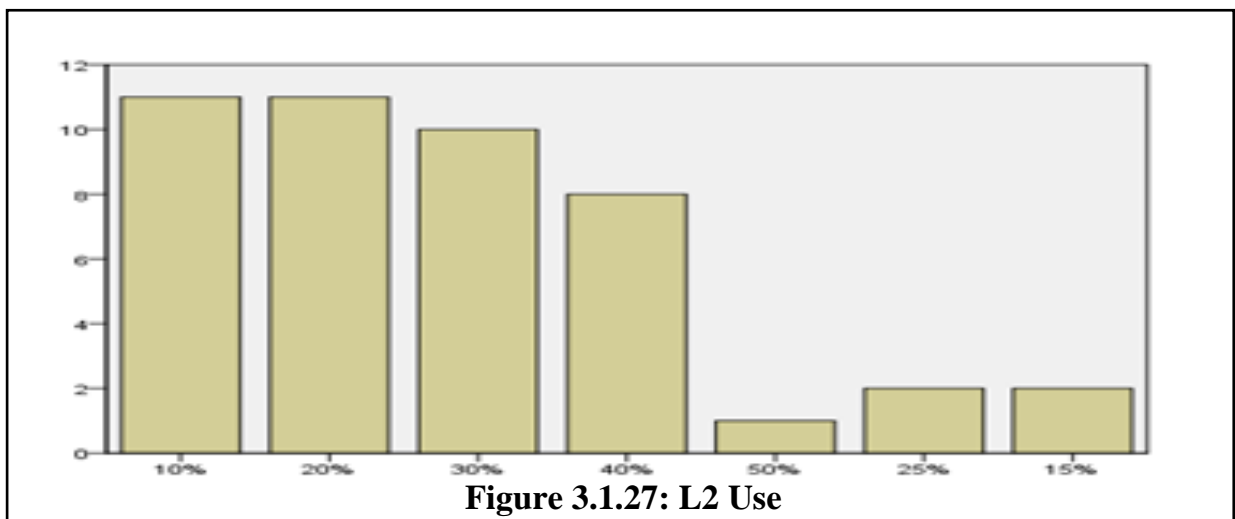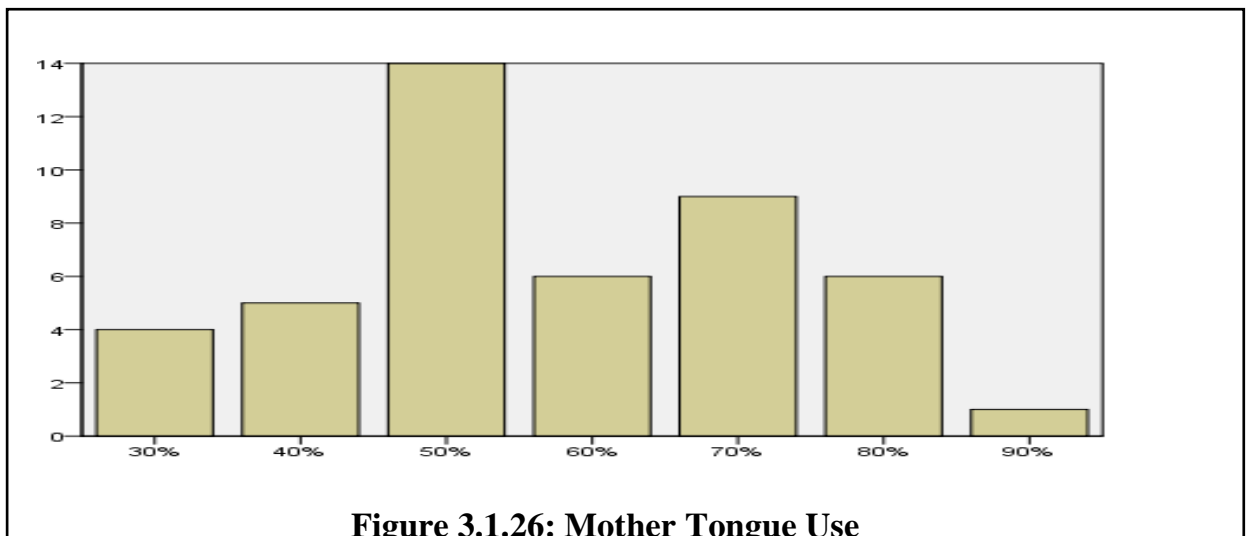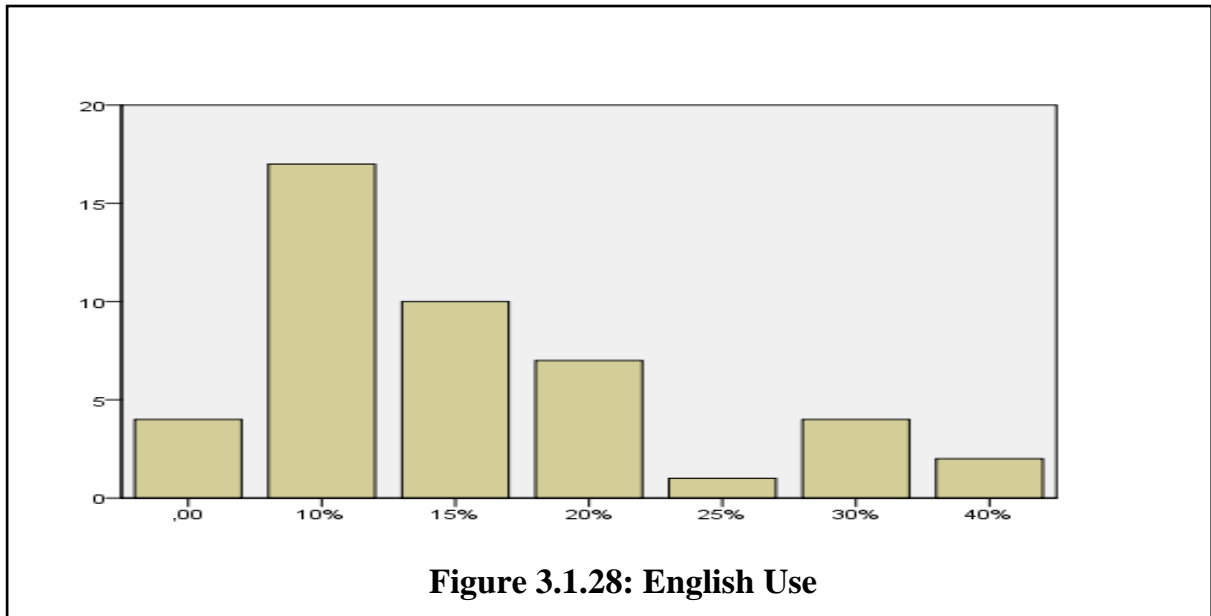
Looking at figures (3.19) (3.20) and (3.21), it is apparent that the use of MT was reported significantly higher than L2 Fr and En. In the percentages of use, respondents reported that their use of MT ranges from 30% to 90% in their daily life while the use of L2 Fr is ranged from 10% to 50% however the use of EN is ranged from 0 to 40% as daily use.

3.1.8.1 Language Use at Home vs Language Use at School

Data from tables (3.15) and (3.16) show that there is a difference in language use in different contexts. At work, the most used language is En (80%) while 13% mentioned Fr unlike at home 67% use AA and 16% TAM. Tamazight is mentioned only in the used languages at home where no one mentioned it at work the same for Spanish and German they weren't reported either in the use at work or school. From this data, we can say that there is a shred of clear evidence that, language use differs from home and family interaction to formal academic context. The tables are presented below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ALGERIAN ARABIC	2	4,4	4,4	4,4
	MSA	1	2,2	2,2	6,7
	FRENCH	6	13,3	13,3	20,0
	ENGLISH	36	80,0	80,0	100,0
	Total	45	100,0	100,0	

Table 3.1.15: Language Use at School

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ALGERIAN ARABIC	30	66,7	66,7	66,7
	MSA	1	2,2	2,2	68,9
	FRENCH	4	8,9	8,9	77,8
	ENGLISH	3	6,7	6,7	84,4
	TAMAZIGHT	7	15,6	15,6	100,0
	Total	45	100,0	100,0	

Table 3.1.16: Language Use at Home

3.1.9 Language Exposure

Figures (3.22) (3.23) (3.24) present the language exposure to the native language via TV/radio. The average exposure to Ar is between 0 to 6 hours whereas the exposure to Fr is between 0 to 8 hours while in En is between 0 to 10 hours. Participants of this study have more language exposure to En from Tv and Radio than in MSA or Fr.

Figure 3.1.29: Exposure to Tv/Radio

164

Figure 3.1.30: Exposure to Tv/Rdio in SL

Figure 3.1.31: Exposure to Tv/Rdio in English
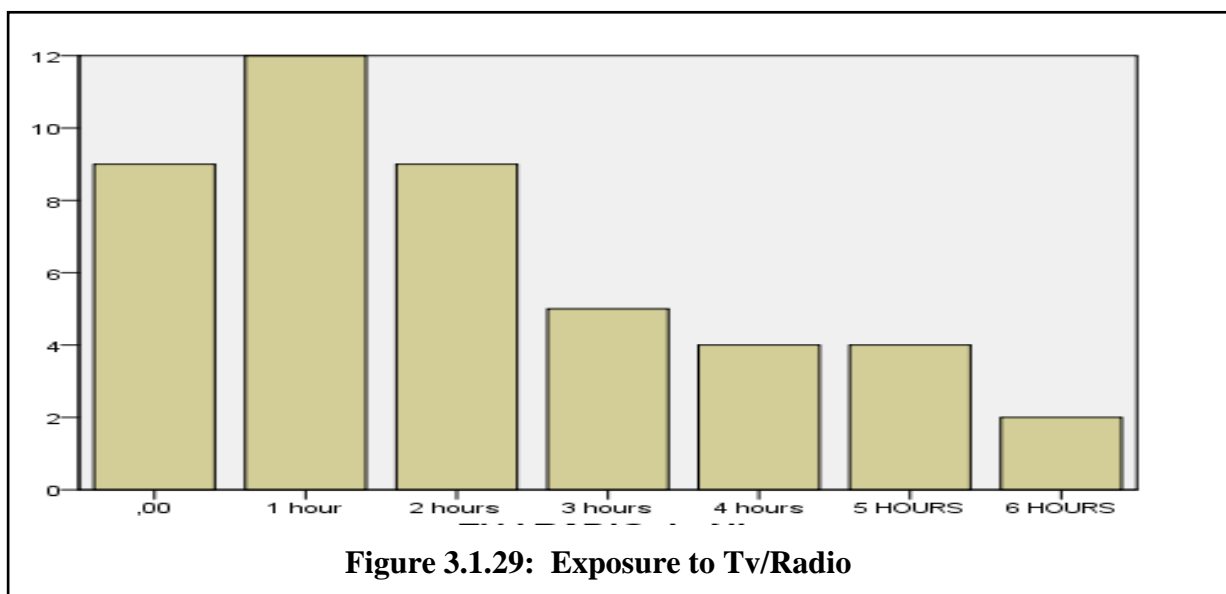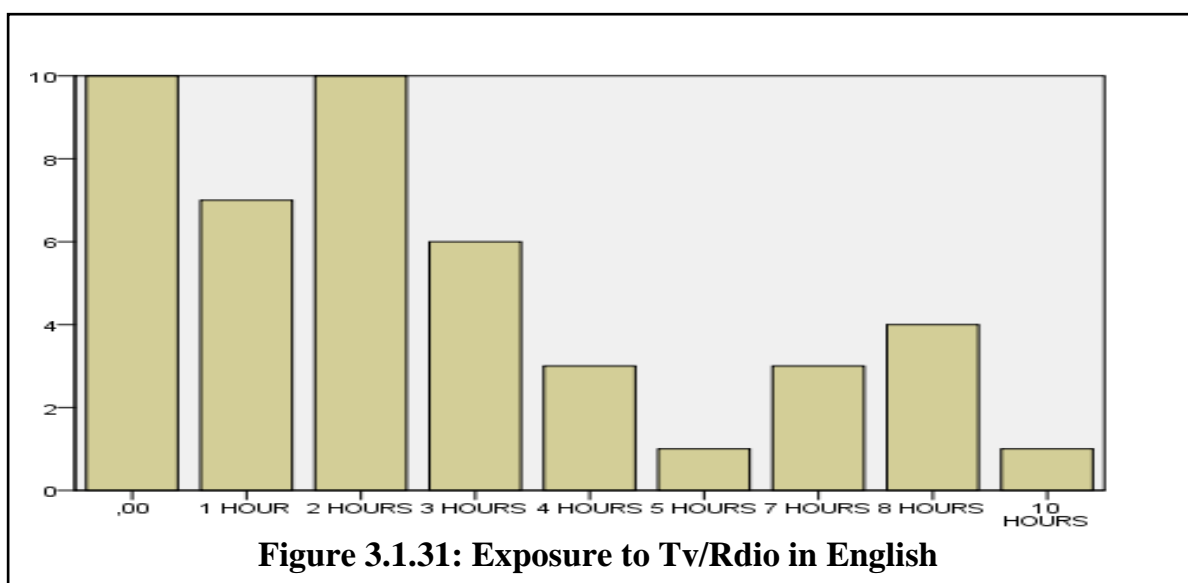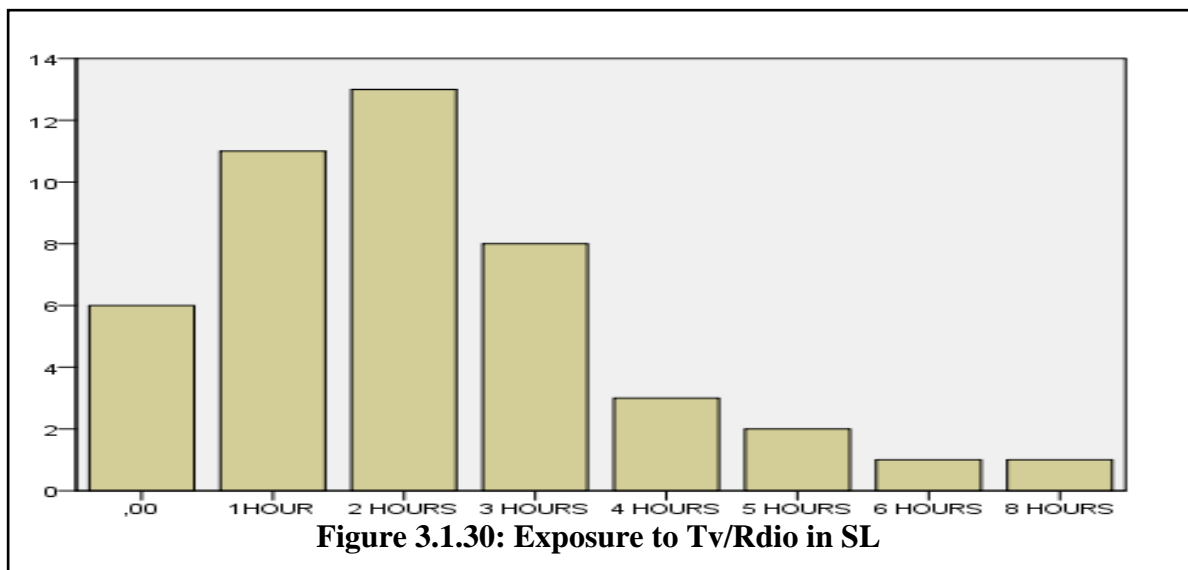
3.1.10 Language Mixing

This part aims at knowing which languages are mixed by the students in different contexts to know what languages are mixed by the participants. This part is divided into three subsections. It first analyses the languages mixed in the family context as the previous section presents the languages used by their parents. The second subsection provides the languages mixed with colleagues who share the same linguistic repertoire, and the last Subsection presents the languages mixed with friends.

All the respondents confirmed that they mix languages wherever they are, but mixed languages differ from one situation to another. On a scale from 1 to 5 points

of how much they mix languages in their family, 20 participants answered 5 high level, and 13 participants answered 3, to a lower level we find 7 students who answered 4 and 5 participants answered 2. An illustration of what languages are mixed in each context is presented below.

3.1.10.1 Languages Mixed with Family

For the aim of knowing which languages are mixed in the family context, students' answers to this question appear in the following Table.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Algerian Arabic + French	36	80,0	80,0	80,0
	French + Tamazight	7	15,6	15,6	95,6
	Arabic+ Tamazight	2	4,4	4,4	100,0
	Total	45	100,0	100,0	

Table 3.1.17: Languages Mixed with Family Members

What stands out in Table (3.17) is the languages most used and mixed by the participants in which 80% of the participants (36 participants) reported that they mix between AA and Fr in their family conversations, 16% of the participants (7 participants) mentioned Fr+ TAM as the two mixed languages in the family while only 4% (2 participants) mix between Ar and TAM. From this data, we can see that the most used language among the participants and their families is AA mixed with   Fr   or   TAM.
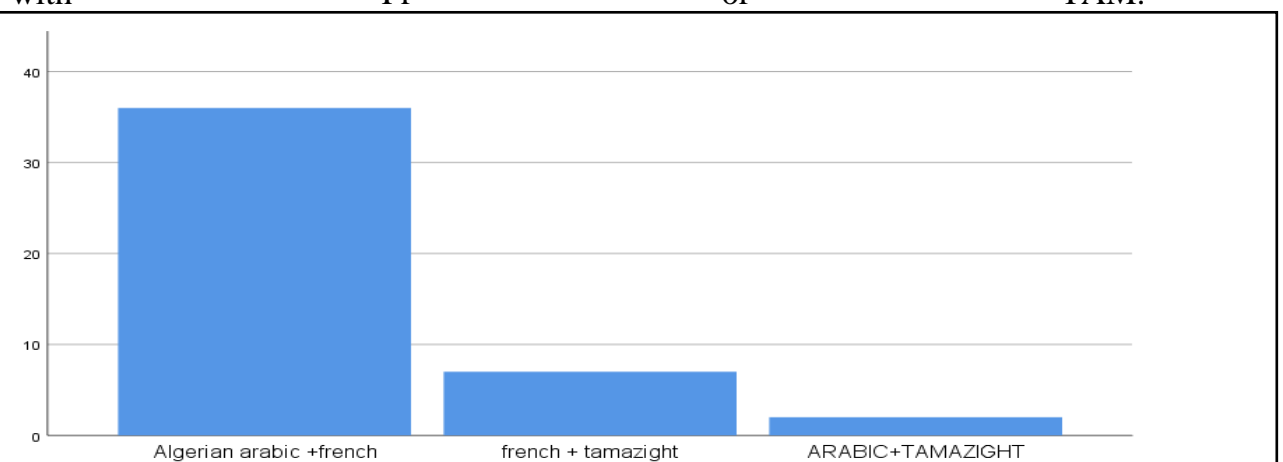
Figure 3.1.32: Languages Mixed with Family Members

3.1.10.2 Languages Mixed with Friends

To know more about the languages used and mixed by the participants' analysis of the mixed languages with their friends is provided in Table (3.18).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Algerian Arabic + French	8	17,8	17,8	17,8
	Algerian Arabic + Tamazight + French	6	13,3	13,3	31,1
	Algerian Arabic + French + English	25	55,6	55,6	86,7
	Algerian Arabic + English	6	13,3	13,3	100,0
	Total	45	100,0	100,0	

Table 3.1.18: Languages Mixed with Friends

Table (3.18) illustrates different groups of responses where a variety of mixed languages emerged. Over half of the participants, 56% (25 participants) reported that they mix with AA+ Fr+ En, and the second group 18% (8 students) mentioned that they mix with AA+ Fr in their conversations with friends. In the third group, 13% (6 participants) mentioned AA+ TAM+ Fr, and the last group reported AA +EN.

3.1.10.3 Languages Mixed with Colleagues

More elaboration of the languages mixed by Participants is illustrated in Table (3.19)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Algeria Arabic + French	2	4,4	4,4	4,4
	Algerian Arabic + French+ English	22	48,9	48,9	53,3
	Algerian Arabic + English	19	42,2	42,2	95,6
	Algerian Arabic + English + Tamazight	2	4,4	4,4	100,0
	Total	45	100,0	100,0	

Table 3.1.19: Languages Mixed with Colleagues

Table (3.19) presents interesting data where different mixed language groups were mentioned by the participants. 49% of the participants (22 participants) reported AA+ Fr+ En as the mixed languages with their colleagues, 42% (19 participants) mentioned AA+ En while 4% of the participants reported AA+ Fr, and the other 4% mixed between AA+ EN+ TAM.

3.7.4 Languages Used to Express Feelings

Participants reported that the most used language to express feelings of anger or joy is Algerian Arabic (AA), French and Tamazight were also slightly reported as languages to express feelings.

Figure 3.1.33: Language Use Preference
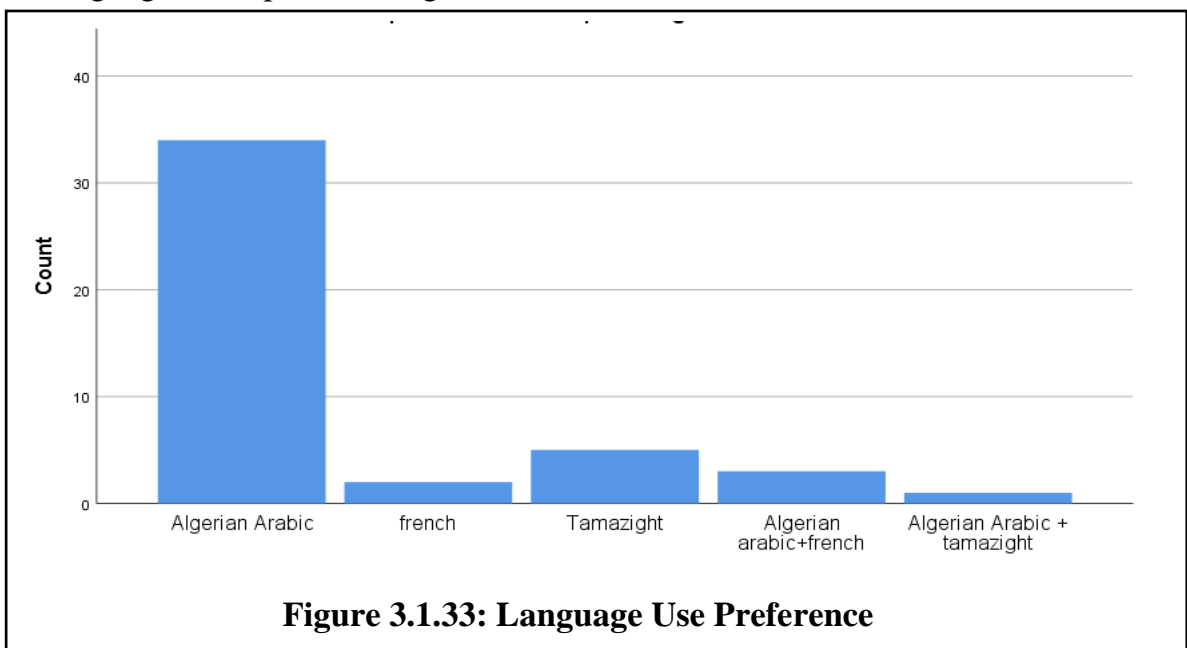
Conclusion

This section included reports on the participants' language history background that includes major indicators of language transfer such as proficiency, language exposure, and recency. It also presents some learner-based variables that can affect language transfer like age, age of acquisition, frequency of use. and educational background. In the present study, Participants aged between 17-19 years old who are studying En as a major subject at university where the majority are females. Data from the LHQ revealed that the majority of the participants consider AA as their mother tongue whereas 7 participants have Tam as their mother tongue. The

second language is either MSA or Fr. While their Second languages are generally learned through classroom instruction.

Results showed that Proficiency in the languages differs from one language to another. Participants mentioned all the languages they learned in school however they did not mention any of their native languages AA or Tam though Tam is an official language that is taught in schools. A remarkable difference in language proficiencies was found among the mentioned ones. MSA was the dominant language as it has always had the highest proficiency mean while EN was rated higher than Fr. Sp and Ger was rated lower than the previous languages.

As far as the writing skill is concerned in this research, a focus on the participants' proficiency in this skill in all their languages has been revealed. Results showed that participants have a very good to native-like proficiency in writing in MSA and functional to good in Fr whereas the majority reported good writing proficiency in English however, most of the participants have a functional proficiency level in both Sp and Ger.

All the participants have the same language instruction throughout their educational career in which they share all the MSA, Fr, and En and others share Sp or Ger in addition to the previous one while some students had Tam in their middle and high school education.

Language exposure and use vary from one participant to another and from one context to another. Results showed that AA is the most used language for the participants and they are used in all the contexts whereas the other languages are used only in their academic context (school).

Results also showed that participants mix all the languages they know in their communications whether at home or school. The LHQ analysis revealed the language profiles of the participants and offered an exhaustive overview of the main predictive factors such as proficiency, language use, and exposure (recency). The other factors are examined in section three of the analysis of the language perception questionnaire.

Participants reported that they mix all the languages they know. However, the languages mixed differ from one context to another. AA, Tam, and Fr are the

mixed languages used in a family context whereas with friends and colleagues is a mixture of AA, FR, and even EN.

The LHQ analysis raised an issue with the research which can lead to some methodological considerations, participants mention their mother tongues AA and Tam only when the question refers to family context however in the other questions they only mention their Academic languages. This might lead to some changes in the order of the languages in which MSA is considered as L1 instead of AA or Tam.

Section Two: Results of Students' Written Productions

Introduction

The present section aims at presenting students' errors that are extracted from their written productions. Results in this section are divided according to the type of transfer into two parts. The first part of this section will be devoted to the analysis of lexical Transfer with its different subcategories. As mentioned in methodology chapter 3 (p.118) lexical transfer has three main subcategories: word Form, Word meaning, and word usage. The second part presents the syntactic transfer found in the participants' writings. In the syntactic transfer, the researcher examined the use of articles, use of prepositions, subject-verb agreement, and verb form. The second part of this section is devoted to syntactic transfer. It presents the syntactic errors of the participants mainly the use of articles, prepositions, subject forms, and subject and verb agreement. Each instance of transfer is corrected according to the category it appears in, in an attempt to know the source of language transfer that interfere in each category. Errors in every instance are presented in bold and then corrected, the correct items are presented in bold and italics. Transfer instances mentioned might contain more than one error however the errors that are corrected are only the ones discussed in each category.

3.2.1 Lexical Transfer

3.2.2 Word Form Transfer

In this type of transfer, four subcategories will be analysed, *substitutions*, *relexifications*, *orthographic transfer,* and *Morphological transfer*.

Substitutions Transfer	19
Relexification Transfer	11
Orthographic Transfer	42
Morphological Transfer	10
	82

Table 3.2.1 Word Form Transfer

3.2.2.1 Substitution

following are the instances of substitutions used by the learners in their written productions where they used words from MSA and French. Beyond each instance of substitution, an explanation of the word's meaning and use in the English language is provided.

- **Inshaalah**

  (God willing)

The word *inshaalah* is used by Arab and Muslim countries to wish for the occurrence and the happening of something good. The equivalent word of Inshaalah in the English context is *God willing*

- I like reading **romans**

  (I like reading *Novels*)

Romans in English refers to the ancient modern city of Rome, or its inhabitants and their customs and cultures, it also refers to a book of the New Testament in full The Epistle of Paul the Apostle to the Romans, containing one of the fullest expositions of the doctrines of Saint Paul, written in 58AD. The student in this context did not mean any of the above meanings of the word however she used it in its French meaning i.e. a *Novel*. The substitution in this example was clearly stated from French to English.

- My love for **lecture** of books

  (my love for **reading** books)

The word *lecture* can be used in English to refer to a formal talk on a serious subject given to a group of people, especially students by a lecturer who is generally a university teacher. In this context, the student used the term lecture of books to refer to her love of reading books. The term lecture was used in its French meaning which is *to read*.

- I am a singer and love **peinture**

  (I am a singer and love *painting*)

Peinture is a French word that refers to the act of painting or the art of drawings and paintings. In this context, the word is used in its French form.

- She put the cake in a round **boite**

  (she put the cake in a round *box*)

The term boite is a French word that refers to a box that can contain and save food and take it away. The student substitutes the word box with the French word boite.

- English **module**

  (English *subject/Course*)

Module is a French word that means a part of a course study from the whole learning program. Generally, the term module in English is used to refer to a standard or unit of measurement.

- Prepared a **tarte**

  (Prepared a *pie*)

Tarte is a French dessert that contains sweet and savoury ingredients in English the word tarte with 'e' at the end has a completely different meaning, the synonym of the French word 'tarte' in English is 'Pie'

- My father who is a **commercant**

  (my father who is a *tradesman/ shopkeeper*)

The term commercant (corrected: commerçant) is a French noun that refers to a person who works in trade. The appropriate word in this context is tradesman or shopkeeper.

- I had a surgery because of **corde vocale** issues

  (I had a surgery because of *vocal cords* issues)

'Vocal cords' One of two small bands of muscle within the larynx that vibrates to produce the voice in this sentence is used in its French form 'corde vocale'. Though they have the same meaning they have different word forms and word construction.

- My family is open handed and help everyone **necessite assistance**

(my family is open handed and help everyone ***in need of help/ (need help)***)

The phrasal verb 'necessite assistance' in this context means 'someone who needs help'. The word 'necessite' has been used in its French word form even if it is erroneous in both languages.

- I smell the **odeur** of the dishes

    (I smell the ***odour/smell*** of the dishes)

The word 'odeur' is written in French to express the good smell or odour of dishes

- I'm living in the *compus in **alger** town

    (I'm living in the compus in ***Algiers*** town)

The name of Algiers the capital of Algeria is used in its French form Alger, the word alger can only be understood in its French context.

- I also revise my **leçons**

    (I also revise my ***lessons***)

Lessons in the first instance was written in French (Leçons) to refer to lessons in English.

- I'm studying in **superieur** school of teaching

    (I'm studying in ***superior/high*** school of teaching)

The word superieur was written in French form to refer to something superior or high in English.

- She saw beautiful **fleur.**

    (she saw beautiful ***flower***)

Flower in the first instance was substituted with the french word fleur. Though they have the same meaning but different spelling.

- I choosed journalism in university, but because many **raisons** I changed it

    (I choosed journalism in university, but because many ***reasons*** I changed it*)*

Another substitution was found in the use of the word *raisons* in French the word means the purpose that justifies something the correct spelling of the word is 'reasons'

- We live in wilaya **de** ain defla

  (we live in wilaya *of* ain defla)

In this instance the student used the connector 'de' instead of the English connector 'of'

- My country is also known by its tasty **cuisine** with different **plats**
  (my country is also known by its tasty *cooking/ kitchen* with different *dishes)*

'Cuisine' and 'plats' are French gastronomic words that refer to cooking and dishes in English.

- My **branch** is English

  (my *field of study* is English)

Branch is a part of a tree which grows out from the trunk or a bough. In this sentence the word branch is used to refer to the field of study or study option.

3.2.2.2 Relexifications

As relexifications mean the use of a free or bound morpheme from the previous languages to fit the word-formation norms of the target language, in this data it is expected that the relexification will be from the French language only as it is a close language to English. Most instances of relexifications tend to be the endings of the words that comprise French ending form like 'e', 'ques'

- She is going to **visite**

  (she is going to *visit*)

- She faced any **probleme**

  (she faced any *problem*)

- I over **reacte**

  (I over *react*)

- I like the **calme** and **silente**

  (I like the *calm* and *silence*)

- To **transmite**

  (to *transmit*)

- My father is an **architecte**
  (my father is an *architect*)

The above instances refer to relexifications from French to English in which in all the instances mentioned above the students used the phoneme 'e' at the end of the words. The 'e' is used in French for feminine adjectives or as a root of some words like 'reacte' 'calme' 'probleme'. and as it is known that Arabic and French are highly inflectional languages, on the contrary to English. Moreover, the formers have grammatical gender i.e. gender is a feature of the noun itself, while the latter has neutral gender (biological sex) rather than a grammatical one.

Special **characteristiques**

(special *characteristics*)

- There are a lot of **touristique** places

  (There are a lot of *touristic* places)

The words '*characteristiques*' and '*touristique*' have been written with a french ending 'que' instead of 'c' the correct form of the words.

- By **participing**

  (by *participating*)

Participing is a French word with an English 'ing' ending that refers to being involved in something with other people such as an activity or sports. The correct word to be used is 'participating'.

- My **familly** members

  (my *family* members)

The letter 'l' has been doubled in the word family as in French form 'famille'

- Tell you about my **countrie**

  (tell you about my *country*)

3.2.2.3 Orthographic Transfer

Capitalization	15
Compound Nouns	5
Silent Letter	4
One Letter Mistakes	15
Double Letter Mistakes	3
	42

Table 3.2.2 Orthographic Transfer

Though orthographic mistakes are considered natural even for native speakers due to a lack of competency in linking between what is written and what is spoken. In this data, we will focus on some deviant spelling or mistakes apart from the relexifications such as compound words, capitalizations, silent letters, double letters.

a- Capitalization

- I'm *English student first year in **training teachers school**
  (I'm English student first year in ***Training Teachers School***)
- My name is **nour el houda**
  (my name is ***Nour El Houda***)
- **The red riding hood**
  (***The Red Riding Hood***)
- I wear scarf because I am a **muslim**
  (I wear scarf because I am a ***Muslim***)
- Through the online as **facebook**
  (through the online as ***Facebook***)
- I prefer **english** and **japanese * wether** to speak or to read or to watch
  (I prefer ***English*** and ***Japanese*** *wether to speak or to read or to watch)
- named '**lily**'
  (named '***Lily***')
- ****Receiting quran***
  (receiting ***Quran***)

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- I'm obsessed with **south** Korean culture

  (I'm obsessed with *South Korean* culture)

- My country is famous *by its green woods and montains and large **sahara**

  (my country is famous* by its green woods and * montains and large *Sahara*)

- My father works in university of **setif**

  (my father works in university of *Setif*)

- I aspire to travel to **dubai**

  (I aspire to travel to *Dubai*)

- We live in wilaya *de **ain defla**

  (we live in wilaya of *Ain Defla*)

- I can speak five languages one of them *it is my hometown's language "**mozabit**"

  (I can speak five languages one of them is my hometown's language '*Mozabit*')

- I study in **ens**

  (I study in *ENS*)

The fifteen aforementioned instances show an unidiomatic lack of capitalization in proper names such as cities, languages, institutions, religions, titles and even proper names. The 'Teachers Training School' is a name of an institution in Algeria, it was written in lowercases though it is a multi-part word of an educational institution each word-initial should be written in uppercase. The same thing has been found in the student's name she wrote 'nour el houda' in lower cases which is a deviation in English language orthographic rules where names are written in capital letters. The same rule can be extended to names of languages and cities where the initials should be written in capital letters such as 'dubai' 'setif, ain defla, sahara' (Algerian cities), 'south-korean'. Another instance that has a deviation in capitalization is the title of the story 'The red riding hood' in which the majority of the students wrote it in lowercases instead of capitalization of the first part of each word

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Though the French language follows the same capitalization rules as the English one, these instances are still likely to be a case of transfer influenced by conventions regarding capitalization. The influence could be from the Arabic language as it has not the capitalization feature.

b- Compound Nouns

Compounds are groups of two or more elements treated as a unit. English primary and secondary compounds can be formed in a variety of ways: two nouns, a verb followed by a noun, a noun followed by a verb, a verb and a preposition, an adjective and a noun. In English, compound nouns are the most common.

- She found her conterfeited **grand mother**
  (she found her counterfeited *grandmother*)
- Hurried and ran fast to the **grand ma** house and ate her **a live**
  (hurried and ran fast to the *grandma* house and ate her *alive*)
- I my goal in this life is* do **some thing** which can make human* **beign's** life better
  (I my goal in this life is do **something** which make …)
- described **my self phisically**
  (describe *myself* phisically)
- I **fondof** books
  (I'm *fond of* books)

Five erroneous instances of compound words have been found. Two separate words instead of one attached word are most of the deviant compound word errors the students committed e.g. grand mother and grand ma vs. grandmother, some thing vs. something, my self vs. myself. The opposite has been found in the use of the phrasal verb 'fond of' where it was written as unspaced one word. The unidiomatic use of compound words can be considered as instances of transfer and CLI, though compound words exist both in Fr and MSA.

c- One Letter Mistakes

Below are instances involve the use of an incorrect letter that, upon superficial inspection, seemed to be influenced by Arabic language pronunciation and French language spelling.

- **I'am** writing you this letter
  (***I'm*** writing you this letter)
- It means light of **guidness**
  (It means light of ***gaudiness***)
- My parents are **oppened mainded**
  (my parents are ***open minded***)
- Who wore a red riding **clouth**
  (who wore a red riding ***cloth***)
- described my self **phisically**
  (describe myself ***physically***)
- The **walf** arrived first at the grandmother and **devored** her
  (the ***wolf*** arrived first at the grandmother and ***devoured*** her)
- So the **walf** lied and the sweet girl went with this way.
  (so the ***wolf*** lied and the sweet girl went this way).
- She never said no *for a **favoure**
  She never said no for a ***favour***)
- My **clause** friend
  (my ***close*** friend)
- **Adviced** her to go from short way but this short way is long
  (***advised*** her to go from short way but this short way is long)
- **Geogeous** flowers
  (***Gorgeous*** flowers)
- my father is **retaired**
  (my father is ***retired***)
- for **exemple**
  (for ***example***)

- I **fondof writting**

  (I fond of *writing*)

- I like **shatting** with friends

  (I like *chatting* with friends)

In the instances above most of the erroneous words were in the writings of some vowels and diphthongs such as /au/, /ou/, /ai/ /i/, /o/. also in the case of the letter /c/ replacement and the difference between verb and noun. Through these mistakes, we can predict that the students were influenced by some Arabic pronunciations that affect their spelling, but it is difficult to make a very solid argument for it.

d- Silent Letter

A silent letter is a letter that is usually left unpronounced but written, both English and French languages have a silent letter aspect which does not exist in Arabic. The errors in the spelling of silent letters can be influenced by both MSA or AA where everything pronounced is spelt. Following are the spelling mistakes of the silent letter:

- I prefer* english and* japanese **wether** to speak or to read or to watch series with them

  (I prefer English and Japanese *whether* to speak or to read or to watch…)

- He saw his big **stomac**

  (he saw his big *stomach*)

- After **a wile**
  (after a *while*)
- I'm so **exited**
  (I'm so *excited*)

In these examples, the 'h' letter is missed and not spelt because it is not pronounced as in 'whether, stomach, while'. Also in the adjective 'excited' the 'c' letter is missed because it is not pronounced. These errors may be influenced by some conventions from MSA.

2.1.3.5 Double Letter Mistakes

- My dream is to **succed**

(my dream is to *succeed*)

- Don't **wory**

(don't *worry*)

- The grand ma felt sick and the mother of the little girl **recomended** her daughter to visit her

(the grand ma felt sick and the mother of the little girl *recommended* her)

The double letter mistake is common in the English language even for native speakers but even FLL make these types of mistakes that can be due to incomplete competency in language learning or due to interference or influence from other languages.

3.2.2.4 Morphological Transfer

Uncountable Nouns	2
Adverbs	3
Word Morphology	5
	10

Table 3.2.3 Morphological Transfer

a- Uncountable Nouns

In English grammar, words that refer to people, places, or things are called nouns. They can be classified in many ways. One way to classify nouns is according to whether they can be counted or not. Many English mistakes are related to this point. Uncountable (or non-count) nouns are words that cannot be counted. Therefore, they only have a singular form. They have no plural forms.

- I'm writing you this letter to *take you some **informations** about my life

(I'm writing you this letter to take you *information* about my life)

- You know this **informations** about me
(you know this *information* about me)

One erroneous word has been used by the student 'informations' as the plural form of the word 'information'. Information is an uncountable noun in English that is generally used with a quantifier such as a piece of information.

b- Adverbs

An adverb is a word used to add something to the meaning of a verb, another adverb, and, an adjective. It is used to modify adjectives, verbs, and adverb. When you are talking about a situation or an event, sometimes you want to say something about it which has not been indicated by the subject, object or complement, verb.

In French as in English, an adverb describes the action of a verb. It answers such questions as 'where', 'when,' 'how,' 'how long,' or 'how often.' Adverbs are invariable and may be used with almost all verbs.

- The girl said **afraidly**
  (the girl said **afraid**)
- It is so cold and **snowly** in winter
  (it is so cold and **snowy** in winter)
- **Actionly**
  (no adverb to the verb action)

In English, we typically look for the ending "ly" to identify an adverb. In Arabic, the ending' اً' has basically the same function. You can put it on an adjective or noun to make it an adverb.

Some other familiar words are actually adverbs in Arabic, although their English equivalents are not as for the verb 'action'. In the examples of 'afraidly' in Arabic 'خائف'and 'snowly' 'مثلج' the interference of Arabic was evident by applying an Arabic grammatical rule on English verbs.

c- Word Morphology

In the word morphology word affixes deviance has been analysed. Following are the instances of some word morphology transfer

- I'm **studing** at the high school of teachers
  (I'm *studying* at the high school of teachers)
- She found her **conterfieted** grand mother
  (she found her *counterfeited* grandmother)
- It's **inimaginable**
  (it's *unimaginable*)
- I fondof books specially the **psychologic** ones.
  (I fond of books specially the *psychological* ones)
- My favorite **hobbys**
  (my favorite *hobbies*)

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The deviant words were "studing, counterfeited, unimaginable, psychologic and hobbys" each word stands as an instance of word morphology transfer in which each word broke a grammatical rule in the English language due to interference from other languages. In the first instance the participant breaks the rule of the present continuous 'stem(v)+ing', he/she omitted the 'y'. The second participant omitted the 'u' vowel from the word 'counterfeited' and in this example, the influence of the French language was evident in the prefix 'countre' is written 'contre' as in French. The third instance break the rule of the opposites in English in the word 'imaginable' and added the prefix 'in' instead of 'un' the participant here used the word in its French form. The fourth word 'psychologic' skipped the suffix 'al' from the word it may be used in its Arabic form النفسية the last word 'hobbys' also break a grammatical rule in which the 'y' is replaced by an 'I' in a plural form for some exceptions in language.

In the next subsection, we will present the word meaning transfer with its subcategories.

3.2.3 Word Meaning Transfer

Loan Translation	8
Semantic Extension	39
Total	47

Table 3.2.4 Word Meaning Transfer

3.2.3.1 Loan Translation

Loan translations involve instances where a native language phrase or compound has been translated into the target language, resulting in a construction that either has no meaning in the target language or a meaning that differs from the one that is intended (Ringbom 1987, p.115) (ibid)

- my name is **nour el houda it means the light of *guidness**.

The name significance 'the light of guidance' was clearly translated from Arabic into English "اسمي نور الهدى يعني النور/الضوء الى الهداية" Though, the expression

can hardly be understood in English did not fit the intended meaning of the name significance.

- **I'm building my futur**

   The expression 'building my future' was wrongly translated from Arabic to the nglish "انا ابني مستقبلي" in which the verb build never been used with the future It is either translated from MSA or AA. This expression is used in MSA and in the Algerian context to refer to someone who works hardly to ensure a good life style in the future and it is correct in both languages though in English cannotbe used.

- She told her with a **cold look on her face**

   The expression 'cold look on her face', in Arabic 'نظرة باردة'means expressionless. In this context, the cold look on the face intended to mean firmly

- My real friends are **counted by my hand fingers**
   My real friends are counted by the fingers of one hand.

In this example, the participant used the proverb counted on the fingers of one hand to refer to a few friends. The proverb is used in both MSA 'على اصابع اليد الواحدة' and French 'sur les doigts d'une main'.

- Friendship is **measured by situations not by years**
   Friend in need is a friend indeed.

The participant in this example want to say that friendship is not measured by time, and she used a Arabic proverb ' 'الصداقة تقاس بالمواقف لا بالسنوات' the English proverb for this is 'friend in need is a friend indeed'.

- Days move on and days come

This expression cannotbe considered as meaningless and not an English correct expression. It can be seen as a direct transfer from an MSA expression تأتي الأيام و تذهب أيام.That means life is going though the ups and downs.

- I hope I **didn't last longer in my words**
   I hope I didn't take too much of your time.

Last longer' means existing for a significant amount of time lifelong or long-term. The expression used is wrong in English but if we translated in MSA it could be correct "لم أطل عليك كثيرا بكلماتي".

3.2.3.2 Semantic Extension

- the mother of the little girl **recomended** her daughter to visit her.
  The mother of the little girl **proposed/ suggested** to her daughter …

The word 'recommended' can't be used in this example it is better to replace it with propose/suggest. Though the words are synonyms cannotbe used interchangeably, 'recommended' is less formal and more personal whereas 'proposed' is more formal and holds more weight and seriousness.

- in a small village **a polite mother** lived with a sweet girl **name** "little red riding hood".
- In a small village a *kind* mother lived with a sweet girl *called* ….

The word '**polite**' and '**name**' seem to be used inappropriately here though the words are spelt correctly they were miss-used in this context. It can be explained that in this phrase, the participant may be transferred items from MSA to En in which the words ' تسمى' 'مهذبة '

- the mother **required** her girl to **take care *from** the wolf.
  The mother **asked** her girl to **be careful**…….

The word required means to need something or depend on something non of the two meanings was the desired one in this sentence. The word required in Fr means 'Obligatoire' and in MSA means مطلوب. the closest meaning to the one used in En is the Arabic one that can be interpreted as الأم طلبت من الفتاة ان تتوخى الحذر

- the *walf **predicated** her to the home of her grandmother and ate the grandmother.

The intended meaning of the sentence was to explain how the wolf led girl go to the grandmother's home. The word 'predicated' is inappropriately used in this sentence.

- I find English **wicked** and **so classic**.

The adjective wicked was used to refer to English language. The word means morally bad, dangerous or harmful, these words had never been used to refer to a language.

- in which her mother **alerted her** .
  in which her mother **warned her**

the word alerted is used instead of the appropriate word warned in this sentence.

- smelling flowers' **perfume**.
  Smelling flowers' odour/ smell

The word 'perfume' was mistakenly used in this sentence. The words odours or smells have been replaced by the word perfume. Though the corrected sentence is fragmented the aim was to show that perfume is an erroneous expression that resulted from a translation of the word from another language.

- The mother of the girl **ordered her**
  The mother of the girl asked her

The word 'order' was misused in this instance. The mother in this context is wanning her daughter from the danger that can be found in the forest and she is asking her gently to be aware of the wolf instead of ordering her authoritatively.

- The **delighted girl** was popular with the villagers by the name of the "little ride girl"
- The **cheerful girl** was popular with the villagers by the name of "the little ride girl".

'delighted' considered as unidiomatic in this sentence. The adjective 'delighted' is always related to a feeling of showing a great pleasure for something it can be synonym to grateful, pleased, glad, happy. The student in this sentence, aimed at describing the girl and not her feeling. For instance, adjectives like cheerful, jolly, joyful, radiant … can be more appropriate in this context.

- A tall unknown **figure** had showed among the trees
  A tall unknown face had showed among the trees

'Figure' refers to form, shape or shadow particularly in drawing. In general, the word figure is used in mathematical and statistical fields in which it is considered as a symbol that represent a number particularly in statistics. From another hand, face refers to the front part of the head. In English the two words cannotbe used synonymously however, in Fr the two words can be used interchangeably to refer

to face of a person or animal or any facial expression made by them. In this instance the transfer was from Fr perspective to English language was marked.

- I'am **more into** drawing and writing
  I find myself more in drawing and writing.

- When her mother finished prepared a nice **basket** to her grandmother.
  When her mother finished prepared a nice **Hamper** to her grandmother

The word 'basket' was used instead of the word 'Hamper' to refer to a small box with a carrying handle and a hinged lid that is used for food.

- The wolf attacked her and he was so hungry that's why he ate her and lied in her bed **like** her grandma
- ……….Lied in her bed **pretending** (to be) her grandma

The word 'Like' means something that share the same characteristics like something else, in this instance, the wolf disguised as the grandmother and pretending being her.

- I visit my grandmother with my family each at Friday to **care about her** health
  I visit my grandmother with my family each Friday to **take care of** her health.

The verb phrase 'to care about her' is considered unidiomatic because it does not express the intended meaning in this sentence. The corrected verb phrase that can be used is 'to take care of'.

- Her **assistance** for her I can not forget it
  Her help/support for her I can not forget it

The word 'assistance' is usually used to express an action of help or aid whereas in the previous instance it intends to refer to a psychological aid, the words help or support can be more expressive in this sentence.

- So his **attractive** made her well-known.
- So her charm made her well-known.

The word 'attractive' was misused in this sentence. The word 'Charm' is more meaningful in which it expresses the power or the quality of attracting or fascinating others.

- Living in a **pure** house.
- Living in a ….. house.

The adjective 'pure' cannotbe used with the word house. The intended meaning of this sentence is somehow ambiguous in which there are a lot of possible adjectives that can be used to describe the word house.

- My hometown is not big but it is **adorable**
- **My hometown is not big but it is charming/beautiful**

The adjective 'adorable' erroneously used in this sentence to describe a town. The adjective adorable is used to describe people. Alternatives such as beautiful, charming, contemporary, would be more accurate in describing a town or a village.

- I'm writing these lines **to sympathize**
- I've never **scheduled** to be here
- I've never **intended** to be here

The word 'schedule' assigns more to specific time and dates to a specific plan. The correct words would be 'plan' ,'intend', 'work out'

- The villagers **named** her
- The villagers **called** her

The word 'name' is mistakenly used in this sentence because the name is the word given to a person since birth, and when you call someone is the act of calling someone by a name that indicates a particular person, place or thing.

- Took a **shorter road**
- Took a **shortcut**

The erroneous expression 'shorter road' cannotbe used to talk about a short way to something. The correct word is 'shortcut' that means a route that is shorter than the one usually takes.

- She found **her conterfieted** grand mother
- She found her pretending/resembled/disguised

The word counterfeited can be used to express resemblance is a process of doing something not in pretending to be in the place of another human being.

- In order to **trick** her grandmother
- In order to deceive her grandmother

In this statement we cannotsay that the wolf trick the grandmother the appropriate word that can be used is 'deceive' that expresses an act or statement which misleads, or an idea that is not true and hide the truth.

- **To improve you** by information about my city
- **To tell you more about my city**

'To improve' wasn't appropriately used. The intended meaning of improve here is to give you more information about my city.

- I don't **give attention** specially to people specially whom want to **decrease my positive energy**
- I **don't pay attention to** ………..to **frustrate /exasperate**

The expression 'to give attention' means to spare attention to something while doing other things at the same time. To pay attention means to notice something with care. "To decrease my positive energy" is semantically extended in order to say to frustrate, to exasperate, to upset or annoy

- What are you doing alone in **the wood**
- What are you doing alone in **the forest?**

The wood can refer to an area of land that is smaller than a forest. The word forest seems to be the most used and appropriate one.

- Known by its **cold atmosphere**
- Known by its **cold weather**

The word atmosphere is erroneously used to describe the cold weather of a certain place.

- She *mit with a **crafty wolf**
- She *mit with a **fierce/ savage/ menacing**

Fierce, savage and menacing are the best adjectives to describe a wolf.

- And proposed to her **to reap some flowers** that make her grandma happy
- And proposed to her to **pickup** some flowers ……..

To reap is used with the harvest while the correct word used with flower is to pick up.

- The red ridding hood forgot the mother's word and decid to take the road of the forest because it is **near**
- ………. To take the road of the forest because it is the **fastest/ closest**

To describe a shortcut to do something to most appropriate words are either 'the fastest' to say that it is too fast to reach something or 'the closest' that means you can reach it in a short period of time. 'near' and 'close' are synonyms that refer to a short distance however, grammatically, 'near' should be followed be a preposition e.g: near to. The use of near in this instance is grammatically and semantically wrong.

- My neighbours are **wealthy** because they know how to treat their neighboors.
- My neighbours are **kind/careful/pampered/good /generous** ….

The word 'wealthy' is idiomatically wrong in this instance. The word 'wealth' cannotbe used to describe a nice treatment of someone, the correct adjectives to be used can be: kind, careful, generous.

- We really enjoy the life here **open-air**
- We really enjoy the life here out doors

The common English word used to describe life away from stress and city noise is outdoor rather than open air.

- Can you go and **deliver** this basket to her.
- Can you go and **take** this basket to her

The word to take is more appropriate in this context.

- Last year I **took my bac**
- Last year I **had/succeed** my bac

The word 'took' can not be used to express success in having a diploma. The most appropriate word is 'have' or 'succeed'.

3.2.4 Word Use Transfer

Collocations	09
Pronouns	10
	19

Table 3.2.5 Word Use Transfer

3.2.4.1 Collocations

- I'am **sawing** a number of series

  (I'm watching a number of series)

- She **looked** beautiful flowers

(she **saw** beautiful flowers)
- I'm **collecting** flowers
(I'm **gathering** flowers)
- **To get** you know me better
(**to let** you know me better)
- In order to **liberate** the girl and her grand mother
(in order to **free** the girl and her grandmother)
- Concerning my **private information**
(Concerning my **personal** information)
- His **abdomen** full
(his belly/tummy/stomach full)
- I **wear** scarf because I'm muslim.
(I **put** scarf because I'm muslim)
- she **narrated** the story
(she **told** the story)

Although the primary meaning, i.e. denotation, of the verbs mismatches between

words that have practical meaning but don't have the same context usage which

resulted in an unidiomatic word choice in the above-mentioned sentences.

3.2.4.2 Functional Transfer

a- Pronouns

- the grandma started to live with its family and took care of each other
- I wish that you were pleased with **knowledge** and my life.
(I wish that you were pleased with ***my knowledge*** and my life)
The grandma **she** thought her daughter is knocking so she **opened.**
(the grandma thought her daughter in knocking so she ***opened it***)
- To describe **myself** *phisically
(To describe ***me*** physically)
- I love anything **has** a relation to the art
(I love anything ***that has*** a relation to the art)
- Hearing hers neighbours
(hearing ***her*** neighbours)
- I can speak five languages one of them **it** is my hometown's language
"mozabit"
(I can speak five languages one of them is my hometown's….)
My best friend which I *considerate **her** as my sister
(my best friend which I consider as my sister)
- I don't give attention specially to people *specially **whom** want to
decrease my positive energy
(to people specially **who** want to decrease my positive energy)
- One day her mother sent her to her grandmother and told her to take **her**
some food
(……and told her to take some food)

3.2.5 Syntactic Transfer

This section analyses the syntactic transfer instances of the participants. In the syntactic analysis, four categories have been found, errors in the use of articles, errors in the use of prepositions, errors in subject-verb agreement and errors in the verb form. Unlike the lexical analysis, the syntactic analysis has been completed through the translation of the instances to MSA, Fr and AA to know from where the errors are derived and what is the source of transfer in each sentence. Table (2.6) below shows the number of instances per type of syntactic transfer found in the participants' writings.

3.2.5.1 Errors in the Use of Articles

Use of Articles	32
Miss use	26
Incorrect use	7

Table 3.2.6 Errors in the use of Articles

- Every single human being has something which *make him different and unique from **the others.**
  (which make him different and unique from others)
  (Ar: تجعله مختلفا عن الاخرين   Fr: différent des autres)
- I *wear **scarf** because I'm *muslim.
  (I wear **the scarf** because I'm Muslim)
  (Ar: ارتدي الحجاب للأنني مسلمة   Fr: je porte le foulard parce que je suis Musulmane)
- not to talk to **the strangers.**
  (not to talk to strangers)
  (Ar: لا تكلمي الغرباء   Fr : de ne pas parler aux étranger)
- **I'm English** student.

  (I'm *an English* Student)

  (Ar: انا طالبة إنجليزية Fr : je suis étudiante d'anglais)

- I will be after 5 years **teacher** of English in high school.

  (I will be after 5 years *a teacher* of English in high school)

  Ar: سأصبح بعد 5 سنوات استاذة لغة انجليزيةFr : Après 5 ans je serai un (e)

  enseignant(e) d'anglais

- I chose English **as speciality**

(I chose English as *a speciality*)

(Ar: اخترت الإنجليزية كتخصص Fr : J'ai choisi l'anglais comme une specialité)

- **with lovely** smile and an honest intention.

(with *a lovely* smile and an honest intention)

(Ar: بضحكة جميلة و نية حسنة Fr: avec un beau sourire et une intention honnête)

- our family is not **that kind** of people who are interested in this kind of skills.

(our family is not *the kind* of people who are ….)

(Ar : عائلتي ليست من النوع الذي يهتم بهذا النوع من المهارات Fr : ma famille n'est pas du genre qui s'interesse par ce genre de competence)

- Once **upon time.**

(once upon **a time**)

(Ar: ذات مرة Fr: il etait une fois)

- My mother **is teacher** of maths

(my mother is **a teacher** of maths)

(Ar : امي استاذة رياضيات Fr : ma mère est prof de maths)

- Which **is teacher** of English

(which is *a teacher* of English)

(Ar: التي/الذي هو/هي استاذ(ة) اْلإنجليزية Fr: qui est professeur d'anglais)

- My father is **a employer**

(my father is *an employer*)

(Ar: ابي موظف Fr: mon pere est employer)

- I have **not choice**

(I *have not *the choice/ a choice*) M

(Ar : ليس لدي خيار Fr : je n'ai pas le choix)

- Poem is a paramount inspiration

(**the poem** is a paramount inspiration)

(Ar : القصيدة هي مصدر إلهام كبير Fr : le poéme est une inspiration primordiale)

- **I'm student** in the ENSB (2)*

  (I'm *a student* in the ENSB)

  (**Ar:** انا طالبة **Fr: je suis etudiant(e) à l'ENSB**)

- I love cooking **a modern dishes.**

  (I love cooking **modern** dishes)

  (Ar : احب طبخ الأطباق العصرية Fr : j'adore cuisiner des plats modernes)

- **I'm English** student * (3)

  (I'm **an English** student)

  (**Ar:** انا طالبة لغة انجليزية **Fr: je suis un etudiant d'anglais**)

- The only thing that I have in me **that I m patient girl**

  (the only thing that I have in me that I'm **a patient** girl)

  (**Ar :** الشيء الوحيد الذي لدي هو انني فتاة صبورة **Fr : la seule chose que j'ai en moi c'est que je suis une fille patiente**)

- Since I **was child**

  (since I was **a child**)

  (**Ar:** منذ ان كنت طفلا **Fr: depuis que je suis enfant**)

- You are looking <u>**in mesirable**</u> way

  (you are looking in *a mesirable* way)

  (**Ar:** تبدو في حالة مزرية **Fr: vous regardez dans une situation mesirable**)

- She saw **a wonderful** flowers

  (she saw *wonderful* Flowers)

  (**Ar:** رائعة **Fr: un merveilleux**)

- My mother **is housewife**

  (my mother is **a housewife**)

  (**Ar:** ربة منزل **Fr: une femme au foyer**)

- Teaching is a noble profession, at the same time it is **the suitable** for <u>**woman**</u> (teaching is a noble profession, at the same time is *suitable* for **a woman/the woman**)

  (**Ar :** مناسبا للمرأة **Fr : convient à la femme**)

- My sister **is nurse** which was married

  (My sister is *a nurse* which was married)

(Ar: ممرضة   Fr: une infermiére)

- Our country which *is unfortunately *suffer from political unrest **due to corrupted** system.

  (……..suffer from political unrest due to *a corrupted* system)

  (Ar : بسبب نظام فاشل   Fr : en raison d'un systéme corrompu / un corrompu)

- The house of ***grand mother** was located in the wood

  (the house of *the grandmother* was located in the wood)

  (Ar : منزل الجدة   Fr : la maison de la grand-mère)

- I love reading books especially **the novels** and the scientific books

  (I love reading books especially *novels* and the scientific books)

  (Ar : خاصة الروايات   Fr : surtout des romans)

- I study **English** language *in university

  (I study *the English* language in university)

  (Ar : أدرس اللغة الإنجليزية   Fr : j'etudie la langue anglaise)

- Algeria situated **in north** of Africa

  (Algeria situated in *the north* of Africa)

  (Ar : تقع في شمال إفريقيا   Fr : situé au nord de l'afrique)

- Hope my letter *meet you **in good** moment

  (hope ly letter meet you in **a good** moment)

  (Ar : اتمنى ان ألقاك في أوقات جيدة   Fr : vous rencontrer dans un bon moment)

- **I'm student** in the university

  (I'm *a student* in the university)

  (Ar : انا طالب في الجامعة   Fr : je suis étudiant à l'université)

- My parents **are treasure** that deserve only goodness

  (my parents are *the treasure/ a treasure* that deserves only goodness)

  (Ar : والديا هما الكنز   Fr: mes parents sont le trésor)

- Her mother asked her to take some ***of fruits** to her grandmother.

  (her mother asked her to take some of *the fruit* to her grandmother).

  (Ar : لتأخذ القليل من الفواكه   Fr : prendre quelque fruit)

- the daughter arrived **to home**

   (the daughter arrived to *the home*)

   Ar: للمنزل Fr : à la maison

The above instances refer to the errors made by the participants in the use of the articles. The research translated each instance to MSA and Fr to know the source language of transfer and try to approximate the misuse of articles to one of these languages. Most of the errors found in the use of articles seems highly possible that are derived from MSA rather than Fr. In the above-mentioned instances, participants either use an incorrect article or miss-use articles,26 instances of misuse, and 7 incorrect articles have been found. The participants tend to use Arabic articles while writing in En which leads to the erroneous unidiomatic structure of sentences.

3.2.5.2 Errors in the use of Prepositions

Prepositions	31
Miss-use	4
Incorrect	27

Table 3.2.7 Errors in the use of Prepositions

- I like reading books in French, and listening **music** *specially English and French * one.

   (…..listening *to music* specially English and French one)

   (نسمع موسيقى :Fr: ecouter de la musique AA استمع للموسيقى :Ar)

- my brothers are kind and sweet **with** me

   (my brothers are kind and sweet *to* me)

   (Ar: معي / Fr : avec moi / AA : معايا)

- but **in** the same time

   (but *at* the same time)

   (Ar: في نفس الوقت Fr : au même temps)

- She never said no for a * favoure

(she never said no **to a favor**)

(**Ar:** لأجل **Fr : pour**)

- In these moments, the wolf had already arrived **to the grandma's** house.

  (……the wolf had already arrived *at/in the grandma's* house)

  (Ar: إلى Fr: a)

- Approached her **at** the forest.

  (approached her *in* the forest)

  في الغابة Fr: Dans la foret)

- He reached and knocked **the** door

  (he reached and knocked *on the* door)

  (Ar:f دقت الباب Fr: Fapper à la porte)

- Hope this letter meet you **with** good health

  (hope this letter meet you *in a good* health)

  (Ar: بصحة جيدة Fr : avec une bonne santé)

  In the same time.

  (*At* the same time)

  Ar: في نفس الوقت Fr: en meme temps

- Which* composed **from** 7.

  (which is composed *of* 7)

  (Ar: تتكون من Fr: composé de)

- I *visite my grandmother with my family each **at** Friday to care about her health

  (……… with my family each Friday ….)

- We find each other **in** *facebook

  (we find each other *on* Facebook)

  (Ar: في Fr : sur facebook)

- Near **of** their home

  (near *to* their home)

  In one day her mother asked her to go to her grandmother and to take to her some food

  (One day her mother…….)

- I love listening **music** and watching TV

  (I love listening *to music* and watching TV)

  (Ar: أحب سماع الموسيقى Fr : Ecouter de la music)

- Blida is well **known of** roses and flowers

  (Blida is well **known for** roses and flowers)

  (Ar: معروفة بالورود Fr : connu de …)

- In order to teach **in** university

  (in order to teach *at* university)

  Ar: في Fr: à

- The wolf arrived **to** grandmother's home while she didn't.

  (the wolf arrived *at* grandmother's home while she didn't..)

  (Ar: إلى Fr : à)

- I decide to write **for** you.

  (I decide to write *to* you)

  (Ar: لك Fr : pour)

- **In** this moment, the wolf *created a trick in its mind

  (*at* this moment, ……)

  (Ar: في هذه الأثناء Fr : à ce moment là)

- I received your letter which contain plenty information about you

- My country is famous **by** its green woods and *montains and large *sahara

  (my country is famous *with* its green woods ….)

  (Ar: معروفة ب Fr : celebre avec)

- I study English language **in** university

  (I study English language *at* university)

- The wolf surpassed her and entered **to** the home

  (the wolf surpassed her and entered the home)

  (Ar: دخل الى المنزل Fr : entré dans la maison.)

- Hope my letter meet you **in good** moment

  (Hope my letter *meet you *at a good* moment)

- I'm *student **in** the university

  (I'm a student *at* the university)

- My family is composed **for** my parents and my two brothers

  (my family is composed **of** my parents and my two brothers)

  (Ar: تتكون من   Fr : composé de)

- I'm living in the campus in alger town

- The best thing **at** me that I love teaching

  (the best thing *about* me that I love teaching)

  (Ar: الشيء الجميل في   Fr :la meilleure chose à propos de moi)

In the use of prepositions, the same steps followed as in the article use in which the errors have been translated to MSA and Fr. 27 incorrect use of prepositions were found and 4 missed prepositions. All the errors found are derived from the MSA where students used the Arabic equivalent preposition instead of the English one.

3.2.5.3 Errors in the use of Subject-Verb agreement

- Every single human being has something which make him different and unique from the others.

  (…..has something which *makes* him different and unique …)

- He **think** a little bit

  (he *thinks* a little bit)

- You never **be** anger or sad

  (you never *are* anger or sad)

- He **make** the girl confused

  (He *makes* the girl confused)

- The most thing that **make** me confident

  (the most thing that *makes* me confident)

- She **accept** the *suggustion

  (she *accepts* the suggestion)

- It **help** me a lot

  (it *helps* me a lot)

- There **is** dangers outside

  (there *are* dangers outside)

- I received your letter which **contain** plenty *information about you

  (I received your letter which *contains* plenty of information about you)

- Take this basket your grandmother is sick, she will become better when she **eat** *it, and don't go to the forest.

  (She *eats*)

- Hope my letter **meet** you *in *good moment

  (Hope my letter *meets* you)

- My parents are *treasure that **deserve** only goodness

  (My parents are the treasure that *deserves* only goodness)

- She **feel** that something is wrong

  (She *feels* that something is wrong)

- We have something that **make** us unique

  (we have something that **makes** us unique)

all the errors in the subject-verb agreement are related to the 's' with the third personal pronoun in which all the verbs were written without an 's'. Only one error was found in the verb 'to be' where the participant used 'is' instead of 'are'.

3.2.5.4 Incorrect Verb Forms

- I'**am sawing** a number of series

  (*I'm seeing* * a number of series)

- She always **wearing** a red hood that her mother made

  (she always *wore* a red hood that her mother made)

- The mother **ask** her child to go visit her and to take her some food and fruits to eat
  (the mother *asked* her child to go visit her …….)
- Our country which is unfortunately **suffer** from political unrest due to *corrupted system.

  (Our country which is unfortunately *suffering* from political unrest …)

- He goes to the grandmother's house **to eating** her

  (He goes to the grandmother's house *to eat* her)

- At that time he did **ate** the red riding hood

    (At that time he did *eat* the red riding hood)

- I can't **to talk** to any stranger.

    (I can't **talk** to any stranger)

The above instances present different errors in the use of the verb correct form. Errors occurred in the use of the past simple, the present continuous and the gerund. The errors found in the use of the verb form might be due to the lack of grammatical competencies of the students as it might be instances of transfer from previous languages.

Conclusion

The analysis of the participants' written documents revealed errors at both lexical and syntactic levels. The present section presented all the categories analysed in both lexis and syntax mentioned in the literature. It presents three main categories where lexical errors occurred; it analysed the word form transfer, word use transfer and word meaning transfer. It also analysed several syntactic errors that occurred in the participants' production such as the use of articles, the use of prepositions. All the categories have been examined carefully to know which of the previous languages is the source language of transfer. Results showed differences between the source language of transfer in the lexical and syntactic transfer in which MSA was the dominant language in transfer.

Section Three: Data Analysis and Results Presentation of Students' Perception Questionnaire

Introduction

This section is devoted to the findings of the language perception questionnaire which has been administered to the whole sample. The first research instrument i.e., the Language History Background covered all the learners-based variables highlighted in this research and their language background and proficiency however it does not cover the language typology and psychotypology variables. The Language Perception Questionnaire aims at answering the third and fourth research questions about language typology and language psychotypology. Data were analysed quantitatively to understand students' perceptions of the languages' closeness and distance and to examine their linguistic awareness.

3.3.1 Personal Views of Languages

In response to the first question of the questionnaire about the languages they know, a variety of linguistic differences among the respondents justify the multilinguality of the sample. The table below presents an overview of all the known languages provided by respondents.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ar+Fr+En+Ger	11	24,4	24,4	24,4
	Ar+Fr+En+Sp	22	48,9	48,9	73,3
	Ar+Fr+En+AA+Ta	2	4,4	4,4	77,8
	AR+Fr+En+Ta+AA+Ger	7	15,6	15,6	93,3
	Ar+Fr+En+Ta+AA+Sp	3	6,7	6,7	100,0
	Total	45	100,0	100,0	

**Table 3.3.1: Languages you Know**

It is apparent from this table that respondents have a range of linguistic repertoires, in which 22 respondents mentioned Arabic+ French+ English+ Spanish, while 3 respondents added Tamazight and Algerian Arabic to the list however 11 have Arabic + French + English +German, and 7 added Tamazight

and Algerian Arabic to it. Only 2 respondents mentioned Arabic+ French + English +Algerian Arabic + Tamazight. What stands out in the table (3.1) is the multilingualism of the respondents in which a wide range of the population has at least 4 languages. Surprisingly, only 12 respondents mentioned Algerian Arabic as a language, this result raises the hypothesis about students' perceptions of their mother tongue.


Figure 3.3.1: Languages you Know
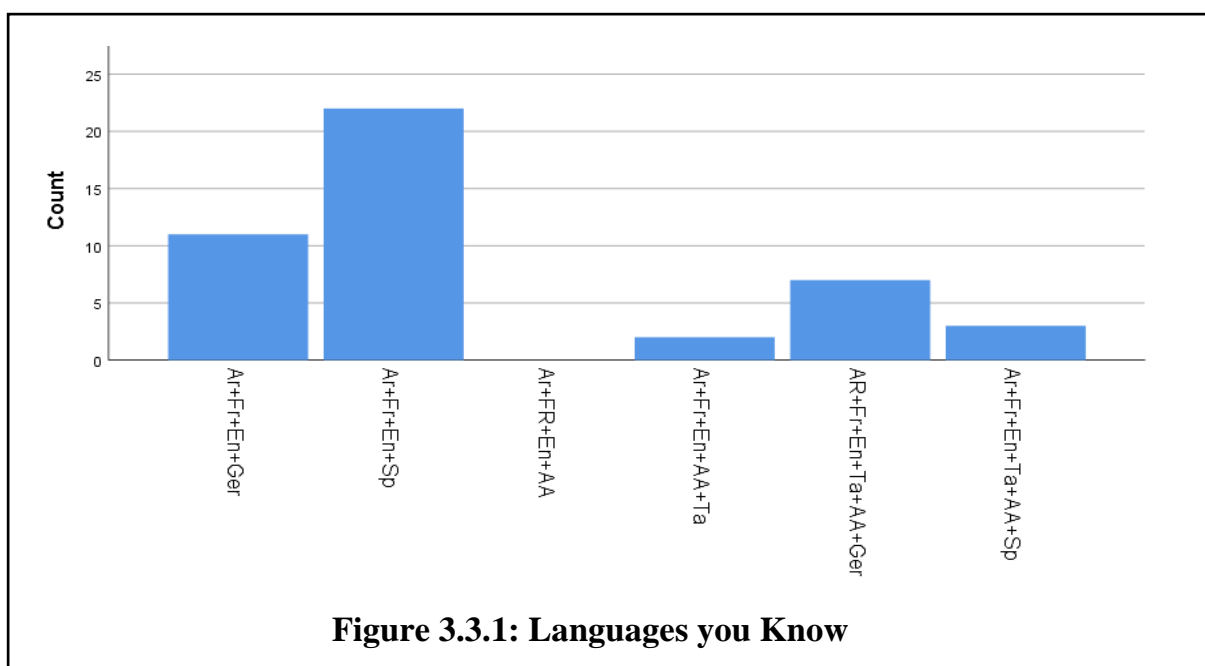
3.3.2 Linguistic Identification

Figure (3.1) demonstrates the results of the question "which of your previous languages identify you more?". The table is quite revealing in several ways. First unlike the first table students though their multilinguality identify themselves only in one language**.** 40% of the students mentioned French, 22% cited Algerian Arabic and 22% MSA while 7% claimed Tamazight and English**.** Second, students identify themselves in their L2 (MSA, Fr, OR Tam), L3 (Fr, MSA) and even L4 (En)

Figure 3.3.2 Linguistic Identification
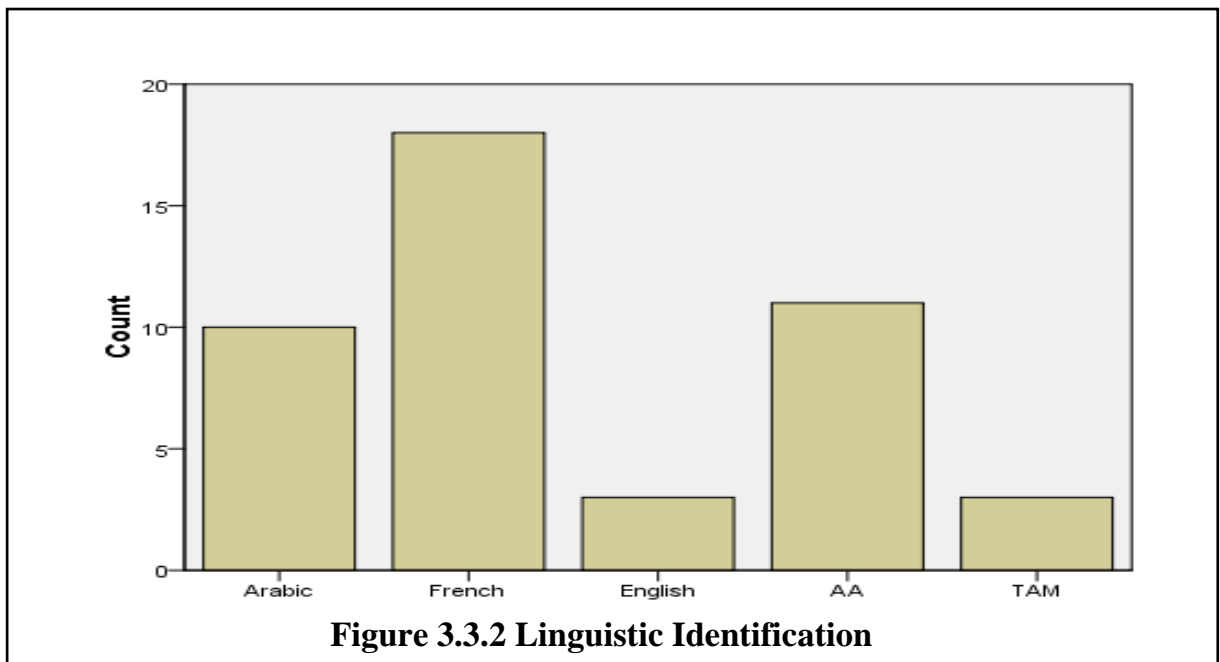
3.3.3 The prestigious Languages

It is apparent from this graph that very few respondents 7% (3 participants) consider English as a prestigious language whereas the majority perceive French as the most prestigious one 62% (28 participants) while 31% (14 participants) consider MSA as prestigious.

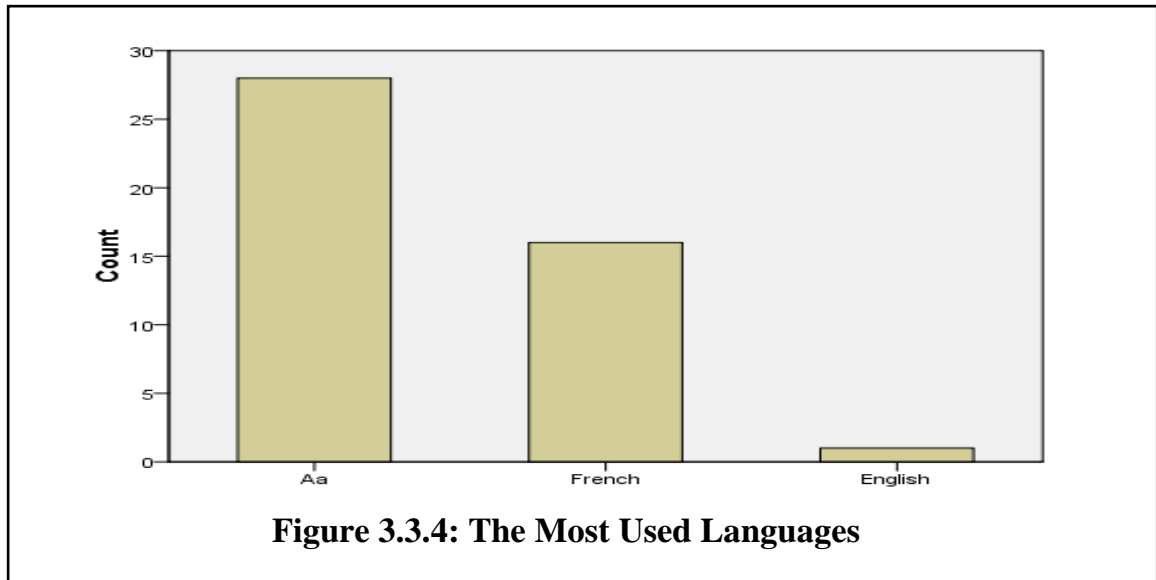**Figure 3.3.3 The Prestigious Language**
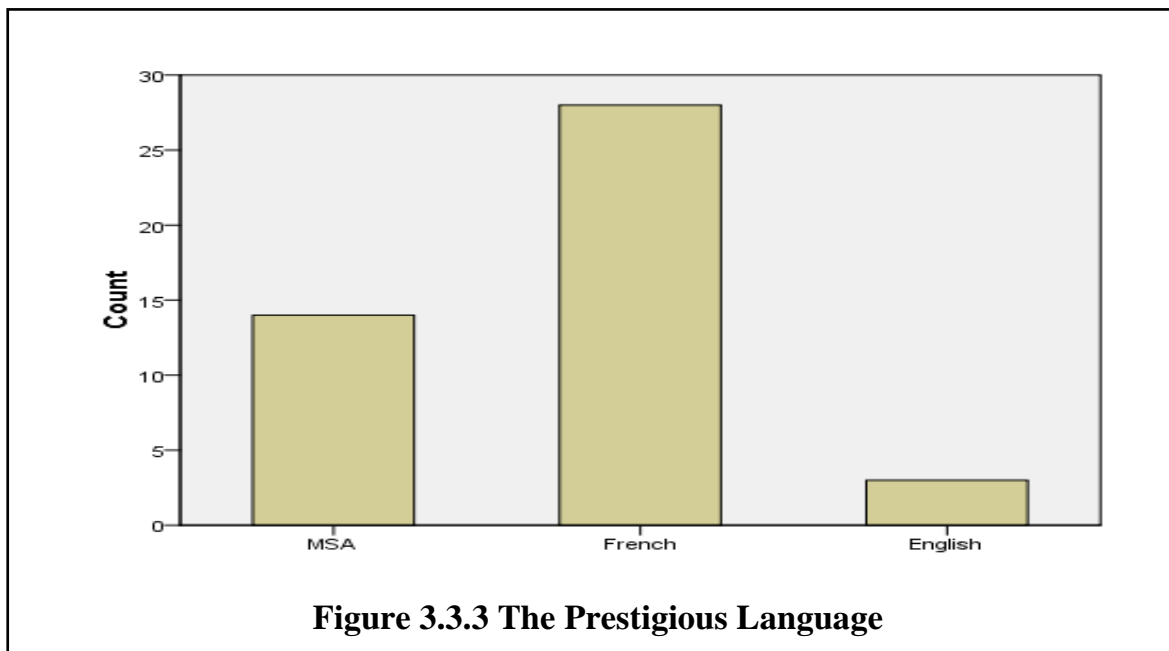
3.3.4 Language Use

This part of the questionnaire aims at knowing the most and the least used languages among the students. Language use of the students varies between three

main languages AA, Fr, and En. The next subsections illustrate the two types of use.

3.3.5 The Most Used Language

Figure 3.3.4: The Most Used Languages

As shown in figure (3.3) the participants reported significantly more AA than the other languages. 28 participants (62%) used AA more than Fr, MSA, EN and Tam. 16 participants (36%) reported Fr as the most used language while only 1 participant mentioned EN.

3.3.6 The Least Used Languages

Figure 3.3.5 The Least Used Languages
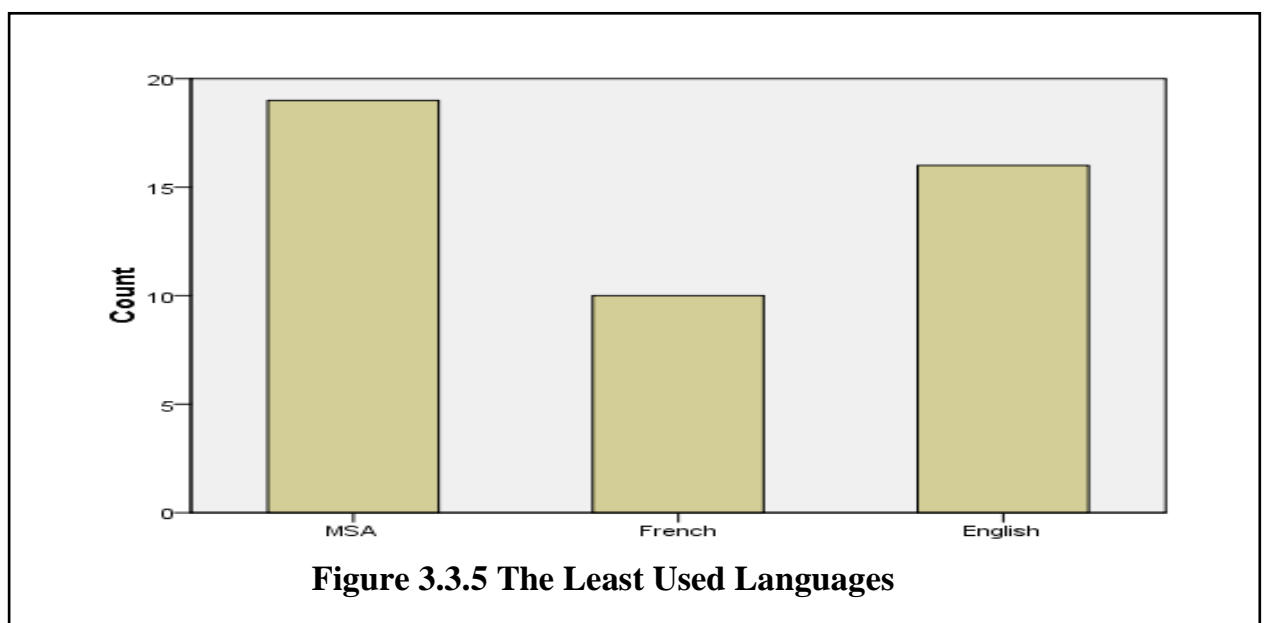
From the data in Figure (3.4), there is a clear difference in the use of languages. 19 participants (42%) reported MSA as the least used language. 16 participants (36%) mentioned En and 10 participants (22%) reported Fr.

Data from figure (3.3) can be compared with the data in figure (3.4) which shows the most used languages. Participants reported that the most used language is AA which is the daily life used language by all the Algerians though the differences in dialects still the most used language. Whereas in the least used languages participants mentioned MSA, FR, and EN. These languages are used exclusively for academic or formal use. It can be concluded that the amount of language used depends on the context.

3.3.7 Linguistic Psychotypology

This part of the questionnaire aims at knowing the participants' perceptions of the English language in different language aspects such as Grammar, Vocabulary, Phonetics. Participants' perceptions of English are discussed in terms of language closeness and language distance concerning the other languages the participants learn/acquire. Questions about language perception are presented in one question that contains two sub-questions, the first sub-question is a Yes/No question of whether there is a closeness with another language or not and the second sub-question is to know what the related language with English in the different language aspects is. An illustration of students' psychotypology of English is presented above.
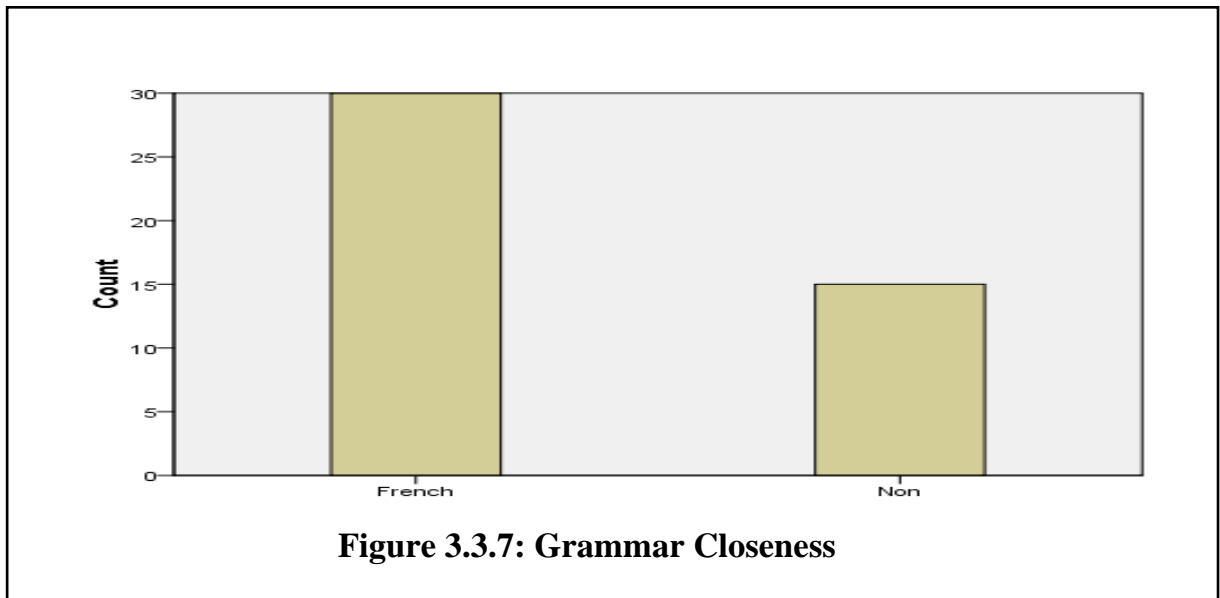
3.3.7.1 Language Closeness

In response to the question of which language is closer to English 49% (22 participants) reported French, 22% (10 participants) claimed German and 29% (13 participants) claimed that there is no language closed to English. An illustration of the student's response to language closeness is presented in figure (3.5) below.

Figure 3.3.6: Language Closeness
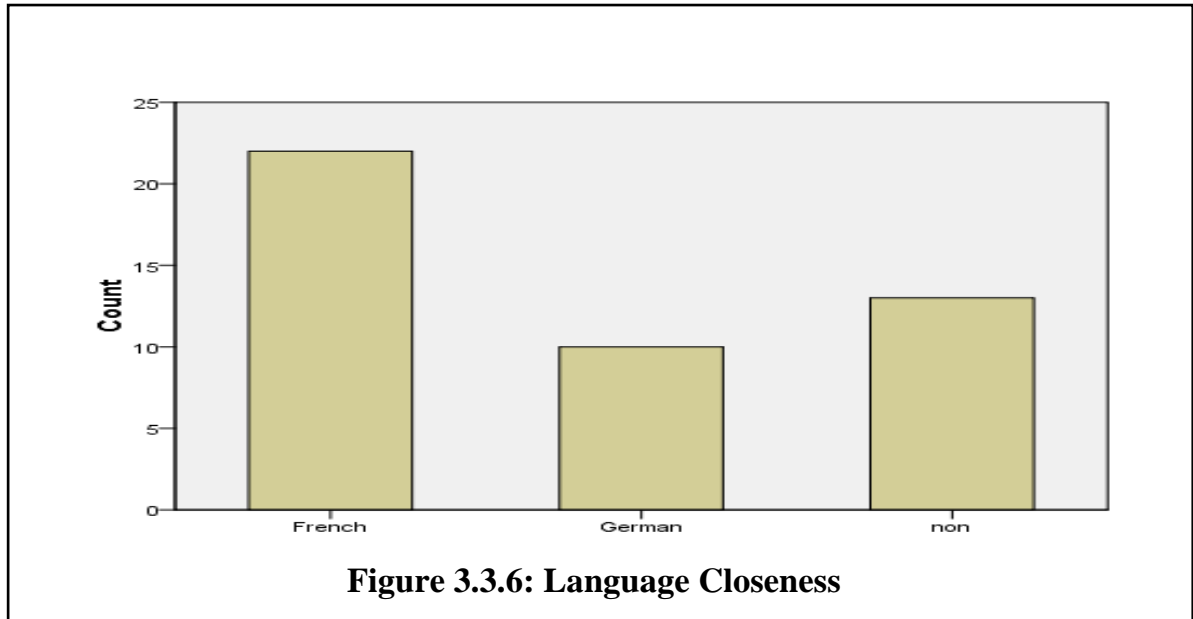
3.3.7.2 Grammar Closeness

Figure (3.6) shows that 67% of the students perceive that French grammar and English grammar are closer to each other while 33% mentioned that EN grammar is not closer to any of the languages they know.

**Figure 3.3.7: Grammar Closeness**

3.3.7.3 Language Closeness in Word Order

58% of the participants claimed that there is a similarity between word order in English and other languages and 42% said that there is no similarity. The languages

having the same word order reported by the participants were French and German of which 53% claimed French and 4% claimed German.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	26	57,8	57,8	57,8
	No	19	42,2	42,2	100,0
	Total	45	100,0	100,0	

Table 3.3.2: language Closeness in Word Order

**Figure 3.3.8: Language Closeness in Word Order**
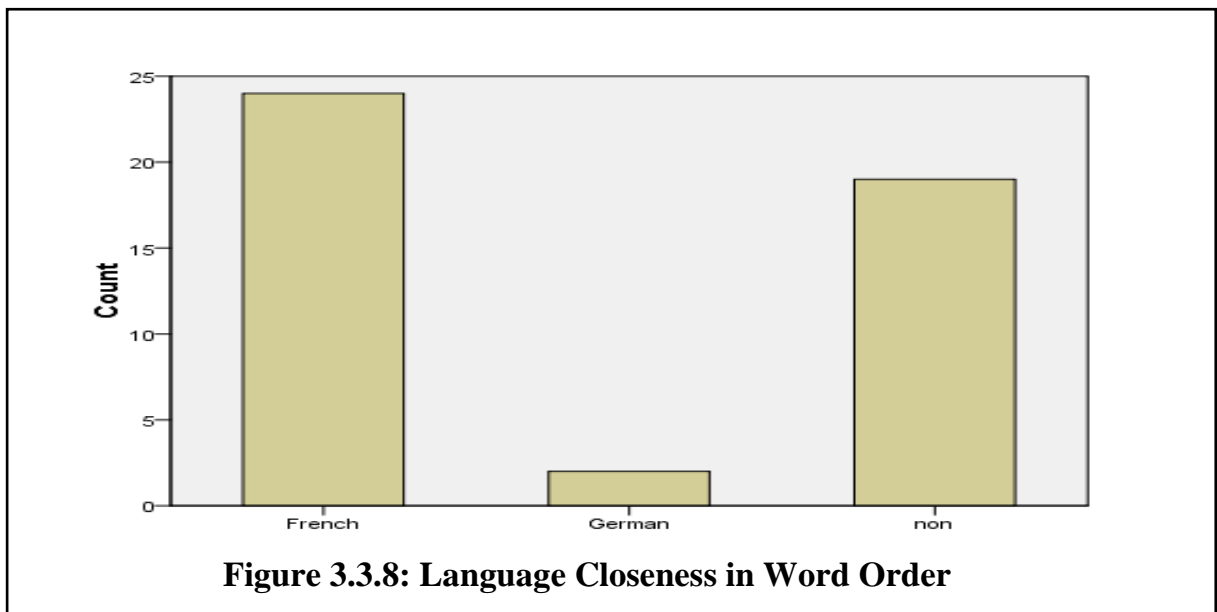
3.3.7.4 Language Closeness in Negative Form

44% of the participants claim that English has the same negative form as French and 56% claimed that there is no language have the same negative form as English.

			Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	44,4	44,4	44,4
	No	25	55,6	55,6	100,0
	Total	45	100,0	100,0	

Table 3.3.3: Percentages of Negative Form Closeness

**Figure 3.3.9: Language Closeness in the Negative Form**
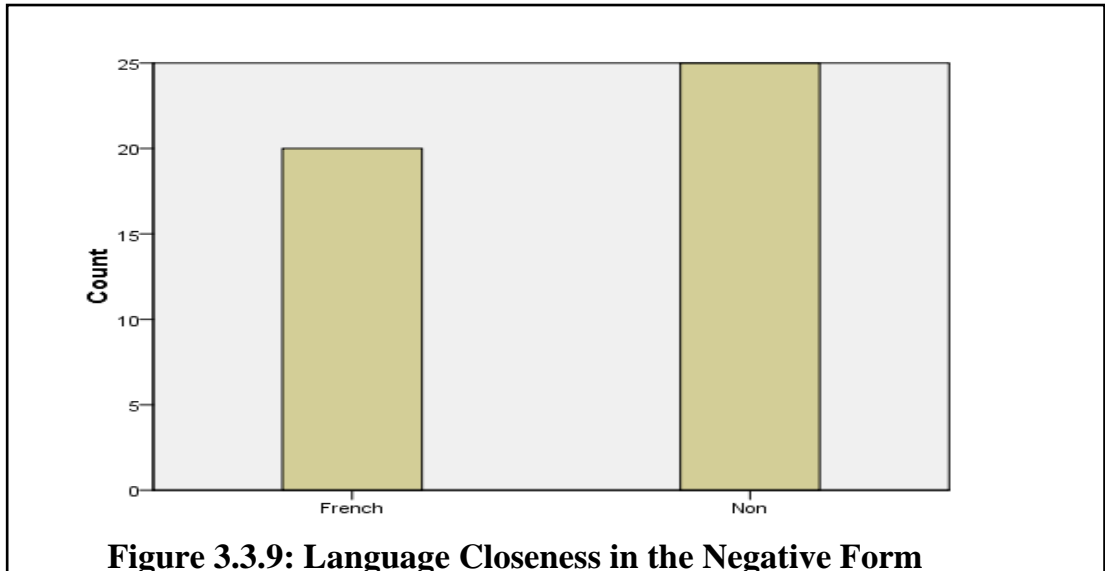
3.3.7.5 Language Closeness in the Adjective Form

In Language closeness in the adjectives, form reveals that 56% perceive English as having the same adjective form as French and 44% mentioned that there is no similarity in adjectives between English and any other language.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	25	55,6	55,6	55,6
	No	20	44,4	44,4	100,0
	Total	45	100,0	100,0	

Table 3.3.4: language Closeness in the Adjective Form

**Figure 3.3.10: Language Closeness in the Adjective Form**
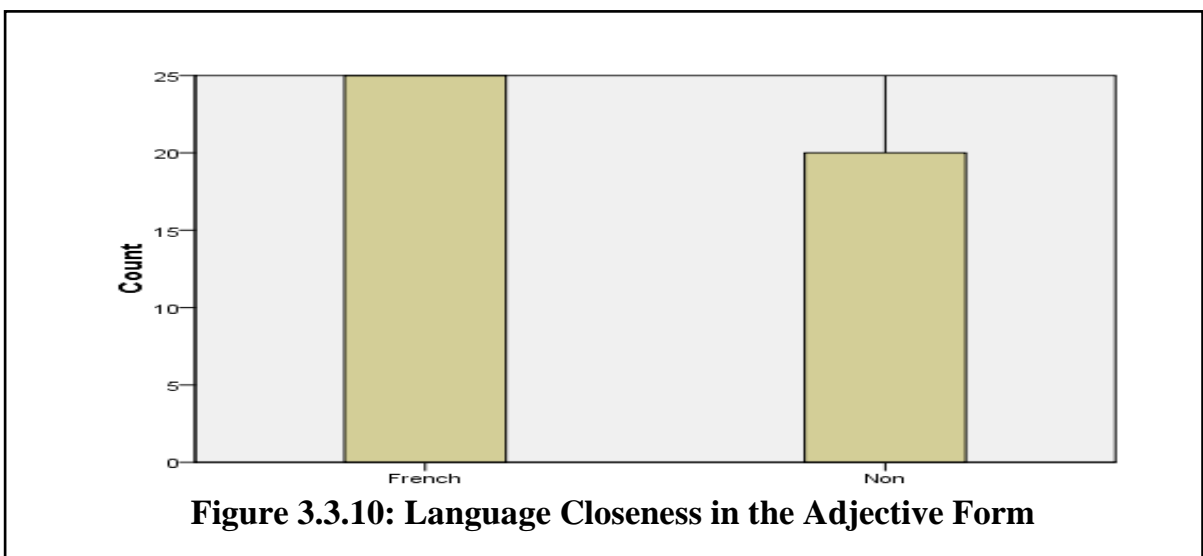
3.3.7.6 Language Closeness in the Adverb Forms

69% (31 participants) think that the adverb form in English has similarities with other languages and 31% (14 participants) claimed that there is no similarity in the adverb form between the languages. The languages mentioned as having the same adverb form as English were MSA and French where 33 % mentioned MSA and 36% mentioned FR.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	68,9	68,9	68,9
	No	14	31,1	31,1	100,0
	Total	45	100,0	100,0	

Table 3.3.5 Language Closeness in Adverb Form

Figure 3.3.11 Language Closeness in the Adverb Form
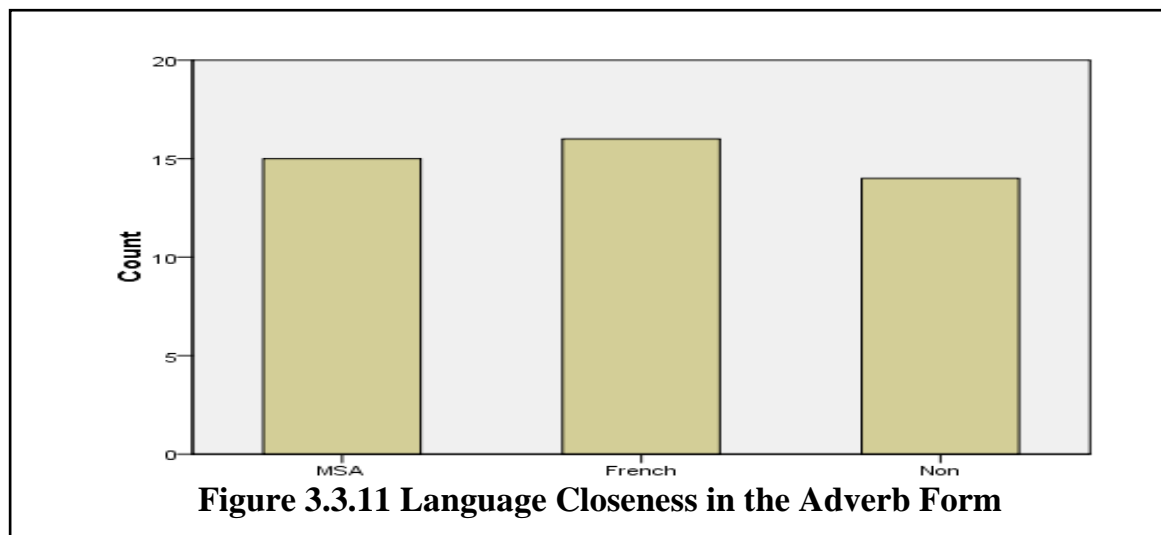
3.3.7.7 Language Closeness in Phonetic

In the question about language closeness in the phonetic aspect, all the participants mentioned that no language is closer to English in its phonetic system and all of them reported a language distance between EN and their other languages.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non	45	100,0	100,0	100,0

Table 3.3.6 Language Closeness in Phonetic

3.3.7.8 Language Closeness in Vocabulary

Figure (3.11) below illustrates that 49% of the participants perceive EN and Fr as related languages in vocabulary and 9% perceive this closeness between EN and MSA and 42% believe that no language is closer to EN vocabulary.
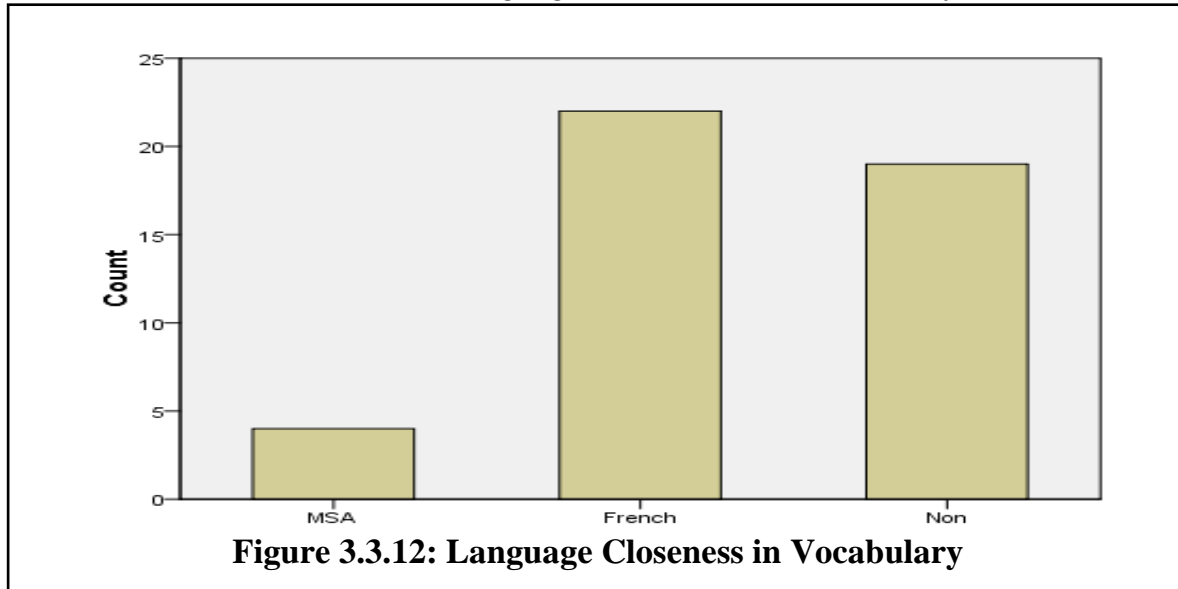

Figure 3.3.12: Language Closeness in Vocabulary

3.3.7.9 Morphological Closeness

All the participants reported that En and Fr are related languages morphologically

|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	French	45	100,0	100,0	100,0

Table 3.3.7: Language Closeness in Morphology

3.3.8 Language Translation

This part of the questionnaire aims at knowing the translation process and methods used by the participants.

Figure 3.3.13: Word Translation
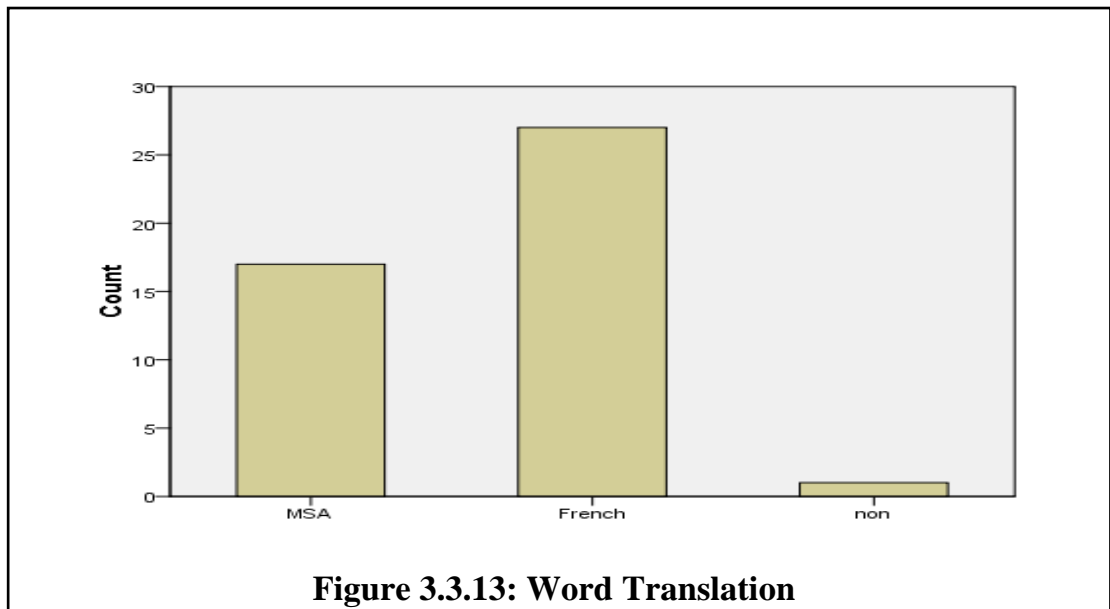
Looking at figure (3.12), it is apparent that participants have a variety of choices in translating to English, 38% (17 participants) transfer words from Ar to En and 60% translate words from Fr to En when only 2% (1 participant) don't translate.

3.3.8.1 Sentence Translation

Figure 3.3.14: Sentence Translation
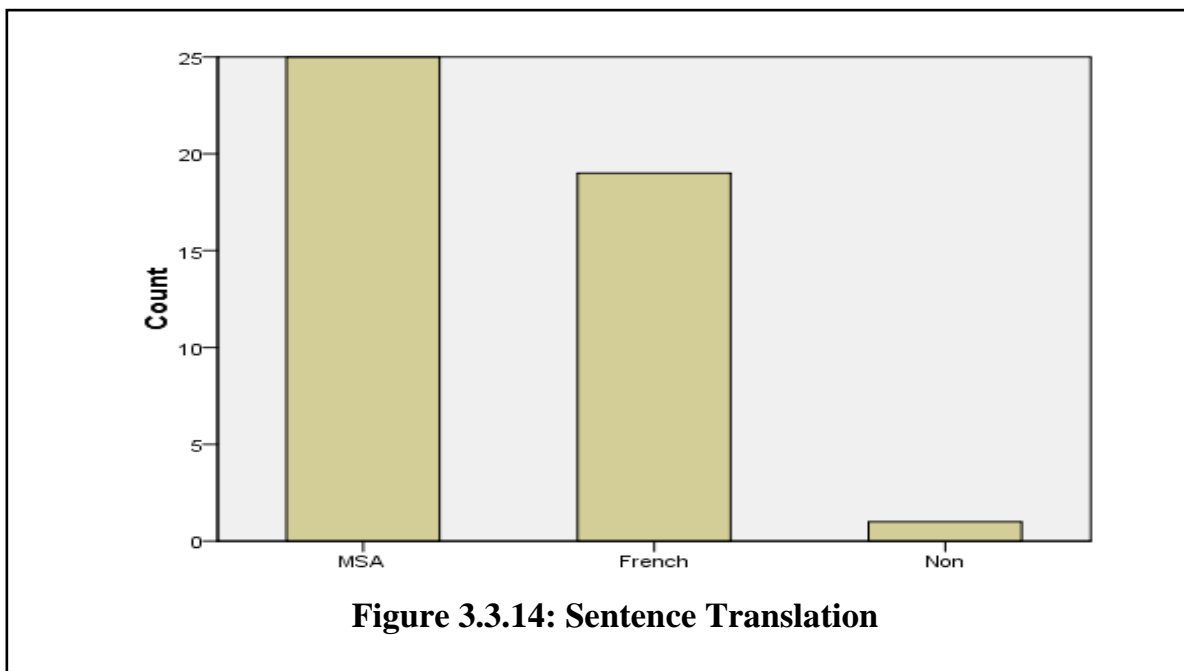
56% of the participants reported that they translate sentences from Arabic to English in their writing process, 42% of the students translate sentences from French to English and 2% don't translate sentences to English.

3.3.9 Thinking Process

56% of the participants reported that they think in Arabic while writing in English and 44% think in French while writing in English.
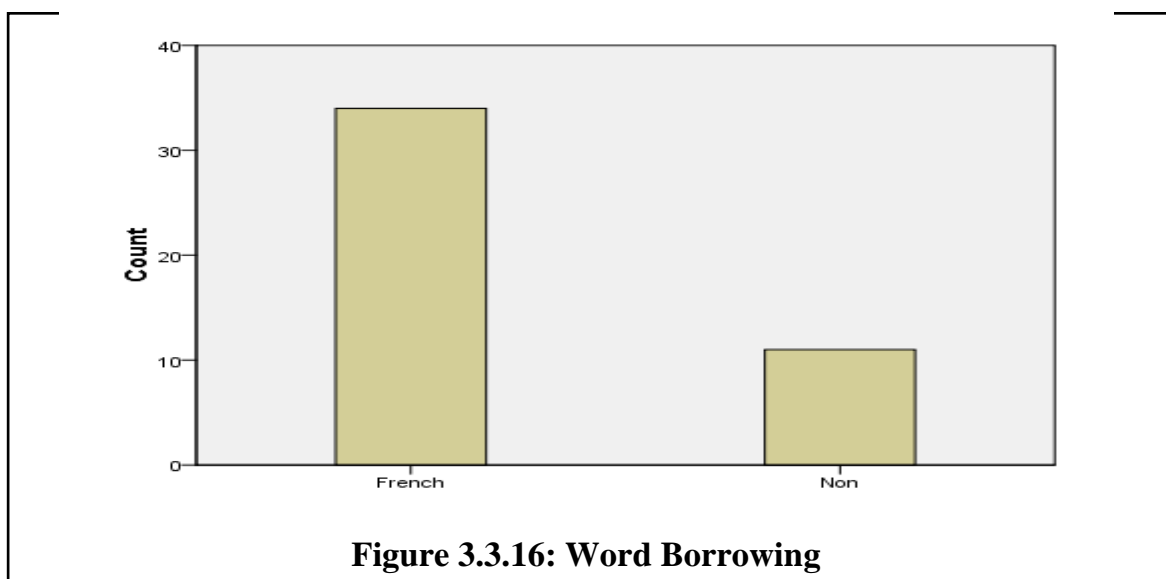

Figure 3.3.15: Thinking Languages
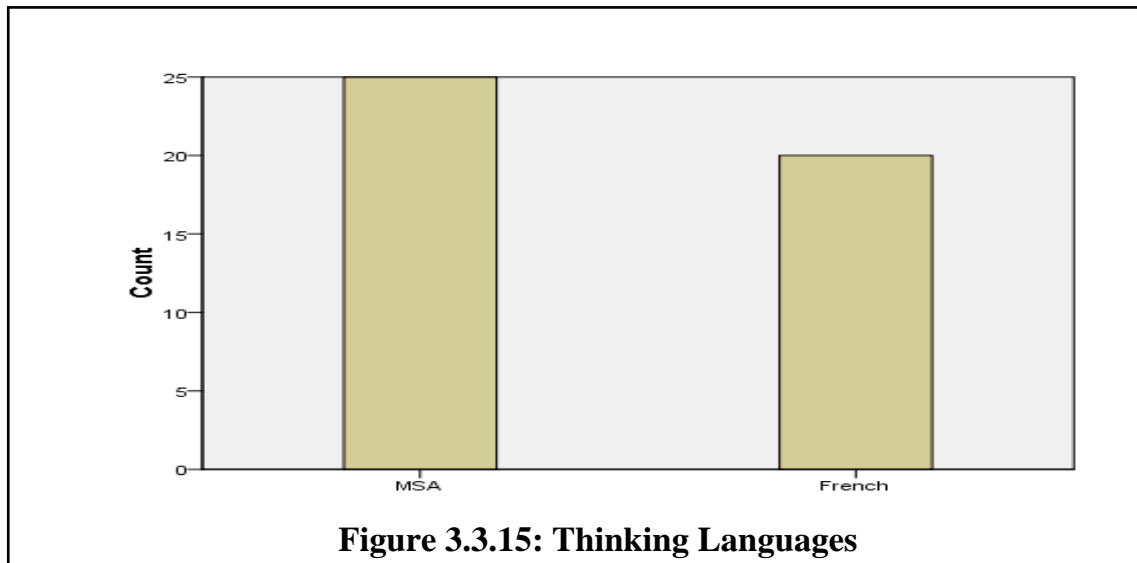
3.3.10 Borrowings

76% use Fr to fill a gap in an English word and 24% don't use this technique at all.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	34	75,6	75,6	75,6
	No	11	24,4	24,4	100,0
	Total	45	100,0	100,0	

Table 3.3.8: Borrowings

Figure 3.3.16: Word Borrowing

Conclusion

This study set out to investigate the source of language transfer for multilingual learners. As to answer the research questions of this investigation, it is necessary to know the participants' perceptions of the languages they know and how they perceive each language in terms of relatedness or distance.

The language history questionnaire enabled us to know the linguistic use and exposure to the participants' languages and how they perceive the typological closeness between the languages. The following important insights were the results of this questionnaire:

- ➢ The most used language for the participants is AA.
- ➢ The least used language is Fr.
- ➢ The majority of the participants perceive that Fr is the closed language to En among all the languages they know.
- ➢ There are differences in the perception of language closeness in the different linguistic aspects.
    - In grammar, French grammar is perceived to be close to English grammar.
    - In word order, the majority of the participants perceive a relatedness between Fr and En.
    - In the adjectives form, Fr is the closed language to En.
    - For the adverb form in En some perceive that it is closer to Fr and others perceive it closer to En.
    - In the negative form, all the students claimed no relatedness to the other languages.
    - No approximate languages with En in Phonetics.
    - In vocabulary, the majority of the participants think that En shares some vocabulary with EN while in morphology they all perceived it as a closed language to Fr.
- ➢ In the translation process, the majority tend to translate words to French while over half of the participants tend to translate whole sentences from Ar while writing in En.
- ➢ The majority of the participants reported that they think in Ar while writing in En.

➢ In filling the gap of unknown English words all the participants write them in Fr instead.

Chapter Four: Discussion of the Results

Introduction

The fourth chapter offers a discussion of the results found in the present study. It discusses the findings yielded from the three research instruments in a correlational way. The chapter discusses the participants' multilinguality as a key aspect of the study and attempts to answer all the research questions concerning the CLI phenomenon. It starts with discussing the age variable as an intriguing research aspect of the study later it discusses the CLI instances at both the lexical and syntactic levels that emerged from the participants' written production. Finally, it discusses the CLI affective variables examined in this research distinctly.

4.1 Participants' Multilinguality

As the aim of this study is to gain a greater understanding of CLI as a linguistic phenomenon in multilingualism and for multilingual learners who already acquired more than two languages, this thesis focuses on the participants' written production through the analysis of their lexical and syntactic errors. More specifically, the study has investigated the major predictors of the source language of transfer that previous research had found to affect multilingual written production. This investigation involved a mixed research method that required both qualitative and quantitative base. Data analysis has yielded several findings, that can confirm some previous hypotheses and add knowledge to the field of TLA. The discussion of the results is presented in an order that answers all the research questions of this study that will discuss the amount of CLI for the participants in general and give an in-depth explanation of the phenomenon in a feasible and coherent order. Moreover, discussing the multilinguality of the sample under investigation is considered a crucial concept to highlight.

The present study confirms that "multilingualism is no longer the exception but the rule" (Sánchez 2019a: 113) may seem uncontroversial. Results yielded by the data analysis reflect the linguistic diversity of the Algerian context both at the individual and the societal levels (i.e., the Algerian context) where there are more

than three languages. Participants mentioned all the languages they use in different contexts such as AA and TAM at home or a family context and MSA, Fr, and En at school. As mentioned at the beginning of this research, multilingualism is seen as a separate phenomenon from bilingualism and cannot be seen as an extension of it therefore using the two concepts cannot be interchangeable. Given that one of the main aims of this research is to arrive at a greater understanding of a rigorous and accurate view of the differences in the language acquisition of second and third languages, the results of this research showed that the second language has a great impact on the acquisition of L3 and is considered as one of the main factors of CLI. Most of the lexical transfers were found to derive from L2 Fr as the participants' second language which students used as a source to build new knowledge or to fill a gap in the target language En. This result can be consistent with Cummins' (1981) linguistic interdependence hypothesis for the transferability of literacy skills from the L1, and it reinforces the role played by the previously acquired languages in multilingualism and how their previous linguistic experience influences L3 acquisition. Jessner (1999) pinpoints the advantages gained from contact with several languages and argues that such contact has "catalytic effects" (p. 203) on the learning of an L3 that will enable the learners from developing their cultural awareness and their communicative skills in addition to its cognitive benefits. Bilingualism was thought to have a detrimental effect on multilingual language development, some studies have claimed that both active and passive bilingualism seems to contribute positively to the acquisition of a subsequent language, which is the case of the present study where L2 Fr that is considered as a passive language in comparison to all the acquired languages impacts the production of L3 En.

4.2 Age of Acquisition

Less work has been carried out to specifically examine the complex ways in which age and additional language acquisition relate to each other. Though age is not a variable that is investigated in this research, it is important to know at what age the participants acquired their languages. There is a difference in the age acquisition of the participants, for instance, MSA and Fr have been acquired at an

early age of 4, 5, and some students at 6 years old whereas En as the target language is acquired at 10 and 11 years old. One important fact that needs to be considered when discussing age effects on multilingualism is that such effects differ according to the learning environment. One of the most important results of this research is the different languages used in different contexts as their mother tongue AA is mentioned only in questions about family or they mix between AA and Fr in their family conversations whereas other languages like MSA, Fr, and En are mentioned only in school and academic contexts. This can be explained by the differences in the medium of instruction and everyday used languages.

A distinction needs to be made between formal or instructed acquisition at school, and acquisition in naturalistic settings (Bardel,2019) for instance En as the target language of this research seems to be used only in the school context i.e. it is an instructed acquisition compared with AA and Tam that are acquired in a more naturalistic setting at an early childhood age. Age alone cannot tell the whole story. More precisely, this study has found that input is as important as, or even more so than age not only in terms of amount and frequency but also of type.

Researchers such as De Bot & Jaensch (2015) emphasize the importance of formal instruction because heightened metalinguistic awareness, derived from exposure to literacy in two languages, gives bilingual learners the capacity to focus on form and pay attention to the relevant features in the input. Interestingly, input through exposure at school is neither the only nor the most important source of input into the English language for the students under investigation. However, Participants seem to be engaged in other ways of exposing activities to En such as surfing on the internet and watching TV/radio, reading, and having online conversations in En which can contribute to the acquisition of L3 and help in growing students' vocabulary. The most striking outcome of Participants' language use is that L3 En is mixed with other languages in natural settings such as research and chats as illustrated in the following graphs.

Figure 4.1: Languages Used while Surfing on the Internet

Figure 4.2: Languages Used in Chat
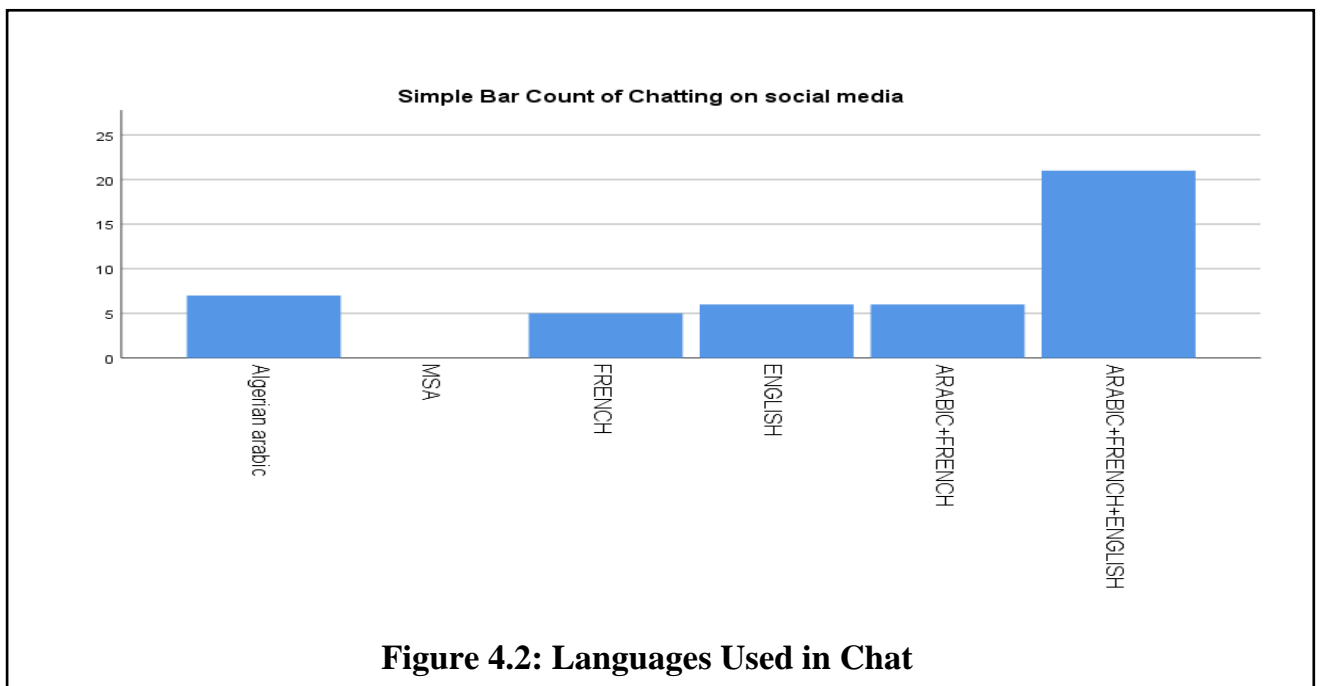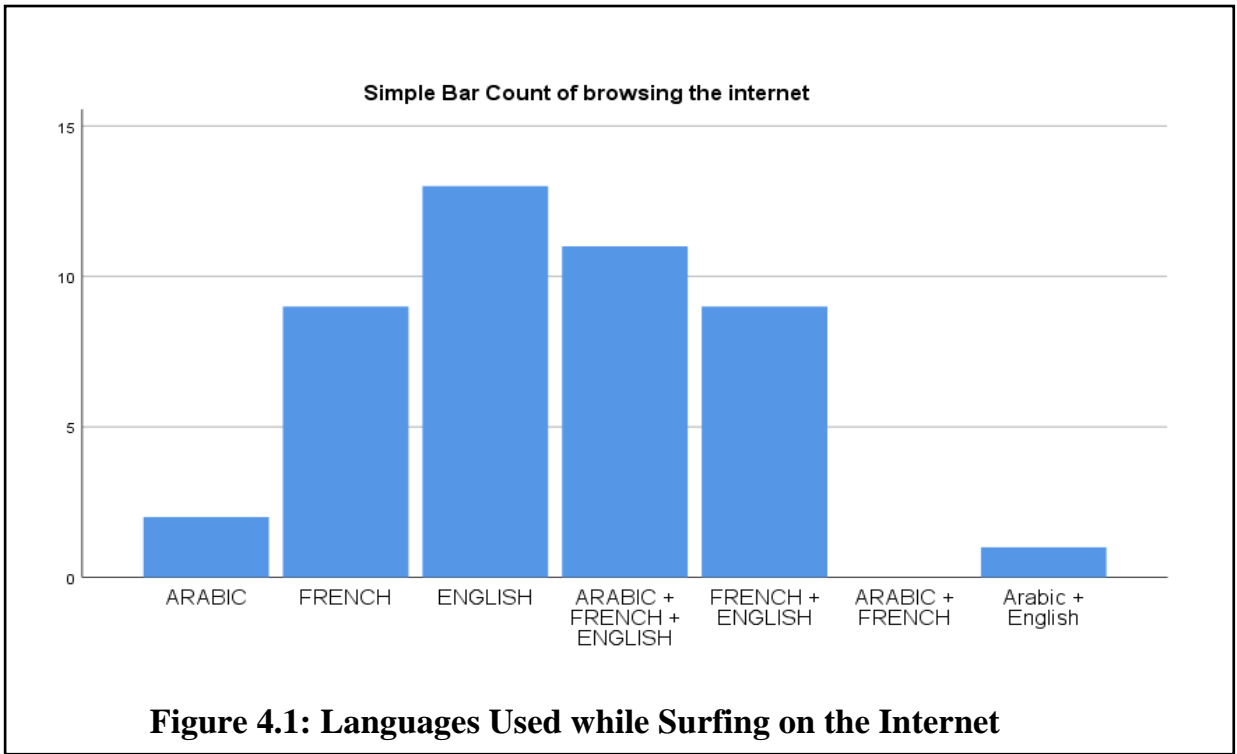
The use of En in surfing on the internet can be explained due to the research the students do as English students for their studies whereas in their chats there is a kind of balance between all the languages, they know in which they may mix AA, Fr or En or they mix between them and MSA is seldom used in their chats.

Though the participants claimed that they use En in both formal and informal contexts they don't identify themselves in En and only 7% of the participants

claimed that En can identify them. Also, En is not considered a prestigious language, and MSA and Fr are seen as more prestigious languages than En.

4.3 CLI in the Present Study

Three main parts of the discussion are presented in the next sections of this chapter. First, it discusses the difference between lexical and syntactic transfer considering the differences in the source language of transfer for each aspect. Second, theoretical implications for models of syntactical and lexical organization and processing that emerge from the findings are discussed. Finally, the role of each of the affective variables (proficiency, exposure, L1/L2 status, psychotypology, recency) is discussed through a comparative perspective with the findings of previous research in which methodological and theoretical considerations are discussed.

As mentioned in chapter three (section two) concerning the results of the participants' writings, 232 CLI occurrences were identified in the data, which had been obtained from 45 participants. Through the analysis of the data gained from the research instruments used in this study (language history questionnaire, participants' writings, and a language perception questionnaire) it can be said that they have a considerable level varying from intermediate to advanced level in English. The findings of this study show that CLI can be produced by learners at different proficiency levels, though it is much more frequent at low proficiency levels. It is assumed that CLI occurred more in aural production that involves speech rather than in writing (Ringbom, 1987; 2001; De Angelis, 2005; Ecke, 2001).
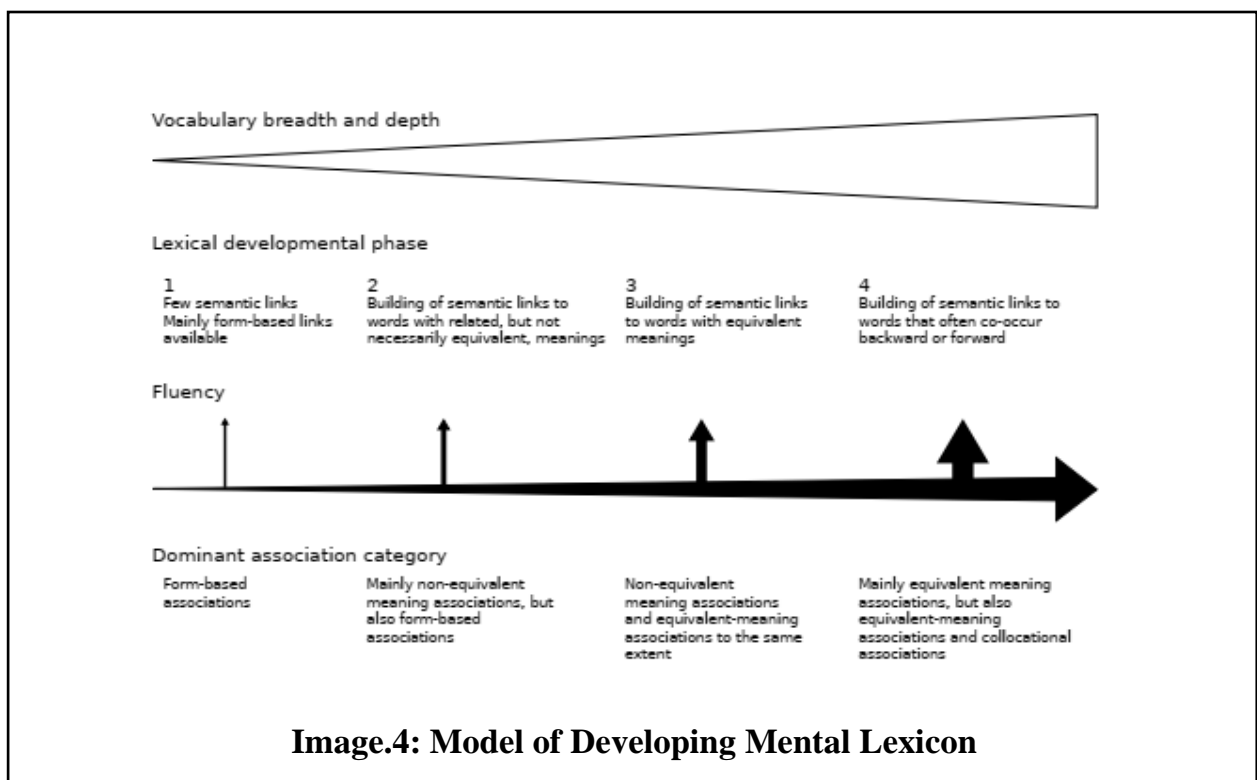
The participants' transferred instances come from all the previous languages such as Fr and MSA in both lexical and syntactic aspects might be explained due to students' access to new words in L3 through L1 or L2 and associating them to the same conceptual features, especially at the lexical level where participants seemed to rely more on Fr than MSA. Conceptual transfer can be originated from an individual hypothesis that a used item in L3 may share the same conceptual knowledge and patterns of thought he/she already acquired from another language

(Jarvis, 2007). In this study, results revealed that CLI originated from both conceptual knowledge and processing (Jarvis &Pavlenko, 2008) in which participants may assume or hypothesize that L1 or L2 might work similarly to their L3. In a discussion of linking between the concept and its feature concerning language proficiency, Huffeisen (2005) suggested that proficient learners connect the word to its concept directly without relying on L1 or L2 which leads to errors in the language structure where words may not be equivalent.

Differences between the languages were found and it could be concluded that the association distribution differed according to language status and association category. Form-based associations occurred almost only in the L2 Fr, whereas the proportion of collocational associations in the L1 MSA was very high compared to the L2. The most common association category was of equivalent meaning, while in L3 En, the most common association category was of non-equivalent meaning. Thus, the proportion of equivalent meaning versus non-equivalent meaning associations varies according to language status, a trend that resembles the traditional syntagmatic-paradigmatic shift observed in other word association studies within L1 and L2 research (Ervin & Osgood, 1954). This is what would be predicted by the Revised Hierarchical Model RHM (Kroll & Stewart, 1994), i.e. longer response latencies when associating in a weaker second language since the only way to access semantic information is through the L1. Additionally, with increasing proficiency, learners should be less dependent on L1 conceptual mediation.

Vocabulary breadth and depth categories are interdependent and develop in parallel – growing breadth also leads to growing depth. These steps are not to be viewed as discrete phases but rather as a continuum. The learner starts from building form-based links in the first phase since no or few semantic links are available when a word is unknown. In this step, mostly form-based associations can be performed as the example provided by the RHM (*book - hook*). In the second step, due to increasing vocabulary breadth and depth, the learner starts to create semantic relations between words with related meanings or words that

appear in the same semantic context. Due to a limited vocabulary, few links to words with equivalent meanings, such as synonyms, are available, and therefore associations are mostly of non-equivalent meaning. In the third phase, the number of words known by a learner has increased enough to include connections between words with equivalent meanings and the learner can start to produce associations based on synonymy. In the last phase, learners start to build collocational links to words that normally co-occur backward or forward and the amount of collocational word associations increases. The four phases are presented in the image following:

Vocabulary breadth and depth

Lexical developmental phase

| 1 | 2 | 3 | 4 |
| Few semantic links Mainly form-based links available | Building of semantic links to words with related, but not necessarily equivalent, meanings | Building of semantic links to words with equivalent meanings | Building of semantic links to words that often co-occur backward or forward |

Fluency

Dominant association category

| Form-based associations | Mainly non-equivalent meaning associations, but also form-based associations | Non-equivalent meaning associations and equivalent-meaning associations to the same extent | Mainly equivalent meaning associations, but also equivalent-meaning associations and collocational associations |

Image.4: Model of Developing Mental Lexicon

In the present study, participants used words in Fr as being equivalent to En words in spelling and MSA in some syntactical structures. At this level, we cannotassume which is the most effective factor of CLI in this study whether proficiency, exposure, recency, or L1/l2 status. It can only be justified that multilingual learners have specific features that distinguish them from bilinguals and monolinguals where any of the previous languages can be activated. The activation of one of the previous languages supports the multilingual processing models such as Cook's multicompetence model (1991, 2002, 2003, 2008). Thus, multilingual learners cannot separate their languages and cannot behave as

monolinguals with multiple languages. L1 and L2 always exert themselves as a source of influence on the TL. The only difference is in the degree each of these languages imposes itself will vary depending on various factors that are examined in this study and will be discussed in the coming sections of this chapter.

Results in the present study of the mental lexicon of multilingual speakers point in the direction that lexical representations, access, and development proceed similarly in all languages known by a trilingual language user and that the L1 is not qualitatively different from non-native languages. Differences in association behaviour (i.e., the proportion of associations in the different categories) and the speed with which associations are produced are best explained by proficiency and fluency, i.e. by the fact that languages have reached different phases in their overall and lexical development. Results also favour non-selective access and coactivation of all languages during processing. A long-term semantic priming effect was found between L3 and L2 that proved that, during L3En lexical access, the L2 Fr was activated. This does not exclude the possibility that the corresponding L1 semantic and lexical representations were also active which is reflected in the students' errors.

4.4 Lexical Transfer

Results from the analysed written productions reveal that the amount of lexical transfer is higher than the amount of syntactic transfer. According to Gabrys-Barker (2006), this can be explained as not having acquired a TL lexical item, which might be due to insufficient access to input, or inability to access it at the moment of performance. It is also assumed that the difference in the amount of lexis and syntax is due to the input the participants had and their proficiency level.

To discuss the input, the participants had, it is important to know the pedagogy used in teaching the English language. The Algerian educational system uses a competency-based approach in teaching and learning that aims at developing learners' cultural and methodological competencies and promoting learners' autonomy however, teaching grammar is considered a major aspect to focus on in teaching languages, particularly in foreign languages. Grammatical improvement

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in an educational context can help in reducing grammatical errors conversely, teaching grammar should be done through contexts that will help learners perceive the structure of the language effectively. Teaching and learning a language through its context is something missing in the English language syllabus. Another point to shed light on in teaching through the language context is the interaction in a social context, learners tend to be helped and scaffolded by teachers. The equivalent formation can lead learners to erroneous structures (negative transfer) and Learners' ignorance of a certain form or structure.

In lexical transfer it is apparent that the source language of transfer was Fr to a greater extent, this does not deny the existence of some MSA instances that appeared more at the semantic level. The occurrence of Fr transferred items in lexis may be explained by the language typology or by participants' perceptions of the language closeness i.e. psychotypology, where they fill a gap with a language that is typologically more related rather than MSA that is perceived to be a typologically more distant language. (Lindqvist, 2010) and (Jarvis, 2009)

Negative transfer in this study occurred in all the components of a lexical item, i.e. form, meaning, and usage. This confirms Hall &Ecke's (2003) parasitic Model, which states that in L3 vocabulary acquisition learners connect the new words with existing representations whenever they can detect any kind of similarity; at any of the three representational levels, i.e at the form level at the syntactic level and the meaning or conceptual level. The amount of connection depends on different factors such as learning factors or language factors. Each of the three levels is discussed in the following section to explain the source language of transfer at each level.

4.5 Word Form CLI

In word form, CLI's four major categories have been analysed in this study for the sake of knowing which of the previous languages is the source of transfer. Eighty-two transferred items were found in the word form transfer in the participants' writings. In the substitution category, nineteen transferred items were found eighteen of them were from Fr while only one instance was in MSA which

is the word 'Insha'Allah'. In the relexification category, eleven erroneous items were found and all of them were found to derive from L2 Fr. For the orthographic category forty-two transferred items have been found among its different subcategories such as capitalization, compound words, silent letters, one and double letter mistakes.

In the orthographic subcategories as capitalization, it is assumed that participants followed an MSA structure that does not have the capitalization concept, and all letters are written at the same distance. Errors in capitalization were found in the writing of proper names as in 'dubai' 'setif' 'lily' and in languages like 'english', all these words should be written with capital letters. This assumption can be extended to spelling errors and writing of the compound noun most of them were written separately instead of being linked. In MSA compound words are written as two separate words; therefore, it can be suggested that there is an influence in the spelling of compound words from MSA. Instances like 'grand mother', 'some thing' 'my self' have been found in the participants' writings. Errors in the spelling of silent letters and double letters are features of Latin languages that are shared among EN and Fr but the errors that occurred in the participants' writings may be due to some convictions from MSA that كل منطوق مكتوبwhich means all that is pronounced is written that cannot be applied to En or Fr that have letters that are written and not pronounced. Silent letters and double letters can be considered errors that even native speakers commit but it is also referred to as a lack of knowledge of the form and structure of a lexical item. Some silent and double letter errors made by the participants are 'wether', 'wile', 'stomac' 'succed', 'wory'.

In Morphological transfer, one instance of the uncountable noun was found which is the word 'information' where participants applied a plural rule on an uncountable word and added an 's' at the end it can be said that transfer occurred from either Fr that have the same word in a plural form or from MSA were participants directly translated the word from MSA to En. In adverb forms, it was

apparent that the errors were directly transferred from MSA to En which has led to errors in the form of adverbs such as in 'afraidly', 'snowly','actionly'

CLI in word form in this study occurred from both native and non-native languages; in other words, the transfer occurred from both languages MSA and Fr. The selection of the source language of transfer might depend on the typological factor that explains the great amount of transfer word form in general and in substitutions and relexifications in particular. The findings seem to support Ringbom's (1987) study of English learners with Finnish and Swedish languages where Swedish was the source of language transfer because it shares a lot of similarities with English. In the same vein, Ortega (2008) and Ortega & Celaya (2013) point to the direction of the typological factor in their studies as one of the main factors that determined the source of language transfer of CLI. In the same line, Cenoz's (1997, 2001,2005) studies found that speakers of Basque and Spanish borrow more lexical items from Spanish than from Basque in their productions of L3 English which was explained as being due to certain typological similarities. Ecke's (2001) study also has shown that in the area of lexis, the L2 can have a higher influence than the L1 on L3 production. Learners automatically activate their L2 form when they fail to call an L3 word. This choice can be explained in terms of 'language distance'. In this study, most of the lexical transferred items were from Fr a language that shares a lot of typological similarities with En rather than MSA which is a typologically distant language. Learners form a kind of "equivalence hypothesis" in which they learn words that are lexically equivalent from an approximate typological language. This enables them to learn the new language without having to go back and learn how to categorise the word again.

However, scholars, like Ringbom (2007) asserted that the native-Language vocabulary has a greater influence on the language recently acquired than the L2 vocabulary in which some semantic properties and conceptual content from L1 used by learners are not modified when learning another language. According to Ringbom's (2007) assumption, in this study, the influence of MSA as a native language is greater than Fr as a second language meaning-making. This is what

may confirm the transferred items found in some orthographic errors that are influenced by MSA their L1.

4.6 Word Meaning Transfer

This investigation examines CLI at all the lexical representational levels where a transfer can occur from all the background languages. Contrary to form transfer, where most of the transferred items were influenced by L2 Fr, the semantic transfer was highly influenced by participants' L1 MSA. Semantic or meaning transfer examined in this study includes the types described by Ringbom (1987, 2001) i.e, semantic extension, which are cases in which polysemy is represented in different ways in the languages involved, and calque or loan translations, which refer to directly translated compound words, idioms, and fixed expressions. Scholars conclude that word meaning transfer tends to occur in studies where the participants involved know at least two previous languages that are typologically different in which transfer of form is more likely to appear when the languages involved are closely related as in this study L2 Fr and L3 En while the transfer of meaning might more often occur when the languages are typologically distant as the case of L1 MSA and L3 En. Jarvis &Pavlenko (2008) pointed out that learners tend to assume that any two languages are semantically similar unless they become aware of the differences.

Ringbom's studies (1987,2001) of lexical transfer errors produced by Finnish and Swedish speakers are indeed in this direction. The author found that their semantic errors reflected the influence of the students' L1. This led him to conclude that when a meaning transfer occurs, it is the result of L1 influence. Ringbom (2001) pinpointed that there is "a gradual progress from the organization by form to an organization by meaning as the learners' L3 proficiency develops" (p.65). Transfer of meaning seems to develop at a later proficiency level than form transfer. The proficiency factor will be discussed in section (4.10.1) below.

Jarvis &Pavlenko (2008) explained the transfer of meaning as "because L1 meanings tend to underlie L2 words until the learner has become highly proficient in the L2" (p.78). Proficiency in the source of transfer was also discussed by

Lindqvist (2010) in her study with (L1 Swedish, L2 English, and L3 French) who confirmed that only the languages in which the learners are highly proficient were the source of meaning-based transfer. In the same direction, Cenoz (2001) suggest that with L1 Basque, L2 Spanish, L3 English, and L1 Spanish, L2 Basque, and L3 English, the meaning transfer occurred from the highly proficient languages regardless of their typological similarities.

Ringbom (2005) added that semantic transfer can originate from the L2 if the learner has a high proficiency in this language, therefore, transfer of meaning tends to come from a language in which the learner is highly proficient. These findings cannot be confirmed in this study because though participants have a certain proficiency level in Fr as a language that was acquired before En and is an actively used language in their daily life no instances of Fr transfer in the meaning-based transfer were found from Fr.

4.7 Word Use Transfer

In this study, the two subcategories of word use transfer that have been examined are collocations and Functional transfer. As previously discussed in the literature, CLI has other manifestations, such as overproduction, underproduction, positive transfer, avoidance, or lexical word choice. Therefore, the choice of the words might be influenced by one of the background languages in which some L3 words are used depending on the use of L1 or L2 counterparts. Collocations in this study or participants' word choice, reflect L1 MSA lexical preferences in the use of L3 words. Ringbom (1987) and Jarvis and Odlin (2000) also found that L1 can affect the choice of certain words.

Function words have been one of the most extensively researched areas in CLI studies. In the analysis of the functional transfer in this study, only pronoun errors are discussed whereas some functional words such as articles and prepositions are analysed as syntactic errors. The functional transfer is a type of transfer where the division between lexical and syntactic transfer is not as salient as in the previous categories, as function words are also intimately connected to syntax. Many studies reflected that content words and function words do not rely upon the same way of

transfer from native and non-native languages in their production. In section (4.3) of this chapter, it was mentioned that most of the lexical items (content words) were transferred from L2 the typologically closed language to L3. However, function words in this study were derived from L1 as the source of transfer. In Jarvis &Odlin (2000) it was concluded that L1 can affect a person's choice in certain categories of words. In other words, language learners may use certain words in L3 En depending on their use of the L1 MSA counterparts. Poulisse (1999) also concluded that function words are easily transferred, due to their high automatization; that is, they are so automatized that they cannot be easily suppressed when using the TL.

The results of this study seem to be contradicted Williams &Hammerberg's (1998) conclusion that function words are drawn from one of the non-native languages, not from the speakers' L1, thus, in L3 production, L2 status might override the frequency effect associated with high proficiency in the case of function words. The transfer of function words in this study tends to be more from MSA L1 rather than from Fr L2, as in the use of articles, prepositions, and pronouns.

In the case of prepositions Jarvis &Odlin (2000) suggest that L3 production is influenced by L1. Learners tend to use the language patterns they are frequently exposed to (how many times they transfer these words not only their form). The higher the frequency of certain forms in the L1, the higher the chance to be transferred to the learners' L2 or L3. In the present study, erroneous use of prepositions such as 'at, in, on, of…) have been found that it is derived from MSA rather than Fr as in the use of the preposition 'in' in the expression 'in the same time' is transferred from MSA preposition في'and the preposition 'for' in 'write for you' instead of 'to' 'write to you'. And 'famous by' instead of 'famous with' all these instances of the wrong use of prepositions are derived from MSA. These findings agreed with Jarvis &Odlin's (2000) suggestion in explaining the influence of L1's patterns on L3 production.

4.8 Syntactic Transfer

Results of the syntactic transfer in this study were considered lower than lexical transfer in which eighty-four instances of transfer were found in all the categories examined in this transfer type. The categories examined in the syntactic analysis were the use of articles, prepositions, subject-verb agreement, and verb forms. The results of this study mirror those of previous studies that have examined syntactic transfer. Most of the CLI studies investigated syntactic transfer focused on the source language of transfer, as well as examined the initial state of L3 to try to understand the adult learners' access to UG. According to Garcia Mayo (2012), the "partial access" approach posits that adult L3 learners are only able to transfer syntactic features from L1 on the other hand, the "full access" approach claims that as L2 learners can learn new features, both L1 and L2 transfer are plausible. The syntactic transfer in this study is from students' both languages MSA and Fr however MSA influence is greater than Fr in the transfer of certain syntactic transfer as articles and prepositions. It can be said that students have partial access to En production in general.

Though the participants of this study are familiar with the grammatical rules of English they may produce grammatical mistakes in L3 as found in the subject-verb agreement in which most of the errors were in the third person 's'. The results of this study support tRingbom's (2001)research which concluded that grammatical influence seems to arise more commonly from the L1 than from the L2 as in the use of articles and prepositions that are influenced by MSA L1 more than Fr L2. Similarly, Sanchez (2011) found that the source of transfer from L1 is the foreign language effect. He further added that the source of influence might also depend on the main factors of CLI such as exposure, recency proficiency, and input. However, the possibility of transferring grammatical structures from the L2 cannot be denied (Kellerman,1983).

Two main models mentioned in the literature review chapter (section 1 p. 30 and p.33) have been put forward to explain the role of previously acquired languages: The Cumulative Enhancement Modal (CEM) introduced by Flynn,

Foley, and Vinnitskaya (2004) and Typological Primacy Model (TPM) by Rothman (2010, 2011,2015) both the CEM and TPM account for the possibility of transferring from all the prior languages. The CEM argues that transfer from prior languages facilitates the acquisition of L3, it is argued that typological similarities between languages do not play any role in the transfer process. On the other hand, Rothman acknowledged that the selection of L1 or L2 as a source of transfer of grammatical system will be determined by the similarity between them. Therefore, though the greater influence of MSA on the syntactic patterns the possibility of transferring from L2 Fr cannot be denied. CEM modal explains why students tend to transfer from both MSA and Fr. On the other hand, the typological similarity discussed by Rothman's studies can explain the influence of Fr on some En production due to their typological closeness.

4.9 Use of Articles

Article use differs among languages, and this can pose problems when acquiring any language as in the case of the present study in which participants' previous languages and English have different article systems. The acquisition of English articles is considered a subtle and complex phenomenon that hinders the syntactic production of the learners. In the present study, participants used articles inappropriately; definite instead of indefinite, or they omit an article in a context where they should use one and vice versa. The differences between L1, L2, and Ln lead participants to use articles inappropriately, as they assume that the Ln article system works in the same way as in their previous languages, particularly their L1.

The participants' deviant structures in the use of articles seem to depend mostly on their MSA, and in some cases, Fr. The errors in the use of articles can be justified by the lack of competency in the acquisition of the semantic properties of the articles in En language as well as the influence of the semantic perception from the previous languages. In other words, participants' psychotypologies are shaped by the fact that all the previous languages might share the same semantic properties in the use of certain words such as function words (articles). Participants in this study reported that in their writings they think in MSA which leads to the

assumption that their cognition is based on an MSA structure that is later translated into English words keeping the same denotative meaning. In agreement with the results of this study, Ringbom (1987) showed that L1 Finnish learners of English were more likely to omit English articles than L1 Swedish learners showing the influence of L1 in the use of articles.

Two main syntactic access models in multilingualism explain the CLI in grammatical features, The Scalpel Model (Slabakova, 2016) and the Linguistic Proximity Model (Westergaard, et.al, 2016). Slabakova (2016) argued that the acquisition of Ln develops property by property and feature by feature and claimed that CLI may not only be due to L1 or L2 transfer but other factors can interfere and prevent the acquisition of certain properties such as the availability of clear unambiguous input, prevalent use, and structural linguistic complexity and others. No obvious input or formal instruction that can help learners to acquire the semantic properties of articles can be given to raise their linguistic awareness about some structural linguistic properties. In the same line with Slabakova (2016) CLI in the use of articles from the previous languages was not facilitative, and it influenced the participants' production negatively as in the following examples: *not to talk to the strangers. I'm English student*

In the same direction, Westergaard (2016) assumed that CLI occurs when there is no sufficient Ln input and the learners mistakenly assume that a certain Ln property is shared with the previous languages and leads the learner to make erroneous predictions. In this connection, Westergaard (2016) mentioned that "Crosslinguistic influence occurs when a particular linguistic property in the L*n* input reveals the abstract structural similarity with linguistic properties of the previously learned languages." (Ibid).

Errors in the use of articles in Ln might decrease when learners' proficiency increases and a native-like control on some linguistic properties are developed. Another hypothesis is that extensive exposure to Ln may reduce errors in the use of such features. Another property that shows the difficulty in the production of Ln is the transfer of prepositions which is discussed in the following section.

4.10 Use of Prepositions

The results of this study show that the participants have persistent difficulty in the use of prepositions. In the participants' writings, thirty-one errors in the use of prepositions have been found where prepositions such as 'to, in, on' have been used incorrectly in instances such as:

We find each other in facebook

Near of their home,

I decide to write for you.

Using the comparative translation analysis enabled us to find that most cases in the transfer of prepositions involve the prepositions "for, from, in". Findings show that MSA was the sole source of transfer in the use of prepositions. Jarvis & Odlin's (2000) results revealed that L3 production is influenced by L1 prepositions patterns.

Considering these findings, it can be hypothesized that any property of the steady-state system of any known language can potentially be transferred to the language that is being currently learned or used and the effects of cross-linguistic influence can be either positive or negative

4.11 Subject Verb Agreement

Subject-verb agreement is a particular linguistic form in English. Although it may seem easy if compared to other languages, it has proved to be difficult, mainly for adult learners. Verb inflexions such as simple present third-person singular have been regarded as a later acquired form. Some difficulty may come from previous languages. An analysis of the written samples has revealed how negative transfer in the participants' use of the subject-verb agreement in the simple present of third language singular. Michot (2014) pointed out that, the acquisition of the subject-verb agreement in third-person singular vs. plural) is a difficult morphosyntactic phenomenon for L2 learners even at advanced levels in which learners continue to make agreement errors as found in this study:

'he think a little bit' and

'he accept the suggestion'

'it help me a lot'.

The research found that the difficulties in the acquisition of subject-verb agreement are due to two main factors that are usually discussed and explain these difficulties. The first factor is the complexity of the agreement system itself. In which there are different agreement patterns as in regular vs. irregular verbs and/or single words that refer to the plural form. The second factor is the learners' exposure to the target language in which learners who are exposed to more input will produce a more correct subject-verb agreement. However, to the best of our knowledge, the influence of L1 and L2 on the production of subject-verb agreement in L3 has rarely been investigated systematically. The syntactic representation of different languages may be integrated into the mind of the speaker and the use of one language activates another, which may lead to the influence of the structure of one linguistic system in the structure of another during production and comprehension.

4.12 The Role of The Affective Factors of CLI

This section aims at highlighting the role the main factors mentioned in the literature have in this study. The main factors of CLI will be discussed in terms of how they affect the results of this investigation in comparison to previous studies mentioned in the literature. Each factor is discussed concerning how it affects the participants' written production at the lexical and syntactic levels which illustrates how it operates at each level differently.

4.12.1 Proficiency

As for proficiency in the L3, it was expected that the higher the level of proficiency in the L3 the lower the degree of influence of any of the previously known languages. Participants in the present study reported an approximate proficiency level between Fr and En as it is illustrated in the table (3.11 p.143). For the majority their proficiency was higher in En than Fr, e.g. S1 has (0.75) in

En and (0.12) in Fr while all the participants reported high proficiency in MSA. Sp and Ger were languages learned after En but no instances of transfer were found in any of these languages. Surprisingly, the participants did not mention AA at all in their proficiency self-assessment.

The results of the participants' self-assessment on proficiency point towards high proficiency in a source language leading to larger amounts of transfer from that language, mainly MSA, seem to strongly support the results found by Ringbom (1987, 2001) and Lindqvist (2010). Most of the studies in CLI examine proficiency concerning other factors such as typology and L2 status; in the present study, each factor was examined in isolation from the others. The findings of this study confirm that high language proficiency is the source of transfer regardless of the other influencing factors such as recency, typology, or L2 status.

Consistent with the literature, this research found that participants tend to transfer more from the more proficient language in the morphosyntactic and semantic level where MSA was the sole source of transfer. These findings broadly support the work of Ecke& Hall's (2013) study that claims the influence of the L1 most proficient language. One anticipated finding was that at the word form transfer, the influence of the low proficiency Fr was determined. These findings are somewhat surprising given the fact that other research shows the influence only from the more proficient languages. Participants in this study tend to write words in Fr while reporting a low proficiency in this language. This outcome is contrary to that of Trembly's (2004) and Ortega & Celaya's (2013) studies. A possible explanation for this might be that proficiency has no influential role in the word formation in En but other factors such as L2 status and language typology might affect the production of En and lead participants to transfer from one of the previous languages that are typologically closed to their Ln.

A relationship between proficiency and transfer would probably be more easily found in a sample that had learners with a wider range of proficiency levels in all the previously known languages, particularly L2. More research is needed with

participants who have reached higher levels in the TL to fully understand proficiency effects.

In this respect, previous studies such as Sánchez (2011) and Sánchez &Bardel (2017) concentrated primarily on low and (to a somewhat lesser extent) intermediate L2 proficiency levels, and both identified the achievement of intermediate proficiency in the source language of influence. Additionally, based on the assumption that language transfer occurred primarily at lower L2 proficiency levels, Sánchez (2011) concluded that a high proficiency level in the source language of transfer may not be a prerequisite for CLI to occur, thereby lending support to theoretical claims in previous studies (De Angelis & Selinker 2001; De Angelis 2007; Ringbom 2007; Sánchez 2012). The finding was later confirmed by Sánchez & Bardel (2017), who found that a low overall proficiency in the source language of transfer tends to exert a powerful impact on the L3.

To explain the relationship between low L2 proficiency and the extent of interlanguage transfer, an argument that has been cited is that shortcomings in L2 proficiency may cause a failure to inhibit unintended language activation of the L2 actively and effectively during L3 processing and production and, consequently, may lead to a higher level of transfer from this language.

4.12.2 Recency

Three different definitions of recency are generally considered: (1) the most recently acquired language (Jarvis & Pavlenko, 2008), (2) the most recently used language (Gabrys-Barker,2012; Szubko-Sitarek, 2015), and (3) the language used most often (Hall &Ecke, 2003; Jessner, 2006; Tremblay,2006). To avoid any ambiguity in this research, the researcher examined all the previous considerations through the LHQ and the language perception questionnaire. Results revealed that the most recently acquired languages of the participants were either Sp or Ger, the two languages had no influence in the present study no instances of transfer from the two languages were found in the students' writings. As for the second consideration, the recently used language, En was the most recently used language

according to the participants' responses from both LHQ and language perception questionnaire. Language recency or exposure in this study was examined through interactional exposure (i.e., the language spoken at home, at work, with friends) as well as through media exposure such as Tv and radio. However, the language often used according to the participants is their mother tongue AA. Participants' L1 AA cannot be considered as a recent language opposing En in both acquisition and use. Recency in this study does not seem to reflect any influence on the participants' production in the TL.

According to the previous considerations, neither the recently acquired, recently used nor the often-used languages had a negative influence on the participants' written production. Recency has been usually invoked as a supporting factor, in addition to other explanatory variables, but has never been tested in isolation (SzubkoSitarek, 2015).

This adds important insights into the effect of exposure and recency on the source language of transfer as a determining factor. The results point to different issues altogether, mainly the shift from focusing on which is the accurate definition of the concept of recency to the degree of activation in the mind i.e is language exposure active or passive which, consequently, affects the availability of a language as a source for transfer in subsequent language production. Cross-linguistic influence depends on whether previously known languages are activated in the mind of the learner and on a dynamic interaction among their systems.

In addition to the exposure activation, the mode in which exposure should occur should also be discussed, in other words, oral mode Vs. written mode to determine in which mode CLI occurs more. The present study focuses only on the written mode therefore the effect of recency was not feasible.

4.12.3 L1/L2 Status and Typology

In many studies, L2 status has often been confounded with typology (Hall &Ecke, 2003; Williams &Hammarberg, 1998, Sánchez, 2015). In this study, L2 status is only considered to know which of the previously acquired languages influence the acquisition of L3 and to what extent L1 or L2 occurs in the production

of Ln. According to Neuser (2016), "Studies often do not specify whether they perceive the simple presence of transfer from the L2 as indicative of an L2 status effect or whether the number of instances of L2 transfer needs to outweigh the number of L1 transfer instances." (p.220). This study examined the predominance of either L1 or L2 and examined which of these languages had the greater influence.

L1 status effect as an isolated predictor of CLI in TLA in itself is a controversial issue. The present study found that L1 status cannot play an important role in CLI without the examination of other factors such as proficiency, exposure, and typology or psychotypology. Though L1 occurred as the main source of transfer in the morphosyntactic and semantic levels in En in this research, it cannot be seen as the unique variable of influence. These relationships may partly be explained by the higher the proficiency in L1 the more transfer will occur in the production of Ln regardless of its typology. Also, the more exposure to L1 the more influence on Ln will be. Another possible explanation for this might be that participants' perception i.e. Psychotypology -about L1 influenced their Ln acquisition. However, the results of this study suggest that language perception plays a great role in language transfer; the present study found that the first academic language L1 MSA has more influence on En as L3/Ln rather than French is perceived as a second language that is typologically related to En. The results of this study confirm that L1 holds a special place in the multilingual lexicon, and it may be a predictor of CLI even if proficiency or exposure are fully controlled.

The findings of the study support the idea of De Bot (2004) who argued that L1 should exert greater influence, as it is used more often than L2 and thus has a higher default level of activation. Another study by Leung (2009) also pointed out that the acquisition of morphosyntax in L3 is mostly affected by the L1.

Having said that, it is impossible to deny that language proximity (Typology) plays an important role in language transfer in this research. The findings of this study are partially compatible with the Typological Primacy Model (TPM) (Rothman,2011), which predicts that transfer is selective and will always come

from the typologically closer language. The results are in agreement with the TPM in the concept of selection of the source transfer. Data obtained in this study, show that participants select from all the previously acquired languages in the acquisition and development of Ln; however, the typologically closed language was not the preferred source of transfer for the Algerian students who participated in this study i.e., Fr is not the preferred source of transfer for the participants in the acquisition of En.

In lexical word-form transfer, all the transferred instances came from Fr, a language that is more closely related to En when compared to MSA. To claim that language proximity is the main factor that determines the source of language transfer, it is necessary to examine whether transfer comes exclusively from the closer language even when the language pairing includes languages that are not so closely related as is the case in this research. Contrary to the TPM, it was found that Fr is not the only source of CLI when learners know MSA and are learning EN, regardless of the linguistic proximity between this language transfer in this study was not exclusively from the closed language Fr but also from MSA a language that is distant from En.

In this research, it is argued that the patterns of CLI found, partially support the Cumulative-Enhancement Model (Flynn et al. 2004), that "language acquisition is accumulative, i.e. the prior language can be neutral or enhance subsequent language acquisition" (Flynn et al. 2004, p.14). As shown here all the previous languages can have a positive or a negative effect on the development of the L3 system. Although absolute transfer from either the L1 or the L2 was not found in this study, it is hypothesized that the order in which the languages were acquired seems to matter for how previously acquired languages influence the acquisition of the L3.

4.12.4 Psychotypology

As pointed out earlier, Rothman's (2011) Typological Primacy Model posits that when (psycho)typology is relevant, it will be the main factor motivating transfer in L3 acquisition. However, its predictions have been formulated mainly

based on L3 acquisition studies in which the language combination included Spanish and Portuguese. These two languages have a degree of similarity that is hardly found in other language pairings. The findings of the present study partially agree with the TPM in which the learners' subjective judgements about language can greatly influence the development of the L3 system however the objective similarity between languages in this study reflected less effect than the subjective ones.

Results showed that psychotypology has a significant effect on the source of language transfer, in other words, the participants' judgements of the similarity between MSA, Fr, and En affects their lexical and syntactic choices. Psychotypology is considered a crucial and controversial factor at the same time in TLA studies. According to Neuser (2016), there is a general lack of direct measures of psychotypological beliefs in the literature because most recent studies analyse Psychotypology using objective typological distances between languages rather than the learners' subjective perceptions of these, assuming that they coincide (e.g. De Angelis, 2005a; Jessner, 2006; Ringbom, 1986, 1987, 2001, 2007; Sánchez, 2012; Singleton & Ó Laoire, 2006). However, the two concepts refer to two distant notions that have different effects on L3 acquisition.

This research used a subjective questionnaire to elicit data that covers all the features of the psychotypological beliefs of the participants. The researcher used multiple questions about the same pattern to avoid any random opinions of the participants. The items of the questionnaire seem to be turning around one major concept which is "How do you perceive the similarity between the previous languages and the target one?". It covers a variety of different aspects of similarity (e.g. orthographic, phonological) and was formulated straightforwardly to avoid duplicity of meaning.

The present study used a questionnaire rather than an interview or more qualitative methods in an attempt to measure the participants' subjective beliefs both quantitatively and qualitatively. This questionnaire could be unreliable due to the small size of participants which might lead to some biased results however,

Bardel and Lindqvist (2007), argue that case studies provide more detailed introspection and subsequently a better understanding of a learner's psychotypological beliefs. The questionnaire tried to measure the intended construct (i.e. a person's conscious and subjective perception of similarity between languages). However, caution is warranted regarding the basis for these beliefs and how this may affect the predictive power of psychotypology as an explanatory factor.

The results showed that psychotypology has a significant effect on the source language of transfer, in other words, learners' judgement of similarity did affect their choice of words in writing (lexical items). Psychotypology can influence the production of L3 even when the languages involved are distant as in the present study when MSA is a distant language influenced by En at the syntactic and lexical level. e.g. in the use of adverbs.

Conclusion

This chapter presents a detailed discussion of the study results. It aims at discussing each affective variable in the investigation. It starts with discussing the CLI in the language aspects under investigation, lexis, and syntax. This chapter provided an in-depth discussion of the types of lexical and syntactic transfer and explained the differences among the categories. It also discusses the differences in the source of transfer in each category. In addition, it discusses the CLI affective variables considering the results of other studies on CLI. The findings of the present study confirm the influence of some factors like proficiency, L2 status, typology, and psychotypology; however, no influence of recency has been found.

General Conclusion

The focus of this doctoral thesis sheds light on Cross-linguistic influence in the Algerian context and examines Algerian multilingual students' written production in order to know which of the previous languages interferes more in the acquisition of English as an additional language. This study has investigated the effects of proficiency, recency (exposure) psychotypology, typology, and L2 status factors that are the major predictive factors of CLI in TLA. This study aimed to elaborate on these findings and thereby contribute to a better understanding of CLI in multilingual learners. To do so, a sample of 45 students of English at ENSB - university level- participated in this study. Three research instruments have been addressed separately throughout most of this investigation. For the sake of convenience, we proceeded to examine the linguistic background of the participants through an LHQ.3 then examine the participants' written documents to extract instances of transfer and interpret them in light of the existing literature regarding each type of transfer. In our final summary, we attempted to establish a comparison of the relative effects of the aforementioned factors under investigation concerning syntactic and lexical processing. This study also tried to measure psychotypology as one of the subtle factors that influence the acquisition of Ln that previous research lacked, through a questionnaire that reflects the participants' subjective beliefs about language. This research has attempted to discuss the issue of confounding factors that previous studies have encountered, by examining each factor while holding all others constant.

In order to contribute to an explanatory model of transfer in a multilingual mind a mixed approach has been adopted to answer all the research questions. The collected data were analysed qualitatively and quantitatively to measure and control all the predictive factors of CLI each factor in its own right. Answers to the research questions are presented below.

The first research question addressed language interaction in the multilingual mind. The present thesis has endeavoured to contribute to the theoretically

proposed models of the mental lexicon organization and production. The ultimate goal of transfer studies is to explain how the background languages a person knows to interact in the mind. However, this study does not directly explain language interaction in multilingual minds but contributes to some extent to provide insights that will enable the achievement of the ultimate goal in further studies.

It is hoped that the findings of this study will contribute to confirming the hypothesis that multilingual learners' languages interact with each other as an entity in which one language influences the other language production. The degree of influence depends on the affective factors that predict the source of language transfer. Contrarily, it disagreed with some studies that consider multiple languages as separate entities in the multilingual mind. However, one must remain circumspect considering the overgeneralization of the results, because the only evidence we have from this study is the products of transfer (lexical and syntactic instances of transfer) and not the process of the transfer itself as a whole.

The only explanation that can be provided for the process of transfer is the interaction of all the background languages in the production of the Ln language as is the case in this study when MSA and Fr both seem to interact in the production of En. To explain this, the research relied on the most recently developed models of multilingual transfer that stem from the area of L3 (morpho)syntax and use their predictions on lexical transfer.

The second research question and its sub-questions addressed which of the previously acquired languages is the source of language transfer. The findings of the present study suggest that the source of language transfer can be from all the previously acquired languages either L1 or L2. In light of the general findings yielded by the analysis of all the research tools, both MSA and Fr interfere in the prediction of Ln. This mainly points to language dominance of a particular language as the key predictor of transfer from that language. It is noticed that language transfer differs from syntax to lexis, and the source language of transfer in syntax is not the same in lexis. Findings reveal that negative language transfer affects some areas more than others such as morphological transfer, the use of

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articles and the use of prepositions. The most obvious finding to emerge from this study is that language transfer is an undeniable process happening to each individual while developing foreign language skills.

In the syntactic transfer as in the use of articles, use of prepositions, and subject-verb agreement the dominance of MSA was obvious from the participants' writings. Participants' errors were revealed to be mainly derived from MSA structures while using the En language. Ringbom (2007) argued that this might be due to the fact that learners have already learnt how their world is reflected through languages and therefore, they might feel reluctant to modify their conceptual L1-based system. The language perception questionnaire confirmed this view when 56% of the participants reported that they think in MSA while writing in En.

Findings also show that some types of lexical transfer, basically those that have to do with meaning transfer, as in the loan translation and semantic extension tend to be influenced by L1 MSA. Participants translate expressions and idioms from MSA to En keeping the same denotative meaning of each word that led to erroneous sentences. It cannot be denied that L2 also influences L3 production, but the dominance was the L1 influence.

In lexical transfer, spelling was the category where the largest quantity of errors from Fr was found. An important aspect of these errors is that they demonstrated that there is a strong influence from the L2 in the process of learning an additional language. Thus, it can be pointed out that negative L2 transfer is one of the most common types of interference when students try to produce written texts in the target language. The reason why the influence of L1 might dominate the other languages in the production of Ln has been pinpointed and will be discussed in the answer to the third research question.

As the third research question addressed the affective factors of CLI in multilingual learners, this study focused on such factors that have been previously mentioned in the literature. The present study attempted to examine each factor separately through the three research instruments to avoid any ambiguity regarding their effect on TLA.

Language proficiency is an important predictive factor in this study, participants' statistical analysis showed a higher rate of proficiency in MSA rather than Fr. The great amount of MSA transferred instances on the participants' writings confirmed the hypothesis that suggests that the high level of proficiency in one of the previously acquired languages will lead to more influence in the target language. Proficiency in MSA in the present study has influenced the production of En, especially at the structural and conceptual level i.e. syntax and semantics. Lexical transfer in this study might not be due to proficiency in L2 but other affective factors which should be L2 status or language typology.

Language typology seems to have a great role in lexical transfer, especially in word form and vocabulary transfer. The influence of Fr on En production was obvious in the lexical transfer. The results of this study contrast some studies that predict no effect of L2 status in the case of lexis. This investigation presents compelling evidence that there is a great influence from L2 when the L2 is typologically similar to the target language as is the case in this study with Fr and En. Findings revealed that participants perceive Fr to be closer to En than their previous languages in most of the language aspects among them spelling and vocabulary. Though the L2 status has an effect to a certain extent on Ln, particularly in lexis, the present study brought a new revelation that the L1 status, rather than the L2 status, affects the acquisition of Ln.

The findings of this study about psychotypology have raised several theoretical and methodological issues about the construct and its ability to predict the source of language transfer. Participants reflected a high perception of similarity between their Fr and En in most of the linguistic areas. However, the influence of Fr is considered less than L1 in English production. Consequently, participants transfer more from MSA rather than Fr because they tend to think in MSA while writing in En.

From a methodological perspective, the questionnaire used may reflect the participants' linguistic similarity between Fr and En but due to the low proficiency level in Fr, MSA emerges as the source of influence. Psychotypology was found

to affect the lexical process of a typological closeness. Jarvis and Pavlenko (2008) stressed that "more studies of the multilingual lexicon are necessary to disambiguate the effects of perceived versus real crosslinguistic similarities" (p. 234)

Another construct that has been examined as an influential factor was recency/ language exposure. Recency as a construct of CLI lacks an operational definition that enables the researcher to examine its effect. As it is mentioned in previous sections, this research covered the most provided definitions of recency. As the recently acquired languages did not have any effect on the production of En in this study. The most used language is AA which hardly found an instance of transfer from it. Language exposure in this study was measured concerning the number of hours of formal instruction, exposure to language in different contexts, and language interaction in the classroom and at home. Results found that language exposure in L3 in comparison to the previous languages has a negative effect on their L3 acquisition.

The present study raised another issue in the studies of TLA and CLI. Which are the different languages with different dialects which had not been investigated before. Findings of the present study found no instances of transfer from the mother tongue of the participants' AA or Tam and while assessing and evaluating themselves participants did not mention any of these languages. The point which may be addressed here is the difference between Academic and non-academic languages or language input. The languages that participants tend to rely on are the languages learned in the classroom in an academic context like MSA and Fr. Psychotypology here can be explained also in language closeness not only in typological relatedness but also in formal and academic languages in which students may perceive that formal languages may follow the same lexical and syntactic structure just because are used in an academic and formal context.

The lack of statistically significant results, especially in the relationship between psychotypology and CLI calls for further research in these areas. Thus,

the following section will be dedicated to the limitations of this study and some suggestions for further research.

Limitations and Further Research

CLI investigations are an important issue for future research. To better understand the findings of this research, it is important to discuss the limitations of the current research. Limitations of the present investigation could be subject to several potential methodological weaknesses, such as sample size, mode of production, and individual factors.

A modest sample size of 45 participants, we can say is relatively small and that the number of participants was a bit far from calling it ideal. Most of the studies in TLA and CLI used large-size samples that enable them to evaluate and measure each factor effectively, for that reason, future research on the current topic would certainly benefit from a larger sample size.

Despite its exploratory nature, the scope of this study was limited in terms of the mode of production. It examined the participants' written production through three types of writing, whereas the oral mode was not explored. Further research in oral production is required that may reveal more effective factors. Furthermore, while the factors under investigation, proficiency, recency, L2 status, psychotypology, and typology were shown to be significant predictors in the participants' writings, individual factors i.e. learners-based variables were kept constant. Thus, it is important to control how these two types of factors are confounded to predict CLI. Another limitation in the mode of production is the type of writing used where three types of production were deployed self-presentation, a letter, and narrative (story), the length of the production was limited due to factors such as availability, time, and syllabus. A longitudinal examination of participants' writings in different tasks may yield different results.

A clear pattern nevertheless seems to have emerged from the data, which appears to be consistent enough to justify further research into the matter. To truly test the mode of production, context, and type of task as predictors, the research

design would have to include language profiles that include oral vs. written languages, data elicitation tasks that are academic vs. non-academic, as well as collect data in the physical environments where these languages are typically used (e.g. home vs. school). Furthermore, questionnaire data should not be limited to interactional exposure, but should also include exposure to written material.

Reliably identifying and categorizing transfer has been and remains one of the biggest challenges in the field of crosslinguistic influence. Concerns the lack of well-established criteria has been largely voiced in the literature. In addition to that this study cannot establish which factor outweigh or which factor has the strongest effect. Hence, the interaction of these will be an excellent continuation of the research.

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Appendix One : Language History Questionnaire

Dear Students,

My name is Fatima-Zohra Athmani. The following questionnaire is an important instrumentfor a PhD research. We are conducting a study about learners' language history and experience. We would like to collect information about your language acquisition and language learning experiences.

Your responses are strictly confidential, and your answers will not be associated with your name, it will be used for academic purposes only. This study will take approximately 20 to 30minutes and it will be monitored by the researcher(teacher) for quality purposes. We would appreciate your time.

Thank you for your time and cooperation. Please remember that your responses count!
Sincerely!

Last Name: …………………..

First Name:………………………….

Age: ………………………

Sex: male [ ]   female [ ]

Stream in High School: literary stream [ ]   scientific stream [ ]

1. What is your native language? (If you grew up with more than one language, pleasespecify)

………………………………………………………………………………………
…

2. Do you speak a second language?

- Yes my second language is_____.
- No (If you answered No, you need not to continue this form)

3. If you answered **Yes** to question 2, please specify the age at which you started to learn yoursecond language in the following situations (write age next to any situation that applies). At

- home _____
- In school _____

4. How did you learn your second language up to this point?

- Mainly through formal classroom instruction _____
- Mainly through Home and family interaction
- Mainly through interacting with people _____

- A mixture of the above _____
- other (specify) _____

5.Do you speak other languages (any additional language to your second language)

- ~~Yes~~
- ~~No~~

6.If you answered **Yes** to question 5, specify the age at which you started to learn a foreign
/additional language

- At home:
- At school:

7. How did you learn your additional languages?

- Mainly through formal classroom instruction _____
- Mainly through Home and family interaction
- Mainly through interacting with people _____
- A mixture of the above _____
- other (specify) _____

8. List all foreign languages you know in order of most proficient to least proficient. Rate your ability on the following aspects in each language. Please rate according to the followingscale (write down the number in the table):

very poor   poor   fair   functional   good   very good   native-like

1_____   2 _____   3_____4_____   5 _____   6_____   7 _____

Languages	Reading proficiency	Writing proficiency	Speaking fluency	Listening ability

9. Provide the age at which you were first exposed to each foreign language in terms of speaking, reading, and writing and the number of years you have spent on learning each language.

Languages	Age first exposed to the language			Number of years learning
	Speaking	Reading	Writing	

9. What language do you usually speak to your father at home?

_____

10. What languages(s) can your parents speak fluently?

- Mother:_____
- Father: _____

11. what language or languages do your parents speak to each other at home?

12. Write down the name of the language in which you received instruction in school, for each schooling level:

- Primary _____
- Middle School _____
- High School _____
- University _____

13. Estimate, in terms of percentages, how often you use your native language and other languages per day (in all daily activities combined): (Total should equal 100%)

- Native language_____%
- Second language_____%
- other languages_____% (specify:_____)

14. Estimate, in terms of hours per day, how often you watch TV or listen to radio in your native language and other languages per day.

- Native language_____(hrs)
- Second language_____(hrs)
- other languages_____(specify the languages and hrs)

15. Estimate, in terms of hours per day, how often you read newspapers, magazines, and other general reading materials in your native language and other languages per day.

- Native language_____(hrs)
- Second language_____(hrs)
- other languages_____(specify the languages and hrs)

16. Estimate, in terms of hours per day, how often you use your native language and other languages per day for work or study related activities (e.g., going to classes, writing papers, talking to colleagues, classmates, or peers).

- Native language_____(hrs)
- Second language_____(hrs)
- other languages_____(specify the languages and hrs)

17. In which languages do you usually:

- Express anger or affection:
- browsing the internet:
- Chatting on social media:

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- Use for your e-devices:

18. When you are speaking, do you ever mix words or sentences from two or more languagesyou know?

- Yes _____
- No _____

19. List the languages that you mix and rate the frequency of mixing in normal conversationwith the following people, on a scale from 1 (mixing is very rare) to 5 (mixing is very frequent). Write down the number in the box.

Relationship	Language mixed	Frequency of mixing
Family members		
Friends		
Colleagues / mates		

20. In which language (among your best two languages) do you feel you usually do better?Write the name of the language under each condition.

	At Home	At School
Reading		
Writing		
Speaking		
Understanding		

21. Among the languages you know, which language is the one that you would prefer to usein these situations?

- At home _____
- At work _____
- At a party _____
- In general _____

22. If there is anything else that you feel is interesting or important about your languagebackground or language use, please comment below.

Appendix Two : Language Perception Questionnaire

Dear Participants,

I am inviting you to participate in this research by completing the following questionnaire. The aim of this research is to explore your language perceptions and awareness of language relatedness. The following questionnaire will require approximately 5-10 minutes to complete. Thank you for taking your time in answering this questionnaire and completing this research. The data collected will remain confidential and used solely for academic purposes.

<div align="right">Sincerely,</div>

Part One:

1-List below all the languages you know:

- ………………
- ………………
- ………………
- ………………

2. which of the languages below identify you more?

………………………………………………………………………………………….

3.which of the languages you use more in your communications?

…………………………………………………………………………………………

4.which of the languages you use least in your communications?

………………………………………………………………………………………….

Part Two:

5.As a student of English, which of your previous languages you perceived as closer language to English?

…………………………………………………………………………………………

6.which language is closer to English Grammar?

……………………………………………………………………………………………..

7.Do you think that the previous languages you know have the same sentence structure (word order) as English?

Yes ☐   No ☐

*Which of the languages is closer to English in word order: ………………

8.Do you think that all the languages you know have the same negative form as English

Yes ☐   No ☐

*Which of the languages is closer to English in negative Form: ……….

9.Do you think that English adjectives have the same form as in all your previous languages?

Yes ☐   No ☐

*Which of the languages is closer to English in adjectives formation: ………

10.Do you think that English adverbs have the same form as in your previous languages?

Yes ☐   No ☐

*Which of the languages is closer to English: ……………..……….

11. which of the previous Languages is closer to English in Pronunciation?

…………………………………………………………………………….

12. which language do you think is closer to English in Vocabulary?

…………………………………………………………………………..

13. which language do you think is closer to English in Morphology?

……………………………………………………………………………………….

Part Three:

14. when you write in English, you translate words from ……………to English.

15. when you write in English you translate sentences from ………….to English

16.which language you think on it in your writing process.

…………………………………………………………………………………..

17. In case you cannotfind a word while writing in English, do you write it in another language?

    Yes ☐   No ☐

   *If yes, which language you would use?

…………………………………………………………………………………..

Thank you so Much! Stay Safe,

Appendix Three: Students' Proficiency

P_moy_AR	P_moy_fr	P_moy_EN	P_moy_SP	P_moy_GE
0,893	0,128	0,750	0,679	0,000
0,893	0,128	0,857	0,000	0,643
0,893	0,128	0,750	0,679	0,000
0,750	0,107	0,643	0,500	0,000
0,893	0,128	0,679	0,000	0,607
0,750	0,107	0,714	0,607	0,000
0,893	0,128	0,857	0,571	0,000
0,857	0,122	0,750	0,679	0,000
0,714	0,102	0,786	0,000	0,643
0,786	0,112	0,607	0,000	0,607
1,000	0,143	0,750	0,000	0,464
0,929	0,133	0,607	0,750	0,000
1,000	0,143	0,750	0,607	0,000
0,893	0,128	0,750	0,643	0,000
0,893	0,128	0,500	0,643	0,000
0,750	0,107	0,821	0,000	0,000
0,929	0,133	0,750	0,000	0,750
1,000	0,143	0,643	0,679	0,000
1,000	0,143	0,607	0,000	0,607
0,857	0,122	0,536	0,643	0,000
1,000	0,143	0,714	0,607	0,000
0,857	0,122	0,786	0,000	0,679
0,929	0,133	0,786	0,750	0,000
0,679	0,097	0,714	0,000	0,643
1,000	0,143	0,643	0,000	0,429
0,929	0,133	0,714	0,000	0,679
0,786	0,112	0,643	0,429	0,000
0,857	0,122	0,750	0,643	0,000
1,000	0,143	0,750	0,000	0,750
0,893	0,128	0,750	0,571	0,000
1,000	0,143	0,714	0,571	0,000
1,000	0,143	0,786	0,000	0,607
1,000	0,143	0,750	0,607	0,000
0,571	0,082	0,750	0,000	0,500
0,714	0,102	0,607	0,643	0,000
0,964	0,138	0,857	0,000	0,750
0,857	0,122	0,786	0,643	0,000
0,750	0,107	0,750	0,000	0,643
1,000	0,143	0,786	0,000	0,714
1,000	0,143	0,786	0,679	0,000
0,893	0,128	0,714	0,643	0,000
1,000	0,143	0,607	0,571	0,000
0,929	0,133	0,786	0,607	0,000
1,000	0,143	0,643	0,429	0,000
0,607	0,087	0,750	0,000	0,643

Appendix Four: Students' Immersion

IM_AR	IM_FR	IM_EN	IM_SP	IM_GE
0,34	0,17	0,38	0,12	
0,32	0,48	0,39		0,11
0,34	0,17	0,38	0,12	
0,25	0,13	0,42	0,11	
0,30	0,46	0,39		0,11
0,30	0,15	0,43	0,08	
0,29	0,14	0,39	0,09	
0,34	0,17	0,41	0,12	
0,32	0,48	0,39		0,11
0,30	0,46	0,39		0,11
0,23	0,35	0,42		0,11
0,38	0,19	0,42	0,11	
0,30	0,15	0,43	0,11	
0,32	0,16	0,44	0,12	
0,32	0,16	0,39	0,11	
0,00	0,00	0,41		
0,38	0,56	0,44		0,11
0,34	0,17	0,45	0,13	
0,30	0,46	0,39		0,08
0,32	0,16	0,41	0,09	
0,30	0,15	0,41	0,15	
0,34	0,51	0,39		0,08
0,38	0,19	0,41	0,12	
0,32	0,48	0,39		0,11
0,21	0,32	0,38		0,12
0,34	0,51	0,42		0,13
0,21	0,11	0,44	0,14	
0,32	0,16	0,39	0,11	
0,38	0,56	0,41		0,12
0,29	0,14	0,44	0,12	
0,29	0,14	0,42	0,11	
0,30	0,46	0,44		0,12
0,30	0,15	0,45	0,11	
0,25	0,38	0,39		0,11
0,32	0,16	0,35	0,15	
0,38	0,56	0,38		0,09
0,32	0,16	0,39	0,08	
0,32	0,48	0,42		0,08
0,36	0,54	0,42		0,08
0,34	0,17	0,44	0,11	
0,32	0,16	0,44	0,11	
0,29	0,14	0,38	0,08	
0,30	0,15	0,36	0,08	
0,21	0,11	0,38	0,08	
0,32	0,48	0,42		0,11

Appendix Five: Students' Skills proficiency

P_R_moy	P_W_moy	P_S_moy	P_L_moy
0,786	0,643	0,750	0,821
0,821	0,643	0,750	0,893
0,750	0,714	0,750	0,821
0,750	0,714	0,571	0,714
0,786	0,714	0,643	0,821
0,714	0,607	0,607	0,714
0,821	0,750	0,679	0,750
0,786	0,750	0,607	0,679
0,786	0,643	0,679	0,786
0,714	0,607	0,536	0,786
0,750	0,714	0,714	0,750
0,821	0,679	0,679	0,750
0,857	0,714	0,714	0,786
0,821	0,714	0,679	0,750
0,714	0,571	0,536	0,571
0,786	0,786	0,750	0,821
0,821	0,750	0,679	0,786
0,714	0,679	0,679	0,786
0,750	0,607	0,607	0,750
0,786	0,643	0,714	0,750
0,857	0,714	0,643	0,750
0,857	0,714	0,786	0,786
0,714	0,607	0,643	0,714
0,643	0,643	0,607	0,643
0,679	0,571	0,643	0,750
0,571	0,500	0,643	0,607
0,750	0,714	0,714	0,786
0,857	0,750	0,750	0,786
0,821	0,679	0,607	0,714
0,821	0,714	0,607	0,714
0,679	0,714	0,750	0,786
0,857	0,750	0,786	0,750
0,786	0,679	0,571	0,643
0,786	0,536	0,571	0,679
0,821	0,786	0,857	0,857
0,786	0,714	0,679	0,714
0,821	0,643	0,643	0,714
0,893	0,821	0,786	0,857
0,857	0,786	0,750	0,821
0,714	0,643	0,679	0,750
0,857	0,714	0,607	0,786
0,821	0,679	0,643	0,750
0,714	0,714	0,714	0,679
0,714	0,679	0,679	0,786

Appendix Six: Extract from LHQ Data in SPSS

Appendix Seven: Extract from the Language perception Questionnaire in SPSS

He began to run. When he reached the Home, he saw a wolf sitting in the bed and his abdomen full of The farmer. the hit the wolf and snap out of it the girl and the god mother. the wolf escaped. while he was running. He fell in the river and died Narrator = After the wolf died the family lived happily for ever after.

Dear. Mary

I'm so pleasure to recieve a letter from you talking about your life and interests, and now it's my turn to introduce my self. First of all I am Rouabhi Kawther. I am 19 years old. I'm from Ageria. I recently get my baccalureat-exam with excellent mark and now I'm a college student in teacher training school in Algies- Bouzeveah- and a futur english teacher in secondary school. About my physical caracteristique I'm a tall and thin girl, I have a long curly hair with brown eyes. concerning my family, my father is an architect-and he is smart and wise. My mother is a retried woman and she is kind, lovely and has a big heart. I have one sister studies at Fnstp as an ingeneer and two brother. one has 23 years old studies on the faculty of law and the other one at middle school, this latest is so intelligent and active. My family is simple, generous and even lovely. We live in wilaya de ain Defla in small house. Regarding my country. Ageria is a large country situated in North of Africa and overlooking the mideteranean sea. it is also wealthy and know as " the country of million and half million of martyrs. because it invaded by French in 1830. be it take back her independance in 1962. About my hobbies and interest. I love cooking especially preparing cakes and reading exited and romantic novel. I like listening quiet music. my favourite singer is adel and indila. I also speak four languages : French, English and spanish. Hope my letter meet you in good moment, wish you all best in your life and Happy to be friend.

Dec. 2nd - 2019

Dear Alia,

Hello, I hope this letter finds you in the best of your health. My name is Lydia. I'm 18 years old! I'm writting this letter to inform you about my studies, hobb and my family. I'm english student first year in Training Teacher's School. My family consists of 6 members. I have two brothers and a sister. About my hobbies, I like reading books in french, and listening music specially in English and French one, my favorite singer is Kendji Girac. Unfortunately, I don't have enought time for my hobbies be cause I'm busy with my studies. I like reading adventure novels, best of all. My dream is to be steward and visit Italia Inchallah.

Write back soon!

With love,
Lydia

Red Ridding Hood

One upon a time, there was a little girl named "Emy", she lived in a small village. She always a red Ridding Hood which she inherited from her grand mother. That people used to call her the red Ridding Hood.

* One morning the grand mother got sick so her daughter wanted to give her some fruit to became better.

The mother= Take this basket, your grandmother is sick. She will become better when she eat it, and don't go to the forest.

Emy: Okey momm.

Narrator= She weans her red ridding Hood as she used to do, and brought with her the fruit basket.

Mother: Remember my child, go slowly and avoid the road of the basket.

10

Résumé

Ces dernières années, il y a eu un intérêt croissant dans le domaine de l'acquisition d'une troisième langue (ATL) qui a émergé comme un domaine de recherche distinct et séparé de l'acquisition d'une deuxième langue (L2). Il est maintenant bien établi, à partir d'une variété d'études, que le bilinguisme et le multilinguisme ne peuvent pas être utilisés de manière interchangeable et que les modèles de bilinguisme et de traitement bilingue de la parole ne semblent pas rendre compte correctement du multilinguisme et du traitement multilingue. L'étude de l'interaction de plus de deux langues dans le cerveau multilingue suscite une préoccupation croissante. Parallèlement à cette croissance dans l'étude du ATL et de l'interaction des langues, l'influence inter-linguistique (IIL) dans le ATL a attiré l'attention des chercheurs et davantage de recherches ont été menées pour comprendre comment les langues peuvent interagir dans un cerveau et provoquer une influence inter-linguistique dans la production et la compréhension des langues. Par conséquent, cette étude vise à explorer l'influence cross-linguistique (ICL) dans la production écrite des étudiants Algériens en Anglais qui ont l'Arabe Algérien/Tamazight comme L1, l'Arabe Algérien/Modern Standard Arabic (MSA) comme L2, le Français comme L2 ou L3 pour certains étudiants et l'Anglais comme troisième langue ou langue supplémentaire. Ainsi, la présente étude a pour but de mieux comprendre la production du lexique et de la syntaxe de la Ln (Anglais) et plus particulièrement le rôle joué par les facteurs affectant l'ICL et le transfert linguistique à partir des langues acquises précédemment (AA, Tam, Fr, En.). Plus précisément, la présente étude a les objectifs suivants : (1) étudier la langue source de transfert dans la production de l'Anglais, (2) étudier s'il existe une différence dans la langue source de transfert dans la production d'items lexicaux et syntaxiques, (3) explorer comment les facteurs affectifs de l'ICL (compétence, récence, psychotypologie, typologie et statut de la 2L) conditionnent le transfert lexical et syntaxique. Pour atteindre ces objectifs, 45 étudiants de première année de l'Ecole Normale Supérieure Bouzareah (ENSB) ont participé en tant qu'informateurs de recherche. Pour collecter les données, différents outils ont été conçus, un questionnaire d'histoire de la langue (LHQ3) a été adapté de Li et.al

(2019) pour examiner l'histoire et l'expérience linguistique des participants. Le deuxième outil de données était les documents écrits des participants, et le dernier outil de recherche était le questionnaire de perception linguistique. Pour analyser les données, des statistiques descriptives ont été déployées pour les deux questionnaires, en plus de la production écrite qui a été respectivement analysée qualitativement en utilisant l'analyse de contenu et l'analyse thématique qui décrivent tous les cas d'erreurs lexicales et syntaxiques des participants. Les résultats ont révélé que la source du transfert linguistique provient de toutes les langues précédemment acquises, et qu'il existe également une différence dans la source du transfert linguistique entre les éléments lexicaux et syntaxiques. Les facteurs du ICL examinés dans cette étude ont révélé leur importance dans la prédiction de la source du ICL en anglais comme Ln. La conclusion peut également être tirée que la production linguistique en Anglais peut être grandement affectée par toutes les langues en interaction dans le cerveau. Après une analyse approfondie des résultats de la recherche, certaines recommandations pour l'examen et la mesure des facteurs de ICL seront également présentées.

Mots Clés : Influence Cross-linguistique (ICL), transfert linguistique, acquisition d'une troisième langue (TLA), multilinguisme.

الملخص

في السنوات الأخيرة، كان هناك اهتمام متزايد بمجال اكتساب اللغة الثالثة الذي ظهر كمجال متميز ومنفصل للبحث عن اكتساب اللغة الثانية. لقد ثبت من خلال مجموعة متنوعة من الدراسات أنه لا يمكن استخدام ثنائية اللغة والتعددية اللغوية بشكل متبادل، وتشير النماذج إلى أن ثنائية اللغة ومعالجة الكلام في ثنائية اللغة لا تبدو مناسبة لتعدد اللغات ومعالجة اللغة بالنسبة لتعدد اللغات. هناك قلق متزايد في دراسة تفاعل أكثر من لغتين في الدماغ متعدد اللغات. إلى جانب هذا التطور في دراسة اكتساب اللغة الثالثة والتفاعل اللغوي، إلا أن التأثير المتقاطع في اكتساب اللغة الثالثة قد جذب انتباه الباحثين وأجريت المزيد من الأبحاث لفهم كيف يمكن للغات أن تتفاعل في دماغ واحد وتسبب تأثيرًا متقاطعًا في إنتاج اللغة. والفهم. لذلك، تهدف هذه الدراسة إلى استكشاف التأثير متعدد اللغات في الإنتاج الكتابي للطلاب الجزائريين الذين يتحدثون العربية الجزائرية / الأمازيغية كلغة أولى، والعربية الجزائرية / العربية الفصحى كلغة ثانية، والفرنسية كلغة ثانية أوثالثة لبعض الطلاب والإنجليزية كلغة ثالثة. أو لغة إضافية. ومن ثم، فإن الدراسة الحالية تهدف إلى الحصول على نظرة ثاقبة لإنتاج أي لغة وبناء الجملة وبشكل أكثر تحديدًا في الدور الذي تلعبه العوامل التي تؤثر على تحويل اللغة من اللغات المكتسبة سابقًا. وبشكل أكثر تحديدًا، فإن الدراسة الحالية لها الأهداف التالية: (1) للتحقيق في اللغة المصدر للتحويل في إنتاج اللغة الإنجليزية، (2) للتحقق مما إذا كان هناك اختلاف في اللغة المصدر للنقل في الإنتاج المعجمي والنحوي، (3) لاستكشاف كيف أن العوامل المؤثرة للتأثير اللغوي المتقاطع (الكفاءة، الحداثة، ادراك اللغة، التصنيف، وحالة اللغة الثانية) شرط النقل المعجمي والنحوي. لتحقيق هذه الأهداف، شارك 45 طالبًا في السنة الأولى في المدرسة العليا بوزريعة (ENSB) كعينة بحث. لجمع البيانات، تم تصميم أدوات مختلفة، وتم تكييف استبيان تاريخ اللغة (LHQ3) من Li et.al (2019) لفحص تاريخ اللغة وخبرات المشاركين. كانت أداة البيانات الثانية هي الإنتاج الكتابي للمشاركين، وكانت أداة البحث الأخيرة هي استبيان إدراك اللغة. لتحليل البيانات، تم نشر الإحصائيات الوصفية للاستبيانين، إلى جانب الإنتاج المكتوب تم تحليله على التوالي نوعيا باستخدام المحتوى والتحليل الموضوعي الذي يصور جميع حالات الأخطاء المعجمية والنحوية للمشاركين. كشفت النتائج أن مصدر نقل اللغة يأتي من جميع اللغات المكتسبة سابقًا، كما أن هناك اختلافًا في مصدر نقل اللغة بين العناصر المعجمية والنحوية. كشفت عوامل التأثير اللغوي المتقاطع التي تم فحصها في هذه الدراسة عن أهميتها في التنبؤ بمصدر التأثير اللغوي المتبادل في اللغة الإنجليزية كلغة إضافية. يمكن أيضًا استنتاج أن إنتاج اللغة الإنجليزية كلغة ثالثة او اضافية يمكن أن يتأثر بشكل كبير بجميع اللغات المتفاعلة في الدماغ. بعد تحليل متعمق لنتائج البحث، سيتم أيضًا تقديم بعض التوصيات لفحص وقياس عوامل التأثير اللغوي المتبادل.

الكلمات المفتاحية: التأثير المتقاطع، نقل اللغة، اكتساب اللغة الثالثة، التعددية اللغوية