

# Examples of cross-linguistic influence in learning German as a foreign language: The case of third-year students of foreign languages at Al-Kawakibi Secondary School in Touggourt, Algeria

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The present study sheds light on cross-linguistic influence and language transfer in third or additional language learning and explores the factors affecting the learning of third or additional language in a multilingual context. It aims at investigating the extent to which the typologically more similar language influences the language being learned. This study was carried out with the participation of 30 third-year students in the foreign languages stream at Al-Kawakibi Secondary School-Touggourt in Algeria. The participants had Arabic as L1, French as L2, English as L3 and they were learning L4 German. The instruments included two translation tasks and a paragraph writing in German, in addition to a questionnaire about learners' self-rated language proficiency of their non-native languages. The findings show that students tend to translate into the language which is typologically more similar to German, in this case English, that influences learning L4 German the most.

**Keywords:** Arabic L1, cross-linguistic influence, English L3, French L2, German L4, multilingualism in education

## 1. Introduction

Third language acquisition (TLA) has emerged as a new field of research in the last three decades to extend traditional second language acquisition (SLA) research and to involve more than two languages. The interest in TLA has been and still is the cornerstone for many researchers to investigate and understand the mechanism in third or additional language learning research (Cenoz, 2001; Ringbom, 2001; Jarvis & Pavlenko, 2008). The number of languages involved leads researchers to ask the question which language influences the other one(s) and which one of the previously acquired language(s) affect(s) the learning of new languages. Researchers also examine cross-linguistic influence (CLI), language transfer and the factors that affect the process of learning (e.g., Cenoz *et al.*, 2001; Odlin, 1989; Kırkıcı, 2007; De Angelis, 2007).

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Cross-linguistic influence is one of the most common topics in third and additional language acquisition research. Several studies confirm that the more languages you know the more learning a new language becomes easier (e.g., Cenoz, 2003; Negadi, 2015).

Although there is an increasing number of studies in TLA in general and those about learning German as L3 in particular, to the best of my knowledge, no studies have investigated the language combination of Arabic, French, English and German in the Algerian context. Therefore, the present paper is an attempt to explore cross-linguistic influence in learning German and sheds light on the types and factors affecting cross-linguistic influence in a multilingual context. I believe that this study is a valuable contribution to third and additional language acquisition research.

In this study, I focus on the impact of the previously acquired languages (L1, L2, and L3) on learning German to discover which language affects learning German more than the other(s) and to find out how participants transfer particular lexical, syntactic and grammatical aspects from the second and third languages (French and English) to the fourth language (German). Taking this specific language combination as a basis, I intend to shed light on some examples of cross-linguistic influence in learning German as a foreign language. My aim is to explore factors that trigger cross-linguistic influence in learning L4 German by students who have Arabic as L1, French as L2, English as L3 and they are learning German as one of the compulsory courses in the foreign languages stream in a secondary school in Algeria. Another aim of the present study is to find out what linguistic knowledge participants rely on when learning L4 by giving examples for lexical, syntactic and grammatical cross-linguistic influence. It is hypothesized that various CLI types will occur at different levels in the production of German, and it is assumed that English will influence the production of German L4 the most. Based on the above-mentioned objectives and the research hypotheses, I formulated the following research questions:

- (1) What are some instances of lexical, syntactic and grammatical cross-linguistic influences in learning L4 German?
- (2) What linguistic knowledge do Algerians tend to rely on when learning German?
- (3) What factors trigger cross-linguistic influence in learning L4 German?

## **2. Multilingualism and multilingualism in education**

Multilingualism is a very important concept in third and additional language acquisition and learning. Nowadays, people globally tend to learn more than two languages, and the number of multilingual individuals is constantly increasing. McArthur (1992) defined a multilingual as an individual who has “the ability to use three or more languages, either separately or in various degrees of code-mixing. Different languages are used for different purposes; competence in each varies according to such factors as register,

occupation, and education” (p. 673). Tucker (2001) also sheds light on multilingualism in education and on the factors that lead to involve languages in education as follow:

The use of multiple languages in education may be attributed to, or be a reflection of, numerous factors such as the linguistic heterogeneity of a country or region (...); specific social or religious attitudes (...); or the desire to promote national identity (...) In addition, innovative language education programs are often implemented to develop proficiency in international language(s) of wider communication, together with proficiency in national and regional languages (p. 332).

In Algeria, for instance, multilingualism predominates, and the education system adopts more than one language. The most dominant languages in education are Arabic and French, starting from primary school. In middle school, English is added to the curriculum. In secondary schools in Algeria, there are more than five streams from which students choose the one that suits their future goals; for example, science, mathematics, economics, literature, or foreign languages. If learners opt for foreign languages, it means they have to learn other languages besides Arabic, French and English, for example, German, Italian, or Spanish.

In today's world, monolingual societies are rare due to the intercultural development, which promotes, to some extent, the desire to learn new languages. Therefore, “due to historical and political reasons, two or more languages are used, but it is also common in the case of individuals who need to communicate in several languages and in schools where two or more foreign languages are taught” (Cenoz, 2008, p. 219). That is, recent research focuses on learning languages beyond the second one, which is widely investigated. Research on third or additional language learning draws different conclusions on different contexts and shows that languages influence each other (e.g., Hermas, 2014; Dewaele, 1998; Hammarberg, 2001; Bardel & Falk, 2007; Kautzsch, 2010; Falk & Bardel, 2010; Talebi, 2013; Tápainé Balla, 2008 and 2009; T. Balla, 2013). The source of cross-linguistic influence in L3 can be the L1, L2 or both (e.g., Flynn *et al*, 2004; Slabakova, 2016).

Studying third or additional languages is considered more complex than second language acquisition (Cenoz, 2008, p. 221). There are only two languages involved in SLA: the first language L1 and the second language L2. The influence between them is bidirectional while in TLA and multilingualism there may be mutual influence. According to Cenoz (2008, p. 222), in third or additional language acquisition (TLA/ALA), learners have a large linguistic repertoire that can be used as a source they refer to when learning additional languages and may reflect cross-linguistic influence in third/additional language acquisition. Therefore, this linguistic repertoire determines the acquisition of a new language; it either facilitates this process or makes it more complicated and difficult. Based on the studies investigating cross-linguistic influence in third language acquisition, various factors trigger cross-linguistic influence, which

can differ from one context to another (e.g., Cenoz, 2001; De Angelis & Selinker, 2001; Tápainé Balla, 2008).

### *2.1 Third and additional language acquisition*

There is a difference between the acquisition of the mother tongue (that is L1) and later acquired languages as the second, third, fourth and so on. According to Ortega (2009), second language acquisition is defined as the learning of languages beyond the first one. Concerning third or any additional language learning, Cenoz (2003) defines them as learning languages apart from the second language. It is generally thought that languages have an impact on each other. The first language might affect the acquisition of the second language, and, in third and additional language learning, both L1 and L2 might influence the learning process in multilingual contexts. This interference between languages reflects cross-linguistic influence. It is not surprising that the number of studies that have been conducted to investigate this phenomenon is increasing due to the number of the various multilingual contexts where different languages are involved.

The theory of cross-linguistic influence describes how and under which conditions the previously acquired languages influence the learning of a new language (De Angelis, 2007). The history of cross-linguistic influence research has long been of interest for researchers in second language acquisition. It is traced back to contrastive analysis hypothesis in 1957, and later to error analysis in 1975 where the focus was on learners' errors during second language acquisition. Later, researchers started to focus on the aspects of cross-linguistic influence in learning a third language to understand how learners transfer across languages and find out the factors triggering cross-linguistic influence in L3 (De Angelis, 2007).

### *2.2 Factors triggering cross-linguistic influence*

It has been proved that many factors affect the learning process in third and additional language acquisition. Cenoz (2001), for example, lists the following factors: psychotypology, level of proficiency, the context of the acquisition, language mode, the foreign language effect, age, and recency. We may find some similarities between Cenoz's classification of the factors and that of De Angelis (2007) who listed them as follows: cross-linguistic influence, language distance, proficiency, the source language, recency, exposure to the target language, environment, order of acquisition and context. These factors are resulted from different studies in different contexts (e.g., Tremblay, 2006; Rothman & Cabrelli, 2009; Cenoz, 2003; Bardel & Falk, 2007; Hanafi, 2014, T. Balla, 2012). Kırkıcı (2007) states that the scope of cross-linguistic influence has been extended to go beyond L1 and L2 influence and examine multilingual contexts by studying more complex combinations of languages (L1-L2-L3-Lx).

Studies on cross-linguistic influence and language transfer can be classified into three main groups. Studies in the first group support the idea that the source of transfer in third or additional language learning is from the learners' native language (e.g., Hermas, 2014; Cenoz, 2001). Studies in the second group argue that the transfer in L3 acquisition and learning is related to the first non-native language, i.e. L2, which is also known as foreign language effect or L2 status (e.g., Bardel & Falk, 2007; Hammarberg, 2001; Williams & Hammarberg, 1998; Kırkıcı, 2007; Türker, 2017). Cenoz (2003) mentions that “studies involving L3 speakers of different combinations of languages have consistently reported that learners use a second language which is typologically closer to the L3 as the supplier language rather than a typologically distant first language” (p.2). This is related to the level of proximity, i.e. typological similarities between two languages due to the similarities between English and German (De Angelis, 2007). And, finally, studies in the third group claim that third and additional language acquisition has nothing to do with the order of the previously acquired languages. That is, learners of L3 transfer from both their L1s and L2s, and the typological similarity determines and controls the acquisition of third or additional language, which occurs in syntactic transfer and morphological transfer (e.g., Hammarberg, 2001).

Language distance refers to the degree of similarities and differences that exist between two languages or more in addition to psychotypology which is related to learners' awareness of the existence of these differences (Ellis, 1994). Psychotypology makes learning easy when learners know the similarities that exist between languages that may facilitate their learning when L2 has an additive role in L3 learning (Cenoz, 2003; Jarvis & Pavlenko, 2008; Negadi, 2015). Second, when the level of awareness is low, learners may encounter difficulties recognizing the similarities and differences between the languages involved, and their production reflects negative transfer (Calvo cortés, 2005). In the L3 context, learners have the possibility to build on two background languages (L1 and L2) in learning L3 compared to second language learners who have only their first language to use as a source (Cenoz, et al, 2001).

### *2.2.1 Typological proximity*

One of the most important factors that trigger cross-linguistic influence in L3 learning is typological proximity (De Angelis, 2007). Rothman (2011) states that under certain conditions, cross-linguistic influence reflects the role of typological proximity between the third language and prior linguistic systems. Various L3 studies provide evidence that language distance plays a significant role in the learning process (e.g., De Angelis & Selinker, 2001; Tremblay, 2006; Rothman & Cabrelli, 2009). According to Rothman (2011), the more typologically similar language to L3 can be considered as a source of transfer, and learners depend on the language they perceive to be similar to the target language. According to Odlin (1989), “transfer is the influence resulting from

similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired” (p. 27). Odlin (1989) proposes a list for the outcomes of CL similarities and differences like positive transfer, negative transfer, and the differing lengths of acquisition. The perceived similarities and differences may work as a form of facilitation in several ways as well as may reflect negative transfer such as the case of false cognates.

There is a wide agreement that learners transfer from the language that is more closely related to L3 than languages that are typologically distant (e.g., De Angelis, 2005; Cenoz, 2001). De Angelis (2007) discusses the notion of typological proximity in which she uses language distance to refer to “the distance that a linguist can objectively and formally define and identify between languages and language families” (p. 22). She also mentions that formal similarity can be found in some features and components between two languages even if they are not genetically related.

### *2.3 Languages in Algeria*

Maamri (2009) describes the different phases languages went through in Algeria. She presents Algeria’s language policy before and after independence (between the French Algeria, i.e. during the French colonization and the independent Algeria, i.e. after independence in 1962). When the French colonization controlled the society and tended to impose the French language on the Algerian society, French was considered the first language in Algeria for more than 130 years (Maamri, 2009, p. 77). In the early 1960s and in an attempt to reconcile the Algerian identity, Modern Standard Arabic replaced French as the first language of instruction in primary school and later in secondary school. After independence in 1962, Arabic was considered the first official language of the country. In the last 50 years and following the intercultural movement, some foreign languages have been adopted in addition to the first languages (Arabic and Beber) as a first foreign language, typically French. However, Maamri (2009) considers French a second language rather than a first foreign language since it is used in everyday life. Starting from 1992, English has been regarded as a second language in Algeria alongside French as the compulsory foreign languages, to be taught starting from the third year in primary schools for French and starting from middle schools for English. More foreign languages such as German, Spanish or Italian were added to the school curriculum as compulsory courses in middle and secondary schools (precisely in the foreign languages stream, cf. below) and at universities for those who choose to study languages. Figure 1 presents the languages that are used as language of instruction or as compulsory languages in the Algerian education system in a more detailed way.

<u>Primary school (6-10 year olds)</u>			
<i>Arabic</i>	<i>French</i>		
The language of instruction	Learning French is compulsory from the third grade		
<u>Middle school (11-15 year olds)</u>			
<i>Arabic</i>	<i>French</i>	<i>English</i>	
The language of instruction	Compulsory language course	Compulsory language course from the first year	
<u>Secondary school (15-18 year olds)</u>			
<i>Arabic</i>	<i>French</i>	<i>English</i>	<i>German/Spanish/Italian</i>
The first language of instruction	Compulsory language course	Compulsory Language course	Compulsory language in 2 <sup>nd</sup> and 3 <sup>rd</sup> year Foreign language stream

Figure 1. Languages in the Algerian education system (WENR 2006)

As mentioned above in Figure 1, Algerians acquire Arabic from birth, and sometimes Arabic and French in the case of bilinguals. Students start learning French at the age of 6 or in some cases at 5, whereas learning English starts in the middle school at the age of 10 or sometimes 11. In secondary schools, they have French and English as compulsory language courses, in addition to German, Italian or Spanish from the age of 15 for those who are registered in the foreign languages stream.

Since there are four languages involved in this study (Arabic, French, English, and German), it is relevant to clarify the typological relationship between these languages. Regarding language genetic relatedness, Arabic is part of a Semitic language family that is typologically different from all the other three languages i.e. it has a special script, and as it is written from right to left. French, English, and German are all Indo-European languages that share similar features such as script, some grammar rules, some words), but, of course, they also differ in many aspects (e.g. syntactic structures, grammar rules, lexis). Concerning syntax, Arabic has special syntactic features that build up a complex syntax which differs from those of the European languages (El-Shishiny, 1990, p. 345), and it follows the VSO syntactic structure whereas French, English, and German have the SVO order. French, English and German are Indoeuropean languages; French is a Romance language, while German and English both belong to the Germanic branch, and therefore they are typologically closer to each other than to French. However, because of historical reasons English and French also share a lot of vocabulary.



### 3. The study

#### 3.1 Context

The context of the present study is Algeria, where, as mentioned above, secondary schools offer foreign languages as one potential study stream. If learners opt for foreign languages, it means they have to learn other languages besides their native Arabic, and on top of French and English, which are compulsory for everyone. Languages typically chosen as an L4 include German, Italian, and Spanish. Students start taking courses in the previously mentioned languages in their second year at secondary school. In this study, I intend to focus on learning L4 German as a foreign language to find out what prior linguistic knowledge Algerians tend to refer to when learning German. In the case of the Al-Kawakibi secondary school where this study was carried out, German is taught as a foreign language besides Arabic, French, and English in the foreign languages stream.

#### 3.2 Instruments

The study includes four types of instruments: a questionnaire on the participants' linguistic background (see above), two translation tasks, and a writing task. The questionnaire was adopted from T. Balla (2012) concerning the linguistic and language-learning background of the participants, and was modified to suit the context of the present study by removing some questions [from question 4 to 12] (see T. Balla, 2012, p. 170). I added two other sections about the participants' perception concerning the four languages. The modified questionnaire has three types of questions: personal information about the participants, questions about their linguistic background and questions about their perception concerning the way they use, learn and evaluate their language proficiency level in the four involved languages. Using a 5 point Likert scale, participants were asked to answer questions regarding their experience in learning the languages they know, as the following examples show:

1. If you want to understand a word in German, do you think your mother tongue helps?

2. Do you think that English helps in learning German?

Never      Rarely      Sometimes      Often      Always

Concerning the first translation task, participants were asked to translate seven sentences from German into one of their non-native languages (French or English). The sentences were chosen according to a set of criteria in which they are not too difficult and not too easy to be translated. They included words that are similar to their equivalents in English such as *Studentin*, *Freundin*, or *Musik*. These sentences were



structured in a way that the participants are familiar with, and the tasks are similar to the tasks they used to do during their German classes. Participants were free to choose either French (their L2) or English (their L3) to translate into. The purpose of this task was to find out which language participants prefer to translate into. 'Fatima ist meine Freundin und sie ist dreiunddzwanzig Jahre alt' is one of the seven sentences in this task. In addition, they were given a question in Arabic at the end of this task, which aims to know the language participants translated into as follow:

Which language do you prefer to translate the sentences into? Why?

The second translation task includes seven sentences that participants were asked to translate from Arabic into German. These sentences were structured in a way that they include words that are similar to their equivalents in English such as *fish*. The purpose of this task was to find out in which way the non-native languages influence language production in German.

The last task was designed to explore cross-linguistic influence in German L4 through a writing task. Participants were asked to write a short paragraph in German about their last summer holiday in which they were asked to answer six questions about their vacation such as: where did you spend the vacation?, for how many days?, how was it?...etc. The duration of each task was about 45 minutes except for the writing task that took about one hour. The paragraphs were collected and analyzed to explore the factors of cross-linguistic influence in learning German L4 based on participants' errors. The main aim of the second translation task (from Arabic into German) and the purpose of the writing task was to analyze the written production of the participants to find out about the influence of the non-native languages on learning German and which one affects learning German the most.

### 3.3 Participants

The participants include 30 third-year students in the foreign languages stream at the al-Kawakibi Secondary School in Touggourt province, Algeria. In secondary schools, only second and third-year students in the foreign languages stream learn German. In this study, participants have Arabic as L1 and French as L2. They have studied L3 English as a foreign language for seven years as an obligatory course in middle and secondary schools, and they are learning German as L4.

All participants were asked to fill in a questionnaire about their linguistic backgrounds. The questionnaires revealed that 70% of the participants use French with their families whereas only 5% state that they are taking extra classes in French and 20% join private schools to learn French to develop their level for exam purposes. Concerning English, 10% of the participants use English at home with their families, 60% of participants are taking extra classes and 25% are registered in English courses in private schools for different purposes. Some of them take extra classes to learn English

grammar and writing and are registered in private schools since they are planning to join an English language program at university. Concerning their use of German, a small percentage uses German at home i.e. 2% and 4% are taking extra classes, whereas 30% mention that they are registered in German courses in private schools. In brief, 70% of the participants use French at home, 60% take extra classes in English and 30% attend private schools to improve their German.

As far as the non-native languages are concerned, we can see that the participants had the same experience with the formal language instructions in French and English as obligatory courses taught at school expect for the 35% of the participants who acquired French from birth. We can notice that they, to some extent, form a homogeneous group in terms of language experience. Participants were in the 12<sup>th</sup> grade and were 16-18 years old at the time of the data collection. They started to learn French at the age of 7-9, and they have been studying English for 6 years. Beside the four languages that this study focuses on, 8 participants had some (2-8 months') experience with other languages such as Turkish, Hindi, Japanese, and Spanish.

In brief, participants were also asked to rate their proficiency levels in each of the four languages involved in this study. 40% of the participants who acquired French from birth consider themselves proficient C1/C2 in French, while those who took extra courses in English rated their proficiency level as B2. Concerning German, the majority of the participants (over 70%) consider themselves beginners to intermediate learners.

### *3.4 Procedure*

The study was carried out in January 2020 in three days. On the first day, the students filled in the questionnaire, which provided background knowledge about the participants and their perception concerning the languages they know and how they use them and which one they think helps them in learning German. On the second day, they did the two translation tasks; from German into French L2 or English L3 in the first task and from Arabic L1 into German L4 in the second task. In the first translation task, I calculated the French and English translations of each sentence in order to know which language participants prefer to translate into (see Table 2). On the third day, they wrote paragraphs on the specific topic of "last summer holiday". The paragraphs were collected and analysed referring to the types and factors of cross-linguistic influence in German in the presence of three previously acquired languages (Arabic, French and English). The analysis of the writing task aims to present some examples of cross-linguistic influence that reflect the impact of the previously acquired linguistic systems on learning German. The results of the questionnaire and the four tasks are presented and analyzed in the following section.

## 4. Results and discussion

### 4.1 Language choices in the first translation task

As stated above, the primary purpose of this study was to find out how the previously acquired languages influence learning German when the latter is learned after French L2 and English L3. From the analysis of the tasks, it is found that students tend to translate the sentences of the first translation task into English. The results of the first translation task (from German into French/English) are summarized in Table 1 below. It presents the numbers of participants who translated the sentences into French and those who translated into English.

Table 1. Language choices in the translation task (From German into French/English)

Sentence	Number of participants who translated the sentence into French L2	Number of participants who translated the sentence into English L3	Number of participants who did not translate the sentence
1. Ich bin Dalal und ich bin einundzwanzig Jahre alt.	12	18	0
2. Fatime ist meine Freundin und sie ist dreiundzwanzig Jahre alt.	9	18	3
3. Ich bin Studentin an der Kasdi Merbah Universität.	9	21	0
4. Ich mag Musik hören und tanzen.	15	15	0
5. Das ist mein Großvater.	6	24	0
6. Dieses Mädchen hat drei Hausaufgaben.	10	20	0
7. Putzen sie sich die Zähne nach dem Essen.	6	15	9

As shown in Table 1, the majority of the participants translated the first sentence into English. Over 60% of the participants translated sentences 3, 5 and 6 into English, while 60% of the participants chose English as a target language when translating sentences 1 and 2. Also, three participants did not translate sentence 2. Half of the participants translated sentences 4 and 7 into English, while 9 students did not provide a translation

for sentence 7. These percentages show that the majority of the sentences was translated into English, and participants preferred English as the target language they translate into. As for the non-translations of sentences 2 and 7, I assume, they were more difficult for some participants to translate into French or English. This will need further investigation in future research to find out why some participants do not translate particular sentences during the task.

When asking participants about their preferred language choice, the responses were as follows:

(1) *I translated these sentences into English because I think English, in this case, is easy to translate into.*

(2) *Absolutely English! There are some words easy to translate into English than into French.*

Other answers reflect the psychotypology of participants in which they claim that there are some kind of similarities between English L3 and German L4 as follows:

(3) *English, I like it, and it is closer to German in some words.*

(4) *English, it is more similar to German than French.*

(5) *English, I don't know maybe there are things in common between English and German.*

(6) *Even though my level in French is better than in English, I chose English because there are words that look like the same in English and German such as: Jahre alt = years old, Studentin = student, and Grossvater = grandfather.*

As we can see from the students' justifications, they reflected on the similarities between English and German and referred to them as a facilitating factor during translation. English and German are perceived to be the most similar by the participants. The analysis of the first translation task reveals that L4 learners of German prefer to translate into a language that is typologically more similar to German (English), than the other foreign language (French) they are familiar with. Another explanation for the participants' choice of English as the preferred language they translate the sentences into is their proficiency level. They mentioned in their answers, for example, that "my level in English is better than in French". Language preferences can also be considered as reasons behind choosing English as a target language to translate into as stated in one of participants' responses: "I choose English just because I like it". Another explanation that can be added from the participants' answers is the perceived easiness of a language as mentioned in one of the answers: "The language I translated into is English because it is easy to learn."

## 4.2 Types of cross-linguistic influence

Based on the similarities between German and English, the participants' errors in the second translation task and the writing task were analysed and classified based on cross-linguistic influence types. The first one is lexical transfer that occurred on many occasions throughout the tasks such as the use of cognates. Another type of cross-linguistic influence that occurred in the participants' answers is the grammatical/syntactic cross-linguistic influence as in the form of comparative adjectives rules, and verb selection.

### 4.2.1 Lexical transfer

While evaluating the second translation task (from Arabic into German) and the writing task, I observed that students tend to activate their English knowledge and rules when translating from Arabic into German. I classified the errors that students made when translating from Arabic into German into different types of transfer categories. The first one is lexical transfer, which occurred rather frequently throughout the participants' answers.

Table 2. Types of lexical transfer in the second translation task (Arabic into German)

Full lexical switches	Morphological forms	Orthographic forms
Families (Eng), familles (Fre), brun (Fre), Brown (Eng), blue (Eng), bleu (Fre), physic (Eng), Physique (Fre), friend (Eng), story (Eng) Fich (Eng)	friendin	zwanzig, zwentzig, Swendzig, twansig, twansig, brawn, Familian, Famile, familien, eint hundret, hundert, Blaue...

As shown in Table 2 above, participants used non-standard German orthography and word forms, which can be classified into three types of lexical transfer: full lexical switches, morphological forms, and orthographic forms (Kırkıcı, 2007, Tápainé Balla, 2008). Some examples of the words that were written in different forms are: *Zwanzig* (correctly in German: *Zwanzig*, meaning in English: twenty), *ein hundred* (correctly in German: *Einhundert*, meaning in English: one hundred), *Familian* (correctly in German: *Familien*, meaning in English: families), *Blau* (correctly in German: *Blau*, meaning in English: blue) and *Braun* (correctly in German: *Braun*, meaning in English: brown). It is necessary to consider the transfer from English L3 in the learning of German L4 since they are typologically closer to each other. For example, there are morphological hybrid

forms that occur in the students' translation such as the word *friendin* (correctly in German: *Freundin*, meaning in English: female friend). This word is mistakenly written in different forms *Friend*, *friendin* and *Fraundin*. The first form (*Friend*) can be considered a full lexical transfer when it is written as in English, but capitalized as if it was a German word *Friend*. It can be considered a morphological hybrid form when the first part of the word is in English and the second part is written in German as in *friendin*. Other orthographic forms reflect neither English nor German, as in the word *Fraundin*; it is a new form that does not reflect either the English word *friend* or the German word *Freundin*. Another example in which French influences the learning of German is the word *famille* [English: family]. The latter is the French equivalent of the German word *Familie*. That is, the source of this lexical transfer, in this case, is from French L2. Also, frequent incorrect forms also occur in participants' translations which are not clearly related to any of the previously acquired languages. In the case of certain forms, it is difficult to decide whether the incorrect word form is a result to the influence of English and French or maybe it may simply be related to the developmental errors that participants may commit when learning German L4.

Lexical transfer also occurs in the writing task in several words such as *zuletzt*, *schnell*, *interessant*, *schön*, *Sommer*, *Leute*. Examples of lexical transfer from the writing task are presented in the following examples:

(7) *In der lasten summer, ich habe zum ein gut und new Stadt.* (Hybrid form)

(8) *Dies war ein sehr interesting fur mich.* (Full lexical switches)

(9) *Wir haben viele laute kennengelerte.* (Hybrid form)

(10) *Mein Hobby ist tanzen und music hören.* (Full lexical switches)

(11) *Wie Assen das traditionelle Essen dieses Ortes.* (Full lexical switches: French word *traditionelle*)

In Example 7, the influence of the English word *last* in the German phrase *Im letzten Sommer* is clearly seen: the participant used the English word *last* instead of the German *letzt/e/n* with the appropriate German adjective form in dative. There are similar examples where participants misspelled words in German, and they wrote the English equivalents of the words, such as *interesting* (example 8), *people* (example 9), and *music* (example 10). These full lexical switches prove that participants used their L3 knowledge in learning German L4, and wrote the words incorrectly in the target language. Cenoz, Hufeisen and Jessner (2002) concluded that even when languages are closely related, there are specific cues that make the difference such as using the onset capital letters in German nouns.

#### 4.2.2 Transfer of grammar rules

Deviation from grammar rules is also considered one of the types of cross-linguistic influence such as the errors in comparative and superlative rules, which clearly reflect the influence of English on learning German. Table 3 presents some examples of conjugation and verb selection errors that occurred in the participants' writing, most likely due to the similarities and differences between English L3 and German L4, such as applying English grammar rules in the production of German L4 in the case of modal verb conjugation.

Table 3. Conjugation errors and verb selection

Conjugation error/verb selection	Correction	Justification + source of transfer
1. Und meine Mutter sagte: 'du <u>must</u> essen'.	*Und meine Mutter: 'Du <u>musst</u> essen'.	- <i>must</i> instead of <i>musst</i> - <i>must</i> = English model verb
2. Er <u>müssen</u> darüber nachdenken.	* Er <u>muss</u> darüber nachdenken.	-using the infinitive form of the model verb <i>müssen</i>
3. Mein kleiner Bruder <u>ist</u> hunger.	*Mein kleiner Bruder <u>hat</u> hungar. -Mein kleiner Bruder <u>ist</u> hungrig.	- misuse of the verb <i>haben</i> - <i>to be</i> instead of <i>to have</i> -Influence of English
4. Ich <u>bin</u> geschlafen während mein Freund <u>ist</u> gekocht.	*Ich <u>habe</u> geschlafen <b>während</b> mein Freund gekocht hat.	-misuse of the verb <i>haben</i> -using the verb <i>sein</i> instead of <i>haben</i> - word order mistake -influence of English L3 on German L4.
5. Wir <u>bekom</u> vorsichtiger.	* Wir werden vorsichtiger.	- using the verb <i>bekommen</i> instead of <i>werden</i>
6. Ich <u>fande</u> es stressig.	*Ich <u>habe</u> es stressig gefunden.	- conjugation

The participants used the infinitive form of the model verb *müssen* with different pronouns which reflects the rule of modal verbs in English where the infinitive form of the modal verb is used with all pronouns, however, in German it has to be conjugated.



As can be seen in Table 3, the participants' written productions show common types of cross-linguistic influence from English L3 in learning German L4. Modal verbs in English and German have the same functions within a sentence, but in English, for instance, the modal verb *must* has the same form with all pronouns (e.g. they must, she must, and he must) whereas in German it has different forms based on tense and pronouns (e.g. ich muss, du musst, and er/sie/es muss).

In the first sentence (Table 3), the modal verb *müssen* is misspelled. It was replaced by the equivalent modal verb *must* in English L3, which may reflect a full lexical switch, or a spelling mistake: one –s, instead of two –ss-es. In the second example (Table 3), the modal verb is not conjugated according to their rules in German, but rather it is used in the infinitive form, in the same way as in English: the rule is that they take the same base form after all pronouns. This occurred in different cases when participants did not conjugate the modal verb according to the pronouns such as the use of *müssen* with the pronoun *er* [first person singular] instead of *muss*. Second, the use of the verb *to be* instead of *to have* in sentences 3 and 4 reflects the influence of English on learning German. In English, we express *I am hungry* with the verb *to be*, while in German we use the verb *to have* as in *Ich habe Hunger*. This reflects the cross-linguistic influence of English L3 on learning German. Even in French, in such a case, we use the auxiliary *to have* to express hunger by saying *J'ai faim* not *je suis faim*.

Third, the selection of inappropriate verbs is found in students' written production, which can be considered cross-linguistic influence such as in the case of false friends. The verb *bekommen* was used as the equivalent of the verb *to become* in English whereas it means *to get*. The misuse of verbs and words discussed above is caused by language distance and the degree of similarities and differences between English L3 and German L4.

A further example of cross-linguistic influence from Arabic is the transfer of the syntactic features of Arabic such as the VSO structure as in the following examples which reflect transfer from Arabic when participants transferred the VSO structure from Arabic into German. The latter has the SVO system as in English and French.

(12) *War das Dorf sehr schön.* (cross-linguistic transfer from Arabic)

More examples are presented in Table 4 below, showing the influence of the participants' background languages on learning German at the level of syntax.

#### 4.2.3 Syntactic transfer

Another type of error found in participants' translation tasks and the writing task is related to the syntax of the sentences. Participants followed some syntactic rules in Arabic, French and English and applied them in German production, as shown in Table 4 below.

Table 4. Syntactic transfer

Syntactic error	Explanation/Source of transfer
1. Begann unsere reise in Djelfa und ich erinnere mich an die ersten tage in sehr Nächten kalten.	Arabic L1 : Literal translation (Structure rules of Arabic)
2. Wo die malerische Natur und die wasserfalle und die fliessenden Taler und die reinen Taler mehr als einen Monat lang in Tranen ausgebrochen waren.	Literal translation (Structure rules of Arabic)
3. Wie haben versuchen die Essen traditionnelle von diseser Stadt.	French L2
4. Am Freitag, wir gingen zu Annaba.	English L3: Transferring sentence structure forms
5. In der lasten summer, ich habe ein gut Reise in eine neue Stadt.	English L3
6. Es war ein <u>Sportcamp</u> , in dem gerne wir verschiedene sportarten ausubten.	English L3

In Table 4 we can see that transfer did not only occur at the lexical and morphological level, but also at the syntactic level. Participants transferred some structures from their L1 Arabic, L2 French or L3 English. As shown in the first and second examples, the participants wrote sentences that clearly reflect literal translations from Arabic. In Arabic, the sentence usually starts with a verb as in the first sentence in Table 3 above, following the VSO structure rather than constructing the sentence according to German rules.

In the case of the previously acquired languages (Arabic L1, French L2, and English L3), it is mainly the literal translation that clearly reflects the structure of these languages. Other types of errors can be classified under grammatical errors. As shown in Table 5 below, participants tend to transfer rules of comparative and superlative from English and apply them in German, which is consistent with some studies that show the influence of the similar language on the target language (e.g. Cenoz, 2001; Ò Laoire & Singleton, 2009).

Table 5. Transfer of grammatical rules

Error/transfer of rules	Correction	Source of transfer
1. Das Reise war <u>mehr</u> <u>Gefährlich</u> <u>als</u> die vorherige.	* Das Reise war gefährlicher als die vorherige.	English L3
2. Ich war <u>der jüngest</u> in der Gruppe.	* Ich war der <u>jüngste</u> in der Gruppe.	English L3
3. Sommer ist die <u>best</u> option zu haben ein pause.	* Sommer ist die <u>beste</u> Option um eine Pause zu haben.	English L3

In addition to the cross-linguistic transfer mentioned above, some other types of transfer occurred in the participants' written production, such as false cognates (Example 13) and the incorrect use of gender articles (Example 14). Also, the misuse of prepositions in some cases was very clear such as *für*, and the incorrect plural forms among others. The findings show that the participants tend to transfer from English since it is perceived to be more similar to German.

(13) *Er Bekom ein Schwimmer* (false friends)

(14) *Dies war ein sehr interesting für mich* (transfer of the article)

Overall, we can see that several factors trigger cross-linguistic influence in learning German L4 after French and English. Arabic, the participants' native language, seems to impact learning L4 mainly in applying the Arabic syntactic structure in German, which reflects literal translation on various occasions. The effect of the non-native languages is also considered one of the main factors of cross-linguistic influence. Since French and English are both Indo-European languages, they can be considered more useful in learning German than Arabic, which is a Semitic language. We can also notice that language distance and psychotypology are the determining factors of cross-linguistic influence in learning German L4.

## 5. Conclusion

This study shed light on the role of the previously acquired languages in third and additional language acquisition. The present study highlighted three research questions. Concerning the first research question, it was found that various types of cross-linguistic influence in learning L4 German occurred at different levels such as lexical and syntactic cross-linguistic influence. Answers to the second research question supported

the prediction that participants rely on English L3 when carrying out a translation task as it is the preferred language for the participants to translate into. According to their language choice, they perceive that English is more similar to German than the other previously acquired languages. Regarding the last research question, the factors that affect learning L4 German are language distance and the psychotypology of learners concerning the similarities and differences between the languages involved which may help the learning of the target language. The participants relied on English more than on any of the other languages they were familiar with. Second, participants tended to rely on L3 English in learning L4 German. Third, the factors triggering cross-linguistic influence found in this study are due to the perceived similarity between English and German. This study showed that language distance has a facilitative and non-facilitative influence. My results confirm the findings of previous studies (Dewaele, 1998; De Angelis, 2005; Cenoz, 2001), which also concluded that psychotypology plays a significant role in learning third/additional language.

This study presents examples of cross-linguistic influence in learning German as L4, and it shows that language distance is one of the important factors in third and additional language acquisition as it was stressed by De Angelis (2007), Cenoz (2001) and Hall and Ecker (2003). As any study, this study has its limitations that should be taken into consideration in future research such as individual differences that might affect their performance. A further limitation is that only 30 participants took part in the present study, and they all come from the same high school and thus have the same linguistic background. Also, the designed research instruments could only cover certain areas of language, therefore only a limited range of lexis, morphology and syntax could be examined. Future research may focus on one type of cross-linguistic influence and study it in detail and in different contexts. Future research is encouraged to focus on syntactic cross-linguistic influence as there are few studies investigating CLI at the syntactic level. Also, various models on morpho-syntactic transfer can be tested to explore the factors that trigger CLI in TLA.

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