



## Grammaticality Judgments as Evidence for Null-subject Parameter Resetting by Young and Adult Libyan EFL Learners

Dr. Aisha Fathi Abugharsa Halima Milad Shalouf Siham Abdulwahab Elbadawi  
a.abugharsa@art.misuratau.edu.ly 181650@art.misuratau.edu.ly b171035@art.misuratau.edu.ly

Faculty of Arts, Misurata University, Libya

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### الكلمات المفتاحية:

متغير حذف الفاعل، اختبارات التحكيم النحوي، عامل العمر في اكتساب اللغة، إعادة ضبط المتغيرات، المستوى الأكاديمي.

### المُلخَص

تبحث هذه الدراسة في عدد من القضايا المتعلقة بالاختلافات بين متعلمي اللغة الثانية الصغار والكبار فيما يتعلق بعملية إعادة تعيين العوامل المتغيرة في الحالات التي يكون فيها للغة الأولى والثانية قيمتان مختلفتان لنفس العامل. الحالة التي تم بحثها في هذه الدراسة هي حقيقة أن اللغة العربية التي هي اللغة الأولى للمجموعات المستهدفة من المشاركين في هذه الدراسة هي لغة يمكن فيها حذف الفاعل أي أنها لغة ذات عامل مؤيد لحذف الفاعل، في حين أن اللغة الإنجليزية التي يدرسونها كلغة أجنبية هي لغة غير مؤيدة لحذف الفاعل. تستخدم الدراسة اختبارات التحكيم النحوي مع مجموعتي متعلمي اللغة الإنجليزية كلغة أجنبية اللبنيين، مجموعة المتعلمين الصغار ومجموعة الكبار لاختبار إذا ما كان إعادة تعيين متغير حذف الفعل من قيمته باللغة العربية إلى قيمته المختلفة في اللغة الإنجليزية. تم تطبيق اختبارات التحكيم النحوي هذه على 91 طالبا جامعيا يدرسون في قسم اللغة الإنجليزية بكلية الآداب بجامعة مصراتة بينما ضمت مجموعة المتعلمين الصغار 45 تلميذا في الصف الأول في مدرسة المعرفة الدولية في مصراتة. تم اعتبار مستوى الأداء الأكاديمي للمشاركين في المجموعتين عاملا قد يؤثر على الأحكام النحوية للمشاركين. أظهرت النتائج أن المتعلمين الأصغر سنا كان أداءهم أفضل في اختبارات التحكيم النحوي وأن أحكامهم لم تتأثر بحقيقة أن لغتهم الأولى لها قيمة مختلفة لعامل حذف الفعل حيث لوحظ أن الدراسة الأكاديمية المكثفة على المستوى الجامعي لم تساعد المشاركين الأكبر سنا على أن يكونوا أفضل من المشاركين الأصغر سنا في هذه المهمة. علاوة على ذلك، لم يكن مستوى التحصيل الأكاديمي عاملا في هذه الدراسة أن المشاركين ذوي المستويات الأكاديمية المنخفضة كان أداءهم أفضل من أولئك الذين لديهم مستويات أكاديمية أعلى.

### Abstract

This study investigates a number of issues related to the differences between young and adult second language learners concerning the process of parameter resetting in cases when the first and the second language have two different values of the same parameter. The case which is examined in this study is the fact that Arabic which is the first language of the target groups of participants in this study is a pro-drop (null-subject) language, while English which they are studying as a foreign language is a non-pro-drop (non-null subject) language. The study uses Grammaticality Judgment tasks to which group of the Libyan EFL learners, the young or the adult learners' group have reset this parameter from its value in Arabic to its different value in English. These Grammaticality Judgment tasks were applied to 91 university students who are studying in the Department of English, Faculty of Arts at Misurata University. The young learners' group included 45 pupils in the first grades at the International Knowledge School in Misurata. The academic performance level of the participants in the two groups was considered as a factor which may affect the grammaticality judgments of the participants. The results showed that younger learners performed better in the grammaticality judgment tasks and that their judgments were not affected by the fact that their first language had a different value of the pro-drop parameter. It was also noticed that the intensive academic study at a university level did not help the older participants to be better than younger participants in this task. Moreover, the level of academic achievement was not a factor in this study that participants with lower academic levels performed better than those with higher academic levels.

### Keywords

Pro-drop parameter, Grammaticality Judgements, Age Factor in Second Language Acquisition, Parameter Resetting, Academic Level

### 1. The Problem and Its Background

All second language learners start the process of learning a second language (L2) with an initial state which is "the starting point for L2 learners: namely, what they bring to the task of acquiring another language" (Vanpatten & Benati, 2015, p.12). There are a number of issues which indicate what comes with this initial state, one of them is that L2 learners transfer properties of their first

language (L1) into the second language they are learning. In addition, there are also other factors that affect L2 learning such as age. Some researchers, for example, Krashen, Long, and Scarcella (1979) mentioned that adults learn L2 faster than young learners, yet in the long run, the young learners become more proficient. For example, if young and adult learners were submerged in the target language (TL)

environment, there would be a clear difference in their TL performance. A number of researchers that studied immigrants moving to English-speaking countries indicated that the younger the learners were, the better they performed in the TL (Patkowski, 1980; Johnson & Newport, 1989; Singleton, 1989).

It is important at this stage to mention how the term competence will be used in this research. 'Competence' is a term which generally refers to the ability to perform something. It also refers to the unconscious Knowledge that one has about things such as systems and facts. Hence, in reference to language, it is the underlying knowledge an individual has about the language system (Tavakoli, 2012). The term was first used.

in the field of linguistics by Chomsky in the 1960s (Matthews, 2007). He put forward the assumption that this linguistic knowledge is originally innate, within human biology. Therefore, in this study, the term 'competence' will be used to refer to the unconscious knowledge of a language system, without alluding to the theoretical positions of where this knowledge originally emerged from.

### 1.1. Research Problem and Research Questions

This study aims to compare the effect of L1 on the grammaticality judgments (GJs) of Libyan EFL university students and young EFL Libyan learners in relation to age and academic performance. Specifically, it seeks to answer the following questions:

1. Will the participants' first language (Arabic) have an effect on the grammaticality judgment decisions of the second language concerning the properties of the Pro-drop-parameter which has different values in the two languages?
2. Will these judgments given by Libyan learners be affected by age?
3. Will studying the second language at an advanced level be a factor in making the grammaticality judgments of EFL university students better than the judgments given by younger participants?
4. Is there any relationship between the participant's academic level or grades and their performance on grammaticality judgment tasks?

### 1.2 Hypotheses

The study hypothesizes that:

1. The grammaticality judgments of the two groups of Libyan EFL learners will be affected by

the fact that their first language (Arabic) is a pro-drop language

which allows sentences without explicitly stating the subject

2. Although younger age is an important factor in second language acquisition, the performance of the older group will be better as a result of the intensive study of English in the university.

3. There is a relationship between the participants' academic level or grade and their performance on grammaticality judgment tasks.

### 2.1 Review of Related Literature

#### 2.1.1 Using grammaticality judgment tasks with L2 learners

In Grammaticality Judgment (GJ) tasks speakers of a certain language are exposed to linguistic inputs to determine whether they are correct or to rate their level of acceptability. This method is widely used by linguists to examine their theoretical assumptions. If designed and implemented accurately, GJ tasks may provide empirical evidence which supports these theoretical claims that neither naturalistic data collection nor elicited production tasks can offer. Therefore, the use of GJ tasks in linguistic theory in many cases is considered fundamental (Tremblay, 2005).

The main reason for choosing a judgment task over an alternative, especially with children, is that it corresponds more precisely to a specific theoretical assertion. Only a grammaticality judgment exercise may be used to determine whether a youngster believes a particular phrase to be grammatically correct. Production tasks are ineffective because the fact that youngsters do not generate a clearly ill-formed phrase does not indicate that they believe it is grammatically incorrect. Comprehension tests are also ineffective because the youngsters, despite recognizing a phrase to be ungrammatical, are more likely to succeed at an act-out or preference looking/pointing activity if the utterances are clearly understandable but not grammatically correct (Ambridge & Rowland, 2013).

In GJ tests, Schütze (1996) presents a number of suggestions to reduce the impact of test-related and subject-related elements. First, he recommends that researchers should avoid selecting sentences with grammaticality ratings that are likely to be confused by parsing difficulties. Second, in order to limit the chance

that respondents create their personal fictional scenario where ambiguous sentences could appear, he proposes that sentences be delivered in context. He also suggests that the amount of grammatical and ungrammatical elements in the task could have an impact on GJs. Therefore, the number of grammatical and ungrammatical components in the task should be roughly equal. Finally, it is critical to employ at least as many distracters as experimental items in order to prevent respondents from becoming aware of the experiment's objective.

As for procedures, GJ tasks should be conducted in a controlled environment, to limit the possibility of subjects becoming distracted during the task, and to diminish between-subject variation by having all informants accomplish the test under identical settings. Furthermore, Schütze (1996) highlights the necessity of delivering as specific and detailed instructions to informants as feasible. A further factor at play when designing GJ tasks is whether the generated ratings ought to be absolute or comparative, as Schütze (1996) outlines. Binary judgments are possible with absolute judgments. Comparative judgments, on the other hand, require comparing sentences on a spectrum of acceptability. Therefore, it is upon the researchers to determine which style of rating is most suitable. Moreover, limiting participants to a certain length of time is crucial. One advantage is that the extra grammatical elements are less likely to influence initial reactions to provided sentences. A second advantage according to Schütze, is that time constraints make it more difficult for informants to find the structural analyses in which the researcher is interested.

### **2.1.2 Comparison between Young and Adult Second Language Learners.**

Before comparing young and adult learners, it has to be clear who is referred to as a 'young learner' and an 'adult learner'. Ellis (2015) says that some researchers have distinguished prepuberty learners from post-puberty learners. However, he objects to this classification. He states that "this constitutes a somewhat crude way of characterizing 'age'; there is a big difference, for example, between a four-year-old and a ten-year-old child and perhaps an even bigger one between a 17-year-old and a 50-year-old adult learner." (p. 37). Nonetheless, the language outcome of learners starting at a younger age and those starting at an older age have

observable differences.

In Adult Language Acquisition (ALA), learning and mastering grammatical morphology is a difficult task. However, there are significant similarities between the early stages of ALA and Foreign Language Acquisition (FLA). Content words predominate in both kinds of utterances, with a few functional components thrown in for good measure. These components are usually free morphemes in the basic variety, such as determiners and forms of copula and negation. Both young and adult versions have several rote forms, such as fixed phrases and word-specific formulas. Children, on the other hand, perform tasks of analysis and recombination of such structures in a natural and efficient manner (Tomasello, 2003).

Other differences are referred to by Slobin (2012) who says that adult and young language acquisition are communicative procedures and the end-state of acquisition. While adults' communication is characterized by trying to get their points across and figuring out how the language works, children's communication lacks these characteristics. Regarding the end-state of acquisition, it is common for the majority of children to become fluent native speakers of one or more languages. Adults, however, even the most proficient speakers, usually end up with fossilized language skills.

The reason for the different outcomes of an L2 between both adults and young learners may be explained through the Critical Period Hypothesis (CPH). The hypothesis claims that a person can acquire native-like competence implicitly and easily during a certain period of their life, usually by the onset of puberty. However, after this period seldom does anyone achieve native-likeness (Ellis, 2015). Initially, evidence in support of the theory came from sources outside of SLA. Lenneberg (1967) as cited in Ellis (2015) reported on studies which revealed that children with right hemisphere damage had linguistic impairments, but adults did not. Adults, on the other hand, lost practically all of their language after surgery to the left hemisphere, but children did not. Adults with such surgeries demonstrated persistent language impairment, whereas children quickly regained complete language control. Lenneberg came to the conclusion that the biological foundation of language differed in children and adults.

Slobin (2012) in his study lays out six major

differences between adult and young language learners. The first difference is age, where adults have a biological disadvantage of age, unlike children whose youth is a biological advantage. Second, is that adults' requirements are complex and essential but, children's requirements are considered simple and non-essential. Third, communicative goals for adults could be exceeding their capacities, as for young learners, they go in line with their capabilities. The fourth difference is the period of time for learning a language. Adults lack long-term language learning periods opposite to youngsters. The fifth difference is that adults have a source language filter whereas children do not. Lastly, adults have already existing cultural norms and expectations, in comparison to children who are acquiring these norms in addition to language.

Some hypotheses have attempted to explain the process by which the language learner acquires a language. In many of these hypotheses, memory is a main factor, since it allows the learner to develop, store, represent, and access representations while processing (Mitchel, Myles, and Marsden, 2013). For instance, according to Item based learning, children form generalizations about the language after they acquire and store a great number of linguistic items which they can compare and deduce the consistent linguistic patterns of a language from them. This can also be the case with adult second-language learners (Slobin, 2012). Other studies in cognitive psychology support the presence and nature of various memory systems, and these principles have been used in SLA theories to explain disparities in learning speed and performance at different ages. Some academics look at the role of procedural compared to declarative memory systems in SLA (Mitchel, Myles, and Marsden, 2013).

For example, some of the assumptions that Paradis (1994, 2004, 2009) makes is that there is no connection between the procedural memory system, which uses implicit knowledge, and the declarative memory system which uses explicit knowledge. Adults learn language through the declarative memory system, whereas children learn language implicitly through the procedural memory system. Following lengthy practice, an initial high reliance on metalinguistic information stored in the declarative system will progressively be replaced by a larger dependence on the procedural system. This re-balancing, however,

does not always imply the loss of declarative information, which may still be present once procedural knowledge has emerged.

Ullman (2001a, 2006) in his studies provides a detailed account of the neuroanatomy of both the declarative and procedural memory systems. Some of the conclusions of his studies are: (a) The procedural system supports rule-governed components of language, such as syntax and morphology, as well as skill learning. On the other hand, the declarative system supports item-based components like the lexicon and lexicalized stretches of language learning as a whole. (b) These two systems function together as well as compete with one another. Deficits in one system will lead to increased reliance on the other, and vice versa. (c) The two memory systems interact; procedural memory, for example, can access information from declarative memory. This implies that some forms of declarative information can alter the representations maintained in procedural memory in L2 learning. It also indicates that procedural memory has an impact on declarative knowledge and is occasionally visible to the conscious mind. Learners could, for example, bring procedural knowledge into consciousness before analyzing it. (d) L2 processing may be automated and stored in the procedural memory system, allowing it to become L1-like, albeit this needs either enough practice or early acquisition and is reliant on an individual's natural procedural learning ability. (e) Children's procedural memory is more important than adults.

Due to hormonal changes, this dependency fades during adolescence, and the declarative system is eventually employed more. When learning a language, both children and adults use both systems, but as the age of acquisition grows, the declarative system becomes more important for processing vocabulary, morphology, and syntax. Slobin (2012) indicates that findings like these, along with an increasing focus on the impact of frequency, throw doubt on Chomsky's previously prevalent view that children are born with a ready-made, intrinsic universal grammar that should, in theory, allow for quick generalization from restricted exemplars. The consequence of ALA research is that a comprehensive examination of individual learning patterns and age-related cognitive skills is more beneficial than interpreting age disparities based on a hypothesized biological program.



### 2.1.3 Academic Proficiency as an Individual Factor for Language Learning.

Within the second language learners themselves, individual differences are clear. While some L2 learners successfully achieve high levels of proficiency, others taking the same courses struggle to reach the same level as these learners. One explanation for this phenomenon could be 'Intelligence'. Tavakoli (2012) defines intelligence as "the general set of cognitive abilities involved in performing a wide range of learning tasks" (p.179). It is a generic type of aptitude that is not confined to a certain performance area but is transferable to many different types of performance. Language Aptitude, Intelligence, and Working Memory are all firmly connected. They all refer to cognitive abilities, and the distinction between them is mostly determined by how wide and language-specific the phrases are.

Lightbown and Spada (2013) state that the term 'intelligence' has long been used to describe how well people do on particular types of exams. These exams are frequently linked to academic performance, and there has been some evidence of a relationship between IQ and second language learning. IQ levels have been demonstrated to be a decent predictor of second language acquisition performance in several studies over the years. However, IQ testing may be linked to metalinguistic knowledge rather than communication competence. For example, Fred Genesee (1976) discovered that, although intelligence was connected to the development of grammar, reading, and vocabulary in French as a second language, it was irrelevant to oral production abilities in research with kids in Canadian French immersion programs. This shows that the sort of skill indicated by standard IQ testing can be a good predictor of linguistic analysis as well as rule learning. This type of intelligence may be less significant in courses that place a greater emphasis on communication and engagement. Thus, if given the correct opportunity, many students with poor academic performance may achieve significant success in learning a second language.

### 2.1.4 The Effect of the First Language on Second Language Learning

Language transfer is one of the main terms used in the field of linguistics whenever the influence of the L1 is mentioned. The assimilation of aspects of

the L1 into the learner's knowledge system of the L2 is sometimes referred to as first language transfer. It is expected that the first language habit would be transferred over into the second language in a behaviorist paradigm of learning. Ellis (1994) indicates that "in cases where the target language differed from the L, this would result in interference or negative transfer. In cases where the patterns of the L1 and the TL were similar positive transfer would occur" (p. 29). The L1 could both obstruct and enhance the L2's acquisition. When there were disparities between the TL and the native language, transfer was often not possible. In addition, many of the errors committed by students appeared to be the result of intra-lingual processes (i.e., Instead of interference, they were the consequence of processes based on the learner's prior understanding of the L2).

A great deal of effort has gone into determining the circumstances which cause a transfer to occur. The transfer has been influenced by many elements such as the ones mentioned by Kellerman (1978) as cited in Ellis (1994) who has demonstrated that learners' impressions of the distance between their native language and the target language influence whether or not they would transfer. Wode (1976) stated that transfer is a developmental phenomenon because it occurs only when the learner has reached a natural stage of learning that is strikingly comparable to the structure of a native language (as cited in Ellis, 1994). According to Ellis (1994), transfer may also be affected by markedness. According to one definition of markedness, a marked linguistic structure is one that can be used with fewer constraints than related unmarked one, learners seem more likely to transfer unmarked native language features than marked ones particularly if the corresponding features in their target language is marked.

The learner's prior language knowledge is a significant factor, and it was historically the first to be given substantial consideration. Ellis (1994) indicates that the significant barrier to learning, according to behaviorist views, was interference from prior knowledge. Proactive inhibition was the outcome when old habits got in the way of learning new ones. In the case of L2 learning, however, learners do not need to lose their L1 in order to learn an L2, but native language loss may occur over time in some instances. As a result, behaviorist L2 learning theories focused on the concept of difficulty, which was defined as the

“amount of effort required to learn an L2 pattern” (Ellis, 1994, p. 300). The level of difficulty was thought to be primarily determined by how similar or unlike the TL pattern was to a native language pattern. When the two were the same, learning was simple due to the positive transfer of the native language pattern; but, when they were not, learning was more difficult, and negative transfer was more likely. Ellis (1994) says that no theory can be complete if it ignores the previous linguistic knowledge of the learner.

### 2.1.5 The Null Subject Parameter

In order to have a better understanding of the null subject parameter, some important perspectives should be explained. First Universal Grammar (UG) will be explained, then universal principles. To begin with, Chomsky's idea of Universal Grammar is one of the theories that has opened up new vistas in our understanding of both the acquisition and structure of language. Chomsky (1975) defines Universal Grammar as "the system of principles, conditions, and rules that are elements or properties of all human languages not merely by accident but by necessity, biological not logical necessity" (p.29). Hawkins (2001) stated that the main goal is to figure out what mechanisms behind the human ability to construct mental grammars (as cited in Alsaedi, 2017). Cook and Newson (2001) as cited in Alsaedi (2017) indicate that understanding the nature of these internal functioning processes, on the other hand, is inextricably linked to the issue of how language is acquired.

Chomsky (2005) gives a reasonable solution to this question: that there is a mental capacity in the mind that is responsible for the acquisition of language. This Universal Grammar would keep the children from making all kinds of erroneous assumptions about how the language system works. If children are already familiar with UG, all they need to learn now is how the language they are learning applies the principles that are universal to all human languages, which takes us to the second perspective: universal principles, these universal principles govern how all human languages are structured, and they are proposed as a part of the UG system, which is claimed to be a part of every human's innate endowment. As a result, these principles must be broad and abstract enough to allow a child to learn his or her native language. They will use them instinctively along with other

language input data to influence the building of grammar for their own language (as cited in Alsaedi, 2017).

The 'pro-drop' or 'null-subject' parameter has been one of the most widely debated parameters. The general idea behind all approaches to the null-subject parameter is that UG imposes general conditions on the occurrence of phonetically empty pronouns, and individual grammars choose whether a definite subject of a tensed clause can satisfy these conditions. They are unable to do so in English and French; nevertheless, they are able to do so in Italian, Arabic, and Spanish. In other words, in some languages, every sentence must have a subject such as English, yet in others, subjects are systematically absent such as Arabic.

## 2.2 Related Studies

### 2.2.1 Critical Period Hypothesis

Several studies were done to examine the CPH, one of them was Lardiere's (2007) study on a Chinese girl named Patty. Patty settled in the USA in 1976 at the age of 22 and got married to a native English speaker in 1989. Her first time to get exposed to the English language was at the age of 18. When the study took place, Patty had already been immersed in the English-speaking environment for more than 20 years. The data collected from Patty was an oral recording in the year 1986, that was after she spent 10 years in the USA; recordings from the year 1995 that were made 2 months apart and email messages. Tense, English question construction, aspect, and agreement, plural marking, and possessive pronouns were among the grammatical aspects studied by Lardiere in Patty's English speech and writing. The results of the research demonstrated that Patty had not mastered native-like grammar. She was able to appropriately use English syntactical structures, but she continued to make morphological mistakes (for example, she was frequently omitting or overusing inflectional markers on nouns and verbs). Also, the accuracy of Patty's spoken English was less than her written English.

In 1987, Coppeters conducted the output of 21 highly proficient speakers of French, all of whom had started learning as adults, with that of 20 native speakers on a grammatical judgment task. The test revealed a clear difference between the two groups, implying that despite their native-like success in language production, the learner's grammatical competence differed from that of native speakers

(as cited in Ellis, 1994).

In 1991, Thompson found in his study of foreign accents in Russian immigrants in the United States, that those learners who arrived before they were ten years old had a more native-like English accent than those who came after this age (as cited in Ellis, 1994).

These three studies are similar to this research in that age is considered a determining factor in attaining perfect proficiency in some domains of the L2. The first and second study discusses the domain of grammar, which is different from the third study, the first and second show that learners are successful in language production but not in grammar, whereas the third study shows that learners who were exposed to the L2 before the age of ten had a more native-like accent (pronunciation, which is another domain).

### 2.2.2 Intelligence as an Individual Difference

Genesee (1976) conducted a study to determine the impact of intelligence in learning a second language as assessed by standardized group I.Q. tests. Anglophone students in two kinds of second language programs (4, 7, and 11) were

assessed on a battery of French language examinations, including language usage, listening comprehension, reading, and interpersonal communication. The children were enrolled in both Standard French as a Second Language (FSL) classes and French immersion classes, in which French was used as the primary medium of instruction for all or part of the school day. Each program at each grade level was represented by a sample of average, beneath-average, and above-average pupils.

The statistical analysis showed that students' performance on the language usage and reading tests, varied depending on their IQ level. At all grade levels and on all of these exams, above-average students outperformed average students, who outperformed below-average students in the cases where they were included. On the other hand, no consistent relationship between IQ and interpersonal communication abilities such as listening, pronunciation, vocabulary, grammar, and communicativeness was discovered. This was true for students in the FSL program as well as those in the immersion program.

### 2.2.3 L1 Influence on L2 Acquisition

A study was conducted by Yamashita and Jiang

(2010) examined the L1 influence on the acquisition of L2 collocations. They compared the performance of English native speakers, Japanese English as a foreign language learner, and Japanese English as a second language users' phrase-acceptability assessment test, using a paradigm based on Kroll and Stewart (1994) and Jiang (2000). Congruent collocations, with similar lexical components in L1 and L2, and incongruent collocations, with different lexical components in the two languages, were included in the test materials. Incongruent collocations caused EFL learners to make more errors and react more slowly than congruent collocations. Although ESL students did better

than EFL students, however, they still committed more errors on incongruent collocations than on congruent collocations. In addition, they found that the L1 impact had little influence on ESL users' reaction time. The study found that (1) L2 exposure and L1 congruence influence the acquisition of L2 collocations, with the accessibility of both exploiting this acquisition, (2) incongruent collocations are difficult to acquire even with extensive L2 exposure, and (3) L2 collocations are processed independently of L1 collocations when stored in memory.

The above studies relate to this research in the sense that they show the role of the age factor and the factor of intelligence in learning a second language. Furthermore, the effect of the L1 also has been discussed. However, this study aims to identify whether the two factors (age, and intelligence; which is measured indirectly through the academic performance of the participants) help in decreasing or removing completely the influence of the L1 on ESL Libyan learners.

## 3. Research Design

The quantitative method of research was used in this study. A quantitative study is a sort of empirical investigation into a social phenomenon or human problem that involves putting a hypothesis based on numbers and statistics to the test to see if it explains or predicts phenomena of interest (Creswell, 1994, Gray & Airasian, 2000).

### 3.1 Participants and Setting

Two groups of Libyan English as foreign language learners were involved in this study. The first group included young EFL students from a primary international school in Misurata, Libya who were

chosen randomly. It has to be mentioned here that in this international school, pupils are taught English extensively and English is the language used to teach all subjects. On the other hand, normal public schools in Libya teach all subjects in Arabic, and English is just taught as one separate subject. The pupils of this international school were chosen as they would represent the highest level of knowledge in the English language in this age group in Libya which can enable the researchers to take their responses to grammaticality judgments as data in this research. Their responses will be compared to a group of adult university students specializing in English and that is why there was a need for a group of English specialized young learners.

The second group of participants included adult EFL learners who were university students chosen randomly from the Department of English in the Faculty of Arts, Misurata University. The research was conducted in the academic year 2021-2022. 45 students from the primary school (30 males and 23 females) and 91 students from the University (7 males and 86 females) were chosen randomly as respondents in this study. This means that there was a total of 136 respondents participated in this research.

### 3.2 Research Instrument

The research used a grammaticality judgment task to collect the required data. When designing this test, the difference between university and primary school students regarding their cognitive maturity and abilities was taken into consideration; hence, two different test forms were designed in order to suit the maturity level of each group, making it possible to achieve more reliable results (Appendices I & II). Both forms consisted of 13 ungrammatical English sentences. 5 of them had missing subject pronouns. The antecedents of these pronouns were already mentioned purposefully in previous sentences.

The test designed for university students (Appendix I) contained two sections. The first section had the personal questions, and the second section had the actual test. They were given a passage from a book for learners of English which consisted of two short paragraphs. This model was chosen on purpose as the participants are English majors and the study aims to test their subconscious knowledge. Thus, using this format, the participants' reliance on their conscious knowledge will be limited. They were required to

underline any errors they spotted in the grammar or the structure of the sentences. They were given the choice to write what is the correct form of every ungrammatical structure if they knew it. They were also required to read the text only once and were given about 15 minutes to complete this test. In addition to the removed pronouns, there were also 6 other errors not related to pro-drops within the passage in order to prevent respondents from becoming aware of the researchers' objective.

Primary school students, on the other hand, had 13 sentences divided into 4 sets (Appendix II). Each set referred to the same subject, and the students were asked to evaluate every single sentence by ticking what seemed correct, crossing what seemed wrong, and putting a question mark in front of those they were not sure about. This test also had 3 additional errors unrelated to the pro-drop parameter. Furthermore, the test was read out for them by the researchers in order to avoid any reading deficiencies by the pupils. They were given about 5 seconds to judge each sentence after it has been read out for them.

The personal questions in the primary students' test involved grade, gender, type of English input received from outside school, and the academic percentage of the previous year. The researchers asked these questions orally and wrote down the received answers, except for the academic percentage of the students. They studied most subjects in English and some in Arabic.

### 3.3 Data Collection

Firstly, all necessary permission was secured by the researchers from concerned authorities in the conduct of this study. After that, the GJ task was distributed first to a number of 5 university students in order to test the feasibility of the exam and whether it has any gaps. It was also given to 4 bilingual students who have English and Arabic as their first and second languages. They acquired English whilst they were living in an English-speaking country for a couple of years during their childhood. This was to evaluate the reliability and the validity of the test. All four students answered the test correctly without making any incorrect judgments. They said that the mistakes were obvious and faced no difficulty in pointing out all these mistakes. These participants were excluded from the study. Then, the GJ task was distributed to the respondents from the university after evaluating its effectiveness.



After finishing with the university participants, the test was then distributed to the primary school students over a period of two days. On the first day, the test was given to a number of 10 students, 5 of them were from grade 2, and 5 were from grade 4. They had different levels and were asked to be chosen by the school. This was to ensure that the test matched the comprehensive abilities of all these students and that there were no gaps in the form of the test. The results of these ten students were included in the study after finding there were no issues with the test. The following day, the researchers were given permission by the school authorities to give the exam to two classes only. Retrieval was completed on October 31st, 2021.

#### 4. Results and discussion

##### 4.1 Correlation between Primary School Students' Levels and their Grammaticality Judgments.

The data analyzed the grammatical judgments of 45 primary school students from an international school in Misurata. The total number of 'excellent' students was 41, the total number of 'very good' students was 3 and there was only 1 'good' student. Table 1 below shows a comparison between the academic performance of the students and the number of correct pro-drop grammaticality judgments made.

Starting with 'excellent' students, 5 of them failed to refuse any of the five English sentences with missing subjects included in the grammaticality judgment task. 17 students made only one correct judgment, and 14 made 2 correct judgments. However, the number of students who were able to identify 3 missing subjects dropped significantly to 4 students, and only one student was able to judge 4 of the pro-drop sentences correctly as s/he refused them. These results indicate that 12.1% of the excellent students managed to identify more than half of the errors in the exam correctly, on the other hand, 11 percent of students failed to recognize any of the ungrammatical structures in the exam.

Three 'very good' students participated in this test. One of them judged one sentence correctly, another one judged 2 sentences correctly and the last one judged 3 sentences correctly. The final participant as shown in the table was a 'good' student who made 2 correct judgments. Surprisingly, none of the students who answered the test managed to point out all the errors correctly, despite the fact

that the majority of them are of high academic level. This means that learning a second language whilst young and having high academic performance is not sufficient to attain full L2 competence when the first and second languages have two different values of the same parameter as the case with the participants in this study.

It is worth noting that with the available data on the group of primary school participants clarified in Table 1, no clear correlation can be seen between the levels of the participants and the number of correct judgments they made. This can be because the majority of the participants in the young age group were 'excellent' students, while only 4 students have grades ranging from good to very good. Unlike the group of older participants who have excellent, very good, good and lower academic levels which allows to propose a relation between the participants' levels and their grammatical judgments.

correct judgments school rate	0\5	1/5	2/5	3/5	4/5	5/5
Excellent	5	17	14	4	1	/
Very good	/	1	1	1	/	/
Good	/	/	1	/	/	/
Total	5	18	16	5	1	0

**Table 1: Correlation between primary students' academic performance and the number of correct judgments**

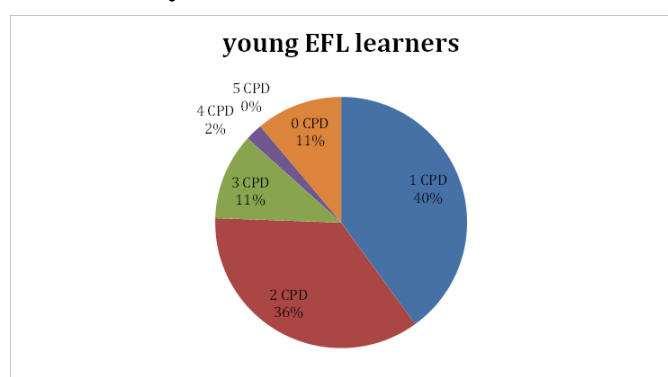
##### 4.2 Correlation between University Students' Levels and their Grammatical Judgments

A total of 91 University students from the Department of English in the Faculty of Arts at Misurata University participated in this study. Among the EFL students who participated in this study, there were 35 students who achieved an 'excellent' level in their third secondary school year. There were also 23 'very good', and 27 'good' students, and students who performed less were 6. Table 2 presents a comparison of the students' academic performance and the number of correct pro-drop grammaticality judgments made by them.

Beginning with the 'excellent' students, 17 failed to refuse any sentence with a missing subject from the five sentences included in the GJ task, and 18 made at least one correct judgment, 8 of them made just one accurate judgment, 2 students made two correct judgments, 3 made three correct

judgments, and 5 students made four correct judgments. Concerning 'very good' students, 19 failed to detect all the missing subjects, 1 made just one accurate judgment, 2 made two correct judgments, and one student made three correct judgments. Meanwhile, 25 'good' students failed to identify any missing pro-drop, 1 good student made 1 correct judgment, and 1 good student made 2 correct judgments, while none of these students made 3 or more correct judgments. In addition, 6 students with 'less academic levels' failed to identify any missing subjects.

**4.3 Comparison between correct pro-drop judgments made by primary school and University ESL students:**



The pie charts in Figure 1 and Figure 2 above illustrate the different scores gained by the group of adults and by the group of youngsters on the Grammaticality Judgment task, measuring only the number of correct rejections of ungrammatical pro-drop English sentences made by each group. Interestingly, there are differences between the two groups which can be noticed. The largest difference can be seen clearly in the number of adults and primary school students who made zero correct judgments. While 74% of adult learners did not judge any pro-drop sentence correctly, only 11% of the young learners scored the same. The vast differences continue to appear when we compare those who judged one sentence or two sentences correctly. 40% of the primary school participants judged one sentence correctly, and 36% of them judged two sentences correctly. On the other hand, however, 11% of adult EFL learners were able to identify one sentence correctly, and just 5% identified two sentences correctly. These significant differences between the two groups show how the age factor plays a big

Correct judgment School rate	0/5	1/5	2/5	3/5	4/5	5/5
Excellent	17	8	2	3	5	/
Very good	19	1	2	/	1	/
Good	25	1	1	/	/	/
Less	6	/	/	/	/	/
Total	67	10	5	3	6	/

Table 2: Correlation between university students' academic performance and the number of correct pro-drop judgments made

Figure 1: the percentage of the number of correct judgments made by the primary school participants

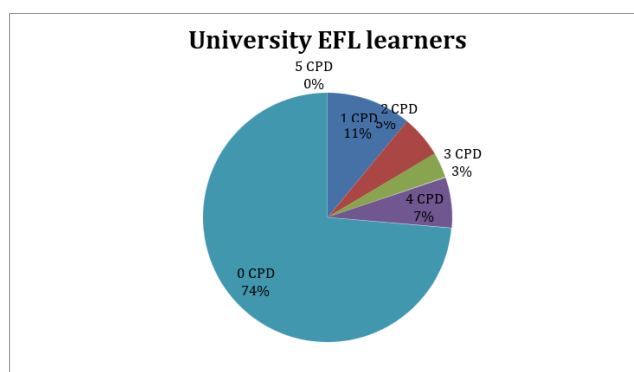


Figure 2: the percentage of the number of correct judgments made by the university participants

\*CPD: correct rejection of pro-drops role in learning a new language, which supports the Critical Period Hypothesis (CPH). However, the disparities are rather small when comparing those with a score of 3\5 and 4\5. There were 3% of adult learners who made 3 correct judgments, and 11% of young learners made a similar number of correct judgments. As for those who had 4 sentences judged correctly from both groups, 7% of them were university students, and 2% were primary school students, making this score the highest.

These results show the obvious effect of age on language learning and its importance in reducing the influence of the mother language. Yet, learners still cannot rely solely on the age factor, as no one in the test judged all sentences correctly, in fact, most participants made correct judgments to less than half of the pro-drop errors, which may be because of the effect of the L1 on their process of learning another language, especially for Arab EFL learners, who probably assume unconsciously that because the subject is already known from the context, it does not have to be repeated again in

further sentences. This is due to the fact that the pro-drop (null subject) parameter has two different values in Arabic, which is their first language and English, the second language they are learning.

### 5. Conclusion

Age is a very crucial factor which can affect the process of language learning. The age factor plays a significant role in how much learners can be affected by their L1 in learning an L2. The findings of the study show that the older EFL Libyan learners were more affected by their L1, despite their intensive study of English at the university. Using Grammaticality Judgment tasks, it was found that lower-level academic students in the Department of English at Misurata University performed less than their colleagues with higher academic levels, as about half of the Excellent students made at least one correct judgment, whereas the number of lower-level students who were able to identify at least one missing pro-drop was remarkably less.

On the other hand, it was not clear if children with high academic performance were affected less by their L1 than those with lower academic performance. Thus, the outcomes of the study proved the first hypothesis made to be accurate, which indicates that the grammatical judgments of the participants in the study will be affected by their L1. The second hypothesis, however, did not match the results of the study. It was hypothesized that the older group would perform better than the younger group due to the intensive English study they received from the University, yet the opposite was proven to be true. As for the last hypothesis that was put forward, although the results of the research prove a weak relationship between the level of academic performance and the correct judgments made by the students, this does not make us sever the inevitable relationship between these two factors.

### Recommendations

Based on the findings and conclusions gained from this study, the following are recommended:

1. Since L1 affects the process of second language acquisition, teachers may focus on making comparisons between the different structures of the L1 and the TL to prevent or minimize the effect of the L1, in cases where the two languages have different values of the same parameter.
2. Investigating the other factors that may affect second language acquisition other than the L1 transfer effect, such as age.
3. The study found that those who answered more than half of the test correctly were only students with high academic performance, which may allude to the need for high cognitive abilities in learning a new language for older learners after they lose the biological advantage of age. This needs further research.
4. Teachers may design writing tasks that can help Arabic students to concentrate more on the subject in sentences to minimize the effect of their L1, since Arabic is a pro-drop language while English is not.

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## Appendix I

Dear respondent

You are kindly requested to participate in a research study we are recently conducting. In this study, you are required to answer the given test. Your participation in this test is voluntary and you are free to withdraw from it at any time. We assure you that all the gathered data will be used only in this research, and it has no effect on your performance or grades. We hope for your cooperation.

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Personal information

Provide the following information please, tick the appropriate choice:

Semester:

Male ( ) Female ( )

Main source for learning English before collage: (you may choose more than one option)

School ( ) Courses ( ) Listening to natives ( ) Reading ( ) Practicing ( ) Other ( )

Have you been abroad to an English speaking country?

Yes ( ) No ( )

Since when have you started learning English?

Grade 5 ( ) Before grade 5 ( ) After grade 5 ( )

Your school rate in third secondary

Passable ( ) Good ( ) Very good ( ) Excellent ( )

---

The given passage has a number of grammatical mistakes. Underline what seems wrong for you, and correct the mistakes if you can. Try to read the passage only once.

The following examples will illustrate how you are supposed to answer:

A mistake on word level: Bernard don't feel sorry for him.

didn't\ doesn't



Answer: Bernard don't feel sorry for him.

A mistake across words: Bernard not feel sorry for him.

did\ does



Answer: Bernard not feel sorry for him.

---

Follow the same method with the given passage.

Note : the given passage is in the past tense.

For thousands of years, humans have need to count. Families needed to know how many animals, how much food, and how much land had. This information was important when people wanted buy and sell things, and also when people died or got married. There were many different ways to count and write down the numbers. The Sumerians had three different way: used one for land, one for fruit and vegetables, and one for animals. They could count, but they had no easy way do calculations.

Between 1000 and 50 BC, the Babylonians invent the abacus. It used small stones which put in lines. Each line of stones showed a different place value. To do calculations moved stones from one line to another.

Later, different kinds of abacuses were make. Some of them were made of wood and used coloured balls. Also is possible that the abacus was first invented in China, but nobody really knows.

## Appendix II

Grade [2-3-4]

Boy Girl



Level of student the year before %

Tick the sentences that sound right, and cross the ones that sound wrong, or put a question mark ?for the ones you are not sure about.

1/ The ball big	
2/ It are red and blue	
3/ And is new	

4/ Ali is an teacher.	
5/ He teaches Maths.	
6/ Plays football every day.	

7/ Fatima helps her mum.	
8/ Makes cakes with her mum.	
9/ Also likes juice	
10/ Fatima's mum likes cakes.	

11/ Omar is good.	
12/ Likes study English	
13/ He also likes Arabic.	