

# The Inter-Linguistic and the Cross-Linguistic Influence on the Acquisition of L2 (English) Linguistic Items: A Case Study in the Context of ALEs as Postgraduate Learners

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## **Abstract**

*This paper represents an empirical study investigating one of the most common issues namely the inter-linguistic and the cross-linguistic influence of the L1 in learning L2 grammar in general, and specifically the acquisition of the simple past tense in the context of Arab Learners of English (ALEs) as postgraduate learners. This study is an extension to a previous one which was run on undergraduate learners of English (Mourssi, 2013c). The researcher believes that the simple past tense forms produced by learners sometimes appear to have originated in L1, sometimes in L2, and sometimes in L1 and L2 at the same time. This case study was conducted on 30 Arab Learners of English (ALEs) which lasted thirteen weeks. A detailed analysis was made on the simple past tense forms in 90 written texts produced by ALEs enrolled in foundation course Level Two. Written texts were collected from each subject at three stages in the experiment (after the first week, after six weeks and after twelve weeks). Quantitative and qualitative analyses show the cross-linguistic influence of L1 (Arabic) and Inter-linguistic influence of the target language in acquiring the linguistic items of L2 (English) in general and in acquiring the simple past in particular.*

## **Keywords**

*interlanguage, SLA, cross-linguistic, inter-linguistic, overgeneralization, simple past*

## **1. Introduction**

In general, Odlin (1989, p. 6), and Larsen-Freeman and Long (1991, p. 5) mentioned that “the study of transfer, or cross-linguistic influence, is peculiar among language acquisition and the phenomenon of language use”. In particular, Jarvis and Pavlenko (2008, p. 4) argued that cross-linguistic influence refers to the influence of one language on another in an individual mind. They illuminated several areas of meaning and cross-linguistic influence which had not been carefully looked at before. They presented interesting findings and an analysis of the relationship between language transfer and SLA. Based on Odlin’s (1989) claims, and Jarvis and Pavlenko’s (2008) findings, the study investigates the

role of L1 in the acquisition of the simple past in the context of ALEs as postgraduate learners. This is presented more specifically in section two. Briefly, there are four elements used to support the role of transfer in interlanguage: the first is *natural languages*; the second is *universal grammar*, while the third is *L1 transfer*, and the last one is *Markedness*.

This paper is divided into five main sections: section one is the introduction, the second section is the literature review, section three describes the methods used in the current study, the analysis and the discussion are presented in section four, and finally, the conclusion will be presented in section five. In what follows, I will present the literature review.

## 2. Literature Review

One of the assumptions of the study is that the concept of interlanguage has had an important effect on the SLA field. First, I will outline the definition of interlanguage since interlanguage is studied by many researchers who identify this system differently. Then I will try to explore how interlanguage might vary between the native language and the second language, referring to the role of transfer in interlanguage which is termed nowadays as cross-linguistic influence of L1 and Inter-linguistic influence of L2 in the Acquisition of L2. Finally, I will present ACT-R model which is used to investigate the acquisition of the simple past in L1 and how it is adjusted to measure the acquisition of the simple past in L2.

### 2.1 The Interlanguage Model

Following Selinker's (1969) ground-breaking paper, most SLA researchers nowadays recognize that second/foreign language learners go through a series of steps when they learn a new language. This is called *interlanguage*. A study of interlanguage may shed light on how Arab learners of English improve their internal grammar. First of all we have to consider that interlanguage competences cannot be examined directly. Instead, information about the nature of interlanguage competence can only be derived indirectly; this might happen through an examination of interlanguage performance data which come in the form of writing sentences, grammatical forms and spontaneous speech (Lakshmanan & Selinker, 2001).

Mourssi (2013c) mentions that the interlanguage hypothesis is defined as the hypothesis that the language learners have a grammatical system that is different from both the first language and the target language but is nevertheless a natural language. That is, interlanguage is believed to be constrained by the same principles as all languages. Ellis (1997) defined interlanguage as a term referring to the variable progression through which a system of abstract linguistic rules is developed. Richard-Amato (2003, p. 37) commented that this process reflects the systematic development of the syntax, semantics, and pragmatics of the second language and is very similar to the process followed by first language learners. Throughout, hypothesis testing occurs usually at the subconscious level and predictable errors are made along the way, regardless of what first language the students speak. Mourssi (2013a) refers that Gass and Selinker (2008) commented that L1 transfer has elements in universal language

acquisition in general. According to Ellis (1997, p. 33), learners' knowledge about the grammar rules changes and develops. Such knowledge adds and deletes new rules to their mental lexicon over time. Generally, when learners start to learn the language, they begin to learn the simple rules first then they gradually move to the more complex ones. For example, they start first to learn the use of a verb like "write" in the present simple then they move to learn the other forms such as wrote, writing, ... and so on (Mourssi, 2012d).

According to Crystal (2008, p. 239), "interlanguage reflects the learner's evolving system of rules, resulting from a variety of processes, including the influence of the first language ('transfer'), and the overgeneralization of newly encountered rules". This is termed as Cross-linguistic Influence of L1 in the Acquisition of L2 linguistic items (Mourssi, 2013c, 2012a), while it is termed as Inter-linguistic when the transfer comes from the target language or it is termed as contrastive interference from the target language. In this article, I will use Inter-linguistic influence of L2 beside Cross-linguistic of L1.

Some studies (Pienemann, 1984, 1998; Williams & Evans, 1998; Spada & Lightbown, 1999) based on developmental sequences indicate that instruction may have facilitative effects on L2 acquisition but its effectiveness may be constrained by the learners' readiness for development, which may be further mediated by L1 transfer or other L1-based factors.

According to Cook (2001, p. 14), elements in the first language help learners with the second language if both share common elements but hinder them when they differ. On the other hand, it still cannot be considered that the first language is the main culprit or the sole cause for all the errors in learning a second language. Some linguists have classified errors into: inter-lingual errors related to L1 and intra-lingual errors related to L2 (Richards, 1974, p. 173), and in-between errors which may originate in L1 and/or in L2 as well (Mourssi, 2012b, 2012c).

It is to remind you, this study investigates one of the most common issues namely the cross-linguistic influence of the L1 besides inter-linguistic influence of the target language in learning L2 grammar, specifically the acquisition of the simple past tense.

Lakshmanan and Selinker (2001, p. 394) are convinced that important advances were achieved in relation to L2 developmental sequences based on spontaneous speech samples, gathered longitudinally in the 1970s. However, the use of longitudinal data appears to have declined in popularity in the 1980s. They added, the situation changed again in the 1990s when SLA researchers began to use longitudinal spontaneous data to get true facts about the language learners' mental representations of the L2. It is worth mentioning that the current study lasted for only thirteen weeks and thus can give only a partial view of the interlanguage stages ALEs might go through in the acquisition of the simple past tense.

Mourssi (2013c) points out that in interlanguage studies, a method comparing two languages that focuses more heavily on L2 concerns is likely to have a disastrous effect on investigating the target research area. Hence, as Adjemian (1976) has stressed, the importance of investigating interlanguage competence should be done without bias to either the native language or the target language systems.

As Lakshmanan and Selinker (2001, p. 397) stressed, an effective comparison of the development of

individual interlanguage grammar may be difficult to accomplish. One reason is that the results cannot be generalized to all L2 learners. Another reason is that the part that is visible to us (their spoken or written work) is often a locus of performance error. And, although learners have already acquired the target-like form, there is still a strong tendency that they will slip back to the former but non-target-like ways (Mourssi, 2012a, 2012d). In the following, I will present variation in interlanguage.

### 2.1.1 Variation

Mourssi (2013c) mentions that according to Fasold and Preston (2007) the fundamental element which underlies the appearance of target-like usage is variation. For example, the learner might say under one condition “I don’t” as a target-like variant and “Me no” as a non-target-like variant in another condition. Linguists have interpreted this observable fact according to two dimensions. One group mentions that variability is related to what they call “performance errors” as they followed a Chomskyan perspective to SLA. They believed that it did not have anything to do with systematic questions. Other linguists related the variability to sociolinguistic or psycholinguistic factors. They said that variability is an innate characteristic of the learner’s language. In this case the learner relies on the relation between the social and contextual variables in the selection process of using one linguistic variant rather than the other one.

Ellis (1984) monitored an 11-year old Portuguese learner who learned English as a second language. Ellis focused on the learner’s use of the forms “no and don’t” and found out that the learner tended to use “no” more frequently than “don’t” at the beginning of his study. When he became more familiar with English, he reduced the use of “no” and the use of “don’t” became more frequent. Moreover, Gass and Selinker (2008) mention that there are two different types of variations which are free variation and systematic variation.

Mourssi (2012d) in designing the Innovated Writing Process (IWP) pointed out that when learners spend more time in planning, their use of the target language will extend and improve. Learners will be able to perform better in a writing task where they have enough time to plan than in a speaking context where they do not have adequate time to do so (Hansen, 2009). Additionally, affective factors have a clear effect on systematic variation. For example, learners produce more target-like forms when they feel comfortable. Such production is decreased when they encounter a stressful situation like having a formal exam. Therefore, social factors play an important role in systematic variation. In what follows, I will shed some light on the role of transfer in interlanguage.

### 2.2 *The Role of Transfer in Interlanguage*

Transfer is one of the most important elements which affect interlanguage forms. Investigating it can lead to a better understanding of the source/origin and the development of interlanguage. Researchers are doubtful about the issue of transfer, but some of them have say that it is related to language acquisition and should be discussed. Lado (1957) believed that people rely on their first language when they learn the target language. On the other hand, other researchers Dulay and Burt (1974, p. 24) said that transfer has nothing to do with interlanguage.

As it was mentioned above Odlin (1989, p. 6) and Larsen-Freeman and Long (1991, p. 5) mentioned that “the study of transfer, or cross-linguistic influence, is peculiar among language acquisition and the phenomenon of language use”. In particular, Jarvis and Pavlenko (2008, p. 4) argue that cross-linguistic influence refers to the influence of one language on another in an individual mind. They illuminated several areas of meaning and cross-linguistic influence which had not been carefully looked at before. They presented interesting findings and an analysis of the relationship between language transfer and SLA. In what follows, I will present the Context of Arab Learners of English and Acquiring Grammar.

### *2.3 The Context of Arab Learners of English and Acquiring Grammar*

Mourssi (2012a) ensures that Arabic does not follow English grammatical structure. In addition, Mansouri (2005, p. 118) refers to the difficulties in Arabic acquisition and its specific typology. This perception that verbal morphology may be complex gives the ALEs an impression about English grammar and motivates them to learn English grammar in a thoroughgoing way. In what follows, I will present the importance of grammar in learning L1 and its impact on learning L2.

#### *2.3.1 The Importance of Grammar in Learning L1 and its Impact on Learning L2*

Prescriptive Arabic grammarians think that grammar is the only element which shows how language is used. They also view the traditional grammar of any language as a set of rules, and the major concept in learning language is to learn its grammar first. According to them, the most common and appropriate learning strategy of learning is memorization, which is reflected in the way they learn L2. They think that memorization helps learners to achieve the tasks required in learning the target language better than any other strategy. This affects the methods of teaching followed by teachers of English for Arab learners who try to achieve the objectives of the target task in a proper and a suitable way which matches learners' attitudes. Similarly, it affects the way Arab learners of English acquire a second language in general and second language grammar in particular. This view is also reflected in the SLA research done based on samples taken from Arabic speakers of English.

It is claimed that learning English (as an L1 or L2), grammar can be viewed in different ways. For example, Hymes (1972) claims that English speakers need to know the rules of grammar with the rules of language use in order to communicate in a language. Dickins and Woods (1988, p. 630) believe that the role of grammar is to convey and interpret meanings. While Fuller and Gundel (1987, p. 70) suggest that grammatical rules (patterns that are studied by syntacticians and morphologists) were basically designed to help people get their meaning across clearly and accurately. Mourssi (2012a) ensures that without learning grammar, L2 learners will not be able to produce a single target-like sentence in L2.

Furthermore, a number of linguists claim that grammar is essential for appropriate communication. Lock (1996, p. 267) posits that language is a resource for communication and claims that grammar lies at the heart of communication and is not an optional add-on to communication. Similarly, Leech and Svartvik (1982, p. 4) view that grammar as a focal part of language which relates to phonology and semantics. Harmer (1991, p. 23) believes that knowledge of grammar is essential for competent users

of a language. Larsen-Freeman and Long (1991) asserted that grammar is one of three interconnected dimensions of language which include: grammar, semantics and pragmatics.

Similar to the perspectives offered by Arab language grammarians such as Mansouri and Klein (1986) postulate that in order to learn a foreign language, learners should have the ability to analyse the linguistic input in the target language. More recently, Gao (2001, p. 326) describes grammar as a catalyst for second language accuracy and fluency.

Ismail (2010, p. 143) demonstrates that Arab learners of English have positive views about the use of the CCCC grammar model, which is presented in four stages: Confrontation, Clarification, Conformation, and Consolidation. The author also highlighted certain students' beliefs about the importance and the positive influence of explicit grammar teaching for learning the conventions of sentences and utterances in the context of ALEs.

With respect to what has been mentioned in the SLA literature related to explicit and implicit grammar learning/teaching and the conclusion that explicit grammar learning/teaching is more effective than implicit grammar learning/teaching (Mourssi, 2013a). So he hypothesized that it might be better for teachers of English for Arab learners of English to use explicit grammar learning/teaching when the grammatical item is difficult to be learnt based on the level of the learners, and to use implicit grammar teaching when the grammatical item is easy to be perceived. This view is supported by Cross (1991) and Scarcella and Oxford (1992). In other words, an explicit grammar teaching method is to be followed with weak language learners, while an implicit grammar teaching is to be followed with higher level language learners (Mourssi, 2013d).

One of the models which investigates the acquisition of the simple past is the Adaptive Control of Thought, Rational (ACT-R) Model. The present case study hopes to contribute to this debate by examining the different interlanguage grammar stages ALEs go through forward and back producing target/non-target-like forms and how development gradually happens in their internalized grammatical system. Now, the Adaptive Control of Thought, Rational will be presented.

#### *2.4 The Adaptive Control of Thought, Rational (ACT-R) Model*

According to Taatgen and Anderson (2002, p. 127), the main aim of the ACT-R model, which is a computational model, set up to mimic first language acquisition of the simple past tense, is to produce the past tense with the use of three strategies at the starting point: the Retrieval strategy, the Analogy Strategy, and the Zero Strategy. The model later learns a fourth strategy which is the Regular Rule Strategy.

Taatgen and Anderson (2002, p. 124) were uncertain what causes the U-shape in the learning of the irregular simple past forms and developed two accounts for that, the dual-representation and single-representations explanations. The first account focuses on a *dual-representation* of knowledge and posits that in the first instance the formation of the simple past tense is based on memorized verbs (irregular forms). This means that in the first stage, producing the simple past is only successful because the forms are memorized. If the form of the simple past has not been memorized, it cannot be

produced. This case changes in the second stage, when the regular rule is learned; the regular rule can produce the simple past form for any verb, although the forms produced can be non-target-like forms. These non-target-like forms *overgeneralization* slowly disappear because more target-like forms are learned.

Example: *break – broke – broken*

Stage one: students produce *broke*. Stage two: students produce *broke* if the form is memorized. Students produce *\*broke* if the simple past form has not been memorized yet, and then they apply the *-ed* rule. Stage three: Students produce *broke* because their memory is strong enough to block the regular rule which produced *\*broke* in the second stage.

Memorisation is similar to what Pinker (1999) would refer to as “Rote”. The simple past tense can also be formed by adding *-ed* to the base form to produce the regular simple past forms and Pinker (1999) referred to this as “Rule”. Taatgen and Anderson (2002, p. 124) elaborated on this and explained that in the second stage of the U-shaped learning model, *the blocking mechanism* would dictate (in the mind) that the regular rule should apply unless an exception can be retrieved from memory. When the process of retrieval fails to recollect an irregular past tense, the U-shape occurs (Mourssi, 2013b).

Mourssi (2013e) points out that with regard to the second account, learning the simple past is regarded as a *single-representation* which is usually present in the neural network. According to Taatgen and Anderson (2002, p. 124), U-shaped learning is mainly initiated by changes in the vocabulary size which means, as the vocabulary grows, the need for regularization increases. Therefore during the learning process, the network shifts weight to support regularization and it takes some time to properly integrate this with the other exceptions causing the U-shape.

Taatgen and Anderson (2002, p. 124) also point out that the growth of vocabulary is related to the distinction between the learner’s input (which represents the raw input from the environment) and the learner’s uptake (which represents what the learner actual processes). They explained that one of the problems related to the single-representation model is that children do not receive feedback on the syntactic correctness of the language they produce, but most network models need the correct answer to adjust their weights (in the classroom context, students receive a variety of types of feedback on their performance and this may help ALEs, for example, to develop the target-like usage of the simple past, drawing in part on the strategies produced related in Taatgen and Anderson’s ACT-R model). In the following, the four proposed strategies in the acquisition of the simple past tense in the original copy of the ACT-R model are presented.

#### 2.4.1 The Retrieval Strategy

The Retrieval Strategy aims to produce a past tense by recalling an example of inflecting the word from the memory. Taatgen and Anderson (2002, p. 127) explain that the successfulness of this strategy depends on the availability of examples.

#### 2.4.2 The Analogy Strategy

The second strategy, the Analogy Strategy, recalls an arbitrary example of a past tense from the memory,

and tries to use this as a basis for analogy. Taatgen and Anderson (2002, p. 127) posit that the Analogy Strategy will only succeed if it is able to find a pattern in the example which is applicable to the current word.

#### 2.4.3 The Zero Strategy

The third is the Zero Strategy which is called the do-nothing strategy. It always succeeds, because it does not attempt any inflection at all. They mentioned that associated with each strategy is the expected outcome of that strategy and the estimate for expected outcome is continuously updated on the basis of experience, of how much effort it takes to use a strategy. In other words, the strategy with the highest expected outcome has the highest probability of being tried first, and if it fails, other strategies can be attempted.

#### 2.4.4 The Regular Rule Strategy

The fourth strategy is the Regular Rule Strategy, which is learned on the basis of the Analogy Strategy, but it takes time to surface. That is because new rules can only be learned when the parent rules have sufficient experience, and because the new rules start out with a relatively low expected outcome and first have to prove themselves.

It is proposed that the dynamics of the expected outcomes of the different strategies, the introduction of the regular strategy, and the increased availability of examples of past tenses in memory, can explain U-shaped learning. The assumption of the ACT-R model is that it both perceives target-like forms of past tenses in the environment, and produces them itself. The model does not receive any feedback on its own production. In the following section, methods used in the current study will be presented.

### 3. Methods

This section discusses the subjects of the study, the research question and the methods used in the analysis of the written texts.

#### 3.1 *The Subjects of the Study*

One group was selected randomly from twenty eight groups, and the instructor of the group was informed with what was going to happen. He agreed to participate in carrying out the experiment. The participants enrolled in Level two, studying foundation course for one year before joining their majors. The participants exposed to L2 for about 20 hours a week. All of them are studying English as a second language. The group consisted of 30 Arab Learners of English (ALEs), with ages ranging between 18 and 21. The subjects were all Arabic speakers and had been learning English as a foreign language for 10 years attending four to five sessions per week on average before they joined the college.

#### 3.2 *The Research Question*

The current study seeks to answer the following question:

What is the evidence of L1 (Arabic) and L2 (English) influence in the acquisition of L2 (English) linguistic items? This is to provide empirical evidence in relation to the acquisition of the simple past tense forms to test hypotheses emerging from language transfer and thus contribute to the advancement



of theory on Second Language Acquisition.

### 3.3 Methods Assigned to the Research Question

For the research question presented above, quantitative analyses were followed for all the simple past tense forms produced by the samples in 90 written texts which had been collected chronologically. The author thinks that in order to explore interlanguage phenomena and the influence of L1 or L2 in acquiring linguistic items of L2 grammar, different written texts should be collected from the samples at different times. All the analyses are presented in the discussion section.

### 3.4 Procedures

After getting the permission from those who are in charge, the author had a meeting with some teachers who teach foundation level. After evaluating the level for the groups, one of them was selected to represent the subjects of the case study. During the study, three writing texts were collected from each sample. The first writing text was collected after the first week of the experiment. The second writing was collected after Progress Test One (after six weeks). Finally, the third writing was collected after Progress Test Two (after twelve weeks). It was collected one week before the end of the study.

## 4. Discussion

Mourssi (2013a) mentions that writing is one way to get evidence of the state of a student's internalised grammar system. The analysis of the simple past forms produced by the ALEs in the three chronological pieces of writing, appears to indicate that Arabic Language has influence in the acquisition of English simple past, e.g. how can *are went, was came, was gave, to went, to visited, and has went*. The most interesting finding in the current study was that inter-linguistic influence of L2 in acquiring L2 linguistic items was clear in the context of post graduate learners of English. It is namely overgeneralization, where learners overgeneralize L2 structure on forming another linguistic item.

### 4.1 Stages of Simple Past Acquisition

The following seven categories are expected to be found in the ALEs' context in acquiring simple past in English (Mourssi, 2012a):

1-Use the root or simple present form (e.g. *go, come, stay, calls, help*)

2-Use spoken target-like form but in a written non-target-like form (e.g. *brook, wint, hapeend, trayed, colled*)

3-Overgeneralizing the *-ed* to irregular verbs (e.g. *catched, gived, taked, comed, leaved*)

4-Use verb to "Be" + simple past, past participle or gerund etc. (e.g. *were wanted, was came, was started, was broke, were became, is happening*)

5-Misselection of the target-like verb from (e.g. *they was, he were, she were, the woman were, the driver were*)

6-Use blended forms

A-Use *have, has* + simple past or past participle (e.g. *has went, have helped, has arrived*)

B-Use infinitive + past simple or past participle (e.g. *to went, to called, to moved, to seen,*)

### *7-Overgeneralizing a sub-rule of irregular simple past on other irregular simple past or regular simple past (E.g. brang, stold, foul)*

By comparing these suggested stages mentioned above with other researches' findings, it is noticed the similarities between the different stages of interlanguage of previous studies and suggested stages of interlanguage stages in the current study. It is noticed the differences occur might be due to the nature of Arabic language grammar and its influence in SLA.

Mourssi (2013a) argued that two proposed explanations for the simple past forms which represent the influence of Arabic Language and the target language itself in acquiring the simple past in English are as follows: first, it may be L1 transfer where learners try to apply some rules from L1 on their performance in L2; second, it may be due to learners' lack of awareness as well as lack of knowledge: when they learnt the simple past tense, the learners tried to overgeneralize other forms instead of the simple past tense e.g. *have* or *has* + simple past, thinking that it might be the correct simple past form. This is termed as inter-linguistic influence of the target language or overgeneralization.

The above interpretations led the researcher to ensure the influence of L1 in acquiring L2, and the inter-linguistic influence of the same language in the context the ALEs as foreign language learners in the classroom context whether they are undergraduate or postgraduate learners.

#### *4.2 The ACT-R as a Model of Learning the Simple Past Tense*

Taatgen and Anderson (2002, p. 133) mention that the ACT-R model initially has to choose between numbers of ways to produce a past tense given the stem of verb. They mention that, first, the model attempts to retrieve the past tense from declarative memory (Retrieve Strategy), then, it attempts to generate a new past tense by analogy, which retrieves an arbitrary tense from memory and uses it as a template to find a past tense for the current word (Analogy Strategy). It is worth mentioning that Lebiere, Wallach and Taatgen (1998), Salvucci and Anderson (1998) comment that the Analogy Strategy is probably one of the dominant strategies for problem solving and discovery. Finally, the model just uses the stem as a past tense, basically doing nothing at all (Zero strategy or Zero Rule). The interesting issue is that the authors themselves evaluate the strategies proposed in the ACT-R model. They mention that none of the proposed strategies are very good initially: the Analogy Strategy involves more than one reasoning step and it is only successful if the retrieved example is suitable; the Retrieval Strategy needs examples before it can be successful, and the Zero Strategy always succeeds, but it rarely produces target-like past tenses (there are some instances, however, where the base form and the simple past are identical, like *put*). Finally, there is no production rule for the Regular Rule Strategy, because the ACT-R model will learn it as a specialization of the Analogy Strategy (Taatgen & Anderson, 2002).

Evaluating the Analogy Strategy, Taatgen and Anderson (2002, p. 135) mention that the Analogy Strategy produces two types of past tense: past tenses identical to the present tense (mimicking the Zero Rule Strategy), and past tenses by adding *-ed* to the stem. They suggest that the former-present tense will occur much more than the latter *-ed* in the initial stages of running the model.

To sum up, during stage one; the main strategies are retrieval and do-nothing. If the Retrieval Strategy succeeds, the model will generally produce target-like irregular verbs, while do-nothing produces undetectable errors that are not counted. After the Regular Rule is learned, the transition to stage two begins. An important aspect of the ACT-R model is that the Regular Rule will not dominate the Retrieval Strategy (irregular verbs). Although, whenever retrieval fails to find an example, the Regular Rule is applied. This produces the over-regularization errors in irregular verbs. In the following section, I will present the context of ALEs and the acquisition of grammar.

#### *4.3 Proposed Adjustments of the ACT-R Model*

In my opinion it might be reasonable to propose two new strategies in addition to the four strategies proposed in the ACT-R model in order to capture the simple past tense forms produced in the context of ALEs as postgraduate learners. The two additional strategies proposed are: the L1 Transfer Strategy and the Overgeneralization of Alternative L2 Category Strategy.

Mourssi (2013a) discussed that it might be the case that the forms that were not captured by the ACT-R model because of differences between L1 and L2. The proposed adjustment is a reply to a study by Taatgen and Dijkstra (2005) in which it was concluded that the only error type not addressed by the ACT-R model was the so-called blends, like *sing-\*sanged*, (the forms could not be captured by the ACT-R model as they are not related to the regular rule). Taatgen and Dijkstra concluded that any other error can be explained by the application of the Regular Rule Strategy. Mourssi (2013a) claimed that this may be the case for the L1 acquisition but is not the case for the L2. In the section below, I will present the adjustment to the ACT-R model in an attempt to capture all simple past tense forms produced by ALEs in the classroom context.

##### *4.3.1 L1 Transfer Strategy*

One of the strategies which this study suggests should be added to the model is the L1 Transfer Strategy. One explanation of this proposed strategy is the particular forms produced by ALEs due to the differences between L1 and L2. This strategy seems to suggest two types: the first type is using the verb *to be* + stem, agent, simple past, past participle or gerund. The second type is using *to* + stem, or simple past. The first type is illustrated below.

##### *Type one*

The tables below show the occurrence of the sub-types of the L1 Transfer Strategy in both the Experimental Group and the Control Group. Table 1 shows applying the L1 Transfer Strategy to the three chronological writings (Type One).

**Table 1. Using Verb *to Be* + Stem, Simple Past, Past Participle, or Gerund**

<i>Stage</i>	<i>Number of Non-target-like forms</i>
<i>Stage One</i>	17
<i>Stage Two</i>	8
<i>Stage Three</i>	4
<i>Total</i>	29

*Type two*

Table 2 shows applying the L1 Transfer Strategy to the three chronological writings (Type Two), where ALEs use *to* + stem or simple past

**Table 2. Using *to* + Stem, Simple Past**

<i>Stage</i>	<i>Number of Non-target-like forms</i>
<i>Stage One</i>	12
<i>Stage Two</i>	7
<i>Stage Three</i>	2
<i>Total</i>	21

#### 4.3.2 Inter-Linguistic or Overgeneralization of Alternative L2 Category Strategy

The second proposed strategy may be the Inter-linguistic or Overgeneralization of Alternative L2 Category Strategy. In this strategy, the learners use alternative forms of the simple past which are: the present perfect forms 5; the present continuous 4; the past continuous 6; the gerund 11; the past participle 3; and finally nouns 2. They think that the alternative forms can give the same meaning as the simple past in the English grammar. It is worth mentioning that learners used more alternative forms in Writing One. Then it decreases dramatically in Writing Two and Writing Three. The prevalence of the Inter-linguistic or Overgeneralization of Alternative L2 Category Strategy in the first writing seems to suggest that learners' lack of knowledge or the fluctuation in producing the target-like simple past tense forms operate at the beginning of the experiment. It is worth mentioning that, after the ALEs spent more time learning the simple past tense forms, the Overgeneralization of Alternative L2 Category Strategy decreases as is shown clearly in Table 3. Most of these forms rarely appear at stages two and three.

**Table 3. Using *Have* or *Has* + Simple Past, Past Participle, or Any Other L2 Alternative Form**

<i>Stage</i>	<i>Number of Non-target-like forms</i>
<i>Stage One</i>	<i>31</i>
<i>Stage Two</i>	<i>7</i>
<i>Stage Three</i>	<i>6</i>
<i>Total</i>	<i>44</i>

In updating the ACT-R model, Taatgen and Dijkstra (2005) presented an extension of the ACT-R model designed by Taatgen and Anderson (2002). The only added change is that, when the model produced \**sanged* instead of *sang*, it means that it considers the verb “sang” as a stem verb. It is worth mentioning that the four strategies proposed in the ACT-R model were found in the production of the simple past tense forms in the classroom context with ALEs. The adjustment made by the researcher could capture all the simple past forms produced by all the subjects in the experiment. It is also worth mentioning that the two strategies added by the researcher to the ACT-R model are the same different interlanguage stages found in the context of the ALEs in the acquisition of the simple past tense forms from the interlanguage stages found in other studies. The two additional strategies added to the ACT-R model represent the specific characteristics of the context of the ALEs in the acquisition of the simple past tense.

## 5. Conclusion

To sum up, most of the past tense forms produced by ALEs appear to indicate that there is an impact of Inter-linguistic of L2 and Cross-linguistic of L1 on the acquisition of the simple past tense in the context of ALEs, and that, the forms which were not captured by the ACT-R model, could be captured by the adjustment made to the strategies proposed for the ACT-R model by adding two more strategies, namely, the L1 Transfer Strategy (Cross-linguistic) and the Overgeneralization of Alternative L2 Category Strategy (Inter-linguistic).

The case study will add an updated investigation in the field of SLA in general and in the context of ALEs in particular as postgraduate learners. As the topic focuses on the acquisition of the simple past as a linguistic item which represents an obstacle in the acquisition of L2 grammar for post graduate learners of English. The readers will realize how ALEs move from an interlanguage stage to another until the acquisition of the target-like forms of the simple past at the last stage. The researcher believes that the simple past tense forms produced by learners sometimes appear to have originated in L1 and sometimes in L2 and sometimes in both L1 and L2 at the same time.

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