

# Saudi Arabic Stress Effect on the L2 Acquisition of English

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**Abstract:** The main purpose of this study is to investigate the role of interference in learning foreign language (L2) and proficiency in producing prominence. It focuses on the errors Saudi EFL (English as a Foreign Language) students could commit on the level of stress placement because of their native language (L1). In fact, this study is an error analysis whose emphasis is on analysing errors and their sources. It uses contrastive approaches in discussing the results between Najdi Arabic stress patterns and British English stress patterns, alongside how these two patterns negatively affect on the acquisition of stress placement. This study takes place in the Kingdom of Saudi Arabia and studies a group of male undergraduate students. Specifically, this group consists of Najdi Saudis studying English at the sixth level at Imam Muhammad Ibn Saud University. At this level, they are supposed to master English with high level of proficiency and to finish studying a course of phonetics. Individually, these learners were asked to read different English words with different stress patterns from cards shown by the instructor. After analysing their readings, errors were taken in consideration. The errors committed were analysed according to the differences of stress patterns between L1 and L2. Also, errors in L2 stress placement were compared to L1 stress patterns. Finally, recommendations and suggestions were carried out based on the findings of the tests.

**Keywords:** Arabic syllables, British English stress patterns, interference, language acquisition, EFL, Najdi Arabic stress patterns, phonetic difference, phonological difference, stress patterns.

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## 1. INTRODUCTION

Kenji Hakuta and Herlinda Cancino outline four analytical approaches in the research and second language acquisition. They are contrastive, error, performance and discourse analysis. Each approach reflects specific changing conceptions of language and specific characteristics of the learners.

Generally, errors made by learners of any target language can be classified into two categories: interference (or interlingual) errors; whose sources can be traced back to the native language of the learners and that are addressed by contrastive analysis; and intralingual errors; whose sources can be traced back to the previous knowledge of the target language.

Wardhaugh (1970) proposed a distinction between a strong version and a weak version of the contrastive analysis hypothesis. The strong version involves predicting errors in second language learning based upon an a priori contrastive analysis of the first and a second language. In the weak version, however, researchers start with learner errors and explain them by pointing to the similarities and differences between two languages. Thus, the contrastive analysis hypothesis is still claimed to possess a posteriori explanatory power. As such, it was useful in a broader approach to detecting the source of error, namely error analysis.

Banathy, Trager, and Waddle (1966) define the idea of the contrastive analysis (the strong version) as follows: "... the change that has to take place in the language behavior of a foreign language student can be equated with the differences between the structure of the student's native language and culture and that of the target language and culture. The task of the linguist, the cultural anthropologist, and the sociologist is to identify these differences. The task of the writer of a

foreign language teaching program is to develop materials which will be based on a statement of these differences; the task of the foreign language teacher is to be aware of these differences and to be prepared to teach them; the task of the student is to learn them.”

Schachter (1974) defines the contrastive analysis more detailed as “a point by point analysis of the phonological, morphological, syntactic, or other subsystem of two languages.” Contrastive analysis is important in pedagogy that it would allow to develop a most effective teaching programme and teaching materials. According to the contrastive analysis hypothesis, the learning problem and area of interference would occur at the points where two languages differ. Thus positive transfer would occur where two languages are similar; where they are different, negative transfer, or interference, would result.

Researchers attempt by using error analysis approach to describe the nature of interlanguage in its developmental stages and to deduce the processes of second language acquisition from these descriptions. The proponents of error analysis point out that the contrastive analysis hypothesis predicts what the learner will do, but it does not study what the learner actually does. They also claim that many errors do not result from native language interference but rather from the strategies employed by the learner in the acquisition of the target language and also from mutual interference of items within the target language, like the errors that are resulted from simplification or overgeneralization.

From an error analysis perspective, the learner is no longer seen to be a passive recipient of the target language input, but rather plays an active role, processing input, generating hypotheses, testing and refining them, and determining the ultimate target language level he or she will attain. This perspective provides support to Chomsky’s theory of language acquisition, that it is not a product of habit formation but rather one of rule formation. Like children who acquire their first language, second language learners were found to commit similar “developmental” errors, i.e. errors that were not apparently due to the first language interference.

**1.1. Aim of the Study**

This study aims to discover the role of Najdi Arabic (NA) stress patterns<sup>1</sup> in acquiring British English (BE) stress patterns. It compares the speech of a group of undergraduate students and native speech in order to discover the problems they may have with British English stress patterns in relation to their native language background, using controlled circumstances such as age of learners and levels of proficiency. The symbols used in transcribing words are derived from *Peter Roach’s English Phonetics and Phonology* (1983–1991).

**Table 1: Symbols for Consonants**

Manner of articulation	Place of Articulation										
	Bilabial	Labiodental	Dental	Alveolar	Post alveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b		t d			ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ	n			ɳ	ɲ		ɴ		
Trill	ʙ		r						ʀ		
Tap or Flap			ɾ								
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral Fricative			ɬ ɮ								
Approximant		ʋ	ɹ			ɻ	j	ɰ			
Lateral Approximant			l			ɭ	ʎ	ʟ			
Ejective Stop	pʰ		tʰ			tʰ	cʰ	kʰ	qʰ		
Implosive	ɓ ɗ		ɗ	d̥			ɟ̥	k̥ ɡ̥	q̥ ɢ̥		

Table 2: Symbols of Vowels

	Front	Central	Back
Close	i y	ɨ ʉ	ɯ u
Near-close	ɪ ʏ		ʊ
Close-mid	e ø		ɤ ɔ
Mid		ə ɚ	
Open-mid	ɛ œ		ɤ ɔ
Near-open	æ	ɐ	
Open	a ɶ		ɑ ɒ

## 1.2 Theoretical Background

There are a number of theories that determine interference in language, but first, it is important to define it. According to Dulay *et al.* (1982), interference is a process of transferring automatically the surface structure of the first language onto that of the target language as prompted by habit.<sup>2</sup> Mishra (2005) refers to it as errors in the use of a foreign language that are attributable to the mother tongue. Ellis (1997), on the other hand, calls it ‘transfer’ as seen in the influence exerted by learners’ L1 on the acquisition of an L2.

Ellis adds that transfer is governed by the learners’ stage of development in L2 learning as well as their perceptions of what can be transferred. In the process of learning a target language (TL), learners undergo a construction of their own interim rules (Ellis, 1997) using their L1 knowledge; but only when they believe that it will help them in the learning task or when they have become sufficiently proficient in the L2 can transfer be considered possible.

Also, it is important to distinguish between errors and mistakes. Ellis (1997) refers to errors as a reflection of gaps in the learners’ knowledge, occurring due to learners’ lack of knowledge of what is correct. Hence, errors can be considered a part of the learners’ perception. On the other hand, mistakes mirror occasional lapses in performance whose occurrence is due to the learners’ inability to perform a specific learned knowledge.<sup>3</sup>

Since interference is a negative transfer, it is governed by the same rules and theories of transfer. Transfer is the subject of many studies that tend to describe this phenomenon. Murray and Christison (2011), for example, assume in their work that L2 learners provide extensive reliance on their native language across cultures. They emphasise that this direction is initially perceived by Lado in his study of language acquisition. Lado’s and many of the work of his time claim that it is necessary to do a contrastive analysis of the native language and the target language, called Contrastive Analysis Hypothesis (CAH) in order to determine the extent of language acquisition.<sup>4</sup> Such analysis (1957) includes discovering the differences between L1 and L2 in order to find possible difficulties. As a response to this method, Error Analysis emerged to predict learners’ errors in L2 acquisition.

Behaviourism has tended to explain the process of learning where one learns a new set of habits. Behaviourists like Bloomfield and others try to give better explanations for the process of transfer. They claim that interference, which is also called negative transfer, is of two types, namely:

- a) Retroactive inhibition, which occurs when learning acts back on what has been previously learned, leading to language loss.
- b) Proactive inhibition, when a learned series of responses is likely to appear in situations where the learner has acquired a
- c)
- d) new set.

Thus, it may be inferred that second language learning is the development of a new set of habits, since learning itself is an acquisition of habits (Al-Ani, 1970; Gass and Slienker, 2008; Huthaily, 2008).

Several problems exist with CAH since there is a range of predicted and non-predicted errors that were in fact absent in the learners’ actual production. In CAH, differences do not equal difficulties, and this fact is considered a theoretical problem. It must also be pointed out that Error Analysis appears to accomplish CAH. It does not only depend on discovering errors and finding sources of difficulties, but providing broader possible explanations to these errors. It provides a significant distinction between errors, and such distinction is systematic deviation by learners who have not yet mastered L2, and which also exists between random mistakes (Gass and Slienker, 2008).

Error Analysis shows that errors are of two types (Gass and Slienger, 2008):

- a) Interlingual, which is based on cross linguistic comparison brought about by L1.
- b) Intralingual, which is based on learned language materials set off by L2.

The theories of interference in language are limited to analysing errors and do not include the aim to correct forms. These theories are not also accomplished of accounting for all aspects of transfer and most problems encountered by learners, such as avoidance and identification of the sources of many errors. New perspectives thus appear to try to account for these.

Language is no more than a set of habits, but also of structured rules that enable it to be acquired innately. The ease of children learning grammar is evidence to the innateness of learning. Also, exposure to the learned language plays an important role in the learning process. Hence, all learners have the same development process in learning a target language (TL). This leads to the Universal Grammar (UG) Theory, which assumes that "a particular language holds a theory, and this theory is its grammar. Moreover, UG is represented by the theory of languages and their generated expressions; it is a theory embodying the initial state of a language faculty's relevant component." (Chomsky, 1995, p. 167). According to Gass and Slienger (2008), UG suggests that all languages share the same principles; however, they have different parameters. Taking on UG's point of view, language involves abstract principles characterising core grammars of all natural languages. Aside from invariable principles possessed by all languages, there are also parameters that vary across languages. This allows L2 to develop in the same way with that of L1. Despite the role of L2 exposure, L1 contributes significantly to the acquisition process either positively or negatively. Hence, UG assumes that all languages have the same set of rules, but have different parameters that create differences between languages (Bouchhioua, 2008).

Recently, researchers have assumed two ways to activate UG in the process of acquisition: One is indirect, called the Fundamental Difference Hypothesis (FDH); the other is direct, referred to as Access to UG Hypothesis. Using FDH, it is believed that children and adults differ in learning L2, and this is seen in the fact that the ultimate attainment reached by children and adults differs (Ellis, 1994). There is greater likelihood for children to acquire a native grammatical competence. Some adult learners, however, may be successful in acquiring grammatical accuracy on a native level, both in speech and writing, and may even develop full 'linguistic competence' (Ellis, 1994). Moreover, to say that some languages are easier to learn than others is not true; all children can equally learn all languages. On the other hand, adults may find it more difficult to learn some languages over others. FDH claims that this is due to the fact that unlike children, adults do not have direct access to UG, but they have indirect access through their native language (NL) (Gass and Slienger, 2008).

The opposing view to the FDH is the Access to UG Hypothesis. Al-Namlah (2009) sums up the positions of UG and L1 in L2 acquisition in five points:

- 1) Full Transfer / Full Access:

In this position, L1 is the starting point in acquiring L2, but there is full access to UG during the process of acquisition. In this case learning L1 and learning L2 differ.

- 2) Minimal Trees Hypothesis:

Here, L1 is the starting point in acquiring L2, but there is no transfer; since there must be L2 input.

- 3) Valueless Features:

L<sub>1</sub> is the starting point in L2 acquisition where weak transfer takes place.

- 4) The Initial Hypothesis of Syntax (Fuentes, Larranaga, and Clibbens, 2008: 77)

In this position, UG is the starting point in L2 acquisition, with no transfer taking place.

- 5) Full access / Absence of Transfer

UG is the starting point, but there is a disconnection between L1 and the developing L2.

It must be noted that the acquisition of L2 phonology is a complex process. The differences between NL and TL must be taken note of in order to understand how learners learn a new phonological system (Marlett, 2001). Learning a new phonological system is part of the process of language acquisition.

Eckman (1977) proposes that unmarked forms of language materials are much easier to acquire than marked ones. This is called Markedness Deferential Hypothesis (MDH). The unmarked forms are more common and usual in languages than marked ones. Hence, a speaker with more marked NL forms than TL forms will have easier time learning TL. This hypothesis reconfigures the CAH in a way it predicts difficulties and likewise determines the principles that underlie the use of transfer. The unmarked and more usual forms of L1 (NL) are transferred to L2 (TL). This must be taken note of when scrutinising language transfer.

Similarities between L1 and L2 can have other effects. They are no more the source of perfection but of difficulty (Han, 2010). L2 sounds that are similar to those of L1 are difficult to acquire because the learner does not classify them as different and hence does not set up a new category of contrasts. This is an important emphasis in studying language acquisition. The acquisition of similar versus dissimilar forms is different in rate as proposed by Cook (2002) in Similarity Differential Rate Hypothesis.

To sum up, L1 plays a significant role in L2 acquisition; thus, transfer can be attributed to errors or perfection in L2 acquisition. These errors are caused by negative transfer or interference, which are in turn caused by markedness or unmarkedness. They may also be a result of similarities or dissimilarities between L1 and L2.

### **1.3 Definition of Stress**

Roach (2000) briefly defines stress as prominence. He states that prominent syllables are produced by four factors, namely:

- 1- Stressed syllables seem to be louder than unstressed syllables, indicating that loudness is an important factor of prominence.
- 2- Some stressed syllables are longer than others.
- 3- All syllables have pitch, but stressed ones have higher pitch.
- 4- The vowels in stressed syllables are different from neighbouring vowels in terms of quality.

Many references deal with prominence and stress as one property. But there are some references that consider them as two different properties. R. L. Trask, in his *Dictionary of Phonetics and Phonology*, defines stress as a type of prominence. He says that it is "a type of prominence that is present upon certain syllable in some languages". Prominence in this case is more general and includes many characteristics. It stands out from an adjoining syllable being the property of that syllable through any of several phonetic characteristics, such as greater loudness, greater duration, higher or lower pitch, and so on.

Stress is very important in communication. It may add to the meanings of the words in some languages. For example, the word *permit* in English can be a verb or a noun according to the placement of the stress in the word, and in other languages, it adds information to the speech. In fact, there are predictable fixed stress languages where the stress is placed always on a given syllable like in Czech, Classical Arabic,<sup>5</sup> Finnish, and Hungarian. Stress can give information about the background of the speaker like his dialect. On the other hand, there are languages like English, Italian, Russian, and Spanish, where stress is (at least partly) unpredictable. Here, the stress is lexical: it comes as part of the word and must be memorised, albeit orthography can make stress unambiguous for a reader (Edmunds, 1996; Watson, 2002).

### **1.4 Stress Rules**

Stress can be lexical, which is also referred to as word stress; that is, placed on a given syllable. It can also be prosodic, called *sentence stress*, which is placed within sentences. Prosodic stress is one of the components of prosody, along with rhythm and intonation. Fixed stress characterise some languages, as in the case of the Finnish language, where stress is always placed on the first syllable. Other languages place stress differently but predictably, as in Latin and Arabic, which have a regular stress rule. Stress can also be partly unpredictable as in languages like English and Spanish where the stress comes as part of the word itself and needs to be memorised. In this case, it can be used as a grammatical device. English uses this characteristic to distinguish between nouns and verbs. The noun-verb pair [ˈrecord] versus [reˈcord] is an example of the importance of stress placement (Leena, 2011; Abdo, 1969).

Lexical stress is not present in the French language. Instead, stress is placed on the final syllable (or, if the final is a schwa, the next-to-final syllable) of a string of words. This string may be equivalent to a clause or a phrase. When a word is said alone, its last syllable is also the end of the phrase, so the stress is placed there.

Hence, stress within words is a controlled process, specifically by rules, and involves some patterns to follow. Different varieties of English, such as the British variety, and different varieties of Arabic including Najdi, are of different classes according to their stress placements. However, these varieties are characterised by patterns that show the possible placement of stress on syllables (Scarborough, Keating, Mattys, *et al.*, 2009).

### 1.5 The British English Stress Patterns

The English language has unpredictable free stress, where stress placement becomes part of the word. Phonetic differences and phonological differences exist between British English and other English varieties. They share the same number of phonemes however, but these phonemes are realised differently, providing an example of phonetic difference. The phonological difference creates a corresponding difference in meaning.<sup>6</sup> They can be segmental or suprasegmental, as in possessing different number of phonemes like pronouncing luck and look identically in Northern English accents (Roach, 2000: 209; Marlett, 2001).

Roach, in his *English Phonetic and Phonology*, states that stress placement depends on certain factors, which are as follows (Marlett, 2001):

- 1- The morphology of the word; whether simple, complex, or compound
- 2- The grammatical category of the word; whether noun, verb, adjective, adverb, etc.
- 3- The number of syllables in the word
- 4- The phonological structure of syllables

The stress patterns of the English words are:

- 1- One-syllable words

The stress in words with one syllable like eat ['i:t] and drink ['drɪŋk] is placed on one syllable.

- 2- Two-syllable words

Verbs, simple adjectives, adverbs, and prepositions follow the same rules. The stress falls on the second syllable if:

- 1- it has long vowel, for example, 'attract' [ə'trækt]
- 2- it ends with more than one consonant, 'assist' [ə'sɪst]
- 3- it has diphthong, 'arrive' [ə'raɪv]

The first syllable is stressed if the final syllable contains short vowel and one (or no) final consonant, like in 'enter' ['entə] and 'open' [ə'pən]. Also, the stress falls on the first syllable if the second syllable contains əʊ (for example, follow ['fɒləʊ]).

As for nouns, the first syllable is stressed if the second syllable contains a short vowel. Otherwise, the stress will be on the second syllable, for example, 'money' ['mʌni].

- 3- Three-syllable words

#### Verbs

Stress will be placed on the final syllable if it contains a long vowel or diphthong, or ends with more than one consonant, for example, 'entertain' [entə'teɪn]. Penultimate syllable will be stressed if the final syllable contains short vowel or ends with not more than one consonant, for example, 'encounter' [ɪŋ'kaʊntə].

#### Nouns and adjectives

The first syllable is stressed if both the final and the penultimate syllables contain a short vowel and ends with not more than one consonant for example, 'cinema' ['sɪnəmə]. The penultimate syllable is stressed if it contains a long vowel or diphthong, or if it ends with more than one consonant whilst the final syllable contains a short vowel or əʊ, for example,

'potato' [pə'teɪtəʊ]. As for three-syllable simple nouns, the stress is usually placed on the first syllable if the final syllable contains long vowel or diphthong, or ends with more than one consonant, for example, 'intellect' ['ɪntələkt]. The final syllable in this case has secondary stress.

These rules are for simple words. Complex words have different rules. As known it is difficult to decide whether the word is simple or complex in English. Since there are many loanwords, it is hard to study the morphology of every English word without studying the morphology of five or six other languages. Generally, complex words are of two major types; a stem in addition to an affix, a suffix or a prefix, or two or more compound words. At first, the stress falls primarily on the suffix, whilst the secondary stress falls on the first syllable of the stem even if it falls on the second in the stem without additions, for example, 'Japanese' [ˌdʒæpə'n:z] and 'volunteer' [vɒlə'ti:ə]. There are other suffixes that do not change stress placements in the stem, like '-able': comfort ['kʌmfət]; 'comfortable' ['kʌmfətəbəl]. Also, there are some suffixes that change the stress in the stem, like '-ive': reflex ['ri:fleks] and 'reflexive' [rɪ'fleksɪv]. These suffixes allow the stress to fall on the stem if the syllable is single. If the stem has more than one syllable, the stress either falls on the syllable that contains long vowel or diphthong, or ends with more than one consonant.

Prefixes have no effect on words to which they are attached. Hence, the rules being applied to the stems without the prefixes are the same rules that are applied after adding prefixes. The prefix 'un-' for example, produces no effect on the stem 'pleasant'.

There are different ways in which compounds may be written; they may be written as one word, for example, 'sunflower'; as two words separated by a hyphen, for example, 'fruit-cake'; or words separated by a space, 'desk lamp'. Stress is not affected by the pair of words if they are separated by space, that is, the stress pattern follows the previous rules for each word. The stress falls on the first word if the compounds are nouns, for example, 'sunrise' ['sʌnraɪs]. Moreover, there are some compounds whose stress is placed on the second element, like those that begin with an adjective plus the -ed morpheme at the end of the second element, as in the word 'heavy-handed' [hevi-'hændəd]. For compounds where the first element is a number, the stress is placed on the second part, as in 'five-finger' [faɪv-'fɪŋgə]. Compound adverbs, on the other hand, place the stress on the second word, for example, North-East. Word-class pairs have certain rule of stress placement. They are identical words but different in stress placement based on their word class (noun, verb, or adjective). All appear to contain prefix plus stem. In this case, the first syllable is stressed in nouns or adjectives, while the second syllable is stressed in verbs, for example, 'abstract' ['æbstrækt] (A), [æb'strækt] (V), and 'conduct' ['kɒndʌkt] (N), [kən'dʌkt] (Roach, 2000).

It must be noted however that for every rule, there are exceptions. These exceptions are adjectives ending in two or more consonants, such as '*honest*' and '*perfect*', where the stress falls on the first syllable instead of the second, as mentioned previously. Also, it is important to note that these rules do not cover all English words; but are applied only to major categories of lexical words, (nouns, verbs, and adjectives), and not to the function words like articles and prepositions.

### 1.6 The Najdi Arabic Stress Patterns

Najd is the central region of the Arabian Peninsula. It is the central province of Saudi Arabia (Ingham, 1994; Prochazka, 1988). There are four major groups of Najdi Arabic (Gordon, 2005):

- Northern Najdi; spoken in Al-Qaseem and Jabal Shammar regions of Najd.
- Central Najdi (Urban Najdi); spoken in the city of Riyadh and surrounding towns and farming communities.
- Southern Najdi; spoken in the city of Kharj and surrounding towns.
- Badawi Najdi; spoken by the nomadic tribes of Najd. (Some tribes have their own distinct accents. Badawi Najdi is also spoken in neighbouring Jordan, Syria, and Iraq).

The isolated location and severe climate of the Najdi plateau enabled it to be considered the least of all modern Arabic dialects in terms of foreign influence. This lack of foreign influence is also propelled by the seeming absence of any substratum from a previous language. Even in the ancient times, the ancient South Arabian language was not widely spoken in Najd.<sup>7</sup> Within Najd itself, distinctive sub-dialects and accents are present in its various towns and regions. These have recently merged, however, alongside the vast influence of Arabic dialects from other countries and regions, as seen particularly in Riyadh (Al-Sweel, 1992).

Like Modern Standard Arabic (MSA), stress in Najdi Arabic relies more on the syllable structure. In fact, the internal syllable structure determines stress placement in terms of syllable weight (Al-Sweel, 1992). Najdi Arabic syllables are divided into two kinds; short and long. The short syllable consists of a single consonant followed by a single short vowel. Hence, there are three short syllables in the word *kataba* [ka.ta.ba.]. On the other hand, the long syllables, like *tab* in the word *kitaab* "book", come in one of these three cases:

- 1- Consonant + long vowel
- 2- Consonant + diphthong
- 3- Consonant followed by short vowel followed by another consonant

There is another classification for NA syllables, open (CV) and (CVV), and closed (CVC), (CVVC) and (CVCC) (Moren, 2001). Also, there exist heavy syllables with three morae (units of time), that is, CVC and CVV, and superheavy syllables with four morae, that is, CVVC and CVCC. Superheavy syllables in Najdi Arabic occur either at the end of the sentence and in words where a long *ā* occurs before two identical consonants. The former takes place because of pausal pronunciation, whilst the latter is indicated by the loss of a former short vowel between the consonants, as in the words */ḥārr/* "hot" and */māddah/* "stuff, substance". Less formal pronunciations are also present in Modern Standard Arabic, where one can find superheavy syllables at the end of words or before clitic suffixes, in which final short vowels are deleted, as in the words *-nā* "us, our".

There are some features differentiating NA from MSA. Rowan (2006) illustrates the difference between NA and CA in terms of syllable structure. In NA, initial clusters are inserted, as in */ktibat/* 'she wrote'. The vowel *a* is inserted before a consonant cluster within the word, but this occurs only where the sequence -CC- is composed of the two final radicals of the root in words like */katabah/* 'having written f.'. NA also inserts the sequence -CCC- in restricted environments like in */ya-ktb-un/* 'they m. write'. Otherwise, NA retains the nature of classical structure in admitting non-final syllables of the types CV, CVC, and CVV. Additionally, CVC is the underlying form of the syllable in NA. Generally, consonant clusters are permissible at the beginning or end of a phonological unit: the syllable (Al-Fneekh, 1983). Stress falls on the first heavy syllable from the right edge of the word. With no occurrence of heavy syllable, the stress goes back towards the beginning of the word and will not retreat any further than the antepenultimate syllable (van der Hulst, Goedemans, and van Zanten, 2010). In other words, the general pattern of stress placement in NA and MSA is that the last heavy syllable is typically stressed, (Zawaydeh and de Jong, 1999). If there are no heavy syllables in a word, then stress falls in some other predictable location. The general pattern of stress placement is that it falls on the first syllable when the rest are short. If there is only one long syllable in a word, the stress falls on the final long one (Huber and Velupillai, 2007; van der Hulst *et al.*, 2010).

Since there are few studies conducted on NA and there are similarities between NA and MSA, some phonological rules can be generalised. Surface pronunciation includes a vowel being preceded by a consonant, even including the glottal stop [ʔ]. There are no cases of hiatus within a word (where two vowels occur next to each other, without an intervening consonant). Some words begin with a vowel, such as the definite article *al-* or words such as *[ifrā]* "he bought", *[idʒtima:ʃ]* "meeting". One of three things occurs when they are pronounced:

- 1- A smooth transition occurs from final consonant to initial vowel when there is an occurrence of the word after another word that ends in a consonant.
- 2- The initial vowel of the word is elided in cases that the word occurs after another word that ends in a vowel.
- 3- A glottal stop [ʔ] is added onto the beginning of the word that occurs once it is uttered.

In both NA and MSA, stress is said to usually fall on either the penultimate or the antepenultimate syllable. It will fall on the penultimate if the penultimate syllable is heavy, as indicated in (1); otherwise it will fall on the antepenultimate syllable, as indicated in (2). A complication to this pattern is that final syllables will bear stress if they contain a long vowel or have a final consonant cluster, as shown in (3). Hence, the stress pattern can fall in three positions:

1-Penultimate stress; where stress falls not on the last syllable but on the one that occurs immediately before the last.

[sa:məʔħatna] (she pardoned us)

2- Antepenultimate stress; where stress falls on the third syllable counting from the end.

[mɑ'ʃalləmk] (he didn't teach you)

3- final stress

[ʃall'əmt] (she taught)

It may be surmised that the basic rule of Arabic stress is that it is predictable in syllabic and that the stress falls on the long syllables nearest to the end of the word. If the last syllable is long, then that syllable is stressed, as in [kɪ'tɑ:b] "book". If the second syllable to last within a word is long and the last is short, then the second-to-last is stressed as in [u'bu:hum] "their father". If however, there is no long syllable within a word, then the stress falls on the third-to-last syllable, as in [ke'tɪbtuh] "I wrote it". In Arabic, stressing further back than the third syllable from the end is not permitted. Thus, in a word like [ka.ta.'ba.hu] "he wrote it", which consists of four short syllables, the stress must fall on the third syllable [ka.ta.'ba.hu] (Awde and Samano, 1996).

In a paper by Alhamid (2009) on the Najdi variety, the author studied spontaneous speeches of a group of Qassimi speakers to determine the Najdi stress pattern. The results of the study found several similarities in syllable and stress patterns between NA and MSA as well as other Arabic varieties such as EGA, BHA, San'ani, and Carine. The data provided evidence of the existence of dominant syllable patterns of Arabic CV, CVC, CVV, CVVC, CVVCC and CVCC in NA. Moreover, NA developed other syllable types, namely: CCV, CCVCC, CCVV, and CCVC. Syllable structures in NA do not begin with vowels, neither do they comprise a single vowel. Also, the stress rule in NA is as follows: In case the stress is superheavy, it falls on the ultimate syllable; otherwise, it falls on the penult in case it is heavy. Irrespective of its weight, stress falls on the antepenult in cases that the ultimate and penultimate syllables are light.

As differentiated from American English, every syllable in Arabic, either long or short, must have clear and distinct pronunciation, given its due weight. The absence of stress does not mean the disappearance of any syllables.

## 2. METHODOLOGY

### 2.1 Participants

The study is conducted on eight Najdi Saudi males. I chose males for social reasons; females in Saudi Arabia are usually aware of recording their voices and this might raise their tension and can be reflected on their readings. These participants came from different parts of Najd. They are undergraduate students of Imam Mohammad bin Saud university, specifically of College of Languages and Translation, in Riyadh. They are of the sixth level where they have Phonetics as one of the main courses offered in their curriculum. They also use the second edition of Roach's English Phonetics and Phonology, which they study in the British variety. These students should be highly proficient in English.

### 2.2 Materials

Table 3: Simple English Words With Different Stress Patterns

2 syllables		3 syllables		
1 <sup>st</sup> syllable stressed	2 <sup>nd</sup> syllable stressed	1 <sup>st</sup> syllable stressed	penultimate syllable stressed	Final syllable stressed
'enter' (V) [ˈentə]	'Apply' (V) [əˈplaɪ]	'cinema' (N) [ˈsɪnəmə]	'determine' (V) [dɪˈtɜːmɪn]	'entertain' (V) [entəˈteɪn]
'equal' (V) [ˈiːkw(ə)l]	'divine' (Adj) [dɪˈvaɪn]	'intellect' (N) [ˈɪntələkt]	'potato' (N) [pəˈteɪtəʊ]	
'lovely' (Adj) [ˈlʌvli]	'correct' (Adj) [kəˈrekt]	'insolent' (Adj) [ˈɪnslənt]	'disaster' (N) [dɪˈzɑːstə]	
'money' (N) [ˈmʌni]	'estate' (N) [ɪˈsteɪt]	'quantity' (N) [ˈkwɒntəti]		
'product' (N) [ˈprɒdʌkt]	'design' (N) [dɪˈzʌɪn]			
'even' (N) [ˈiːvən]				

**Table 4: Complex English Words With Different Stress Patterns**

Complex words			Compound words	
Stem+ suffix			Stress on the 1 <sup>st</sup> element	
Stress on suffixes	No affect suffix	Suffix change stress placement	Stress on the 1 <sup>st</sup> element	Stress on the second element
'volunteer' [ˌvɒlənˈtɪə]	'comfortable' [ˈkʌmfətəbl] 'devilish' [ˈdevlɪʃ]	'perfection' [pəˈfekʃn] 'politician' [pəliˈtɪʃn] 'certificate' [səˈtɪfɪkət]	'type-writer' [ˈtaɪpraɪtə] 'sunrise' [ˈsʌnraɪz]	'five-finger' [faɪv-ˈfɪŋgə]

**2.3 Instruments**

I used Toshiba laptop with Wave Pad Sound Editor to record the readings of the participants and Praat to analyse them. Moreover, I used Logitech, a special headset with these special specifications:

Frequency response:

Headset: 20-20,000Hz

Microphone: 100-10,000Hz

Sensitivity: -62dBV /μBar, -42dBV /Pa+/- 3dB

**2.4 Procedures**

All participants read a group of words with different stress patterns from cards shown by the instructor. The use of cards can avoid list effect on reading words. These cards were read in a quiet place.

The participants’ readings were compared to the readings provided by the audio CDs of Roach's *English Phonetics and Phonology*. Listening to the pronunciation of native speakers helps in evaluating the pronunciation of non-native participants.

Praat was used as the speech analysis software to analyse the readings of participants.

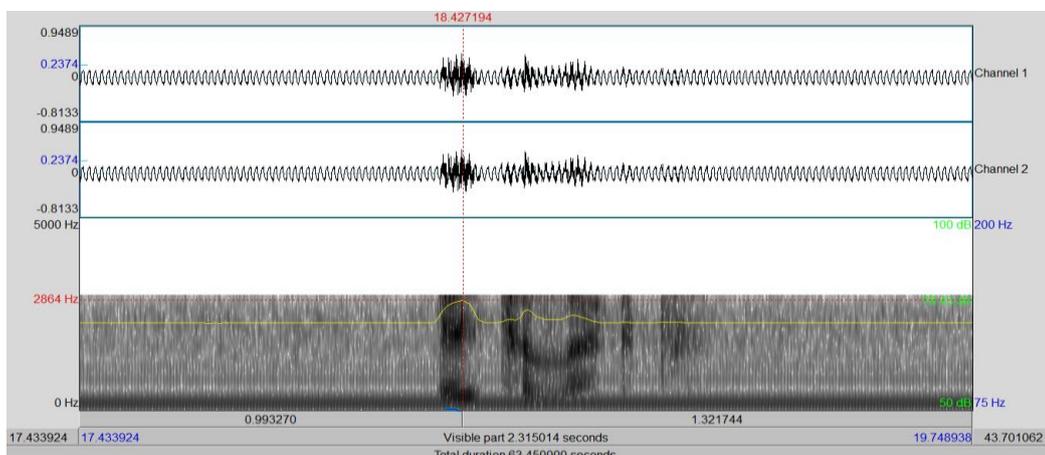
**3. ANALYSIS**

Stress syllables are characterised by more fundamental frequency or pitch, as well as increased duration, and increased intensity. These characteristics can be analysed with the Praat software. For example, the word 'intellect' has the first syllable stressed according to these measurements:

Pitch 2864 Hz.

Intensity 78.46 dB.

Length of duration .113 seconds.



**Figure 1. Waveform, spectrogram of the word /'ɪntələkt/ 'intellect' as produced by participant 1**

Further, stressed syllables are louder than unstressed ones. Thus, it is important to listen to how the word is pronounced to determine where the stress lies.

According to these measurements, the results appear in this table:

**Table 5: Analysis of the Results of Participants' Speech**

words	participants	1	2	3	4	5	6	7	8
Apply		T	T	T	T	T	F	T	T
Enter		T	T	T	T	T	T	T	T
Sunrise		F	F	F	T	T	F	F	F
Correct		T	T	T	T	T	T	T	T
Divine		F	T	T	T	T	T	T	T
Even		T	T	T	T	T	T	T	T
Comfortable		F	F	T	T	F	F	F	T
Devilish		F	T	T	T	F	F	T	F
Perfection		T	T	T	T	T	F	T	T
Volunteer		T	F	F	F	F	T	T	T
Five-Finger		F	F	F	F	F	F	F	F
Type Writer		T	T	F	T	T	F	F	F
Product		T	T	T	F	F	F	T	F
Design		T	T	T	T	T	T	T	T
Potato		T	T	T	T	T	T	T	T
Intellect		F	T	F	T	F	F	F	F
Cinema		T	T	T	T	T	T	T	T
Insolent		F	F	F	T	F	F	F	T
Equal		T	T	T	T	T	T	T	T
Lovely		T	T	T	T	T	T	T	T
Money		T	T	T	T	T	T	T	T
Estate		T	T	T	T	T	T	T	T
Determine		T	T	T	T	T	F	T	T
Entertain		T	T	T	T	T	T	T	T
Disaster		T	T	T	T	T	T	T	T
Quantity		T	T	T	T	T	T	T	T
Certificate		F	F	F	T	F	F	T	F
Politician		F	F	T	T	T	T	F	T
Total T		19	21	22	25	20	16	21	21
Total F		9	7	6	3	8	12	7	7

Note. T stands for correct use, while F stands for error.

Total number of words read by all participants were 224 words

Total number of the correct use of stress placement were 165 words, with about 74%.

Total number of wrong use of stress placement were 59 words, with about 26%.

#### 4. RESULTS AND DISCUSSION

It is apparent that errors are rare in terms of the correct use of stress placement, as shown by Table 5. Errors appear in fifteen words out of twenty-eight, and most of them occur with complex and compound words. Also, the participants show some difficulty with two-syllable words with stress on the first syllable and Three-syllable words with the stress on the first syllable.

Two-syllable words show some difficulty. In the word 'product', the stress is on the first syllable, but the participants placed it on the second instead. The reason is that the second is superheavy syllable 'CVCC'. As for three syllable words, like 'intellect' and 'insolent', the stress is on the first syllable; but participants placed it on the ultimate syllable because it is superheavy, 'CVCC'. On the other hand, participants showed no difficulty with words that have stress on the first, second or third syllable; antepenultimate, penultimate or ultimate; when these syllables are heavy or superheavy.

When it comes to complex words, participants exhibited real difficulties as they treated compound words as separate words and placed stress on each word individually. As for words with suffixes, participants changed the placement of stress. They placed the stress on the suffix like the words 'devilish' and 'certificate', or change the place of the stress like, as in 'comfortable' and 'volunteer'. This happened because the suffixes are heavy syllables 'CVC'. Also, they changed the place of stress into the penultimate syllable because the ultimate is not superheavy syllable, and the penultimate is a heavy one 'CVC'.

It is apparent that these errors occurred because of the NA stress pattern background. The participants followed the NA rule in some words but not in other words that seem close to the NA stress rules. For example, the word 'disaster' in BE stress rules has the stress on the penultimate syllable, and in NA, the stress is on the same syllable. Thus it is rare to find errors in such words.

Altmann (2006) states that L1 stress pattern is responsible for most errors in L2 stress pattern. Altmann found out that poorer results were exhibited by native speakers of Arabic as well as Turkish, and French, compared to Korean and Chinese native speakers who showed more English-like performance. The study shows the significant role of L1 on the acquisition of L2 stress pattern. This difference appearing in results is due to the fact that the first group comprised native speakers of L1.s with predictable stress, whilst the second group had native languages characterising unpredictable stress. Since English has unpredictable stress, the second group showed better performance than the first group. Thus, L1 plays a significant role in interference; which can be positive or negative.

Similar results were found by Younes (1984) in his study, that was conducted on two groups of Saudi undergraduate students. His study shows that interference between Arabic and English is found to be responsible for many stress errors. Students used Arabic stress patterns to produce English words, with the exception of the CVCC pattern. The lack of interference in CVCC syllable is a counterexample to the Contrastive Analysis Hypothesis. Younes offers two explanations for this lack of transfer; "one is based on the syllabic structure of CVCC sequences in Arabic, the other on their morphological structure."

Practice must be undertaken by learners to reduce the gap between L1 and L2. A great deal of practice is required of the Arab in order to (i) perceive and (ii) produce these significant distinctions. The task is by no means easy, as patience and endurance are required to realise these goals. Such practice needs the involvement of a selected sample of contrasting compounds and noun phrases in the usual minimal pair structure.

It is important to practice L2 with its native speakers. Miller (2001) discussed the difficulties that Asian graduate students might face with the American English. Their pronunciation and listening skills were quite low. In order to improve their skills, some activities are thereby suggested, including interaction with native speakers, which is a practical way to improve such skills.

At times, training to perceive the distinction between two different patterns will lead to improvement in production. Kawaguchi, Minegishi, and Durand (2009) demonstrated in a study involving a group of L2 learners, that when Japanese speakers are trained to perceive the /l/, /r/ distinction, improvement in production may be automatically apparent, despite the absence of any production training. Thus, perceptual training tasks are as important as production training (Kawaguchi *et al.*, 2009).

## **5. CONCLUSION**

This study deals with investigating the role of interference in learning L2 and proficiency in pronouncing prominence. Its emphasis is on the errors that may be committed by EFLs in terms of the level of stress placement influenced by their native language. Specifically, it aims to find out the role played by the Najdi Arabic stress patterns in the acquisition of the British English stress patterns. In so doing, the speech of a group of undergraduate students and their native speech are compared, so that any difficulty may be traced with regard to British English stress patterns vis-à-vis the participant's native language.

It is found out that more fundamental frequency or pitch, increased duration, and increased intensity characterise stress syllables. There are rare errors in the correct use of stress placement. There are however 15 errors out of 28, and the occurrence of these errors is signified in complex and compound words. Moreover, participants have demonstrated some difficulty with two-syllable words with stress on the first syllable, as shown by their stress placement on the second syllable instead. The same is true with three-syllable words, as they placed the stress on the last syllable instead of the first.

It is worthy of note that NA stress patterns play an important role in acquiring British English stress patterns. This role can be positive when the two patterns are similar, or it can be negative when the patterns are different. In fact, this role can be eliminated by practicing in class; that is the reason behind some correct pronunciation of the participants.

Since participants have difficulties in some words and not all of them, there is hope in reducing these errors by practicing the correct pronunciation. Instructors should be native speakers or at least native-like speakers to teach the correct forms to their students.

There are two recent theories that can account for the development of L2 learning and the interaction between L1 and L2 sounds: that is, Flege's Speech Learning Model (SLM) and Best's Perceptual Assimilation Model (PAM). The two models are to predict the difficulties in performance in learning L2. There is no specific age of learnability, but rather it is related to the human mind; and that what can explain how could adult learners master L2 with native-like proficiency even after the critical period. On the other hand, L2 learners tend to go through several neurological processes in pairing sounds of L1 and L2 articulatory. Then they try to find similarities and dissimilarities between the pairs to help in the perception process of the L2 sounds. Some learners are more able to master L2 with more proficiency than others because they can discriminate between sounds of the two languages.

Learning models show how important one's linguistic environment is to language acquisition. SLM states that the speech learning mechanism remains intact across the life span (Flege, 2003). This is relevant to many factors including daily usage of the native language (e.g., Flege, Frieda, & Nozawa, 1997), and the perceived relationship between L1 and L2 (e.g., MacKay, Flege, Piske, & Schirru, 2001). Many experiments testing this model are to evaluate the perceptual relationship between L1 and L2 influences discrimination of the L2 and how this varies as a function of L2 experience.

The SLM is unique because it shows how adults retain the ability to acquire new phonetic categories in L2 (Bever, 1981; Lenneberg, 1967; Scovel, 1988). However, the perceived cross-language phonetic distance and the state of development of the L1 control the acquisition of L2 speech sound (Flege & McKay, 2004). At the beginning of L2 acquisition, the L1 and L2 share a common phonological space because the L1 acts as a template or filter when learning an L2 (Best, 1995; McAllister, Flege, & Piske, 2002). This is especially true of adult learners because their L1 phonetic categories are fairly well formed (Baker, Trofimovich, Mark, & Felge, 2002 as cited in Flege, 2003). Furthermore, L2 learners use the strategies and features they used with L1 acquisition. For instance, Strange, Akahane-Yamada, Kubo, Trent, and Nashi (2001) found in their perceptual assimilation experiment of English vowels that native Japanese speakers employed an L1 strategy when assigning native vowel labels. That is, Japanese speakers employed vowel length rather than vowel height and consonantal context in making their perceptual decisions.

In general, SLM suggests that the success of L2 learning is determined by the amount of perceived phonetic similarity between sounds in L1 and L2. According to the model, L2 sounds are perceptually equated to the most phonetically similar L1 sound category.

The SLM predicts the level of language proficiency based on three classifications of acoustic similarity between native and nonnative phones: identical, new, and similar. First, if L1 and L2 phones are "identical," i.e., there is total overlap between categories, then the L2 sound will be perceived and produced as it is in the L1, and offer no difficulty in acquisition or learning. Second, if an L2 sound is phonetically different from a sound in the native language, then it is perceived by the listener as a "new" sound. The third classification, "similar" phones, are the most difficult phones to be learned. These are native and nonnative sounds that share many acoustic properties, but not all. As SLM predicts, a nonnative learner will have extreme difficulty distinguishing between L1 and L2 categories, and may never be able to develop articulatory routines that consistently separate the L1 from the L2 phone.

PAM focuses primarily on naïve listeners, whereas SLM focuses on experienced listeners. PAM depends on the phonological and phonetic relationship between L2 contrasts and L1 phonemes, specifically on perceived similarities vs. dissimilarities to L1 phonemes. In addition, PAM is influenced by familiarity with L2. (Best & Strange, 1992; Flege, 1984a; Mackain et al., 1981).

PAM is developed specifically to describe nonnative speech perception by naïve listeners, whereas SLM is designed to define production/perception of L2 speech by L2 learners. Neither model is developed to describe both situations. Both PAM and SLM are described as being based merely on L1 phonological differences (i.e., in comparison to the Contrastive Analysis Hypothesis: CAH), and on L1 interference (i.e., phonological suppression), these characterizations are misrepresentative. On the other hand, these two models do not limit their predictions about the role of L1 to the

influence of phonological contrasts in the L1. Both models show the importance of non-contrastive phonetic similarities and dissimilarities between L1 and L2 phones, including notions of phonetic goodness of fit, and the relationship between phonetic details and phonological categories contrasts.

Alongside with the learning models, it is important to find input that provide interaction with native speakers which allow L2 learners to know that a particular form is not acceptable according to target language norms. Through discussion and interaction with native speakers L2 learners will be able to correct their errors ( Swain 1985; Swain and Lapkin 1995). From a psycholinguistic point of view, L2 interaction is mainly interesting because of the chances it offers to L2 learners to fine-tune the language input they are receiving. This guarantees that the input is well modified to their needs and to the development of their L2 knowledge. That is learners need to talk with native speakers in a fairly open-ended way, to ask questions, and to clarify meanings when they do not immediately understand.

There are other factors that affect the learning process like age of learner, motivation, and intelligence. Great knowledge with these factors increases the ability to learn and raises the level of proficiency in learning L2. Also, this knowledge give access to the appropriate input.

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## Endnotes

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<sup>1</sup> Najdi Arabic is commonly spoken in Northern Saudi Arabia. See Kusters (2003, p. 276).

<sup>2</sup> Rhythm structures or stress patterns are often known as interference in stress pattern. See Wei (2000) p. 48.

<sup>3</sup> The analysis of error is worthy of note here, since it describes the errors learners make and is embodied in linguistic analysis. The focus is on the comparison between the errors made by a learner in producing the target language (TL) and the TL form itself. See Gass (2008, p. 102).

<sup>4</sup> Contrastive Analysis Hypothesis can be of strong or weak versions; the strong having to involve the prediction of errors in second language learning, of which the basis is a priori contrastive analysis of the first and second language. The weak version, on the other hand, involves learner errors serving as the beginning point, which are explained by pointing to the similarities and differences between two languages. See Gluth (2003, p. 6).

<sup>5</sup> Classical Arabic is the formal language of instruction and the media in the Arab region; its more accurate form is seen in the Quran, from which the most formal type of classical Arabic can be found. See Aljumah (2008, p. 155).

<sup>6</sup> It is difficult to justify if the comparison of the TL and SL uses traditional phoneme and allophone categories of phonological description. See James (1986, p. 10).

<sup>7</sup> A long tradition of oral literature can be found amongst the Najdi Arabs who consider their language as the best way to speak Arabic. See Kusters (2003, p. 276).