

Acquisition of the Verb Movement Parameter in English by Adult Arabic Speakers

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ABSTRACT

This study investigates the acquisition of the verb movement parameter in English by adult Arabic-speaking learners of English as a Second Language (ESL)¹. English and Arabic differ in the settings they adopt for the verb movement parameter. English is [-strong], while Arabic is [+strong]. Accordingly, the placement of the verb with respect to negation, adverbs and floating quantifiers (FQs) in English are considered difficult to acquire for adult Arabic ESL learners. In order to examine the nature of adult Arabic ESL learners' interlanguage (IL) grammar at the L2 ultimate attainment level as well as the extent to which the adult Arabic ESL learners can reset the verb movement parameter and correctly place the verb with respect to negation, adverbs and FQs in finite and non-finite contexts with lexical and auxiliary verbs, an oral production task was conducted with 77 adult Arabic ESL learners who were subdivided into three proficiency levels (lower-intermediate, upper-intermediate and advanced). The results reveal that the Arabic ESL learners, even at ultimate attainment level, have great difficulty in resetting the parameterized property associated with the verb movement. These results support the Failed Functional Features Hypothesis (FFFH) (Hawkins and Chan, 1997) which proposes that post-childhood adult L2 learners are unable to reset parameters from their L1 values to the L2 settings where these differ from the L1 settings.

Keywords: Second Language Acquisition, verb movement parameter, Failed Functional Features Hypothesis, Adult L1 Arabic speakers, Negation, Adverbs, Floating Quantifiers

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INTRODUCTION

Universal Grammar theory (UG), the theoretical framework adopted for the present study, was postulated by Chomsky in the 1950s as an attempt to describe the

constitution of language knowledge, and to explain the language acquisition and production interactions that take place in the language faculty. Accordingly, language acquisition, native or non-native, means setting all the parameters of UG appropriately (Cook & Newson, 2007, p. 59). This Chomskyan approach to language acquisition has inspired hundreds of scholars to investigate the nature of these assumed grammatical categories and the research is still ongoing.

Among current views on the acquisition of functional categories in post-critical period L2 (second language) acquisition, a major distinction can be made among views that contend that there is no access to UG, those that claim that access to UG is partial and those that maintain that there is full access to UG. According to the partial access hypothesis, principles of UG remain accessible in L2 acquisition but parameter values cannot be reset (Hawkins & Chan, 1997). This entails that L2 learners only have access to the functional categories and feature values available from their first language (L1) (see e.g. Muneera & Wong, 2011).

Advocates of the partial accessibility to UG position (e.g. Hawkins & Chan, 1997; Tsimpli & Dimitrakopoulou, 2007; Hawkins & Casillas, 2008) have further argued that adult L2 acquisition of functional categories such as tense and agreement, functional features and parameter setting are subject to a critical period, in which categories and formal features not instantiated in the L1 grammar are not available to post-critical

period L2 learners. Functional categories are grammatical categories which play a formal role in a sentence and the learning of these categories is essential to the acquisition of L2. Hawkins and Chan (1997) provide evidence from the acquisition of wh-movement by intermediate and advanced speakers of Chinese, and argue that Chinese speakers did not acquire the strong value of the [+wh] feature of English complementizers. They attribute the difficulties in achieving native-like attainment to the critical period that affects functional features in the syntax that host inflectional morphology.

The Failed Functional Feature Hypothesis (FFFH) espoused by Hawkins and Chan (1997) is one of the partial access models that addresses the role of the L1, the nature of linguistic representations in interlanguage (IL) grammars and the issue of the critical period. It provides an explanation for the apparent failure of most adult L2 learners to achieve native-like attainment. Based on Chomsky's (1986) Principles and Parameters framework, Tsimpli and Roussou (1991) argue that learners are unable to reset parameters, and as a result, the L2 will be unattainable if the L1 and the L2 parameter values are different. This is known as the No Parameter Resetting Hypothesis. This position was further developed by Smith and Tsimpli (1995), who highlight the parameterization of functional categories, assuming that in post-critical period, which is generally said to be after the age of seven (see e.g. Johnson & Newport, 1989, pp. 60-99), L2 learners

cannot acquire new functional categories (e.g. tense and agreement), functional features (e.g. [\pm past]) or feature strength (e.g. feature strength of T [\pm strong]).

Hawkins and Chan (1997) extend this claim and propose the FFFH, developing the view that L2 learners have different mental representations from those of native speakers. Therefore, new parametric values as instantiated in functional categories and their associated features are inaccessible in post-critical period L2 acquisition. As a result, the post-critical period acquisition of those functional features by L2 learners will tend to diverge from those of native speakers due to the differences between L2 learners' L1 parameter settings and the target L2 parameter settings (Hawkins & Chan, 1997, p. 189). In other words, L2 learners may be able to map features from functional categories in their L1 onto new L2 morphology, but will not have access to the functional features of the L2 (Hawkins & Chan, 1997, pp. 188-199). They may use the morphology of the target language but with the feature specifications of their L1. This means that the L2 learners' underlying competence of the target L2 grammar in relation to the parameterized functional features is different from those of the native speakers' underlying competence (Hawkins & Chan, 1997, p. 189). This explains the observation that L2 learners despite their best effort could only arrive at near native-like attainment in the acquisition of an L2².

Hawkins and Chan's (1997) study investigate the extent to which L1 Chinese learners of L2 English could acquire English

operator movement in restrictive relative clauses which is assumed to be lacking in Chinese. Chinese, unlike English, lacks a [wh] feature; therefore, L1 Chinese learners will be unable to acquire the [wh] feature in English, the L2. In contrast, French has the [wh] feature; hence, L2 learners should have no problem as French and English share this property. Hawkins and Chan's results show that Chinese learners are significantly different from the French learners, even at the advanced levels. In other words, in the case of learners whose L1 functional feature specifications are different from the L2, fossilization will occur, such that grammatical development stabilizes short of the target grammar (see e.g., Lardiere 1998a, 1998b, Franceschina 2001, White 2003).

Hawkins and Chan have further asserted that in cases where L2 learners' performance approximates that of the native speakers of the target language, this cannot be the result of changes in the specification of functional categories. Instead, some other operation that does not involve parameter resetting, might be involved, producing the observed restructuring of the learners' grammar away from the L1 and towards the L2 (1997, pp. 199-200). In short, UG is said to be accessible in L2 acquisition in "some attenuated form" (Bley-Vroman, 1989) because a systematic divergence of the near-native grammars from those of the L2 target grammars has occurred.

On the other hand, L2 grammars are also considered to be attainable grammars due to the full availability of UG principles that constrain the construction of mental

grammars in adult L2 learners. However, divergence occurs due to deficit relating to L1 influence, that is the different parameter settings of the parameterized features associated with functional categories between learners' L1 and the target L2 (Hawkins & Chan, 1997, p. 189). Thus, L2 learners are constantly developing IL grammars that are different from the target grammars but are nevertheless constrained by UG (White, 1996, in Mitchell & Myles, 2004, p. 65).

The idea of a syntactic deficit in the IL grammars of learners whose L1s lack the corresponding functional categories and features was further developed by other researchers. In this context, advocates of the Representational Deficit Hypothesis (RDH) (e.g. Hawkins, 2005; Hawkins & Hattori, 2006) and the Interpretability Hypothesis (IH) (e.g. Tsimpli, 2003; Tsimpli & Dimitrakopoulou, 2007; Tsimpli & Mastrovoulou, 2008) have proposed that it is only the uninterpretable syntactic features which are inaccessible in post-critical L2 acquisition, and as a consequence, these features remain problematic for L2 learners. According to this view, the uninterpretable features, except for those already activated in the L1 grammar, will pose a learning problem for adult L2 learners because they are inaccessible for modification beyond the critical period. On the other hand, the properties associated with the interpretable features are acquirable in L2 acquisition even if they are not available in the L2 learners' L1 grammar because they remain accessible throughout life. Findings from a number of

studies (e.g. Hawkins *et al.* 2002; Hawkins & Liszka 2003; Hawkins & Franceschina 2004; Hawkins & Hattori 2006; Hawkins *et al.*, 2008) have suggested that L2 learners' IL grammars lack uninterpretable features; thus supporting the view that L2 learners have partial access to UG.

Hawkins (2004) proposes that L2 learners' syntax is selectively impaired and marked by 'a representational deficit' due to the lack of parameterized formal features and functional categories. Those not present in the L1 are no longer accessible for acquisition following the critical period. However, accounts of the partial UG availability stand consider uninterpretable features (such as ϕ -features on verbs) to be maturationally constrained and a permanent locus of L2 divergence. In contrast, interpretable features (such as [definiteness], ϕ -features on nouns) are UG-accessible at all times (Hawkins & Hattori, 2006; Tsimpli & Dimitrakopoulou, 2007). Further, Tsimpli and Dimitrakopoulou (2007) and Hawkins and Casillas (2008) argue that representational deficits in the L2 grammar are restricted to the uninterpretable syntactic features (e.g. agreement features of verbs) and do not apply to interpretable features (e.g. tense features of verbs). Similarly, Hawkins and Liszka (2003) claim that the L1 Chinese learners of L2 English in their study are unable to acquire the tense feature due to the fact that such feature is lacking in Chinese; hence, the L2 learners have problems acquiring tense morphology on verbs in English. The inability to acquire L2 uninterpretable features leads to omission

of morphology in the case of tense or inappropriate substitution of one form for another in the case of gender.

In summary, the claim made by the FFFH asserts the influence of the L1 in the L2 learners' IL grammar through the transfer of features and parameters, and in cases where the L1 grammar lacks certain functional features that need to be checked in syntactic representations, L2 morphological errors result (see e.g. Muneera & Wong, 2011, pp. 129-130). At times when adult L2 learners' production approximates the target surface structure this is because they actually rely on other cognitive learning skills³ (Hawkins & Chan, 1997, p. 200). The revised version of the FFFH refines the claim that it is the uninterpretable functional features that are inaccessible to L2 learners especially adults L2 learners (e.g. Hawkins *et al.*, 2002; Hawkins & Liszka 2003; Hawkins & Hattori, 2006; Hawkins *et al.*, 2008). This study investigates the acquisition of the verb movement parameter in English by adult Arabic-speaking learners of English as a Second Language (ESL), where English and Arabic differ as to the settings they adopt for the parameter.

THE VERB MOVEMENT PARAMETER

The verb movement parameter or V-to-I movement (Pollock, 1989, 1997) involves the movement of the [+finite] verb from its VP-position to a functional head linked to infl(ectio)nal features. Within the Minimalist Program (MP) framework (Chomsky, 1995), [+finite] thematic verbs may move to Infl

before Spell-out to have their strong, and therefore visible, morphological features checked and erased to avoid a violation of the Full Interpretation Principle (FIP). This movement, or raising, of the verb occurs in a variety of structures including negation and adverb placement and placement of floating quantifiers among others. The parameter in question is alternatively referred to as the verb movement parameter (Pollock, 1997), the V-Raising parameter (Culicover, 1997), the V-to-I parameter (Déprez, 1994) or (the strength of) Agr parameter, for it depends on the strength of morphological verbal features. The parametric effects of strong versus weak morphological features have been studied mostly with French (Déprez, 1994; Emonds, 1978; Pollock, 1989, 1997) and English (e.g., Chomsky, 1995; Culicover, 1997; Pollock, 1989, 1997; Roberts, 1998). However, Arabic and other languages with asymmetric agreement word order have also been studied (Bolotin, 1995; Ouhalla, 1994).

Previous research on V-movement has led to the conclusion that this process does not apply in the same manner in all natural languages (Rahhali & Souâli, 1997, p. 320). In other words, in languages where the V-features in Infl are strong, there is overt movement of the [+finite] verb, which raises from the VP to Infl for feature checking. On the other hand, languages in which V-features are weak, overt movement does not take place. Instead, features are checked at LF; this movement is not 'visible' in the syntax and is said to be covert (White, 2003, p. 11). If we suppose further that French

and English share the D-Structure form in (1), where (Adv) is an optional adverbial position that can be occupied by VP adverbs like *often/souvent* and *seldom/rare-ment*, then we can account for the minimal pairs in (2)-(4) as the surface reflex of one abstract syntactic difference, the respective scope of Verb Movement in the two languages.

1. [_{IP} NP I ([_{Neg} not/pas)] [_{VP} (Adv) V . . .]]
2. a. *John likes not Mary.
b. Jean (n') aime pas Marie.
3. a. *Likes he Mary?
b. Aime-t-il Marie?
4. a. *John kisses often Mary.
b. Jean embrasse souvent Marie.
c. John often kisses Marie.
d. *Jean souvent embrasse Marie.

(Examples are taken from Pollock, 1989, p. 367)

Clearly, (2a) is excluded because for the verb to end up in pre-negative position, it would have to move to Infl, which it cannot since English Verb Movement is restricted to *have* and *be*. (2b) is fine because all lexical verbs undergo Verb Movement in French. (3a) is straightforwardly excluded if we analyze Aux-NP Inversion as movement to the left of Infl (say, (head) movement of Infl to Comp, as in Chomsky (1986)), i.e. for a lexical verb like *kiss* to occur in pre-subject position, it would first have to move to Infl, which it cannot. Therefore, (3b) is fine for exactly the same reasons as (2b): lexical verbs move to Infl in French. Given the structure in (1), the facts in (4) also follow straightforwardly. Assuming

that neither French nor English allows for Adverb Movement (to the right), the only way for *often* in (4a) to end up between the verb and its object would be for the verb to move to Infl, which it cannot do. The only acceptable English sentence is therefore (4c). Since *embrasser* can, on the contrary, move to Infl, (4b) is accounted for. As for the ungrammaticality of (4d), it can also be dealt with if we assume, as Emonds (1978) did, that French Verb Movement to Infl is obligatory.

Due to its rich verbal agreement features, Arabic is analyzed with the functional feature strength set to [+strong], while the functional feature strength in English is set to [-strong]. Weak (i.e. [-strong]) features are invisible at PF and thus the relevant categories are not able to move overtly. Take the following English sentence for example—*Fatima always cooks fish*. English agreement is weak/[-strong]; therefore, the main verb does not have to raise overtly in English. Conversely, [+strong] features are visible at PF so that the features of the relevant categories have to be checked overtly. Consider the Arabic sentence *taTbuXu fatimatu daa?iman ssamaka/Fatima always cooks fish*. Arabic agreement is [+strong]; consequently, the main verb has to raise overtly.

Generally, the term verb movement or verb raising (Pollock, 1989, 1997) refers to the displacement of the verb from its base position as a head of the VP to some higher functional head in the functional layer. Within minimalism, it is assumed that all verbs enter the syntactic derivation already

inflected for both tense and agreement features and that these only need to be checked against appropriate functional heads above VP. These functional heads contain abstract morphosyntactic features which serve to check the corresponding inflectional features of the lexical heads. In order for feature checking to take place, the verb has to move from its base position to the relevant functional heads in the functional layer above the lexical layer. Hence, all types of movement according to the MP is triggered by the feature-checking requirement.

Arabic exhibits verb movement for all [+finite] thematic verbs whereas in English verb movement is limited (see e.g. Muneera & Wong, 2011). The setting of the verb

movement parameter in both English and Arabic can be determined by observing the placement of the verb in relation to the left-adjoined elements, such as the negation marker, adverbs and floating quantifiers (see examples 5, 6, 7, & 8).

English [+finite] thematic verbs cannot move to Agr via T due to the weak nature of agreement; hence, it appears to the right of negation (5a), adverbs (5b) and floating quantifiers (FQ) (5c). However, auxiliaries (see 6a-6c) and the copula be (see 7a-7c) can do so.

In Arabic, on the other hand, verb movement is not blocked by negation. The thematic verbs in [+finite] contexts must move across the subject and any other XP

5	a. The boy does not eat grapes S Neg V O	Negation placement Thematic verb
	b. The boy always eats grapes S Adv V O	Adverb placement Thematic verb
	c. All the boys ate grapes FQ S V O	FQ placement Thematic verb
6	a. The boy is not eating grapes S aux Neg V O	Negation placement Auxiliary Be
	b. The boy is always eating grapes S aux Adv V O	Adverb placement Auxiliary Be
	c. The boys were all eating grapes S aux FQ V O	FQ placement Auxiliary Be
7	a. The lady is not at the hotel S Cop Neg Comp	Negation placement Copula Be
	b. They are always ready for exams S Cop Adv Comp	Adverb placement Copula Be
	c. My parents are both doctors S Cop FQ Comp	FQ placement Copula Be

immediately following the negative marker, so that neither the subject nor any other XP will be allowed to intervene between the negative marker and the verb (8a). Moreover, lexical verbs may also precede VP adverbs (8b) and FQs (8c), in contrast to English⁴.

In English, [-finite] thematic verbs do not raise at all, as it is the case for [+finite] thematic verbs. Therefore, they cannot appear immediately before the negative marker *not* (9a), a frequency adverb (9b), or an FQ (9c) whereas [-finite] auxiliaries and the copula *be* may raise past negation and adverbs. They are free to move to Agr and may optionally appear either immediately

before or after negation, adverbs and FQs.

Finally, as opposed to English, there are no infinitives in Arabic. However, either nominalization (see 10a) or finite clauses (see 10b and 10c) can be used to express the notion of non-finiteness.

Thus, whether or not a finite verb raises overtly is determined by strength of features (i.e. [±strong]) in higher functional categories. Arabic has strong Infl (Bolotin, 1995) while the English Infl feature is weak (Chomsky, 1995), i.e., the feature strength is set to [+strong] in Arabic and to [-strong] in English. Accordingly, in Arabic, the main verb overtly moves out of its base-generated position, while in English, it does not

8	a.	maa	?akala	?al-waladu	3inaban		Negation placement Thematic verb	
		not	ate	the-boy	grapes			
		Neg	V	S	O			
		'The boy does not eat grapes'						
	b.	ya?kulu	?al-waladu	daa? iman	3inaban		Adverb placement Thematic verb	
		eat	the-boy	always	grapes			
		V	S	Adv	O			
		'The boy always eats grapes'						
	c.	?akala	?al-?awaladu	kulla-hum	3inaban		FQ placement Thematic verb	
		ate	the-boys	all-clit(them)	grapes			
		V	S	FQ	O			
		'All the boys ate grapes'						
9	a.	Not to sleep enough makes you tired					Negation placement Non-finite thematic verb	
	b.	To often sleep late is unhealthy					Adverb placement Non-finite thematic verb	
	c.	To all own cars is the boy's ambition					FQ placement Non-finite thematic verb	

(Chomsky, 1995; Pollock, 1989). In other words, Arabic exhibits verb movement for all finite lexical verbs whereas in English verb movement is limited to auxiliary and copula raising.

Differences between the behavior of finite and non-finite verbs in English and Arabic have been accounted for in terms of verb movement. Under this account the setting of the verb movement parameter can be determined by observing the placement of the verb in relation to certain other elements that occur left adjoined to the VP, such as the negation marker, adverbs and FQs (what have been called left-adjoined elements). In languages that have a positive value of the parameter [+strong], such as Arabic, the verb precedes the left-adjoined elements; in languages that have a negative value of the parameter [-strong], such as English, the verb follows the left-adjoined elements.

THE STUDY

This study investigates the acquisition of English verb movement parameter by adult Arabic ESL learners in relation to

the issues concerning the FFFH in SLA (Second Language Acquisition) within the minimalist program (MP). The paper will look at data gathered from an oral production task (ORPT) with the aim of testing learners' underlying knowledge of English verb movement parameter. The verb movement parameter is selected in this study due to the fact that this property does not apply in the same fashion in all natural languages. Languages such as English have been shown to involve only covert verb movement. With regard to verb movement in Arabic, there is clear evidence that it takes place overtly. This study aims to examine the consistency of the FFFH in explaining the acquisition of English verb placement with respect to negation, adverbs and floating quantifiers by adult Arabic speakers. In particular, this study tests the hypothesis of the inaccessibility of functional features which is not instantiated in adult learners' L1 inventory due to the critical period. Towards this end, the study sets out to answer two research questions:

1. Given exposure to the English language, to what extent can the adult Arabic

10 a.	mo3amalata	?al-waledayni	bighayri	iHtiraam	amrun	moXjil-un
	treatment	the-parents	without	respect	thing	shameful
	'To treat one's parents with no respect is a shame.'					
b.	?al-laði	laa-yu-3amilu	waleday-hi	b-iHtiraam-in	3aaq	
	who	Neg-3sgm.treats	parents-his	with-respect	shame	
	'He who does not treat his parents respectfully is a shame.'					
c.	3aqun	man-laa-yu-3amilu	waleday-hi	b-iHtiraam		
	shame	who- Neg-3sgm.treats	parents-his	with-respect		
	'It's a shame not to treat one's parents respectfully.'					

ESL learners reset the verb movement parameter and correctly place the verb with respect to:

- a.) negation in finite contexts?
 - b.) negation in non-finite contexts?
 - c.) adverbs (frequency and manner adverbs) in finite contexts?
 - d.) floating quantifiers (FQs) in finite contexts?
2. Given exposure to the English language, what is the nature of adult Arabic ESL learners' verb movement parameter in their IL grammar at the L2 ultimate attainment level? Is there evidence to indicate that the adult L1 Arabic speakers of L2 English have a different underlying representation from English native speakers?

PARTICIPANTS

In total 77 adult Arabic native speakers participated in this study. The Arabic ESL learners were subdivided into three proficiency groups (the lower-intermediate group (LIG), the upper-intermediate group (UIG) and the advanced group (AG)) on the basis of their performance on an independent measure of proficiency, the Oxford Placement Test (OPT) (Allan, 1992). The participants were undergraduate university students in Yemen from the science and social science disciplines. Their average age was 22.67 years. All of the participants started learning English at the age of 12 and a few of them at 13 years of age at preparatory/pre-secondary

schools. Their average age at first exposure to English was 12.44 years. They studied English for three years before they began secondary school and they continued to learn English at secondary schools. In addition, first year undergraduate students had to learn English as a requirement course in Yemani Universities. This means that the learners have had at least seven to eight years of tutored exposure to the English language when they begin university level education. However, most learners had very little contact with English outside the classroom before they joined the university.

TEST INSTRUMENT

The test instrument was an oral production task (ORPT) (see similar tasks used by Wen, 2006; McCarthy, 2006; Epstein *et al.* 1998; Polio, 1994). This was a story telling task based on a set of pictures given. First, the Arabic ESL learners were asked to take a few minutes to look over the pictures. Then, they were asked to orally narrate the story as they look through the pictures one by one starting with "One day..." and using the verbs and phrases given under each picture. There were no right or wrong answers in this story telling task. The important thing was that they say as much as they can. If the learners do not know a particular word in English, they were allowed to ask the instructor. The verbs provided with the pictures were in the infinitive form and the L2 learners had to conjugate them where necessary.

The learners' oral production was taped and transcribed. The instances of

grammatical and ungrammatical placement of verbs with respect to negation, adverb and floating quantifiers in finite and non-finite contexts with thematic as well as *be* auxiliary and copula *be* verb forms were counted.

The possible grammatical sentences in English can be classified into the following types:

- Type 1 (T1): grammatical negation in finite contexts (GNFC), that is correctly placed negation items with finite clauses (e.g. *They do not watch movies in the cinema*).
- Type 2 (T2): grammatical negation in non-finite contexts (GNIFC), that is correctly placed negation items with non-finite/infinitive clauses (e.g. *Not to succeed at the university causes anxiety*).
- Type 3 (T3): grammatical adverb placement in finite contexts (GAdvFC), that is correctly placed adverbs with finite clauses (e.g. *John completely lost his mind*).
- Type 4 (T4): grammatical floating quantifier (FQ) placement in finite contexts (GFQFC), that is correctly placed floating quantifiers with finite clauses (e.g. *My teachers both agree on this subject; The guests are all sleeping in this room*).

The possible ungrammatical sentences are the following:

- Type 1 (T1): ungrammatical negation in finite contexts (UNFC), that is wrongly

placed negation items with finite clauses (e.g. **The girl not drinks milk from the fridge*).

- Type 2 (T2): ungrammatical negation in non-finite contexts (UNIFC), that is wrongly placed negation items with non-finite/infinitive clauses (e.g. **To sleep not enough makes you tired*).
- Type 3 (T3): ungrammatical adverb placement in finite contexts (UAdvFC), that is wrongly placed adverbs with finite clauses (e.g. **John lost completely his mind*).
- Type 4 (T4): ungrammatical floating quantifier (FQ) placement in finite contexts (UFQFC), that is wrongly placed floating quantifiers with finite clauses (e.g. **Jane and Sarah built both a house; *The fans all are gathering beside the entrance to the theatre*).

The mean percentages of correct production for grammatical items and incorrect production for ungrammatical items for each item type were tallied and analyzed. Then, statistical tests were also run on the learners' production for each of these types.

RESULTS AND INTERPRETATION

This section presents the findings of the grammatical and the ungrammatical oral production data which are aimed at testing the learners' underlying knowledge of the feature strength of T [\pm strong] that accounts for the placement of the verb with respect to negation, adverbs and floating quantifiers

(FQs) in finite and non-finite contexts with thematic as well as *be* auxiliary and copula *be* verb forms. Both of the grammatical and the ungrammatical sets contain the following: type 1 (T1): negation in finite contexts, type 2 (T2): negation in non-finite contexts, type 3 (T3): adverbs in finite contexts, and type 4 (T4): floating quantifiers (FQs) in finite contexts.

Production of Grammatical Item Types

Table 1 presents the data obtained from the three proficiency groups' production of grammatical item types on verb movement. Figure 1 shows the same results visually.

As shown in Table 1 and Fig.1, the performance of the advanced learners was the highest on (T1) GNFC constructions. However, the results showed that the advanced learners scored below 80% for this construction (76.00%) indicating that they have not achieved native like level (the cut-off point is 80%, following e.g. Wong, 2002). The performance of the upper-intermediate and the lower-intermediate learners was much lower on (T1) GNFC (57.14% and 29.03% respectively). In general, the advanced learners had better performance on negation with thematic verbs (79.15%) than on negation with *be* verb forms (*be* auxiliary/copula) (72.85%). Similarly, the upper-intermediate learners were more accurate on items with thematic verbs (61.86%) than on *be* verb items (52.42%). The lower-intermediate learners hardly used negation with *be* verb forms⁵.

With regard to (T2) GNIFC constructions, the data showed that there

was not a single instance where the L2 learners used negation in non-finite contexts. This can be attributed to the fact that unlike English, Arabic (the learners' L1) has no infinitives. The notion of non-finiteness, however, can be expressed through nominalization or by tensed/finite clauses. Therefore, the L2 learners did not tend to use negation in finite contexts in their oral production, presumably due to the absence of the said category in the their L1 inventory.

Adverbs in (T3) GAdvFC constructions proved to be problematic for the less proficient learners whose scores were rather low (45.45% for the lower-intermediate and 25.00 % for the upper-intermediate learners respectively). Although their performance increased with proficiency (73.91%), the advanced learners at ultimate attainment level did not achieve native like level. Again, the learners' production of placement of adverbs with thematic verbs was better than that with *be* auxiliary or copula for most of the L2 learners, particularly for the advanced learners (77.82% for the thematic verbs and 70.82% for the *be* auxiliary or copula respectively).

As far as (T4) GFQFC constructions were concerned, results indicated that the accuracy levels for all learners were also low (below 80%) across all groups (68.75% for the advanced group, 57.58% for the upper-intermediate and 44.12% for the Lower-intermediate group). These results suggest that placement of floating quantifiers in finite clauses had not been acquired to a native like level by the Arabic ESL learners although accuracy did increase with proficiency.

TABLE 1
Production of Grammatical Item Types by the 3 Groups

Item type	Proficiency Group			(%)
	Advanced N=20	Upper-Intermediate N=25	Lower-Intermediate N=32	
T1 (GNFC)	19/25 76.00%	16/28 57.14%	9/31 29.03%	44/84 52.38%
T2 (GNIFC)	0/0 00.00%	0/0 00.00%	0/0 00.00%	0/0 00.00%
T3 (GAdvFC)	17/23 73.91%	10/22 45.45%	9/36 25.00%	36/81 44.44%
T4 (GFQFC)	22/32 68.75%	19/33 57.58%	15/34 44.12%	56/99 56.57%
Average	58/80 72.5%	45/83 54.22%	33/101 32.67%	136/264 51.52%

GNFC= grammatical negation in finite contexts; GNIFC= grammatical negation in non-finite contexts; GAdvFC= grammatical adverb placement in finite contexts; GFQFC= grammatical floating quantifier placement in finite contexts

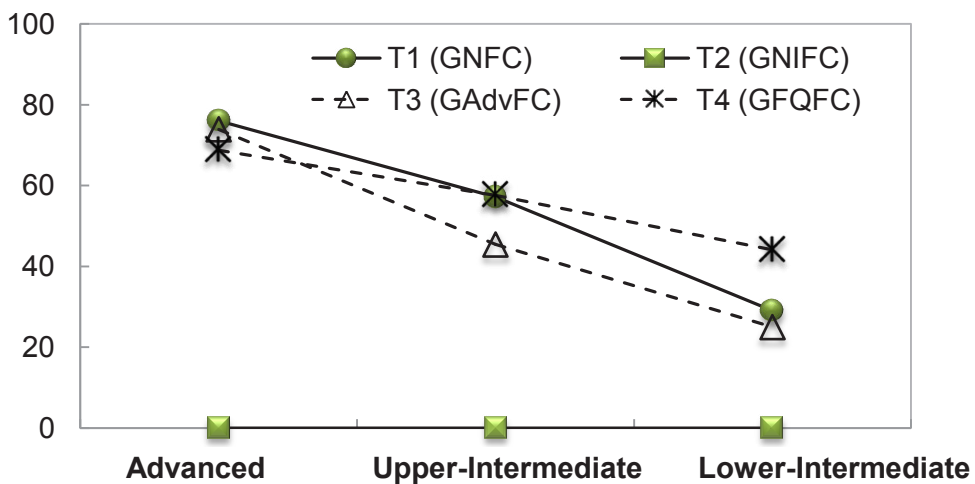


Fig.1: Comparison of Production of Grammatical Item Types for the 3 Groups

Performance on Ungrammatical Item Types

Table 2 and Fig.2 display the data obtained from the participants’ performance on ungrammatical items.

The data indicate that the lower-intermediate learners seemed to produce

the highest number of errors for (T1) UNFC (70.97%). Out of the 31 instances in which negation was used, 22 instances were of inappropriate use involving either wrongly placed thematic verbs or *be* verb forms (*be* auxiliary and copula) preceded by negation. Similarly, out of the 28 instances

in which negation was used, the upper-intermediate group showed 12 instances of inappropriate use. However, the higher the proficiency level, the better the performance. Only six of the 25 instances of negation placement produced by the advanced group were inappropriate placement of negation (24.00%). Some examples of inappropriate

use of negation in finite contexts are given below:

- i. *They **not get** the ball back. (from advanced 16)
- ii. *They **not are** happy because, the ball fall in the backyard. (from upper-intermediate 13)

TABLE 2
Production of Ungrammatical Item Types by the 3 Groups

Item type	Proficiency Group			%
	Advanced N=20	Upper-Intermediate N=25	Lower-Intermediate N=32	
T1 (UNFC)	6/25 24.00%	12/28 42.86%	22/31 70.97%	40/84 47.62%
T2 (UNIFC)	0/0 00.00%	0/0 00.00%	0/0 00.00%	0/0 00.00%
T3 (UAdvFC)	6/23 26.09%	12/22 54.55%	27/36 75.00%	45/81 55.56%
T4 (UFQFC)	10/32 31.25%	14/33 42.42%	19/34 55.88%	43/99 43.43%
Average	22/80 27.5%	38/83 45.78%	68/101 67.33%	128/264 48.48%

UNFC= ungrammatical negation in finite contexts; UNIFC= ungrammatical negation in non-finite contexts; UAdvFC= ungrammatical adverb placement in finite contexts; UFQFC= ungrammatical floating quantifier placement in finite contexts

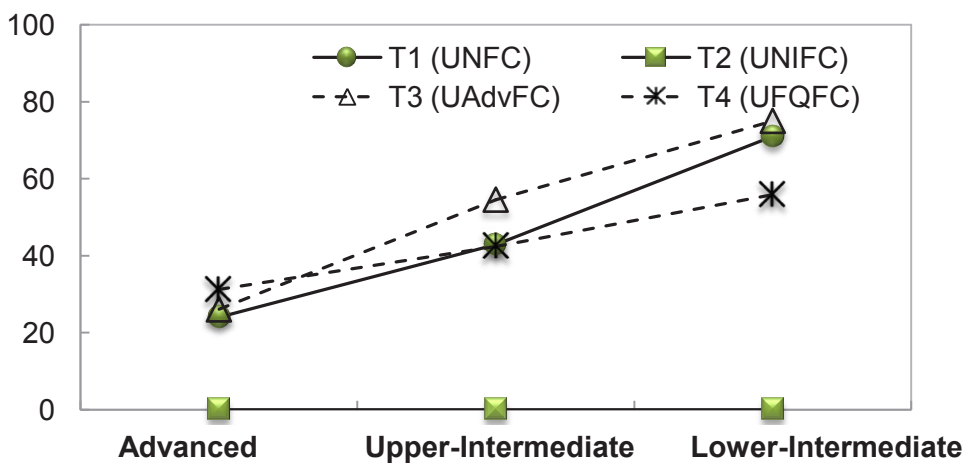


Fig.2: Comparison of Production of Ungrammatical Item Types for the 3 Groups

- iii. *They **not played** in the yard. (from upper-intermediate 10)
- iv. *The woman **not invited** a lot of children for a birthday for her two boys. (from lower-intermediate 9)
- v. *Therefore, he is very shy, **he not is laughing and playing** while the other laughing and playing. (from lower-intermediate 23)

Adverb placement as shown in UAdvFC constructions seemed to be also problematic for the L2 learners. Out of a total of 81 instances of adverb placement, there were 45 instances of misplaced adverbs across the three groups. Again the performance of the lower-intermediate learners was the least favourable on (T2) UAdvFC (75.00%) compared to that of the upper-intermediate (54.55%) and the advanced learners (26.09%). Further, it was observed that adverb misplacement was higher with *be* auxiliary verb forms than with thematic verbs. An interesting finding is the L2 learners hardly used adverbs with copula *be* at all. Some examples of the ungrammatical placement of adverbs found in the oral production data are given below:

- i. *But one boy **slowly is knocking** the door and his friends are worried. (from upper-intermediate 13)
- ii. *The boys **kick accidentally** the ball over the wall. (from lower-intermediate 17)

The results for sentences involving floating quantifiers (i.e. (T4) UFQFC) also indicate that the learners displayed poor performance. The data presented above show that out of a total of 99 instances of floating quantifiers in the learners' oral

production, there were 43 instances of misplaced floating quantifiers across the three groups. Yet again the performance of the lower-intermediate learners was less favourable (55.88%) compared to that of the upper-intermediate learners (42.42%) and the advanced learners (31.25%). Some examples of misplaced floating quantifiers which include either thematic verbs followed by floating quantifiers or *be* verb forms (*be* auxiliary and copula) preceded by floating quantifiers are given below:

- i. *The children **all are playing** and so they are very happy. (from advanced 19)
- ii. *Then the two boys **explain both** what happened. (from advanced 3)
- iii. *The boys **run all away** to get the ball with two children. (from upper-intermediate 4)
- iv. *The boys **both were running** in the yard of the house to play. (from lower-intermediate 10)

In sum, the placement of the verb with respect to negation, adverbs and floating quantifiers in finite and non-finite contexts with thematic, *be* auxiliary and copula *be* verb forms proved to be problematic for the adult Arabic ESL learners who seemed to have stabilized at below 80%, an accepted cut off point for native/near native-like level of acquisition.

DISCUSSION AND CONCLUSION

The acquisition of the verb movement parameter can be determined by looking at the syntactic behaviour of the verb in relation to certain other elements that occur

left adjoined to the VP, such as negation element, adverbs and floating quantifiers (FQs). Arabic is a [+strong] language while English is [-strong] where verb movement is restricted to only auxiliary and copula raising. Therefore, to say that the adult Arabic ESL learners have acquired the English verb movement parameter, they should set the features values from [+strong] to [-strong], thus placing the thematic verbs after negation (NegV), adverbs (SAdvV), and FQs (SFQV). The findings of the oral production task showed that resetting the English verb movement parameter seemed to be problematic for the adult Arabic learners. They have stabilized below 80% in terms of accuracy of their production of associated construction types. The adult Arabic ESL learners seemed to have difficulty with T1 (negation in finite contexts); therefore they have erroneously placed thematic verbs before negation (SVNeg) (e.g. **they played not in the yard*). Further, the results of T2 (negation in non-finite contexts) showed that there was not a single instance where the L2 learners used negation in non-finite contexts. This can be attributed to the fact that unlike English, Arabic has no infinitives. The notion of non-finiteness, however, can be expressed through nominalization or by tensed/finite clauses. Therefore, the L2 learners did not tend to use negation in non-finite contexts in their oral production. For T3 (placement of adverbs in finite contexts), the production data showed that the L2 learners were generally less than accurate in their placement of verbs in relation to adverbs. On the contrary, they

have produced ungrammatical constructions such as **the boys kick accidentally the ball over the wall*. The same holds true for T4 (placement of FQs in finite contexts) where the L2 learners misplaced the FQs after the verbs (e.g. **Then the two boys explain both what happened*). These findings suggest that the L2 learners, even at ultimate attainment level, did not recognize the impossibility of verb movement in English. Therefore, they have difficulty producing the NegV, SAdvV and SFQV orders, indicating failure to reset the parameters of [\pm strong] to their target values in English. Their performance seemed to show that the L2 learners were still indeterminate in their production and that their IL representations with respect to the placement of the verbs with negation, adverbs and FQs were inconsistent with those of native speakers. In other words, adult Arabic ESL learners' IL representations in post-critical period L2 acquisition diverge from that of the native speakers where L1 and L2 parameter settings differ (Hawkins & Chan, 1997). Similar findings were also found by Wong and Hawkins (2000), Wong (2002), and Muneera and Wong (2011).

In conclusion, this study has set out to contribute to the on-going debate concerning persistent difficulties posed by certain morphosyntactic properties in post-critical L2 acquisition. The findings presented in this study have shown that L1 Arabic speakers learning English as L2 exhibited the following behaviours: difficulty with negation in finite contexts, S-Adv-V constructions, and S-FQ-V orders.

Based on the findings, the main generalisation that can be made is that L1 V-movement persists in L2 English. This generalization is the most significant contribution in the study. It provides solid evidence that verb movement persists in L2 English. The results shows the validity of the generalization that the L1 Arabic learners had not acquired the English setting of the parameter and this generalization does work better within the FFFH (or perhaps a very highly flexible version of the FTFAH) compared to the other hypotheses.

Supporters of the FFFH assumption (see e.g. Smith & Tsimpli, 1995; Hawkins & Chan, 1997; Hawkins, 2000; Wong & Hawkins, 2000; Wong, 2002; Hawkins & Liszka, 2003; Hawkins & Hattori, 2006; Tsimpli & Dimitrakopoulou, 2007; Tsimpli & Mastropavlou, 2008) contend that access to UG is partially available but only through the L1. Features and functional categories that are not instantiated in the L1 but available in the L2 are impossible to acquire. Most importantly, the data indicate that the FFFH is the logical theoretical explanation of the findings discussed in the oral production task (ORPT).

The FFFH claims that in the process of L2 acquisition, a certain subpart of the Universal Grammar (UG) becomes inaccessible to L2 learners if that certain subpart is acquired beyond a critical period. Based on Johnson and Newport's (1989) study, the critical period can be as early as the age of seven. According to Smith and Tsimpli's (1995) assumption, the particular subpart has been identified

to be features that are associated with functional categories found in the UG lexicon, which however, do not exist in the L2 learners' L1 inventory. It is said to be attributed to the disappearance of a layer of options in the UG lexicon which happens to provide options for parameter setting and to determine parametric differences or variations between languages. As a result, the L2 learners are no longer able to reset the L1 parameter setting into L2 settings nor are they able to transfer the features from their L1 into their L2 inventory. Such features are more appropriately known as parameterized functional features as such features are not necessarily present in all languages; rather they are selected by only certain languages. Hawkins (2004) proposes that L2 learners' syntax is selectively impaired and marked by 'a representational deficit' due to the lack of parameterized formal features and functional categories. If these are not present in the L1, they are no longer accessible following the critical period for acquisition of language.

The inaccessibility of the parameterized functional features in post critical period L2 acquisition causes L2 learners, particularly adults, to have persistent difficulty in the acquisition of the full significant functions of the features. The L2 learners are thus said to have a different underlying representation from the native speakers. Despite the difficulty, the L2 learners are said to be able to map new morphophonological material on the surface level by mapping L2 lexical items onto L1 syntax. Therefore, the learners are unable to achieve native

like performance and there appears to be variation in their linguistic ability due to L1 transfer that occurs in the L2 learners' production of IL grammars.

The results of this study seem to support the above hypothesis. The results show that adult Arabic ESL learners have failed to acquire the feature strength of English tense suggesting failure to reset the parameter form [+strong] to [-strong] so that they end up with the wrong setting for English. These features have become inaccessible to the learners due to the disappearance of the layer of options as well as the absence of the features in the learners' L1 inventory. Therefore, no parameter resetting happens here and the underlying representations of the learners' IL indeed diverge from those of the native speakers'. In some cases, the L2 learner might be able to produce the surface structures, however, this does not mean that they have acquired the underlying representations but rather they have resorted to other means. The data indicate that in the acquisition of an L2, learners are influenced by the absence of particular (parameterized) functional features in their L1 which are present in the target L2 and which are not subject to modification after the critical period.

The findings from the study have further contributed to the body of literature in the field of SLA. The implication from the findings indicate that learners may not be able to reset particular parameters already instantiated in their L1 (in this case the verb movement parameter), particularly those

associated with uninterpretable features. However, as experience would tell us, it may be possible for L2 learners to learn the surface structure associated with them by deploying other cognitive skills in an immersion context.

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ENDNOTES

¹ The Arabic learners are studying English as non-native speakers. Depending on where the learners are from, the term ESL may be more inclusive and includes English as a Foreign Language (EFL). For some people the reverse seems to be true.

² Supporters of the Mapping problem (Lardiere, 1998, 2000) and the Missing Surface Inflection Hypothesis (MSIH) (Prévost & White, 2000) have claimed that L2 learners have full and appropriate abstract knowledge of the functional categories and associated functional features, but sometimes fail to realize them in overt morphology. In fact, the proponents of the MSIH have argued that the presence or absence of morphology on the surface does not necessarily reflect that the underlying

functional categories are not intact in L2 learner grammars. In other words, according to this account, representations for verbal inflectional morphology may be fully specified in the L2 grammar, but L2 learners may fail to produce the corresponding overt forms, due to performance limitations resulting from communication pressure (Prévost & White 2000, p. 129).

³ These are skills such as problem solving, hypothesis testing, decision making and evaluating.

⁴ The Arabic examples in this paper were adapted mostly from Benmamoun (2000) and Rahhali and Souâli (1997).

⁵ To substantiate these results, a further study would be to investigate L2 learners whose L1 is similar to English in their acquisition of the same property.

