The Markedness in Acquiring Do-support in Negation and Inversion by Adult Native-Arabic Speakers Learning English

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ABSTRACT

The purpose of this study is to determine whether the markedness phenomenon of Do-support as a specific-language property poses greater difficulties for adult Arabic-speaking learners thereby bringing about more L1 transfer than the auxiliary verbs BE and HAVE. Do-support in the inter-language of adult native-Arabic speakers learning English was insufficiently addressed despite the complexity and that Arabic lacks do-support in negation and inversion. This study was conducted to address this gap within the theoretical framework of Differential Markedness Hypothesis (DMH). A sample of 100 Jordanian students attending Mutah University participated in the study where data was collected using a Multiple-Choice Task (MCT), and a Written Production Task (WPT), involving semi-structured interviews with 30 students from the student sample. The study used descriptive and inferential statistics to analyse the data where the findings showed a committed relationship between the auxiliary type and degree of difficulty that learners in both groups experienced with DO, BE and HAVE. Notably, Do-support poses greater difficulty compared to BE and HAVE where its usage is problematic particularly for beginners, resulting in more incidences of the Arabic influence. The data from the interviews support the results of the two tasks: learners find L2 marked features more difficult than L2 features, which are universal and genuinely part of the syntactic structure. The findings in this study will contribute towards a better understanding of how to develop an improved teaching process to more effective on the markedness and difficulty of Do-support compared to BE and HAVE.

Keywords: Arabic L1 influence; auxiliary verbs; do-support; Differential Markedness Hypothesis

INTRODUCTION

Do-support is a particular phenomenon used in the English language where a periphrastic dummy auxiliary DO is used in certain clause types, exemplifying functional category features of number, person and tense (Ecay 2015). Historically, its emergence was linked to the loss of V (verb)-to-T (tense) raising that emerged in the 15th and 16th centuries and the other changes that followed including, the loss of the pre-verbal 'ne' and the appearance of post-verbal 'not' as the marker of sentential negation (Culicover 2008). Accordingly, do-support has been considered as one of the marked features accounting for cross-linguistic variations between English and other languages. In modern English language, the main 'verb' remains in its primary base position within the VP (verb phrase), appearing to the right of elements like negation, and that is placed at the left edge of the VP. In the Arabic language,

the verb has to move from its primary base position into the T(ense) phrase where only the auxiliary verbs and copula BE in English have permission to move and occupy this position (Muftah & Wong 2011).

DO, BE and HAVE belong with modals from the category of [+ Aux] that appears to the left of the negative particle found in the English language and inverts with the subject in question formation. Furthermore, English auxiliaries are closely connected with finiteness, tense, and agreement, but carry little semantic content as with most functional categories found in English. The verb DO shares properties that are comparable to BE and HAVE, where DO can be inflected for tense (do/does versus did) and for number and person (do versus does). However, DO is distinct from other auxiliaries concerning its lack of non-finite forms, therefore patterning with English modals. DO "is always tensed (*to do like dogs)" and can be applied regardless of the "verb valency or event type" (Bohnacker 2013, p. 4).

L2 learners encounter challenges in acquiring the auxiliary verb DO, due to its complexity and markedness. Zdorenk and Maier (2010) state the difficulty that learners have with DO constructions are mainly due to this specific feature, which is infrequently found across most languages and is more marked than other auxiliaries found within the same language. Another possibility of why the auxiliary verb DO presents difficulties for L2 learners and children is "that the plurifunctional nature itself is what drives the difficulty with the auxiliary verb 'DO. Perhaps children have difficulty sorting through the many functions that share the phonological forms and these increased processing demands affect their ability to produce it accurately'' (Blossom 2009, p. 14). Similarly, several studies (e.g. Perales et al. 2009, Perales 2010, Zdorenk 2010, Maier 2010, Eisouh 2011, Candry 2013 & Tawalbeh 2013) acknowledge a further problem associated with the acquisition of do-support as do-support brings about the agreement, (conjugated for both person and tense) and may increase the difficulty of its processing (Blossom 2009).

Furthermore, because do-support is a language-specific operation, and not a universal operation, unlike the auxiliary verbs BE and HAVE (Culicover 2008), it has emerged later in the English acquisition process (Candry 2013). Only universal operations, according to Chomsky (1991), are applied earlier, if at all. Also, the fact that DO does not have any semantic power or has no communicative value may result in L2 English learners avoiding its use during their learning process (Van Patten 1996).

Native Arabic-learners of English (with English as a second language) often encounter difficulty with verbal inflectional morphemes which include the functional categories of tense and agreement such as do-support (Muftah & Wong 2011). Arabic and English languages are distinct in their use of their tense. For instance, in Arabic, a tense is an abstract generated in T, and not realised by overt morphemes (Aoun et al., 2010). Furthermore, tense and agreement are both discrete in Arabic language where the agreement is indicated by the affixes on the verbs, where tense is contextually determined (Benmamoun 2000). Because the Arabic language lacks a do-type dummy auxiliary as a marker of tense and agreement within the same construction, do-transformations are a major stumbling block for many native Arabic-speaking learners of English to achieve native-like performance (Umale 2011, Eisouh 2011 & Tawalbeh 2013).

<div align="center">MARKEDNESS</div>

A language structure is considered as marked if it is less common and less regularly applied across languages (typological markedness). Structures or features in the acquisitional order that are acquired later are more marked than those that are acquired earlier (Maier 2010). Within the perspective of UG (Universal Grammar), a marked feature is described as part of the periphery rather than found in core grammar and it requires more evidence than less

marked ones. According to MDH (Eckman 1977) the degree of difficulty of a specific syntactic feature corresponds directly to the relative degree of markedness of that feature. Accordingly, an L2 structure that is less frequent and less natural than its L1 counterpart will be difficult to learn, and the likelihood that L2 learners will tend to transfer it is even greater. An L2 structure that is more frequent and more basic will cause less L1 transfer (Sridhanyarat 2017). Eckman (1977, p. 321) posits the Markedness Differential Hypothesis (MDH) as:

(a) Those areas of the target language which differ from the native language and are more marked than the native language will be difficult.
(b) The relative degree of difficulty of the areas of the target language which are more marked than the native language will correspond to the relative degree of markedness.
(c) Those areas of the target language which are different from the native language, but are not more marked than the native language, will not be difficult.

According to Eckman (2008), this kind of evidence in support of DMH, "indicates that markedness can predict the relative degree of difficulty associated with the learning of various TL structures" (Eckman 2008, p.7). Accordingly, do-support will be difficult for native-Arabic speaking learners of English, whereas BE and HAVE will not be.

LITERATURE REVIEW

Limited research has concentrated on the use and acquisition of do-support by adult L2 learners. Santelmann et al. (2002) performed a study investigating do-support where they tested the assumption that inversion is available from the initial stages in the interlanguage of English L1 learners' grammar. The problems with question formation were that learners had difficulty with language-specific properties; do-support and copula BE (e.g. I am a doctor). The data exhibited no significant differences in the type of errors that L1children (from the ages 2 to 7 years) made in both declarative (non-inverted) and question (inverted) sentences with modals or auxiliary BE. However, such differences were marked for sentences with thematic verbs requiring do-support and sentences with copula BE. Children performed far worse in their attempt to imitate yes-no questions with DO and copula BE. A high percentage of errors of children, involved language-specific auxiliary features (e.g. *she goes to the store), or the inflection of auxiliaries for tense (e.g. *you be sitting on the chair). The data from sentences including modals and auxiliary BE highlighted that knowledge of inversion is present from the beginning and does not slowly develop. Moreover, because knowledge of subject-auxiliary inversion is part of UG, it appeared without difficulty and was produced error-free. In contrast, auxiliaries requiring knowledge of English-specific features, such as do-support, attracted high error rates in questions until children learnt English-specific rules governing their position and usage.

Similarly, Rowland (2007) observed that the auxiliary DO in yes-no questions was more likely to be more marked than modal auxiliaries, and the error rates were equally high in wh-questions using DO and modal auxiliaries. Approximately 50 % of errors detected by ten English-learning children (between the ages of 2 and 5 years) were a result of double marking. The errors included "doubling of the auxiliary/copula (e.g. *where does he does go?) errors, in which the tense and agreement were correct but were marked on both the auxiliary and main verb (e.g. *where does he goes?). Moreover, there were also errors in which an auxiliary is inserted but the tense and agreement only appear on the main verb (e.g. *where do he goes?)'(Rowland 2007, p. 116). The data from the yes-no questions confirmed the prediction of Santelmann et al. (2002) that considered the specific process of do-support as the major source of errors. Studies like Stromswold (1990) and Rowland and Pine (2000)

found that inversion rates are higher for DO than for BE and HAVE. Rowland, Pine, Lieven and Theakston (2005) also found no significant differences in the correct usage between Do and modals (e.g. can, shall and will). However, questions requiring DO or models were associated with more errors than with BE and HAVE. In contrast, Hadley (1993) and Hadley and Rice (1996) claimed that auxiliaries remaining in their base-generated or insertion positions like DO and modals appear earlier and are produced with less inaccuracy than auxiliaries that undergo verb movement like BE and HAVE.

In the context of L2 learners, Bhatt and Hancin Bhatt (2002 investigated the absence of the complementiser phrase in the grammar of adult Hindi-speaking learners of English, paying partial attention to the acquisition of do-support. Their results of a question formation test indicated that Do-support appears later in the acquisition process, with participants finding do- insertion more difficult than Aux-inversion and inversion in wh-questions because of the requirement for do-support.

Maier (2010) studied the development stages in the acquisition of simple English interrogatives by adolescent Germany learners where they learnt very quickly in the cases of similar structures between L1 and L2, i.e. cop inversion (inversion of subject and copula verb) and aux inversion (inversion of subject and auxiliary). Nevertheless, they had difficulty with do-support given that the German language has no corresponding structure. Furthermore, interrogatives with do-support were not fully mastered and caused more problems compared to cop inversion and aux inversion. Accordingly, the majority of participants preferred to use unmarked structures such as structures that lack do-support rather than structures requiring do-support.

Candry (2013) noted the difficulties in using do-support in negation, inversion, and codes. Candry examined the performance of 16 adolescent native speakers of Belgian Dutch origin, and found variations across the three groups. The L2 learners in group 1 (stage 3 of acquisition development) employed the rule of do-support in negation (neg + verb) rather than within inversion and codes, but were still incapable of properly being applied, particularly if 'does' is required given the Dutch structure was used instead. Group 2 exhibited the same pattern, employing the rule of Do-fronting in yes-no questions but not using do-support for wh-inversion which showed command over the use of the 3rd person singular form 'does'. In contrast, group 3 acquired do-support completely across the three contexts. Notably, negation was the only context of do-support acquired by all group participants.

In contrast, there are only a few studies investigating negation and inversion regarding adult native-Arabic speakers learning English (Eisouh 2011, Ulame 2011, Mekhlafi 2013, Tawalbeh 2013). However, the findings of these studies indicate the influence of cross-linguistic variations and difficulties of do-support on English properties, as focus on do-support has not been sufficiently addressed in contrast with other auxiliaries or across the constructions it appears in. For example, Eisouh (2011) examined whether Adult Jordanian learners made developmental errors in negation like those produced by L1 children. The multiple-choice test and closed test showed that Arabic plays a key role in their acquisition process, especially in sentences with do-support, revealing that do-support can be an obstacle for learners.

Do-support and its constructions for adult native Arabic-speaking learners' acquiring English in general, remains a relatively unexplored area compared to other languages like German and Dutch (Maier 2010, Candry 2013). This study therefore, aims to investigate the difficulties of native adult Arabic speakers when learning English with do-support compared to BE and HAVE.

METHODOLOGY

A mixed research design approach with convenience sampling technique was adopted in this study. The sample comprised of 100 Jordanian undergraduate students attending Mutah University aged between 18 and 22 years. Participants had studied English as a Foreign Language (EFL) in schools previously for at least 8 years. Students were subdivided into beginner and advanced groups, each consisting of 50 students, according to their scores on a placement test of English conducted at the university.

Two tasks were conducted to collect quantitative data: written production task (WPT) and a multiple-choice task (MCT). Furthermore, qualitative data was collected through a semi-structured interview. Each task consisted of 45 items equally distributed among negation, yes-no inversion and wh-inversion. The following examples of the WPT task are:

A - This part, changes the sentences into a negative meaning. Be sure to make all necessary changes.
    1 - I go to school at night.
B - In this part, you need to ask a question, which has the answer representing the appropriate response. These questions elicit a YES/NO response.
    1 -………………………………………?   Yes, the student reads the textbook.
C - In this part you are asked to suggest a question for each answer for the items shown below. Firstly, you need to read the answer and to formulate a question using the question word to replace the underlined phrase. Be sure to consider all changes when designing questions.
    1 - What …………………………………?   Omar usually makes <u>tea</u> for breakfast.

The two tasks contained sentences (5 in each part) with auxiliaries other than DO to examine the difficulty of constructions with do- support compared to those where the auxiliaries BE and HAVE are used. Trigger sentences include all forms of auxiliary DO, BE and HAVE.

To avoid the influence of one task on another, applying grammatical knowledge; WPT and MCT were administered, and with a day's interval between each task. Semi-structured interviews followed the multiple-choice task.

In the MCT, participants would choose one option as the syntactically correct one. In the WPT, participants were required to produce negative sentences, yes-no questions and wh-questions using the provided sentences. The participants' output was next transcribed and coded for scoring and statistical analysis. Each output was coded as either correct (native-like) or incorrect (non-native-like) concerning word order, inflection, and the presence of do-support or the target auxiliary verb. Spelling errors (e.g. *doe instead of do, etc.) were ignored as they were not relevant for this study. Incorrect responses were not awarded points. The total sum of responses for each group for the three auxiliaries was 250 in each grammatical construction. Error percentages were calculated by dividing the error frequency to the total number of incorrect responses for each auxiliary in each grammatical construction. Moreover, in the case where the error is made for three auxiliaries, the percentage is calculated by dividing the frequency by the total sum of incorrect responses.

Semi-structured interviews consisted of open-ended questions on the difficulty of do-support constructions over other auxiliaries like BE and HAVE. For example, in your opinion, which do you find easier or more difficult, in creating a sentence that includes an auxiliary verb; like is, are, have and has, or a sentence without an auxiliary verb when forming a negative sentence or question? Why? A subgroup of 15 participants was established using convenience sampling, from each group that had completed the two tasks

for interviews. All interviews were recorded using an MP3 device and the answers were translated into English and qualitatively analysed.

RESULTS AND DISCUSSION

THE BEGINNER GROUP'S RESULTS

For - negation, there are marked differences among DO, BE and HAVE in the correct use in WPT and MCT as shown in Table 1 below.

TABLE 1. Percentages of correct/incorrect use of each auxiliary in Negation.

| Construction	Auxiliary Verb	MCT Correct responses (out of 250)	Percentage	MCT Incorrect responses (out of 250)	Percentage	WPT Correct responses (out of 250)	Percentage	WPT Incorrect responses (out of 250)	Percentage
Negation	DO	116	46.4%	134	53.6%	60	24%	190	76%
Negation	BE	203	81.2%	47	18.8%	240	96%	10	4%
Negation	HAVE	199	79.6%	51	20.4%	226	90.4%	24	9.6%

Beginner Learners showed like performance for negation with BE and HAVE (96 % and 90.4 %, respectively) for WPT, but performance fell visibly for MCT (81.2 % and 79.6 %, respectively). The opposite for both tasks is evident in do-support, given that performance is not native-like, increasing to 46.4 % for MCT and then reducing to 24 % for WPT. Obviously, do-support accounts for the higher percentage of errors for negation including: double-tense marking, alternation of auxiliary-do, substitution, pre-verbal (no (t) + verb and post-verbal (verb + no (t)) negation. Both double tense marking (e.g. *The jury didn't found Mr Ibrahim guilty) and alternation of auxiliary DO (e.g. *He do not eats three meals every day and *He did not eats three meals each day), constitute the highest error percentages for DO.

Therefore, the question is, "if the learners appear to acquire do-support in negation, why then, do they still apply this rule incorrectly with the target form by making these two types of errors: alternating DO forms and double-tense marking." In addition to the fact that Arabic does not include do-support, "tensed verbs are in complementary distribution with tensed negatives. When the negative inflects for tense the verb cannot do so" (Benmamoun 2000, p. 96). Arabic consists of both the perfect and imperfect tenses, indicating an action but not time. Furthermore, sentences in Arabic are negated with negative particles such as; *maa*, *lam*, *lan* and *laa* (meaning 'not')" (Fakih 2012). *Lam* and *lan* inflect for tense, but not for agreement and conversely, *laa* inflects for agreement, but not for tense. *Laa* is used with present actions, where *lam* is used with past actions, and *lan* is used for future reference. *Maa*, on the other hand, is used for past and present actions and not encoding for tense, (but the verb does). Such sentential negative particles must exist alongside the verb occupying the head position of the negative phrase (NegP) (Fakih 2012). Therefore, it is assumed that beginner learners misanalyse DO as a negative marker equal to *maa*, *laa, lam* or/ and *lan,* rather than a carrier of tense and agreement, therefore, applying a superficial word order strategy (Perales et al. 2009, Perales 2010).

A further finding is the percentage of the error no (t) + (aux) verb (e.g. *Lubna and Marwan no have reached an agreement with the company). It is notably less likely for BE and HAVE (5.6 %, 8.18 % respectively) as compared to DO (11.6 %) for MCT while occurring with DO (10.5 %) for WPT (e.g. *I not sharpen my pencil). Accordingly, this type of error reflects the structure of negation available in L1 for the learners' and therefore, the

assumption of DMH is upheld. The marked feature attracts additional instances of the L1 transfer compared to the less marked ones. Additionally, the percentages of (aux) verb+ no (t) that the learner produced with the three auxiliaries varies. For DO, the instances of verb+ no (t), (e.g. *The movie lasted not for two hours and ten minutes) are more frequent at a rate of 13.7 % for MCT and 3.12 % for WPT. Once Again this error appears to be largely repeated for DO rather than for BE and HAVE (8.18 % and 6.4 %, respectively in MCT while for HAVE in WPT it is 0.44 %).

What is interesting about this kind of structure ((aux) verb + no (t)), (e.g. *Nesreen and Manal were finishing not writing their term papers.) is that it reflects neither English nor Arabic grammar. In Muftah & Wong (2011), the structure of this kind of verb + is not explained given that the beginner learners failed to reset the parameter of the verb raising from (+ strong) to its English value (- strong). The beginner group tended to consider 'aux + verb' as one unit unable to break down the complex 'aux + verb' into its two components and failing to perceive it composed of Aux and Verb. Instead, they may adopt a more flexible Arabic structure allowing a verb to move out from its base-generated position, thereby extending it to the English structure. Accordingly, the result is that the verb moves out of its position to NegP and then to the tense phrase (TP) to check the tense. Hence, the NegP appears to the right of the aux + verb.
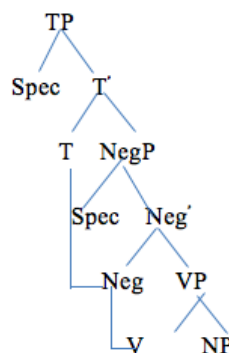
Providing that the assumption adopted from Muftah and Wong (2011) is considered to prove the influence of L1, L2 learners will not be able to depart from their L1 underlying representation. It follows that L1 influence is a weighty predictor of this error. The predictions of DMH are again confirmed. Less marked L2 features are associated with less L1 transfer and L2 learners exhibit less difficulty compared to the marked ones. Moreover, for WPT, the third highest percentage (25.2 %) accounts for the error representing the type of substitution. DO is replaced with another auxiliary verb like BE (e.g. * The jury was not found Mr Ibrahim guilty). The cases using 'is' and 'are' override those using HAVE and modals in substituting DO. Native Arabic speakers in the beginner group appeared to negatively overgeneralise the rule of 'AUX+ not' to the constructions of do-support, the more frequent/less marked auxiliary verb in place of the less frequent/more marked one.

The errors that the learners have made with BE and HAVE, are limited to two distinct types. Firstly, substitution in which DO is used in place of BE and HAVE (e.g.*Some people do not collecting butterflies), which occurs only for negation in WPT. Moreover, BE is substituted with DO more often than HAVE. However, the percentage of such errors appears very high for BE (70 %) and is equitable for HAVE (25 %), the occurrences of such patterns are infrequent for both auxiliary verbs. The second type of error is the addition of do-support (insertion of auxiliary-do alongside BE and HAVE), (e.g. *Malk did not had borrowed my dress before she visited her uncle in London). For BE, its percentage is 20 % in WPT while it

increases to 31.9 % in MCT. For HAVE, its percentage in WPT is 58.33 %, but then reduces to 33.33 % in MCT. However, in both tasks, HAVE still attracted more occurrences of this error type compared to BE. The two errors suggest that learners are inclined to judge DO + 'not' and forms (does not and did not) as the default negator used to negate all types of sentences. The evidence supports the assumption that learners in the beginner group followed a lexical strategy by considering DO as a negator marker rather than as a carrier of tense.

For Yes-No questions, the outcome percentages for BE and HAVE gradually decreased like DO in WPT as compared to MCT. However, the learners appeared to show difficulty with the three types of auxiliary verbs, the rate of accurate usage of BE and HAVE still exceeded that of DO as shown in Table 2 below.

TABLE 2. Percentages of correct/incorrect use of each auxiliary in Yes-No questions

Construction	Auxiliary Verb	MCT Correct responses (out of 250)	MCT Percentage	MCT Incorrect responses (out of 250)	MCT Percentage	WPT Correct responses (out of 250)	WPT Percentage	WPT Incorrect responses (out of 250)	WPT Percentage
Yes-No questions	DO	86	34.4 %	164	65.6%	54	21.6 %	196	78.4 %
Yes-No questions	BE	125	50 %	125	50%	132	52.8 %	118	47.2 %
Yes-No questions	HAVE	142	56.8%	108	43.2%	124	49.6 %	126	50.4%

For DO, the error of the alternating DO forms (e.g. *Does the waiter suggested pasta to Mary?) exhibits the highest percentage (45.9 %) for WPT while showing the second highest percentage for MCT (34.14 %). Double-tense marking (e.g. *Did Zaid took his car to the garage?), dominates the percentages of the other errors for yes-no inversion in MCT, which is 48.18 % for MCT and 24.48 % for WPT. In Arabic yes-no questions, the particles *hal* and *a* merge with the sentence without disturbing the word order and do not encode for tense or agreement. Accordingly, learners assume that the behaviour of DO and that both question particles *hal* and *a* are similar (Umale 2011). Pienemann, Johnston and Brindley (1988) in a study, determined that L2 learners start their acquisition process with a fronting strategy where questions are formulated by placing question markers like DO and the wh-word sentence-first. Most learners in the beginner group confirmed this fact from their interviews. Many translate DO and its form (does and did) to Arabic *hal* as illustrated below.

> *Interviewer: How did you come up with this answer, "Did Nader planted some trees…?''*
> *Interviewee (B8): I asked using "Hal''.*
> *Interviewer: Why did you replace 'has' with 'did'?*
> *Interviewee (B8): It is the question particle.*
> *Interviewer: Do you notice that the majority of your questions started with 'did'? Right?*
> *Interviewee (B8): Yes*
> *Interviewer: What is the meaning of 'did' in these questions?*
> *Interviewee (B8): Hal*

Alternatively, incidences, where an auxiliary verb is used rather than DO for forming yes-no questions requires do-support (e.g.*Was Zaid took his car to the garage?) are often made. DO is replaced with another auxiliary verb like BE, in WPT (20.91 %) and MCT (12.80 %). Furthermore, the learners tended to use frequently used auxiliary verbs instead of less frequently used ones. Notably, it could be a simplification strategy to avoid the complexity of do-support. However, "why is BE and not HAVE frequently used in place of DO?" This could be because BE is less difficult than using HAVE as it requires changing the verb's form. This trend in which do-support is manipulated but not target-like reveals the gap in the learners' interlanguage.

Likewise, do-support is inserted alongside BE and HAVE (e.g. *Did Mohammed and his brother were starting a new project?). The learners' difficulty with do-support is associated with BE and HAVE as the learners tend to apply the rule of do-support in the construction of the auxiliaries BE and HAVE. For BE, the percentage error is 78.81 % for WPT, and 72 % for MCT, while it is 72.27 % for WPT, and 91.66 % for MCT in case of HAVE. This error type confirms that beginner learners tend to regard DO as a question operator used in sentences, including main verbs and auxiliary verbs. Arabic structure of yes-no questions, where a question particle is generated initially to mark the sentence as a question (e.g. Hal katab-a Hashem-un risalat-an?), may activate this kind of performance

Moreover, the assumption of a lexical strategy that adult native-Arabic speakers in the beginner group employed in forming yes-no questions is confirmed by the cases of substituting BE and HAVE with DO (*Do Miss Ibrahim's husband cooking fish now?). Notably, this occurs only in a few instances of WPT where the percentages for BE and HAVE are almost equivalent (17.79 %, and 18.25 %, respectively).

Furthermore, like DO, the cases of inverted verb questions are attested with BE and HAVE (*Is feeding the Nurse the patient now?). For BE, it only occurs in MCT where the percentage is 28 %. For HAVE, on the other hand, the percentage is 0.79 % in WPT and 8.33 % in MCT. While inverting the auxiliary with the main verb and subject to form a yes-no question is minimal, learners remain confused concerning the functions of English auxiliary verbs and are unable to decompose the VP (verb phrase) into its basic elements. Moreover, they move T (tense) to C (complementiser) but with the wrong element. Clearly, for the questions formed through inverting verbs, whether they are main verbs (e.g. * suggested the Waiter pasta to Mary?) or auxiliary verbs, they are transferred from Arabic as the Learners translate what is available in their L1. The instances observed for the inverted verb questions for do-support are fewer than for BE but like those for HAVE.

Finally, like yes-no questions that require do-support (8.16 %), the percentage of non-inverted yes-no questions for BE (e.g. *Miss Ibrahim's husband is cooking fish now?) and HAVE (e.g. *The boss has complimented Lana?) are extremely low. For BE, it is 1.69 % while for HAVE it is 4.76 %. Again, non-inverted yes-no questions requiring do-support are produced (e.g. *Naya wears her red dress to the Opera?) more often than those requiring BE and HAVE. Similar to negation, there are no cases of incorrect tense and agreement attested with BE and HAVE in yes-no inversion. In contrast, for DO, incorrect tense and agreement manifesting in double-tense marking and alternating DO forms was the predominant difficulty.

Similarly, for wh-inversion, the accuracy rate for BE and HAVE exceeds that for DO as shown in Table 3. However, the three auxiliary verbs appear not to be used correctly.

TABLE 3. Percentages of correct/incorrect use of each auxiliary in Wh-questions

Construction	Auxiliary Verb	MCT		MCT		WPT		WPT	
		Correct responses (out of 250)	Percentage	Incorrect responses (out of 250)	Percentage	Correct responses (out of 250)	Percentage	Incorrect responses (out of 250)	Percentage
Wh-questions	DO	56	22.4 %	194	77.6 %	15	6 %	235	94 %
Wh-questions	BE	124	49.6 %	126	50.4 %	132	52.8 %	118	47.2 %
Wh-questions	HAVE	110	44 %	140	56 %	122	48.8 %	128	51.2 %

The error rate for non-inverted wh-questions - is higher for those questions requiring do-support (*e.g. What Omar usually makes for breakfast?), than the non-inverted wh-questions for BE (e.g. *When my parents are giving a dinner party?), and HAVE (e.g.

*Where the president had travelled to after he participated in the conference?) in both tasks. Notably, it is the dominant structure among the three auxiliaries. In WPT, it is 32 % for DO, 21.6 % for BE and 18.08 % for HAVE, while in MCT it is 40.72 % for DO, 8.9 % for BE and 15 % for HAVE.

Beginner Learners tend to formulate wh-questions without inversion, even in the presence of auxiliary verbs. Moreover, there is an interaction between the inversion and auxiliary types, indicating that Aux-inversion is acquired with less difficulty than do-support, and with less difficulty than inversion with do-support wh-questions. The omission of do-support for wh-questions and the failure to invert the auxiliary and subject implies that learners may not have completely acquired T (tense)-to-C (complementiser) movement which is available in English but lacking in Arabic. Furthermore, assuming that they acquired it or were even aware of its need, they showed a preference for the L1 structure. According to DMH, L2 learners transfer the L1 less marked features in cases where the L2 features are more marked. Less marked L2 features are associated with a lower degree of L1 transfer and more marked L2 features thereby prompting more L1 transfer. Notably, non-inverted wh-questions and less-do-support wh-questions are the most productive structures, principally with questions that require do-support.

Furthermore, there are cases where DO is inserted along with BE and HAVE. For example, in 5.08 % for WPT and 32.53 % for MCT, DO is generated along with BE (e.g. *Where did Majad was hiding while his father was looking for him?) while, about 17.18 % for WPT and 25 % for MCT, DO is inserted along with HAVE (e.g. *When do Eman had baked a cake?). The cases of over-generating do-support proof that learners consider it as a legitimate auxiliary verb in questions, which is an indication of their initial awareness of do-support in wh-inversion. Since Arabic has no exact equivalents of the auxiliary verb BE and neither HAVE nor the do-support type for wh-questions, it could be inferred that do-support is quite noticeable for adult native-Arabic speakers as beginners. Accordingly, they may perceive its presence but are unable to utilise it accordingly. Do-support is sometimes used when needed, but its suppliance is neither correct nor systematic and is either marked for tense and agreement along with the main verb (double tense) or it is being used interchangeably (i.e. do, does and did). The overly used do-support in the constructions of BE and HAVE supports this assumption where adult native-Arabic speakers as beginners display inconsistent patterns towards applying this with do-support. L1 is deficient in this given and do-support is more marked in comparison to BE and HAVE.

BE and HAVE attracts cases of verb inverted wh-questions like the ones Learners demonstrated for wh-questions requiring do support (e.g.* What bought the teacher?), yet here they inverted the entire VP (aux + verb) with the subject to form a wh-question. It appears that BE attracts a higher percentage (9.5 %) of wh-questions with inverted verbs (e.g. *Why are training Hatem and Sadeq?) than DO, and HAVE (e.g. *Where had travelled the president after he participated in the conference?") (7.17 % and 7.8 %, respectively) for MCT, while DO is attested with more cases than HAVE (2.4 % and 0.41 %, respectively) for WPT. There are no cases attested with BE for WPT. This pattern is expected given the properties of Arabic wh-questions (e.g. Matha katab-a Hashem-un?).

A trend emerged resulting from beginner group data where do-support is associated with high non-target incidences, more so, than BE and HAVE. These incidences result because Arabic lacks do-support, which is known to be a specific English language property. Given the fact that the status of BE and HAVE is universal, they are associated with less difficulty and with less L1 transfer. Therefore, to determine whether there is an association between the type of auxiliary verb (DO, BE and HAVE) and the difficulty that adult native-Arabic speakers in the beginner group show across the three grammatical constructions for both tasks, chai square tests were conducted. For the WPT, the results obtained from the chi-

square tests across negation (χ_2=382.893), yes-no inversion (χ_2= 60.742) and wh- inversion (χ_2=146.291), show that DO is associated with more difficulty than BE and HAVE. The same relationship is proven for MCT, where for negation, yes-no inversion and wh-inversion, chai square (χ_2) = 90.330, 26.470 and 43.493, respectively. Accordingly, learners experience more difficulty with DO than BE and HAVE respectively across the three grammatical constructions.

Also, the data from the interviews supports the results of these two tasks. The beginner learners experience more difficulty with L2 abstracts and multi-function features. The universal features that form part of the syntactic structure seem to be easier than those that are expected to be added at the phonetic level with no semantic values. Notably, some learners during the interview process used the word 'particle' instead of an auxiliary verb which implies that they prefer to assign auxiliary verbs with a function like negative and question particles in their L1, as illustrated in the following extract.

> *(B4): A sentence without a particle is more difficult than a sentence with a particle because I find myself with a structure different from my native language. The presence of the particle means that I have to use it, but if it is not available, why should I use it and when.*

THE ADVANCED GROUP'S RESULTS

Table 4 shows the results of the analysis of the advanced group's output in negation, which demonstrates that learners have acquired the use of the three auxiliaries DO, BE and HAVE. Their performance is native-like in both MCT and WPT.

TABLE 4. Percentages of correct/incorrect use of each auxiliary in Negation

Construction	Auxiliary Verb	MCT Correct responses (out of 250)	MCT Percentage	MCT Incorrect responses (out of 250)	MCT Percentage	WPT Correct responses (out of 250)	WPT Percentage	WPT Incorrect responses (out of 250)	WPT Percentage
Negation	DO	239	95.6 %	11	4.4 %	233	93.2 %	17	6.8 %
Negation	BE	248	99.2 %	2	0.8 %	250	100 %	-	-
Negation	HAVE	247	98.8 %	3	1.2 %	245	98 %	5	2 %

The errors with DO are mainly observed as errors in tense and agreement when either DO is produced, while keeping the tense on it and the main verb (e.g. *She didn't saw her friend last week) or DO and its forms are alternated unsystematically (e.g. *The jury does not found Mr Ibrahim guilty.)

Regarding yes-no inversion, it appears that the advanced group shows native-like performance across the three auxiliary verbs (see Table 5). However, DO may still pose further difficulties compared to BE and HAVE.

TABLE 5. Percentages of correct/incorrect use of each auxiliary Yes-No questions

Construction	Auxiliary Verb	MCT Correct responses (out of 250)	MCT Percentage	MCT Incorrect responses (out of 250)	MCT Percentage	WPT correct responses (out of 250)	WPT Percentage	WPT Incorrect responses (out of 250)	WPT Percentage
Yes-No questions	DO	233	93.2 %	17	6.8 %	217	86.8 %	33	13.2 %
Yes-No questions	BE	246	98.4 %	4	1.6 %	249	99.6 %	1	0.4 %
Yes-No questions	HAVE	247	98.8%	3	1.2%	239	95.6%	11	4.4%

The errors with HAVE are of two distinct types; addition /insertion of do-support (e.g. *Did Nader has planted some trees for three hours?) and substitution, in which HAVE is replaced with DO (e.g. *Did the students learnt Italian since the first semester?). DO, on the other hand, attracts errors like double tense marking (e.g. *Did Gloria called Jim for advice?), alternation of DO forms (e.g. *Does your husband and his friend go to work?) and inverted verb questions (e.g. * carries Mona makeup in her bag?).

For wh-inversion, Table 6 indicates that although the level of accuracy for BE across WPT and MCT (85.2 % and 94.8 %, respectively) decreases, target-like levels across both tasks are still produced. The same point also holds true for HAVE across WPT and MCT (86.8 % and 98.4 %, respectively). In contrast, total accuracy for DO reduces notably to 70 % in WPT instead of 88 % in MCT.

TABLE 6. Percentages of correct/incorrect use of each auxiliary in Wh-questions

Construction	Auxiliary Verb	MCT Correct responses (out of 250)	MCT Percentage	MCT Incorrect responses (out of 250)	MCT Percentage	WPT Correct responses (out of 250)	WPT Percentage	WPT Incorrect responses (out of 250)	WPT Percentage
Wh-questions	DO	220	88 %	30	12 %	175	70 %	75	30 %
Wh-questions	BE	237	94.8 %	13	5.2 %	213	85.2 %	37	14.8 %
Wh-questions	HAVE	246	98.4 %	4	1.6 %	217	86.8 %	33	13.2 %

For BE and HAVE the dominant error is of non-inverted wh-questions (e.g.*Where Huda was performing when she met her?). The do-less questions (e.g. *Where Miss Mansour' friends invited her?) and double-tense marking, (e.g. *When does fall semester begins?) are the dominant errors for DO in both tasks. Some learners prefer their L1 less marked structure compared to the L2 marked structure. Arabic allows wh-movement for wh-questions but lacks subject-auxiliary inversion and do-support. Moreover, some learners failed to demonstrate native-like sensitivity to inflection, producing double-tense marking errors.

The chi-square test results indicate a noticeable relationship between the auxiliary and the difficulty learners exhibit across both tasks. DO as a marked feature across the three constructions showed negation, yes-no inversion and wh-inversion (χ_2 = 21.447, 38.014, and 27.563 respectively) in WPT, induces further complications for advanced learners than BE and HAVE. The same result is replicated in MCT where the results for negation (χ_2=9.324), yes-no inversion (χ_2=15.754) and wh-inversion (χ_2=23.743) prove that DO poses more difficulty for advanced learners than BE and HAVE.

The interview data complements the quantitative data where all learners argued that since DO and its forms have no meaning associated with tense and agreement and that Arabic has no equivalent form, this requires more time to conceptualise its functions, especially in wh-questions. Instead, they preferred sentences that included auxiliary verbs like BE and HAVE as described below.

(A2): A sentence with an auxiliary verb is easier to rewrite, but the one without an auxiliary verb is not too difficult. I know the rules that if there is no auxiliary verb in the sentence or question I have to insert 'do' forms.

(A11): Since Arabic has no auxiliary verbs in questions and negation; it may take some time to master them especially does, do and did because they are very connected with tenses.

The difficulty with do-support compared to BE and HAVE in this study replicates the findings found in inversion studies like Bahat and Hancin-Bhatt (2002) and negation studies like Eisouh (2011). This study confirms the markedness of do-support compared to BE and HAVE that has been documented in L1 children (e.g. Santelmann et al. 2002, Rowland et al. 2005) and L2 learners (e.g. Maier 2010).

The findings suggest that some L1 and L2 structural differences are more vulnerable to L1 transfer, triggering further errors and, therefore, will be more difficult (do-support) than other L1-L2 differences to comprehend (BE and HAVE). L1 and L2 properties may interact and contribute towards reinforcing or reducing the level of complexity of the acquisition process. Accordingly, teachers need to be aware of the marked features to provide the required follow up to enhance the learners' understanding in the use of problematic structures. Moreover, teachers, syllabus designers and textbook authors need to comprehend that some L2-L1 structural differences are more marked and should be introduced later in the learning process. Notably, learners should master less marked structures (BE and Have) before being taught marked structures (do-support).

CONCLUSION

In this study, a trend resulting from the beginner group analysis shows that do-support is associated more with high non-target incidences than for BE and HAVE. These incidences have arisen since Arabic does not cater for do-support which is an English specific-language property. Given that the status of BE and HAVE is universal, they are associated with less difficulty and with less L1 transfer. Furthermore, beginner learners are unable to conceptualise the function of do-support or able to efficiently internalise its features. Also, they produced an un-analysed frozen form with restricted functions, but with little to no sign of productive do-support. For the advanced group, even though the learners seem to master the syntax of the three auxiliaries, the markedness of DO still plays a significant role in causing of errors, which could be attributed to learners' L1, especially in wh-inversion. Overall, the predictions of DMH are confirmed where more marked features are concomitant with more difficulty and trigger more L1 transfer than lesser marked ones.

Several limitations in this study should be considered and kept in mind for future research. First, the 100 first-year university level EFL students who were conveniently selected to participate in the study. The size and convenience of the student sample may limit the generalizability of the findings to the entire population of adult native-Arabic speakers studying English as a foreign or second language. Secondly, because this study is the first empirical attempt at addressing the markedness of do-support in the interlanguage of adult Arab learners, repeatable studies by researchers with learners of different age groups and L1s would be highly desirable. The use of oral elicited tasks to elicit the spontaneous use of do-support and auxiliaries in question should be considered in future research for adult Arab L2 learners.

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