

***“INTERLANGUAGE SYNTAX IN ARABIC AS A SECOND LANGUAGE: A  
PROCESSABILITY THEORY PERSPECTIVE”***

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**Abstract**

*This paper discusses some of the theoretical assumptions presented in the Processability Theory (Pienemann 1994, 1998), in particular those relating to the development of syntactic structures in the learner's language. Much of the testing of the Processability Theory (PT) has been restricted to a small number of typologically similar languages especially German and English. The objective of this paper is to (i) establish the acquisitional stages for syntax in the context of Arabic as a second language (ASL) and (ii) to describe and debate the theoretical assumptions which account for the manner in which ASL syntax develops. This will be followed by a theoretical discussion where data-driven findings are discussed from the perspective of PT and compared to acquisition stages generated through PT major findings on other languages such as German (Pienemann 1998), Spanish (Johnston 1995) and Japanese (Huter 1996).*

## **1. INTRODUCTION**

In the growing field of second language acquisition research it is becoming increasingly evident that empirical investigations are carried out on as many non-cognate languages as possible before universal claims and theoretical generalisations are drawn and formulated (Ellis 1994). This is especially true for non Indo-European languages such as Arabic where a great deal of theoretical and data-driven research is still needed to establish basic facts concerning the acquisition process for Arabic as Second Language (Mansouri 1995, 1997).

It is widely accepted that one of the main objectives of second language acquisition theories is to account for the manner and order in which second language acquisition occurs. The challenge for researchers is not simply to accumulate information about specific languages or specific structures within one language, but rather to develop an explanatory theory that is capable of accounting for second language acquisition across language-specific boundaries regardless of the learners' first languages. This is achieved through establishing universal principles based on cognitive and psycholinguistic foundations.

Against this general background the Processability Theory (Pienemann 1998; Pienemann & Johnston 1985), which forms the basis of the theoretical approach taken in this study, is emerging as one of the leading second language acquisition theories. PT is built on a set of linguistic and processing prerequisites designed to strengthen both the 'universal' nature of its claims and predictions concerning developmental stages, and the acquisition criteria in second language acquisition research. However, before describing the main aspects of PT relevant to this study it is important to provide a brief sketch of Arabic language.

### **1.1. Arabic Language**

Arabic is a non-configurational Semitic language characterised by a rich agglutinative morphological system (Holes 1995). Like other Semitic languages, Arabic is heavily inflected and known for its highly productive and complex morphological system. The morphological complexity is most apparent in terms of how words are formed. Structurally, Arabic sentences consist of two essential elements, namely a 'subject'

and a 'predicate'. What differentiates Arabic from most languages is the degree of variation that both these components may exhibit. The subject can be either free-standing (i.e., an independent noun) or dependent (in the case of clitics). As far as the predicate is concerned, Arabic sentences do not obligatorily include a verbal component to be grammatically well formed. Equational sentences are those consist of a 'subject' and a nominal 'predicate' that usually provides a 'comment' about the 'subject'. These three types of sentences are illustrated in the following examples respectively:

a. Free-standing 'subject' in a Subject-first sentence:

1. *sami ya-drus-u al-adab-a*

**sami** study-3M.S the-literature-Acc

'Sami studies literature.'

b. Dependent 'subject' in a Verb-first sentence:

2. *daras-tu al-adab-a*

study-1S the-literature.Acc

'I studied literature.'

c. Equational sentences (Verb-less sentences):

3. *al-walad-u mari:D-un*

the-boy-Nom sick-Nom

'The boy (is) sick.'

The above three sentences are simple constructions of speech where no subordination or co-ordination is introduced. The only decision that the speech producer has to make is whether to use an SVO-type or a VSO-type word order (the object, of course, is not obligatory). Holes (1995:205) argues that Arabic authors tend to use VSO-type structures for 'event-oriented' passages where there is a strong focus on what happened. The SVO-type, on the other hand, does not usually serve narrative purposes but is used mainly for introducing new information on the already identified discourse participants. Other alternative syntactic orders, such as the VOS-type are infrequently used in actual discourse and, in most cases, are elicited as responses to interrogative statements.

Arabic is a language that makes full use of case marking (nominative, accusative and genitive) to mark grammatical relations between various components of utterances (Abboud 1975). As a result, word order in Arabic is very flexible and, in many cases, there is no obvious canonical word order since both SV-type and VS-type utterances are equally used in the language with different pragmatic outcomes.

A number of linguists have argued for different syntactic combinations as the canonical word order for Arabic. Bakir (1980) and Fassi Fehri (1988) claim that VSO should be the canonical word order with the other combinations being derived through transformation. Their argument rests partially on the assumption that both the SVO type and the other possible combinations are only used in certain discourse situations, such as answering questions or placing focus on the doer of the action rather than the action itself.

Other linguists, most notably Edmond (1980) and Mohammad (1990), argue strongly for an SVO-type canonical order. According to Edmond and Mohammad, in SVO-type utterances the verbal constituent exhibits full agreement, while in VSO-type utterances the agreement is only partial (no plural number agreement). This is an indication that the other combinations are achieved through transformations (reduction of agreement) and not the other way around. Within this approach, the reduced agreement in VSO-type sentences is explained in terms of the existence of an expletive pronominal which exhibits the basic features [3.M.S] with which the verb shows agreement. Therefore, the actual order of VSO utterances is more like PRO-VSO rather than simply VSO.

A different view to the above two arguments is taken by Anshen and Schreiber (1967) who propose VOS as the canonical word order for Arabic. They argue that the other syntactic combinations are achieved through syntactic movement, but give no sound basis for this argument. As far as this study is concerned, the importance of word order in Arabic is primarily related to the extent to which it affects agreement marking. Consider the following three examples for SVO, VSO and VOS respectively:

SVO type agreement:

4. *al-banaat-u*                      *xaraj-na*  
the-girl.3F.PL-Nom    left-3.FPL  
'The girls left.'

VSO type agreement:

5. *xaraj-at*    *al-banaat-u*  
left-3F.S    the-girl.3F.PL-Nom  
'The girls left.'

VOS-type agreement:

6. *xaraj-a*    *maa al-awlaad-i*    *al-banaat-u*  
left.3M.S    with    the-boys-Gen    the-girl.3.F.PL-Nom  
'The girls left with the boys.'

The SVO-type sentence in example (4) exhibits full agreement between the subject and the verb, with the morpho-syntactic features [3.F.PL] fully cross-coded onto the verbal constituent. The VSO-type sentence in example (5) shows a reduced agreement with the subject's number feature [+ Plural] being marked as [- Plural] onto the verb, which creates a type of number polarity between the source and the target of the agreement relation. Finally, the VOS-type sentence in example (6) does not exhibit agreement at all, with the verb being marked for the basic defective form [3.M.S]. Neither number nor gender are cross-referenced onto the verb. A simple notation of the above syntax-motivated grammatical agreement can be represented as follows:

- SVO type sentence = Full Agreement (verb marked for Person, Number & Gender)  
VSO type sentence = Partial/reduced Agreement (verb marked for Person and Gender)  
VOS type sentence = No Agreement (verb takes its basic defective form i.e., [3.M.S])

To sum up the discussion on word order flexibility it is shown to be related to a number of factors which include case marking, pragmatic functions, familiarity of discourse participants and, in some cases, personal preferences that may be

influenced by the speech producer's own dialect or second language. What is of most relevance to this study is the fact that the word order in ASL is characterised by a high level of flexibility, and that certain syntactic structures exhibit a significant interface with morphology. In other words, for the learner to produce such syntactic structures as subordination and anaphora, he/she needs to be able to undertake agreement marking as well as case marking. Consequently, although this paper does not explicitly focus on the acquisition of morphology in ASL, it nevertheless would be possible to predict the development of morphology on the basis of the learners syntactic stages.

## **1.2. Theoretical background**

PT is based on early work by Bever (1970), Slobin (1977, 1985), Clahsen (1986, 1992), Pienemann, Clahsen & Meisel (1981) and Pienemann (1989, 1994). One crucial element of the theory is that it incorporates cognitive factors into a psychologically plausible grammatical system, namely the Lexical Functional Grammar (LFG).

One major claim of the theory is that whereas children learning their first language have access to Universal Grammar, adult second language learners do not. Instead, they have access to a set of processing strategies which are assigned a similar role in second language acquisition to that assumed by the Universal Grammar in the context of first language acquisition. According to Pienemann (1994), the sequence of development in the learners' linguistic system is determined by their access to processing strategies as well as implicational linguistic prerequisites. This argument is based on the assumption that processing and acquisition are related and, hence, what is easy to process is easy to acquire.

Pienemann (1994, 1998) argues that structures and rules are manifestations of underlying interlanguage development, with each stage reflecting the learner's use of various combinations of processing resources. Learning/processing is constrained by the set of speech processing strategies available to the learner at a given time.

The two notions of systematicity and variation associated with interlanguage development, and which on the surface may seem mutually contradictory, are, in fact, core issues central to theory formulation in second language acquisition research. Second language learners' speech varies over time in a systematic way. This systematic variation is constrained by a number of internal and external factors, such as each individual's learning strategies and the learning environment respectively. Without downplaying the importance of the external factors in language learning this paper will focus on the internal factors as discussed in PT.

### **1.3. The Processability Theory (Pienemann 1998)**

Pienemann's (1998) PT attempts to offer a systematic description of language development in terms of cognitive factors relating to human processing abilities as well as formal/linguistic notions derived from a theory of grammar. The theory aims 'to provide a systematic perspective on some central psychological mechanisms underlying the spontaneous production of interlanguage (IL) speech' (Pienemann, 1998:xv). PT intends to provide an account of language development that combines theoretical concepts from current research on language production and speech processing, with psychologically plausible notions derived from a theory of grammar. The claims and predictions proposed in PT are typologically applicable to any human language and are general enough to account for any grammatical structure.

The main line of argument presented in PT is that the sequence in which the learner language unfolds is determined by the sequence of processing prerequisites needed to handle the target language's structures (Johnston 1995). The reasons for implementing PT into a theory of grammar, namely Lexical Functional Grammar (LFG), is that 'LFG belongs to the family of unification "grammars", the most prominent characteristic of which is that of the unification of features' (Pienemann 1998:93) across constituents. The advantage of employing LFG into a theory of second language acquisition is that the process of feature unification is attributed psychological plausibility in current research on speech processing. The interplay between LFG and PT ensures the wide applicability of the hierarchy of processing procedures to typologically different languages and to various parts of the target language grammar. This combined approach can generate theoretically motivated



predictions for a range of grammatical structures in typologically different languages. Hence, the current study is being undertaken to test the cross-linguistic validity of this theory.

A key concept in PT is the differentiation between acquisition and emergence criteria. The latter, is applied to ‘morphological development through more refined analyses which “neutralise” the effect of unanalysed entries into the learner’s lexicon’ (Pienemann 1998:144). PT suggests that the emergence criteria cannot be applied effectively unless a distributional analysis, i.e., a detailed linguistic description of the context in which the morpheme is produced, is undertaken.

The testing of PT across languages can proceed by first establishing predictions for the development of interlanguage grammar in a specific language (L2), and then testing these predictions empirically through data produced by learners. Pienemann (1998:165) argues that ‘if it can be demonstrated that the actual route of SL development follows that predicted by the theory, then the status of that theory must be beyond a mere generalisation of observational facts for the language (German) in the context of which the theory was first developed’.

#### **1.4. Processing resources**

The fact that languages are acquired in an incremental manner is now a widely accepted view in SLA literature (Pienemann 1998; Ellis 1994; Levelt 1989; Kempen & Koekamp 1987). What is still debated is which tools and mechanisms are required by learners to develop gradually grammatical structures in the target language. The full set of processing resources, which form an implicational hierarchy as stated in Pienemann (1998:45), is as follows

- Subordinate clause procedure
- S-procedure (exchange of information between internal constituents)
- Simplified S-procedure (information exchange from internal to salient constituent)
- Phrasal procedure (phrasal morphemes)
- Category procedure (lexical category)
- Lemma (information on word class)

The above processing resources are mostly language specific. In fact, clause boundaries and S-procedures are language specific since typologically different languages exhibit different syntactic rules. This is the case with Arabic which exhibits almost all possible word order combinations, as opposed to English which is essentially a VSO language.

Phrasal categories are also language specific as the distributional behaviour of nouns and verbs differs across languages (Pienemann 1998). Therefore, L1 procedures are not always able to handle the specific tasks required for L2.

Similarly, lexical categories may also vary across languages. For example, certain words in English, such as *comfort*, *house*, *record*, etc..., may be classified as either a verb or a noun, whereas in Arabic they can only belong to one class of words. Therefore, if L2 acquisition is to progress, learners will have to test the lexical category of every new lexical item.

The implicational nature of the processing resources hierarchy means that the processing resource of a lower level is the prerequisite for the operation of a processing resource at the immediately higher level (Pienemann 1998:87). In other words, the absence of a processing resource might prevent learners access to resources inability to acquire structures at the higher level. This would result in the learners which require those processing resources at the higher level.

## **2. METHODOLOGY**

On the basis of the universal nature of the predictions put forward by PT (Pienemann 1998), it is hypothesized that Arabic syntactic structures will be acquired in an implicational manner consistent with that observed for the acquisition of German (Pienemann 1994), Japanese (Huter 1996) and Spanish (Johnston 1995) as a second language. In other words, learners would follow the same processing path with the same processing prerequisites required at each stage before transition to the next developmental stage is able to take place.

## 2.1. Predictions

On the basis of the assumptions underlying the PT, a set of predictions has been formulated regarding the processing complexity of Arabic syntactic structures. The present investigation, although adopting the general assumptions and claims as stated in PT, will attempt to highlight any potential violations of the universal nature of the acquisitional stages by learners of Arabic. Adjustments and modifications are suggested in order for PT to reflect and account for non-cognate and typologically different languages such as Arabic. The table below identifies the specific L2 structures, the type of information exchange exhibited by each structure and the language-specific processing devices that the learner needs to utilise in order to proceed along the developmental continuum:

Table (1): Predictions for Arabic L2 syntax:

STAGE	SYNTACTIC STRUCTURE	Exchange of Information	Processing Procedure
STAGE#1	- Words - Formulae	Lexical	Lexical Category
STAGE#2	- Equational sentences  - Negation	Phrasal	Phrasal Procedure
STAGE#3	Canonical Order: SV(O)	Inter-Phrasal with saliency: Information Exchange between Salient constituents	Simple S-procedure
STAGE#4	Non-Canonical word order: - VSO-type sentences - Adverb separation - Adverb Fronting	Inter-phrasal with no saliency: Information Exchange between non Salient constituents	S-procedure
STAGE#5	- Subordination ; - Anaphora: no explicit Subject in long stretches of discourse	Subordinate clause procedure	Subordinate clause procedure

The above table is a guide to what is predicted to occur in Arabic interlanguage syntax. It is by no means an exhaustive display of all the syntactic structures nor all the possible acquisitional stages. In fact, some of the above stages may well turn out to be sub-stages of other more distinct stages, and it may be the case that additional stages would need to be included on the basis of linguistic structures not identified in this table.

Another important point that needs to be clarified concerns the fact that Arabic, unlike English and German, is typically a Verb-first language. This means that it encodes more information on the verbal constituent than English and German can possibly exhibit. In addition, Arabic language is characterised by the fact that well-formed sentences do not need to include verbs or copulas. These are known as verbless or equational sentences in which two nominal phrases form a semantically meaningful utterance as well as a grammatically well-formed sentence.

In addition, Arabic is a highly marked language (case marking is obligatory with the three cases of nominative, accusative and genitive morphologically distinguished). This high markedness renders word order less significant in terms of grammatical and semantic relations and, therefore, is relatively flexible.

### **2.1. The learners**

At the time of the first data collection the two beginners (learners) involved in this study had had approximately 150 hours of formal tuition in Arabic language at Deakin university. The other two learners in the group are considered intermediate university learners on the basis of their linguistic proficiency: at the time of the first interview (conducted on 14 August 1996), they had had about 300 hours of formal instruction in Australia (Deakin University) plus a two-month in-country language program in an Arab country.

### **2.2. Data Collection**

The nature of this study requires data produced in as natural and spontaneous a manner as possible, rather than elicited data only. Naturally produced data includes individual learner's spontaneous language production over a long period of time. Such data is ideal for establishing developmental stages and acquisition of syntactic structures. Larsen-Freeman and Long (1991) argue that in the case of elicited data, it is desirable that the performance occurs in a general context rather than in single sentences. It is hoped that this will minimise learners' linguistic awareness on the one hand, and maximise the naturalness of data on the other hand. Mindful of the

limitations and drawbacks of both natural and elicited data, the current investigation is based on individual data gathered from four English-speaking background learners studying Arabic in a foreign language classroom as part of their studies at Deakin University.

The main data eliciting procedures were six oral interviews conducted over a two-semester period with a four-week interval in between. The interviews were conducted separately for each pair of students because of their different levels of proficiency. The time schedule covered two semesters of language learning in the 1997 academic year, with a total of 26 weeks of learning and approximately 110 contact hours.

The benefit of using an essentially cross-sectional quasi-longitudinal data set is that one is able to gain a full picture of the development process within a one year period. As long as the learners from the two groups are selected randomly and the main variables such as previous exposure to the TL, motivation, purpose of learning the TL, age and aptitude are accounted for, the data produce a continuum of developmental stages which reflect the psycholinguistic realities of learning Arabic syntax in a classroom environment.

A number of researchers who have adopted a similar Processability approach to second language acquisition e.g., Huter (1996) in Japanese and Johnston (1995) in Spanish based their investigations on oral interviews conducted on a regular basis with a three to four week interval in between. This same approach using spoken data is adopted in this study with some modifications. Learners are provided with a set of organised stimuli, such as pictures, questions or short excerpts on a particular topic of the learners' choice, which is then used as a starting point for conversation.

### **3. DATA ANALYSIS**

The following is a structural/linguistic analysis of oral data produced by the two beginners and the two intermediate learners. The audio-taped interviews which lasted

approximately 30 minutes each, were conducted informally to maximise spontaneity and the authenticity of data. The topics discussed were suggested by the learners and dealt with travel experiences, hobbies, family/friends, ambitions/careers, occupations, sports and study at the university. At times, the learners wanted to focus on their past experiences in an Arab country during the in-country language program they had undertaken the previous year. On many occasions, learners took turns in asking one another questions to reveal more facts.

### **3.1. Analysis of Beginners' language**

Given the limited linguistic competence of the learners at this early stage, syntactic structures include SV-type sentences, VS-type sentences, equational sentences, negation and subordination.

Table (2): Development of Syntax in Beginners' Language

<b>Structure</b>	<b>Learner 1 (L.P.)</b>	<b>Learner 2 (J.H.)<sup>1</sup></b>
<b>SV-type sentences</b>	(+) 8/8 (100%)	(+) 9/9 (100%)
<b>Equational sentences</b>	(+) 7/7 (100%)	(+) 8/8 (100%)
<b>Negation</b>	(+/-) 3/5 (60%)	(+/-) 2/4 (50%)
<b>Subordination</b>	(+/-) 1/3 (33%)	(+/-) 2/4 (50%)
<b>VS-type</b>	(-) 0/1 (0%)	(-) ∅
<b>Adverb Fronting</b>	(-) ∅	(-) ∅
<b>Anaphora</b>	(-) ∅	(-) ∅
<b>Adverb Separation</b>	(-) ∅	(-) ∅

The (+) sign indicates that the structure in question has been produced in sufficiently different lexical and grammatical environments (more than five instances per item in a single informal interview) in order to be able to assert that it has been acquired. The

<sup>1</sup>These the learners initials. Cells above the bold lines indicate that structures in the cells are acquired, whereas cells above the double lines indicate that structures in the cells are in an emerging phase.

(+/-) indicates that the structure has been produced by the learner on a few occasions and with much restricted grammatical and lexical variations. Therefore, it is not possible to assert that it has already been acquired but rather that it is in an emerging stage. The (-) sign indicates that a structure has not been produced by the learner even when it was grammatically and semantically essential to convey meaning. It is, therefore, safe to assume that there are no indications of acquisition or even of emergence.

The data collected from both learners show a strong indication of an early development of the Noun-first sentence (SV(O)) almost exclusively at the expense of any other possible word order. The type of sentences produced follow a very basic pattern with the nominal component being the focus while the predicate (nominal or verbal) provides comments and information. The sentences rarely extend to multi-propositional discourse, and are obviously constrained by the learners' limited competence. The only variation is the production of the Arabic equational sentences (verbless sentences where the copula is not required). The following three examples from Learner 1 provide illustrative examples for SV-type clauses as well as equational sentences respectively:

a. \* *ax-ii ismu-haa angela ta-<sup>■</sup>malu muHaasibat*  
brother-my name-her Angela 3S.F-work accountant  
'My sister, whose name is Angela, works as an accountant.'

b. *al-lu<sup>□</sup>at al-<sup>■</sup>arabiyyat laa sahlata wa laa Sa<sup>■</sup>bat*  
the-language the-Arabic not easy and not difficult  
'The Arabic language is neither easy nor difficult.'

c. *abuu-hu fii l-maT<sup>■</sup>am wa ummu-h-u fii l-maT<sup>■</sup>am*  
father-his.Nom in the-restaurant and mother-his.Nom in the-restaurant  
'His father is in the restaurant and his mother is (also) in the restaurant.'

In sentence (a) the learner used the word /*axii*/, 'my brother' instead, of the more appropriate /*uxtii*/, 'my sister', since the statement concerns the sister 'Angela'. This is a little misleading and confusing since in Arabic, unlike English, kinship terms referring to brothers and sisters are derived from the same lexical word consisting of the root /*ax*/. Different kinship terms are derived by affixation of gender. Therefore,

beginners and even intermediate learners sometimes confuse the use of such terms if gender and person features are not fully mastered.

As far as the structure of the sentence (a) is concerned it essentially follows a universal pattern of sentence development where learners, regardless of their first language, tend to place the subject first followed by the comment or predicate. The same observation can be made about equational sentences which follow the same pattern as illustrated in sentences (b) and (c).

Learners at this stage do already use negation quite frequently (nine occurrences in less than 15 minutes) with an accuracy rate of 50% for Learner (2) and 60% for Learner (1). With the exception of the nominal negation word */laysa/*, which is used only once, the verbal negation word */laa/* is used almost exclusively with all negated statements. Consider the following examples from both learners:

a. *ʔind-ii ax waaHid lakin laysa ʔind-ii uxt*  
have.1S brother one but not have-1S sister  
'I have one brother but I don't have a sister.'

b. *laa ziyarat aqTaar ʔarabiyyat*  
not visiting countries Arab  
'I did not visit any Arab countries.'

This sample of data illustrates the two instances of negation where */laa/* and */laysa/* are used. In sentence (a) the nominal negation word */laysa/* is correctly employed with the auxiliary */ʔindi/*, which indicates that even at this early stage the learners are able to differentiate the two types of negation structures in Arabic. However, it may also be the case that the learners are able to produce */laysa/* in negated sentences preceding the auxiliary */ʔindi/* as a non-differentiated lexical item. This possibility can only be supported, or otherwise refuted, on the basis of data elicited specifically to test the use of */laysa/*. In any case both learners follow the universal negation structure of [not + V/NP], which is used more frequently and with a lower degree of accuracy (less than 40%) as evidenced in sentence (b) where */laa/* is preceding a verbal noun



(gerund) rather than a proper verb. For these reasons, it is concluded that negation is in an emergence phase rather than being fully acquired.

The language produced by the two beginners also displays other structural characteristics not typically expected at this early stage of language development and certainly not predictable on the basis of the processing and linguistic prerequisites stipulated in PT. Consider the following examples:

c. *ab-ii ya-■mal lakin umm-ii laa ya-■mal*  
father-my 3M.SG-work but mother-my not 3M.SG-work  
'My father works but my mother does not work.'

d. *ax-ii ya-■mal Talib fi l-jaami■at wa uxt-ii ya-■mal sikritirat*  
brother-my 3M.SG-work student in the-university and sister-my 3M.SG-work secretary  
'My brother is a student and my sister works as a secretary.'

Sentences (c) and (d) exhibit coordinated utterances using */lakin* and */wa /* for 'opposing' and 'linking' arguments respectively. This is quite interesting since it was expected that beginners would produce sequences of predominantly short utterances rather than coordinated discourse. This again lacks the lexical and grammatical variation as well as quantity to make any conclusive statements about the emergence and possible acquisition of coordination and subordination. Not surprisingly, the rest of the structures namely, VS-type sentences, adverb fronting, anaphora and adverb separation are not produced with any significant frequency to make meaningful claims about emergence or acquisition.

### **3.2. Analysis of Intermediate learners' language**

Following is a detailed analysis of the learners' language in terms of developmental stages, followed by tables indicating the correlation of the data analysis with the claims and predictions generated in PT. This data analysis for intermediate learners looks at the development of syntactic structures and lists them in the natural order of their acquisitional status.

Table (3): The Development of Syntax in Intermediate Learners

Order	Structures	Learner 3 (G.D.)	Learner 4 (C.S.)
1	Canonical Order SVO	(+) 12/12 (100%)	(+) 9/10 (90%)
2	Equational sentences	(+) 10/10 (100%)	(+) 9/10 (90%)
3	Adverb Fronting	(+) 4/4 (100%)	(+) 5/5 (100%)
4	Non-Canonical Order VS(O)	(+) 4/5 (80%)	(+/-) 1/2 (50%)
5	Subordination	(+/-) 1/2 (50%)	(+/-) 1/1 (100%)
6	Anaphora	(+/-) 1/1 (100%)	(-) 0/1 (0%)
7	Adverb Separation	∅	∅

The data analysis shows quite clearly that canonical word order (SVO), non-canonical word order (VS(O)) and adverb fronting are all produced freely in the learners' language with a high rate of grammatical accuracy (higher than 80%) and in varying linguistic contexts. The following three examples provide evidence from Learner 1 on the productive use of these three structures (SVO, VS(O), Adverb-Fronting) respectively:

a. *ana askunu maʔa ʔaa'ilat suriyyat*  
 I live.1S with family syrian  
**S V Obj**  
 'I live with a Syrian family.'

b. *aZunnu anna-hum yafʔal-uun laa shayʔ*  
 think.1S that-they do-3M.PL no thing  
**V S V Obj**  
 'I think that they did not do anything.'

c. *athnaa'a al-ʔuTlat qariib min ʔiid-almilaad dhahab-na ila miSr*  
 during the-holiday close from christmas went-1.PL to Egypt  
 'During the break close to Christmas we went to Egypt.'

Despite that fact that learners do produce the VS-type sentences mainly, with the first person (singular and plural), nonetheless, there is a strong tendency for them to produce SV-type sentences more frequently. This is especially obvious in narrative discourse where VS-type sentences are highly desirable for their pragmatic role in placing emphasis on events rather than on participants. This tendency may be accounted for in terms of two factors. The first is related to the fact that the learners' native tongue is essentially a SV(O) language and hence the switch to VS(O) is not readily accessible. The second, and probably the more compelling of the two, relates to the fact that Arabic SV(O) sentences have full agreement between the verb and its subject (the subject's person, number and gender are cross-coded onto the verb), whereas with VS(O) the agreement is restricted to gender only.

The above table indicates that both subordination and anaphora are still in an emerging phase with a lower production frequency and less restricted linguistic variation observed. Consider the following instances where subordination and anaphora occur in the learners' data:

a. *kaanuu Haziin lakin fahim-uu anna al-mushkila bayna isra'iil wa suriat*  
were sad-S.M but understood-3M.PL that the-problem between Israel and Syria  
'They were sad but understood that the problem is between Israel and Syria.'

(This was a comment made on the Syrian teachers' reaction to the refusal of entry to Syria for students who had an Israeli visa stamped on their passports).

b. *laa a'rif aZunn an yal'ab-uu alwaraq wa yatakallam-uun kathiiran*  
not know-1S think-1S that play-3M.PL cards and talk-3M.PL a lot  
'I don't know, I think that they play cards and talk a lot.'

In example (a) the two clauses are connected by means of a link word (*lakin* 'but') as well as by the more complex Arabic complementizer [*an*]. This indicates that learners are able to link sentences together while maintaining a certain degree of discourse coherence by using the appropriate linking words. In many cases these not only have different semantic connotations but also different effects on the grammatical behaviour of the constituents they govern. As evidenced in example (b), the introduction of [*an*] meant that the verb's mood ought to be altered from indicative [V--*uun*] to subjunctive [V--*uu*] (this is for verbs with the features [3.M.PL] only).

Example (b) displays the learners' ability to establish a discourse referent (Syrian men) and then successfully narrate events performed by these discourse referents without having to refer to them by name. This ability, of course, can only be carried out successfully if learners are able to mark subject-verb agreement correctly, hence ensuring a consistent and smooth flow of information in multi-propositional discourse.

### **3.3. Discussion: A Processability Theory perspective**

The universal developmental stages generated through PT will be compared to the actual sequences of acquisition of Arabic interlanguage syntax. The predictive power of PT is based on the fact that 'the sequence in which the learner's language unfolds is determined by the sequence in which processing prerequisites that are necessary to handle the TL's components develop' (Johnston 1995:01).

It should be noted here that what is important in the data analysis is not the variation in the order of structure sequences, but rather the systematic and fixed order which characterises the development sequence. Therefore, the order of syntactic and morphological structures may vary between learners depending on their degree of proficiency in the target language. Nevertheless, the general developmental sequence always follows the same universal order across individual learners and in different languages. A universal developmental sequence formulated on the basis of findings reported in research undertaken by proponents of PT (Pienemann 1994; Johnston 1995; Huter 1996) is given below in tables (3) and (4) together with the sequences observed for Arabic interlanguage syntax.

Table (4): Development of syntax across all 4 learners

Processability Theory-generated Stages	Structures	Learner (1) L.P.	Learner (2) J.H.	Learner (4) C.S.	Learner (3) G.D.
STAGE 1	1. Words	+	+	+	+
	2. Formulaic Patterns	+	+	+	+
STAGE 2	3. Canonical Order : S V (O)	+	+	+	+
	4. Equational Sentences	+	+	+	+
STAGE 3	5. Adverb Fronting (typically Prepositional Phrases)	-	-	+	+
	6. Non-Canonical Order: VS(O)	-	-	+/-	+
STAGE 4	7. Subordination	-/+	-/+	+/-	+/-
STAGE 5	8. Anaphora	-	-	+/-	+/-

The overall findings concerning the development of syntax in intermediate learners (Learners 3 and 4) are quite consistent with the set of predictions generated on the basis of PT and other cross-linguistic research carried out within the theory. The two beginners (Learners 1 and 2) are shown to have an identical language output with structures 1, 2, 3 and 4, which form the first two stages for the development of syntax being fully acquired.

The order of the acquisition is, in fact, in line with the set of predictions formulated within PT. The rest of the structures that form stages 3, 4 and 5 are not shown to have been fully acquired by Learners 1 and 2. The only inconsistent finding concerns subordination, which all four learners produced with sufficient frequency and variation to suggest that they are, at least, in a transitional or emerging phase. Subordination, which belongs to stage 4 and, therefore, requires the acquisition of the preceding structures according to PT's processing prerequisites, seems to be developing in Learners 1 and 2 before the supposedly preceding adverb fronting and non-canonical word order.

As for the intermediate learners, the findings are particularly consistent in the first three stages where structures 5 and 6 at stage 3 are acquired (although Learner 4 still does not exhibit as high a degree of grammatical accuracy as Learner 3). This implies that all structures at stages 1 and 2 ought to have been acquired if the processing

prerequisite principle is to be supported. Indeed, structures 1, 2, 3 and 4 have been acquired by both learners, including adverb fronting which necessitates the ability of transferring linguistic structures as well as withholding discourse information across syntactic constituents.

The above table also highlights inter-learner variability with Learner 3 showing strong linguistic and significant quantitative evidence (five instances) which points towards a sound mastering of non-canonical word order. Data produced by Learner 4, on the other hand, indicates the beginning of an emerging non-canonical word order with limited linguistic variation and significant lower frequency (two instances). This finding, of course, does not weaken the predictive power and validity of PT since it does not relate to a different order of acquisition but rather to the slower pace of learning by one individual learner in comparison to another. This is one reason why second language research needs to employ a set of theoretical principles which can account for variation across both languages and individual learners.

The rest of the stages (4 and 5) for both learners follow an identical pattern, with all but one structure namely, adverb separation defined as a stage 4 structure, not being acquired while anaphora, which belongs to stage 5, remained at the transitional emerging phase. This may have serious implications for PT since it would seem, at least on the surface, that this inconsistent pattern defies two main principles. The first relates to the implicational hierarchy or scale where linguistic structures at a later stage pre-suppose the acquisition of structures belonging to earlier stages. The second principle concerns processing prerequisites which are thought to constrain the production of structures unless certain processing tools have been acquired at the immediately previous stage.

However, a more in-depth analysis of the data suggests that the lack of instances where adverb separation occurs can also be related to the nature of the target language, which does not encourage adverb separation in the same way German and other languages tend to do. In fact, the Arabic language allows for adverbs and adverbial phrases either to follow or in some cases precede the main clause to which

they relate, but very rarely does it separate the adverb from the main clause by placing the adverbials in between other syntactic constituents rather than immediately before or after the verbal constituent.

As far as developmental stages are concerned, it is quite possible to define which structures belong to which stage not only by separating structures on the basis of acquisitional criteria (represented by the bold line in table 3) but also the linguistic and processing complexity of the structures. Therefore, structures within the same lines may belong to different developmental stages, as is the case with equational sentences and adverb fronting for the intermediate learners. The following is the final continuum for the acquisition stages for Arabic interlanguage syntax:

**Stage One:**

1. Formulaic Pattern            NP Adj

**Stage Two:**

2. Canonical Order            Subj/NP VP (Obj/NP)  
3. Equational Sentences      NP Predicate

**Stage Three:**

4. Adverb Fronting            AdvP Subj/NP VP  
5. Non-Canonical Order      VP Subj/NP (Obj/NP)

**Stage Four:**

6. Subordination            S Adv S

**Stage Five:**

7. Anaphora                  Ø    VP    Obj/NP

It is essential to note that it is the order of stages rather than the order of the structure within the same stage, that is important for the understanding of learner language

development. This is because the structures acquired at the same stage usually require similar processing strategies and exhibit common linguistic features.

#### **4. CONCLUSION**

The overall linguistic and acquisitional analysis of the data collected for this investigation generally, but not entirely, support the claims and predictions concerning the development of syntax generated through PT. The early stages in the learning process, however, are more in line with the universal predictions of PT than structures acquired at later stages.

A major conflict between this study and the hypotheses/predictions generated through PT relates to structures belonging to later acquisitional stages. PT claims that non-canonical word order always precedes the acquisition of subordination. In other words, the acquisition of non-canonical order is a linguistic and processing prerequisite for the acquisition of subordination. However, the findings of this study do not support this claim, since all the indications are that learners are starting to produce speech where subordination is used productively before the supposedly preceding non-canonical order structures.

This may well be a result of the learners employing avoidance strategies that allow them to opt for the more familiar SVO-type sentences and, therefore, the minimal use or lack of non-canonical structures (VSO type sentences). However, it may also be the case that the implicational scales put forward on the basis of PT, which are considered to be universal, require further adjustments to take into consideration the typological peculiarities of certain non-European languages such as Arabic and Japanese.

If further research on languages such as Arabic continues to indicate such inconsistent findings, then the Processability Model may require further modification and adjustment if it is to generate truly universal claims concerning the order and the manner in which second language acquisition unfolds in the learner language.



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**Appendix A: Sample of beginners' conversation at Time 1:**

The themes and topics of discussion for the recorded interviews included the following:

1. Overseas travel experiences.
2. Hobbies and interests.
3. Family and friends.
4. Future careers and occupations.
5. Sports.
6. Novels and literary works.
7. Study at university.

The following appendices relating to samples of the learners' language are outlined in a format which provides a section for phonetic transcription based on the learners actual speech (in italic) with the corresponding translation next to it. The translation is not altered in any way and is an exact reflection of the meanings expressed in Arabic.

<i>J.H. : adrusu attijaara wa allghat @arabiyya</i>	<i>al-</i> I study commerce and the Arabic language
<i>L.P. : al-lugha al-@arabiyy laa Sa@ba wa laa sahla</i>	The Arabic language not difficult not easy
<i>J.H. : adrusu abii wa ummi fi Ashwood</i>	My father and my mother study (meant to say live) in Ashwood
<i>L.P. : abuuhu fi al-maT@am wa ummu-hu fi al-maT@am</i>	His father (works) in the restaurant and his mother (works) in the restaurant. (The learner was referring to her own parents here but did not use the proper pronoun).
<i>J.H. : @indii akh waaHid lakin laysa @indii ukht. Akhii Taalib fii College</i>	I have one brother but I don't have a sister. My brother (is) a student in a college.
<i>L.P. : na@m @indii akh waaHid wa @indii Ukhtii. Akhii ismuhu Kevin wa ahkii ismuhaa Michelle ya-@malu Taalib fii jaami@a. na@am @indii zurtu Fiji faqaT</i>	Yes I have one brother and I have my sister. My brother his name Kevin and my sister her name Michelle works (as) a student in the university. Yea I have visited Fiji only
<i>J.H. : ashrahu al-burtuqaal wa al-qahwa</i>	I drink orange (juice) and coffee.
<i>L.P. : ashrahu al-mufaDDala Cola wa al-qahwa. Laa ziyaarat aqTaar @arabiyya</i>	My favourite I drink (is) Cola and coffee. Not visiting Arab countries (meaning I have not visited any Arab countries).
<i>J.H. : hiwayatuka ar-riyaDa wa aqra'u. na@am tasma@u al-muusiqa lakin wa ustraliy faqaT</i>	Your (meaning my) hobby sport and I read. Yes you (instead of I)listen to music but only Australian (music).

*L.P. : hiwayatuka aw hiwayati al-mashyi wa mushahadati at-tilifizyuun. Na@am tasma@ 'In Excess' faqaT.* Your hobby or my hobby (correcting herself) walking and watching TV. Yes you (instead of I) listen to 'In Excess' only.

**Appendix B: Sample of beginners' oral conversation at Time (2):**

*J.H. : al-yawma zurtu al-jaami@at Deakin wa adrusu al-@arabiyya wa at-tijaara wa amsi adrusu microeconomics wa akulu faTuri* Today I visited the university Deakin and I study Arabic and commerce and yesterday I study microeconomics and I eat my breakfast

*L.P. : amsi zurtu al-jaami@a Deakin wa a@malu fi safeway faqaT* Yesterday I visited the university Deakin and I work in Safeway only

*J.H. : akh ismuhu Faris wa ya-drusu fii Toorak, yaskunu Faris fii raqm 41 shaari@ Preston wa ya-skunu ma@a abii wa ummi wa ana* Brother his name Faris and He studies in Toorak (campus), Faris lives in number 41 avenue Preston and he lives with my father and my mother and I

*L.P. : a-f@alu fii @uTlat aS-Sayf zurtu fii ...wa a-@malu fii safeway* I do in the summer holidays ..I visited in...and I work in Safeway

*J.H. : zurtu fii @uTlati aS-Sayf al-qaadim ... laa a@rif* I visited in next summer holidays ... I don't know

*L.P. : na@am @inda-ka Sadiiq-aat ismu-hu Ayron wa Gerard. @ind-ii Sadiiqa-ti wa ismuha Samanta wa ismu-ha Rebecca wa ismu-ha Nicole* Yes you have (meaning I have) friend-F.PL his-name Ayron and Gerard. I have my friend-F.S and (another one) her name Rebecca and her name Nicole

*J.H. : @ind-ii Sadiiq ismu-hu Don wa Geoff wa Robert. Sadiiq-ii Don yaf@al-u... ya-@mal Assistant wa Geoff ya-@mal Programmer wa ya-@mal Robert... wa Robert ya-l@ab Aussie Rules.* I have a friend his name Don and Geoff and Robert. My friend Don does ... works Assistant and Geoff works Programmer and Robert works... and Robert plays Aussie rules.