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L2 and L3 Syntactic Development in the Light of Generative Models: An Educational Perspective

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Abstract

This study explored the syntactic acquisition by Persian monolingual and Kurdish-Persian bilingual learners of English as a second and third language and the effect of instruction on beginner learners' syntactic acquisition with reference to UG-based non-primary language learning theories. A group of EFL learners (23 Persian monolingual and 73 Kurdish-Persian bilingual learners) were selected. They were divided into beginner, intermediate and advanced levels based on their performance on the Oxford Placement Test. A grammaticality judgment test, a translation test and a functional test were used to collect data. ANOVA analyses indicated that Kurdish-Persian bilingual learners of L3 English and Persian monolingual learners of L2 English were able to reset the parametric variations related to the intended features at intermediate and advanced stages of L3 acquisition, but they failed to do so at the initial stage. The Direct Access (DA) hypothesis, the Full Transfer/Full Access (FTFA) hypothesis and the Modulated Structure Building Hypothesis (MSBH) were found to best explain the findings. Paired-samples *t*-test showed that instruction positively influenced the acquisition of the syntactic features by beginner-level learners after the treatment.

Keywords: syntactic development, ug-based theories, English as a second language, English as a third language

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1. Introduction

Much has been written about non-primary language development over the last three decades (Eubank, 1994, Schwartz & Sprouse, 1994, Dewaele, 1998; Hawkins, 2000; Herwig, 2001; Murphy, 2003; Khany & Bazayr, 2013; Vahdat et al., 2018). In doing such studies various traditions have been used among which, though, the generative orientation in L2, L3 and Ln research is more paramount (Schwartz & Sprouse, 1996, 1994; Hawkins, 2001; Haznedar, 2013; Ayoun & Rothman, 2013).

While there is abundant research on second language (L2) acquisition and the effects of the first language on the acquisition of the second, little is known about third language (L3) acquisition and the effects of the two already known languages on the acquisition of the third (Torabi & Jabbari, 2018) Non-primary language acquisition research is so dominated by L2 acquisition that whenever the issue of foreign language teaching and learning is concerned, especially in educational settings, one does not assume any role for the first local languages known by people in multilingual communities. In such settings, the national standard language is assumed as the first language of the whole population without any noticeable attention to the knowledge of languages other than the national language (Train, 2003). While many children do not yet know the national language up to the age of schooling, their mother tongue is their sole linguistic tool in exploring the world and communicating with others in their beginning years of life. Similarly, in curriculum preparation, what seems important in second or foreign language teaching and learning is the contrast between the national language and the target language (Olutekunbi, 2011). Since a considerable number of people in the world are bilinguals, the issue of third language acquisition is, in fact, one of the basic issues in foreign language research. In such particular settings as Iran, in which bilingualism for students at schools and universities is taken for granted, it seems appropriate to study the effects of the first language (mother tongue) and the second language (Persian) on the acquisition of the third language (English as a foreign language).

It is generally assumed in SLA research that the departure point for acquiring an L2 is the learner's native language. This assumption is explicitly articulated in the initial and early stages of linguistic development (Schwartz & Sprouse, 1996, 1994; White, 2003). L2 learners would initially approach L2 grammar via L1, with a greater transfer of L1 grammar at the initial stages (Schwartz & Sprouse, 1996, 1994). This is known as the Full Transfer/Full Access (FTFA) Hypothesis.

However, this hypothesis about L1 influence is based on a contrastive analysis of resetting parametric variations of the L1 and L2 (White, 2003). The assumption is that when both languages are similar in a particular parameter, the acquisition will proceed with relative ease, but when they are different, the acquisition process might be hindered. Therefore, failure to achieve native-like proficiency is seen as an inability to reset the parameters of the L2 from those of the L1 (Lardiere, 2007).

2. Statement of the Problem

As discussed in the introduction, much of the research on non-primary language acquisition over the last decades has been either on the nature of the acquisition or the linguistic typologies instantiated in different processes of L2, L3 or Ln acquisition (Khany & Baziyar, 2013; Cenoz & Ulrike, 2001; Khany et al., 2008; Leung, 2003).

These studies rarely have explored the relationship or effect of other interdisciplinary outliers and variables deemed important in the development of non-primary language development. Such variables range from psychological, personality and individual internal variables to pedagogical, educational and other external contextual determiners. Having all these in mind, and based on the sound theoretical framework, the effort is made in this paper to address a more educational impact of L2, and L3 syntactic development in light of generative models such as FTFA, MSIH, DA, and MSBH.

As such this study is to continue the research traditions by further exploring the nature and extent of transfer from the learners' first languages into the syntax of their second language in general and the third language in particular. Generative SLA research is in no way restricted to the debate of transfer because transfer alone cannot provide an absolute and comprehensive explanation for the improvement paths taken by non-native language learners. It is essential for generative SLA research to focus on the influence of other internal and external variables besides UG concerns in L2 development. So, this study aims to investigate whether teaching L2/L3 syntactic features help Kurdish-Persian bilingual learners and Persian monolingual learners acquire the syntactic features of English as an L2 and L3 under the same teaching treatments or not. That is, the question is whether their prior linguistic knowledge would differently influence their acquisition of English as an L3 and L2 with reference to the most current syntactically-based generative models of L2 acquisition, i.e. Full Access/Full Transfer (FAFT) and the Failed Functional Feature Hypothesis (FFFH).

2.1. *The Verb System of Kurdish*

There is a general consensus that the Kurdish verb system is highly complex, not only because the verb incorporates, among other things, tense, mood, aspect, number, causative, person, passive and other markers, but also because it can be a sentence in itself, i.e. it can incorporate both subject and object markers. It is not surprising, therefore, that the verb is the central focus of almost all previous works on Kurdish by linguists. The core of the verbal system, however, is what can be loosely referred to as the verbal categories, i.e., tense and aspect. Ultimately, these deal with the expression of such concepts as anteriority, posteriority, simultaneity and the different ways of viewing the internal temporal constituency of a situation and the viewpoint of the speaker, concepts that are primarily indicated in the verb system of Kurdish.

Verb roots in Kurdish are morphemes, which are the “smallest individual units of the content of grammatical function which words are made up of ... Morphemes cannot be decomposed into smaller units which are either meaningful by themselves or mark a grammatical function” (Katamba, 1993, p. 20). Hence “the root is the irreducible core of a word, with absolutely nothing else attached to it” (Katamba, 1993). Verb roots are considered a vessel that carries the semantic content of the verb. In Kurdish, they are bound morphemes, since they appear with modifiers in the form of inflections in the stem of the verb, in contrast to free morphemes which can occur by themselves. Therefore, they are not independent free morphemes corresponding to English verbs like ‘sleeping’ and ‘shifting’, which can be nouns or verbs simultaneously, taking non-past or past markers to show whether they are used in the past or present. In ‘I sleep’, the verb ‘sleep’, describes a situation without the help of inflections; this is not possible in Kurdish where verb roots are, in most cases, bound morphemes. Many roots are incapable of occurring in isolation, and they “tend to have a core meaning which is in some way modified by the affix” (Katamba, 1993, p. 42). To Robins (1985), the root is “that part of a word structure which is left when all the affixes have been removed” (p. 158). In Kurdish, the distinction between lexical morphemes which carry most of the semantic content and function words which “signal grammatical information or logical relations in a sentence” (Katamba, 1993, p. 42) including articles, demonstratives, pronouns and conjunctions, is easily established.

In the light of the foregoing discussion, it appears that Kurdish verb roots are bound morphemes which maintain the core meaning of the verb. However, in general, one can recognize the meaning of a lexical verb not by means of the verb root alone but also by means of the meaning of the verb root plus the meaning of the other modifiers attached to it. For example, -gir- is not a word but a bound morpheme. It bears lexical content but would not be recognized by a Kurdish speaker as a word. Its meaning can be recognized by its relationship to other affixes such as the imperfective marker da- and personal endings like -m, as in da-gir-im ‘I catch’. Hence, the general definition of verb roots can be established as a regular and essential part of the verbal element that carries the semantic content.

2.2. Kurdish Perfectives

The perfective aspect in Kurdish has a number of specific uses that seem to fit under the general definition of ‘perfective’ as identified by Comrie (1976). It indicates result and completion, since the perfective aspect views the situation as a single complete whole. We find his definition suitable for most perfective aspect forms in Kurdish except those which express the beginning of a certain action.

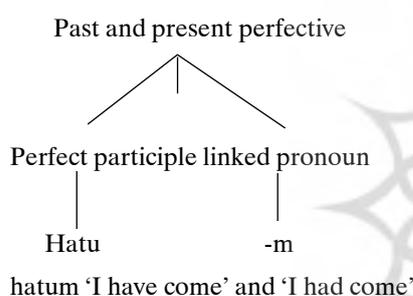
2.3. The Perfect Active Participle

The perfect active participle is formed by adding -û to the past stem of the verb. With past stems that end in vowels the participle takes the form -w.

CONSONANT STEMS		VOWELSTEMS	
INFINITIVE	PARTICIPLE	INFINITIVE	PARTICIPLE
هاتن hatin	هاتوو hatu	مان man	ماو maw

The present and past perfect tense are formed from the perfect active participle plus the present copulas. Examples are:

هاتوین hatuyn	هاتووم hatum
هاتوون hatun	هاتوویت hatuy(t)
هاتوون hatun	هاتووه hatua
ماوین Mawin	ماووم mawim
ماوون mawin	ماوویت mawi(t)
ماوون mawin	ماوه mawa



2.4. The Present Habitual/Progressive

The present habitual tense corresponds to the English simple present used for habitual action ('I go'), progressive action ('I'm going'), and the future ('I'll go, I'm going to go' 1). It is formed from the present stem of the verb with a prefixed modal marker which receives the stress and the following suffixed personal endings.

CONSONANT STEMS		VOWEL STEMS	
-im	-în	-m	-yn
-î(t)	-in	-y(t)	-n
-e(t)	-in	â(t)/-(t)	-n

The inherent (t) shown for the 2nd- and 3rd-persons singular is characteristic of literary Kurdish and seldom appears in the more informal spoken language. It is recovered, however, when any enclitic or suffix is added to the verb form.

The modal prefix in Sulaymani Kurdish is ەڤ a-; in most other dialects the modal prefix is ەڤ da-. Since other verbs are conjugated identically in all varieties of Sorani Kurdish, the modal marker will be shown in this book as dá-, and examples will be given with á- or dá- as they occur in the texts

from which they have been taken. Examples of the conjugation of the verb with present stems ending in a consonant are as follows (example -ch-‘go’):

چوون chun ‘to go’
 نه چين achim نه چين achin
 نه چي achi نه چن achen
 نه چي ache نه چن achen

2.5. Infinitives

Infinitive (abbreviated as INF) is a grammatical term referring to certain verb forms existing in many languages, most often used as non-finite verbs. In traditional descriptions of English, the infinitive is the basic dictionary form of a verb when used non-finitely with or without the particle *to*. Thus, *to go* is an infinitive, as is *go* in a sentence like “I must *go* there” (but not in “I *go* there”, where it is a finite verb). The infinitive form without *to* is called the bare infinitive, and the form with *to* is called the full infinitive or *to*-infinitive.

In many other languages, the infinitive is a single word often with a characteristic inflective ending like *morir* (“(to) die”) in Spanish, *manger* (“(to) eat”) in French, *portare* (“(to) carry”) in Latin, *lieben* (“(to) love”) in German, etc. However, some languages have no infinitive forms. Many native American languages and some languages in Africa and Australia do not have direct equivalents to infinitives or verbal nouns. Instead, they use finite verb forms in ordinary clauses or various special constructions.

In Kurdish, infinitive is formed from the present stem of verbs + *-n* or *-in*. Examples are:

مردن mirdin (present stem mir-) ‘to die’

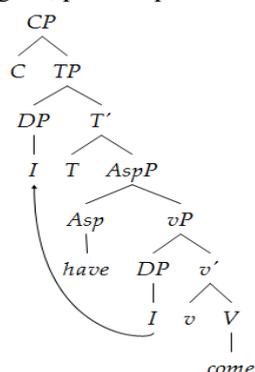
گه‌یه‌ین gain (present stem ga-) ‘to reach’

نووسین nusin (present stem nus-) ‘to write’

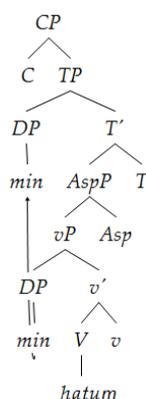
دان dan (present stem da-) ‘to give’

2.6. Linguistic Assumption

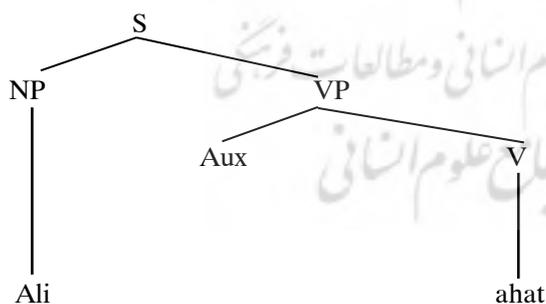
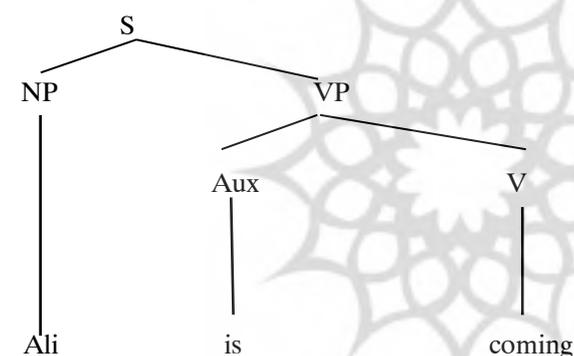
In English, present perfect is made syntactically. The aspect phrase consists of aspect and VP.



In Kurdish present perfect and past perfect are similar and are made by adding suffix to the verb. Unlike English, Kurdish perfective is a morphological one. So the Asp node is empty in Kurdish.



The same story is true for present progressive in which in English we have an Aux before the verb but in Kurdish a prefix is added to the verb.



The notion of perfect and progressive in Kurdish and Persian are the same while they differ from that of English. Therefore, Full Transfer/Full Access predicts that there will be a transfer in the early stages of learning; however, for the advanced L2 learners, this theory (Full Transfer/Full Access) and Direct Access theory propose that advanced second language learners can acquire L2 structures, even if these L2 structures are different from those of their L1. That is, Direct Access and Full Transfer/Full Access predict that, with a high level of proficiency, L2 learners will acquire both the surface and the underlying structures of English. Based on MSIH, on the other hand, it

can be predicted that Kurdish-Persian bilinguals will have difficulty in mapping English perfect and progressive tenses. Proponents of RDH and SSH strongly believe that IL learners of English will not be able to learn perfect and progressive tenses of English as an L3. On the contrary, MSBH predicts that although elementary learners may have difficulty in acquiring perfect and progressive tenses, they can overcome this difficulty at higher levels of language proficiency, i.e., learning takes

There is disagreement about the role of different factors in cross-linguistic influence from the learners' L1 to L2 and L3, ranging from the significance of typological closeness to proficiency level and amount of exposure (e.g., Dewaele, 2001; Hammarberg, 2001). Increasing exposure to and use of a second or third language are believed to reduce L1 transfer and enhance the possibility of resetting L2/L3 parameters (Dewaele, 2001). Moreover, relatively recent studies in the Iranian context addressing the acquisition of the syntactic features of English as a second or third language from a UG perspective have produced mixed results (e.g., Ghafar Samar & Jalali, 2008; Khany et al., 2008) studied Turkish-Persian bilingual learners' learning the negation of English as an L3 and found that negative transfer happens more to elementary levels than advanced ones. It seems that further research, at least in the Iranian context, is needed to shed more light on the issue of cross-linguistic influence between L1, L2 and L3 by EFL learners who have different L1 and L2 backgrounds and attempt to learn English as an L3. Therefore, the current study was an empirical investigation to explore whether monolingual EFL learners with Persian as their mother tongue (L1) and bilingual EFL learners with Kurdish as their mother tongue (L1) and Persian as their L2 would differentially acquire the Perfective, Progressive and infinitive features of English as an L2 and L3, respectively and whether instruction targeted at the features in question would positively influence the acquisition of those features by learners at lower levels of proficiency and, hence, reduce transfer from their L1 or L2 as typologically different languages to English as an L2 and L3. To this end, the following questions were posed for the purpose of this study.

3. Research Questions

1. If L1 and L3 differ in parametric values associated with perfectives, progressive, and infinitives, are Kurdish- Persian bilinguals able to reset the mentioned parametric values of L1 in L3?
2. Which non-Primary language learning model best characterizes the learning of the above-mentioned parameters by Persian monolinguals?
3. Which non-Primary language learning model best characterizes the learning of the above-mentioned parameters by Kurdish-Persian bilinguals?
4. Is there any similarity/difference between Persian monolinguals and Kurdish- Persian bilinguals in the acquisition of the above structures?
5. Does instruction influence the acquisition of L2 perfective, progressive, and infinitive features?

4. Method

4.1. Participants

A group of Persian monolinguals and Kurdish-Persian bilingual learners were the participants of this study. They were selected among institute students of the English language in Sanadaj, Iran. They included 96 male and female (35 male and 61 female) undergraduate learners of English (23 Persian monolinguals: 7, 8 and 8 learners at beginner, intermediate and advanced levels, respectively; 73 Kurdish-Persian bilinguals: 20, 25 and 28 learners at beginner, intermediate and advanced levels, respectively). They were students of Language Institutes in Sanandaj. They took the Oxford Placement Test based on which they were divided into beginner, intermediate, and advanced levels of proficiency.

4.2. Instruments

Four tests were administered in this study, an Oxford Placement Test (OPT), a Functional Test (FT), a Translation Test (TT), and a Grammaticality Judgment Test (GJT). The OPT was a general language proficiency test which assigned participants to low, intermediate and advanced levels of proficiency. The experimental tests (a functional test, a grammaticality judgment test and a translation test, respectively) tested the syntactic properties under investigation in this study. All of the test sentences were controlled for length and simplicity of vocabulary.

4.3. The Oxford Placement Test

To measure the subjects' general English proficiency, an Oxford Placement Test version 2 (2001) was administered. The OPT was chosen because it was objective, valid, reliable and easy to administer. For evaluation, one point was given for each correct response, while the incorrect responses were assigned no points.

4.4. The Grammaticality Judgment Test

In the present study, a 40-item Grammaticality Judgment Test (GJT) was administered in order to tap L2 and L3 learners' linguistic competence on the previously mentioned syntactic features. The questionnaire was designed by a group of experts. They decide on the number and quality of the items. The reliability index (Cronbach's alpha) for this questionnaire is .973. The subjects were asked to read and consequently judge individual sentences as definitely grammatical or definitely ungrammatical. They were asked to go by the first impression and they were not allowed to go back and change their initial decisions. The purpose of this test was to indicate the degree of certainty of the subjects with respect to the grammaticality of each sentence.

4.5. The Translation Test

In order to provide sufficient contexts for the purpose of natural elicitation, a 30-item translation test with the reliability (Cronbach's alpha) .958 was also employed. The paramount rationale behind using this kind of test was to account for the possible modality effect on the performance of the subjects. Each syntactic feature (infinitive, perfective and progressive) had 10 items in the test.

4.6. The Functional Test

A functional test consisting of 40 multiple-choice items (Cronbach's alpha=.957) was also employed. Each question had three options among which only one was true. For each syntactic feature, 10 questions were assigned and the remaining other ten questions were distracters. The whole test was scrambled in order to prevent participants from answering the questions based on an obvious pattern.

4.7. Procedure

This study was conducted in two phases. The first phase was concerned with the syntactic developments of learners of English as a second and third language in the light of generative theories mentioned in the introduction. To this end, first, the participants were divided into Kurdish-Persian bilinguals and Persian monolinguals each of which was further subdivided into beginner, intermediate and advanced levels of proficiency based on their performance on the OPT. Then, all six subgroups received three more tasks including a functional test, a grammaticality judgment test, and a translation test.

For scoring the items of the tests, the following procedure was followed. In the case of the Grammaticality Judgment Test, subjects were given number 1 (true) if they judged a '*definitely grammatical*' sentence as '*grammatical*' and a '*definitely ungrammatical*' sentence as '*ungrammatical*'. The participants were given number 2 (false) if they judged '*definitely grammatical sentences*' as '*ungrammatical*' and vice versa. Lexical errors, if any, were ignored as they were not of any significance in the study. With regard to the Translation Test and the Functional Test, the same scoring procedure was employed.

The second phase of the study dealt with L2 and L3 syntactic education. The aim of this phase was to investigate the extent to which teaching would influence the acquisition of L2 and L3 syntactic features. To do so, an experimental study was carried out in 3 months in which the syntactic features of interest in this study were taught to 24 randomly chosen participants among beginner and intermediate levels of Persian monolingual and Kurdish-Persian bilingual learners of English.

4.8. Data Analysis

The results obtained were analyzed using the SPSS software. In so doing, the main test items were coded as true or false and converted into a computer file through SPSS. One-way ANOVA computation and between-groups comparisons were conducted to check the significance of possible differences for the first phase of the study. For the second phase of the study, a t-test was run via SPSS to see if the instruction can influence the acquisition of syntactic features mentioned in the introduction.

5. Results

5.1. A: Kurdish-Persian Bilinguals Analyses

In this section, the statistical analyses relating to beginner, intermediate and advanced Kurdish-Persian bilingual learners' performance in terms of the Perfective, Progressive and Infinitive features of English as a third language (L3) in the Grammaticality Judgment Test, Translation Test and Functional Test were presented to explore whether there were any significant differences among the groups as a basis for subsequent discussion and interpretation of the findings with reference to the theoretical UG-oriented non-primary language learning theories and hypotheses.

Table 1

Participants' Age Range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16-20	32	43.8	43.8	43.8
	21-25	30	41.1	41.1	84.9
	26-30	11	15.1	15.1	100.0
	Total	73	100.0	100.0	

Table 1 shows the age range of the participants in this study. As can be observed in the table, 32 participants were in the 16-20 age range, constituting 43.8 percent of the whole participants. A number of 30 participants belonged to the 21-25 age range who made up 41.1 percent and 11 participants were in the 26-30 age range, comprising 15.1 percent.

Table 2

Participants' Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	27	37.0	37.0	37.0
	Female	46	63.0	63.0	100.0
	Total	73	100.0	100.0	

Table 2 above displays the distribution of the participants in terms of gender, where there were 27 male and 46 female participants, constituting 37 and 63 percent of the whole sample, respectively.

Table 3

Participants' Proficiency Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Beginner	20	27.4	27.4	27.4
	Intermediate	25	34.2	34.2	61.6
	Advanced	28	38.4	38.4	100.0
	Total	73	100.0	100.0	

Tables 3 display the proficiency level of the participants. There were 20 participants (27.4 percent) at the beginner level, 25 participants (34.2 percent) at the intermediate level, and 28 participants (38.4 percent) at the advanced level.

Table 4

One-way ANOVA: Perfective Items in the Translation Questionnaire

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.06	2	2.53	102.267	.000
Within Groups	1.73	70	.03		
Total	6.78	72			

The one-way ANOVA results in Table 4 indicate a significant difference between the three groups' performance in using the perfective feature in translating from the L1 (Kurdish) into L3 (English) before receiving any instruction on this feature ($F(2, 72) = 102.27, P = .000$). To put it more clearly, the Scheffe Test (see Appendix 1) was run to spot the exact differences across the three levels of language proficiency where it was found that the learners at the intermediate and advanced levels outperformed the learners at the beginner level in using the perfective feature in translation. Also, a significant difference was found between the intermediate and advanced learners to the latter group's advantage.

Therefore, the perfective feature does not seem to have been considerably acquired by beginner-level learners prior to the treatment, while the intermediate and advanced learners showed higher levels of acquisition of that feature. Overall, the results in Table 4 suggest that the higher the learners' proficiency level was, the more closely their performance approximated native-speaker ability in using the intended feature. In the following section, the results obtained on other linguistic features in the translation questionnaire will be presented.

Table 5

One-way ANOVA: Progressive Items in the Translation Questionnaire

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.94	2	1.97	154.11	.000
Within Groups	.90	70	.014		
Total	4.83	72			

It can be inferred from the one-way ANOVA results in Table 5 that there was a significant difference between the three groups' performance in using the progressive feature in translating from the L1 (Kurdish) into L3 (English) before receiving any instruction on this feature ($F(2, 72) = 154.11, P = .000$). To put it more clearly, the Scheffe Test (see Appendix 1) was run to spot the exact differences across the three levels of language proficiency where it was found that the learners at the intermediate and advanced levels outperformed the learners at the beginner level in using the perfective feature in translation. Also, a significant difference was found between the intermediate and advanced learners to the latter group's advantage. Therefore, the progressive feature appears to have been acquired differently across the three subgroups prior to the treatment, with each higher group outperforming the lower group in pair-wise comparisons. Overall, the results in table 5 suggest that the higher the learners' proficiency level was, the more closely their performance approximated native-speaker ability in using the intended feature. This finding bears witness to some theoretical assumptions about the parameter resetting possibility at initial states of L2 or L3 acquisition, which will be elaborated on in the discussion section later. This statistical result and the subsequent results will be interpreted and explained with reference to the theoretical framework put forward in this study including the different UG-based models of second language acquisition.

Table 6*One-way ANOVA: Infinitive Items in the Translation Questionnaire*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.14	2	3.07	234.85	.000
Within Groups	.92	70	.01		
Total	7.05	72			

Table 6 shows the one-way ANOVA results concerning the comparison of the means obtained by the beginner, intermediate and advanced Kurdish-Persian bilingual learners of English in using the Infinitive feature for translating from L1 into L3. As can be seen in Table 6, among-groups comparisons show a significant difference between the three groups in performing on the infinitive translation questionnaire before receiving the experimental treatment on this feature ($F(2, 72) = 234.85, P = .000$). According to the post-hoc cross-comparisons through the Scheffe Test (see Appendix 1), it can be concluded that the intermediate and advanced learners had acquired the relevant feature, i.e., the infinitive feature, far more considerably than the beginner peers who were in their initial state of L3 acquisition, and the advanced learners had acquired this feature more sufficiently than their intermediate peers. Therefore, it can be inferred from the results so far that the learners' performance on the intended linguistic features improved with an increase in their level of language proficiency.

Table 7*One-way ANOVA: Perfective Items in the Grammaticality Judgment Questionnaire*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.05	2	3.02	99.09	.000
Within Groups	2.14	70	.03		
Total	8.18	72			

Table 7 shows the one-way ANOVA results concerning the comparison of the means obtained by the beginner, intermediate and advanced groups in the Perfective-item GJT. As can be seen in Table 7, between-groups comparisons show a significant difference between the three groups in performing on the Perfective GJT before receiving the experimental treatment on this feature ($F(2,72)=99.09$, $P=.000$). The corresponding post-hoc multiple comparisons using the Scheffe Test (see Appendix 1) showed that both intermediate and advanced learners outperformed beginner learners and the advanced learners also outperformed intermediate learners in accurately judging the grammaticality of perfective items in GJTs.

Table 8*One-way ANOVA: Progressive Items in the Grammaticality Judgment Questionnaire*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.55	2	2.27	116.38	.000
Within Groups	1.37	70	.02		
Total	5.91	72			

Table 8 shows the one-way ANOVA results concerning the comparison of the means obtained by the beginner, intermediate and advanced groups in the Progressive-item GJT. As can be seen in Table 8, between-groups comparisons show a significant difference between the three groups in performing on the Progressive feature of English as a third language (L3) in the GJT before receiving the experimental treatment on this feature ($F(2, 72)=116.38$, $P=.000$). Furthermore, post-hoc multiple comparisons using the Scheffe Test (see Appendix 1) revealed that like other features in other questionnaires so far, the intermediate and advanced learners outperformed the beginner learners in answering the items entailing the Progressive feature in the GJT, which indicates that the beginner learners had not acquired this feature at the initial state of third language acquisition. Post-hoc comparisons also indicated that there was a significant difference between intermediate and advanced learners in correctly judging the grammaticality of the items entailing the Progressive feature in the GJT.

Table 9*One-way ANOVA: Infinitive Items in the Grammaticality Judgment Questionnaire*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.41	2	3.70	138.02	.000
Within Groups	1.88	70	.03		
Total	9.29	72			

Table 9 shows the one-way ANOVA results concerning the comparison of the means obtained by the beginner, intermediate and advanced groups in the Infinitive feature in the GJT. As it can be seen in Table 9, between-groups comparisons show a significant difference between the three proficiency groups in performing on the infinitive feature of English as a third language (L3) in the GJT before receiving the experimental treatment on this feature ($F(2, 72) = 138.02, P = .000$). Post-hoc cross-comparisons using the Scheffe Test (see Appendix 1) showed significant differences between all three groups in judging the grammaticality of the items entailing the Infinitive feature in the GJT. In other words, the learners at each higher proficiency level outperformed their peers at the lower proficiency level. This means that an increase in proficiency level went hand in hand with an increase in the ability to correctly judge the grammaticality of the items based on the Infinitive feature.

Table 10*One-way ANOVA: Perfective Items in the Functional Questionnaire*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.81	2	4.40	429.48	.000
Within Groups	.72	70	.01		
Total	9.52	72			

Table 10 shows the one-way ANOVA results concerning the comparison of the means obtained by the Kurdish-Persian bilingual learners at beginner, intermediate and advanced groups in the perfective feature in the Functional questionnaire. As shown in Table 10, between-groups comparisons show a significant difference between the three proficiency groups in performing on the Perfective feature of English as a third language (L3) in the functional questionnaire before receiving the experimental treatment on this feature ($F(2, 72) = 429.48, P = .000$). Post-hoc cross-comparisons using the Scheffe Test (see Appendix 1) showed significant differences between all three groups in using this feature. In other words, the learners at each higher proficiency level outperformed their peers at the lower proficiency level. This suggests that the learners had acquired the feature to higher degrees as they advanced to higher levels of language proficiency.

Table 11*One-way ANOVA: Progressive Items in the Functional Questionnaire*

	Sum of Square	df	Mean Square	F	Sig.
Between Groups	1.90	2	.95	291.61	.000
Within Groups	.23	70	.00		
Total	2.12	72			

As shown in Table 11, the one-way ANOVA results indicate a significant difference between the Kurdish-Persian bilingual learners across the levels of proficiency in terms of using the Progressive feature in the functional questionnaire ($F(2, 72) = 291.61, P = .000$). Multiple between-groups comparisons through the Scheffe Test (see Appendix 1) revealed that not only did the

intermediate and advanced learners outperformed the beginner learners in terms of the syntactic realization of the Progressive feature but also the realizations of this feature in advanced learners performance were significantly higher than those of their intermediate peers. Along a similar pattern of results, Table 11 provides support for the previous findings which indicated the superiority of learners at higher levels of language proficiency in acquiring the features in question.

Table 12

One-way ANOVA: Infinitive Items in the Functional Questionnaire

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.94	2	2.97	175.25	.000
Within Groups	1.19	70	.02		
Total	7.12	72			

The statistical results provided in Table 12 indicate a significant difference between the Kurdish-Persian bilingual learners across the levels of proficiency in terms of using the Infinitive feature in the functional questionnaire ($F(2,72)=175.25$, $P=.000$). Multiple between-groups comparisons through the Scheffe Test (see Appendix 1) revealed that not only did the intermediate and advanced learners outperformed the beginner learners in terms of the syntactic realization of the Infinitive feature but also the realizations of this feature in advanced learners performance were significantly higher than those of their intermediate peers. Following a similar trend, Table 12 also provides evidence for the results presented in other previous statistical tables in this chapter which allude to the superiority of learners at higher levels of language proficiency in acquiring the syntactic features under investigation.

Table 13

Overall Analysis of Performance on all Three Features in all Questionnaires (Kurdish-Persian Bilingual Learners of L3 English)

		Sum of Squares	df	Mean Square	F	Sig.
Perfective ALL	Between Groups	6.50	2	3.25	317.63	.000
	Within Groups	.72	70	.01		
	Total	7.21	72			
Progressive ALL	Between Groups	3.21	2	1.61	340.52	.000
	Within Groups	.33	70	.01		
	Total	3.53	72			
Infinitive ALL	Between Groups	6.47	2	3.24	253.10	.000
	Within Groups	.90	70	.01		
	Total	7.37	72			

In addition to the item-by-item analyses above, the overall mean of each subgroup on each syntactic feature across all three questionnaires was computed. For example, the overall mean of each group on the Perfective, Progressive and Infinitive features across the translation, GJT and functional questionnaires was calculated as the overall index of its performance on each feature in

all three questionnaires, yielding the relevant group three overall means relating to the three syntactic features. Then, the three overall group means on every single feature were compared using a one-way ANOVA and the three resultant ANOVAs are displayed in Table 13 above. As the ANOVA results in Table 13 indicate, again significant differences were found between the overall group means on each feature across the three questionnaires, which provide further support for the results obtained in separate analyses of each feature in every single questionnaire. Checking the areas of difference between the groups against the Scheffe Test (see Appendix 1) revealed the same patterns of differences which were obtained in the previous analyses. Therefore, it can be concluded that the same results were obtained no matter whether the means were compared item by item or as overall means.

5.2. B: Persian-Monolinguals Analyses

In this section, the statistical analyses relating to Persian-Monolingual learners' performance in terms of the Perfective, Progressive and Infinitive features of English as a second language (L2) in the Grammaticality Judgment questionnaire, Translation questionnaire and Functional questionnaire will be presented to find out whether there were any significant differences between the groups across three levels of proficiency, namely beginner, intermediate and advanced levels as a basis for subsequent discussion and interpretation of the findings with reference to the theoretical UG-oriented non-primary language learning theories and hypotheses.

Table 14

One-way ANOVA: Overall Analysis of Means on all Three Features in all Questionnaires (Persian Monolingual Learners of L2 English)

		Sum of Squares	df	Mean Square	F	Sig.
Perfective ALL	Between Groups	2.22	2	1.11	101.197	.000
	Within Groups	.22	20	.01		
	Total	2.44	22			
Progressive ALL	Between Groups	1.09	2	.55	98.04	.000
	Within Groups	.11	20	.01		
	Total	1.21	22			
Infinitive ALL	Between Groups	2.25	2	1.12	81.71	.000
	Within Groups	.28	20	.01		
	Total	2.52	22			

To save space, the item-by-item analyses for all the features in different questionnaires for the Persian monolingual learners of L2 English were amalgamated into three overall analyses which were, then, encapsulated into a single statistical table, i.e., Table 14 above. As between-groups comparisons in Table 14 indicate, significant differences were found between the Persian monolingual learner subgroups across the three proficiency levels in the correct use of the Perfective feature ($F(2, 20)=101.20, P=.000$), the progressive feature ($F(2, 20)=98.04, P=.000$)

and the Infinitive feature ($F(2, 20)=81.71, P=.000$) in all three questionnaires. Further multiple comparisons using the Scheffe Test (see Appendix 2) revealed that the differences across the beginner, intermediate and advanced levels of proficiency were statistically significant. That is, each upper group outperformed the lower group in pair-wise comparisons. Thus, it can safely be argued that almost similar to the pattern of results found for the Kurdish-Persian bilingual learners of L3 English, the Persian monolingual learners of L2 English also demonstrated evidence of the acquisition of the intended syntactic features at higher levels of L2 development while not doing so in the initial state. It appears that a similar pattern of results was obtained because the syntactic realizations of the three features under study are the same in both Kurdish and English.

Table 15

Descriptive Statistics: Overall Analysis of Posttest Means on all Three Features in all Questionnaires

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Perfective Total pretest	1.55	24	.31	.06
	Perfective Total posttest	1.22	24	.11	.02
Pair 2	Progressive Total pretest	1.39	24	.21	.04
	Progressive Total posttest	1.17	24	.10	.02
Pair 3	Infinitive Total pretest	1.45	24	.33	.07
	Infinitive Total posttest	1.18	24	.124	.03

Table 15 provides the descriptive statistics of the t-test analyses comparing the performance of the beginner group on the syntactic features before and after the instruction, which include the mean obtained by the group, number of learners, standard deviation, and standard error of the mean. The group's overall mean on each syntactic feature in all questionnaires across the pretest and the posttest is presented. Their overall means on the Perfective feature obtained on the pretest and the posttest were 1.55 and 1.22, respectively. Their overall means on the Progressive feature were 1.39 and 1.17 and their overall means on the Infinitive feature were 1.45 and 1.18, respectively. The larger means stand for more errors, while the smaller means stand for fewer errors. Therefore, smaller means on the posttest indicate higher levels of acquisition of the feature in question.

Table 16

Paired-Samples t-Test: Overall Analysis of Posttest Means on all Three Features in all Questionnaires

		Paired Differences		95% Confidence Interval of the Difference		T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Lower	Upper			
Pair 1	PerfectiveTotal2 - PerfectiveTotal3	.33	.22	.24	.42	7.43	23	.000
	ProgressiveTotal2 - ProgressiveTotal3	.22	.14	.16	.28	7.57	23	.000
Pair 3	InfinitiveTotal2 - InfinitiveTotal3	.28	.23	.18	.37	5.97	23	.000

The means of the beginner learners on each syntactic feature in all three questionnaires were averaged out to obtain the overall mean for each feature. Then, the overall means obtained by the group on the pretest and the posttest were compared using the Paired-Samples *t*-test to find out whether there was any significant difference between the two means. Table 16 shows the within-group comparisons of overall means obtained on each syntactic feature in all questionnaires from the pretest to the posttest. As can be seen in Table 16, there were significant differences between the group means from the pretest to the posttest ($T=7.43$, $P=.000$) for the Perfective feature, ($T=7.57$, $P=.000$) for the progressive feature, and ($T=5.97$, $P=.000$) for the Infinitive feature. As it was explained before, lower means imply fewer errors and higher means imply more errors. Therefore, it can be concluded from the results in Table 16 that the beginner learners performed significantly better on the posttest. In other words, they managed to acquire the three features after receiving relevant instruction.

Regarding the first research question, Kurdish- Persian bilingual learners of L3 English and Persian monolingual learners of L2 English were able to reset the mentioned parametric values in L3 at intermediate and advanced stages of L3 acquisition, but they failed to do so at the initial stage.

Concerning the second, third and fourth questions, the Direct Access (DA) hypothesis, the Full Transfer/Full Access (FTFA) hypothesis and the Modulated Structure Building Hypothesis (MSBH) respectively characterize the learning of the above-mentioned parameters by both Persian monolinguals and Kurdish-Persian bilinguals. It was also discovered that both Persian monolinguals and Kurdish- Persian bilinguals followed the same route in the acquisition of the intended features across the beginner, intermediate and advanced levels of proficiency. Finally, the answer to the fifth question was found to be positive since instruction positively influenced the acquisition of the syntactic features under investigation by beginner-level learners after the treatment.

6. Discussion

The ultimate aim of this paper was to see if L2/L3 syntactic development is prone to training or not in light of the latest generative models of non-primary language development. The findings revealed that the learners go through an incremental syntactic development from the elementary level to the advanced level at three stages of language development delineated in almost all generative models namely the initial, mid and end states.

However, the given syntactic development was not systematic across the levels. It is postulated that L2 learners initially approach the learning of the L2/L3 grammar by transferring their L1 grammatical configurations as form-function mapping devices while dealing with the second or third language at the initial stages (Schwartz & Sprouse, 1996, 1994). This is known as the Full Transfer/Full Access (FTFA) Hypothesis, which centers on the influence of the learners' L1 on their acquiring an L2/L3 and is based on contrastive analysis of resetting parametric variations from L1 to L2/L3. This hypothesis holds the assumption that when both L1 and L2/L3 are similar

with regard to a particular parameter, the acquisition will proceed with relative ease. But when they set that parameter in different ways, the acquisition process may be hindered. Therefore, failure to achieve native-like proficiency is attributed to the inability to reset the parameters of target L2/L3 based on those of L1 (Lardiere, 2007). Therefore, the Full Transfer/Full Access hypothesis predicts that there will be a transfer in the early stages of L2/L3 learning. In a similar vein, the Direct Access (DA) hypothesis is based on the assumption that L2/L3 learners can acquire L2/L3 structures, even if they are different from those of the L1. Concerning L2/L3 learners at an advanced level of proficiency, both the FTFA and DA hypotheses predict that advanced second language learners can acquire L2/L3 structures, even if they are different from those of the L1 which is in line with the findings of Khany & Bazayr (2013). In other words, it makes the prediction that with a high level of L2/L3 proficiency, L2/L3 learners will acquire both the surface and the underlying structures of the target language.

The same finding that the bilingual learners of L2/L3 English at the early stage of language acquisition had not learned the features in question and in the meantime, assumes full access to L2/L2 parameterized variations at later/higher stages, refutes the prediction made by Representational Deficit Hypothesis (RDH) which not only attributes initial failure in acquiring target-language structures to L1 transfer but also eliminates any chances for subsequent acquisition of those structures even at higher levels of proficiency simply on the ground that they are not instantiated in the L1.

Further, this finding goes in line with the MSBH model which states that L2/L3 learners' initial L2/L3 grammar consists of lexical projections which have L1 structural properties but incrementally get reshaped and revised by getting closer to L2/L3 representations when the learners add functional categories to those initial lexical projections. That is, this finding so far is in line with the "Modulated" part of the MSBH which states that L2/L3 learners' structure building is influenced by L1 properties at the initial state, which justifies the beginner learners' poor performance in terms of the syntactic features being studied (Khany et al., 2008).

Furthermore, as mentioned earlier, syntactic development was not systematic across the levels. Learners at higher levels of proficiency managed to acquire the intended features faster. There was also a significant difference between intermediate and advanced learners and between these two higher-level groups and the beginner-level group which provides further support for the claim made by the DA hypothesis that the more the L2/L3 learners are exposed to linguistic input, the more likely they will be to master target-language parameterized variations. This can be explained in terms of the "Structure Building" part of the MSBH, in line with the findings of Khany & Bazayr (2013), which proposes that learners start L2 and by extension L3 mental grammars with lexical projections and then add functional categories on the basis of positive evidence from L2 and L3. Therefore, the findings above provide support for the FTFA and MSBH hypotheses and particularly the DA hypothesis. However, these findings refute the Missing Surface Inflection Hypothesis (MSIH) which assumes that the L2/L3 learning disabilities which result from the absence

of morpho-phonological forms at the initial stages of language acquisition cannot be overcome at later/higher stages due to mapping problems between functional features in the syntax and the appropriate forms in the lexicon (Haznedar, 2001, 2006; Lardiere, 2000). Its prediction that learners' problems at the initial state will not disappear in subsequent states due to these mapping problems was refuted by the findings in this study which provided evidence for beginner learners' acquisition of the intended features at later stages of L2/L3 development. The findings discussed so far also provide counterevidence against the Shallow Structure Hypothesis (SSH) which claims that non-primary language learners will not be able to acquire target-language structures regardless of whether L1-L2/L3 properties are similar or different (Clahsen & Felser, 2006).

The findings in this study followed the same pattern across all three test techniques, which can imply the consistency of the performance of all subgroups in different task types and, hence, of the results and the associated interpretations which totally increase the internal validity of the findings. This is due to the fact that the same patterns of differences were found between groups in their knowledge and ability to correctly use the intended syntactic features in Translation, GJT and Functional questionnaires for language learners at three proficiency levels, i.e., beginner, intermediate and advanced levels.

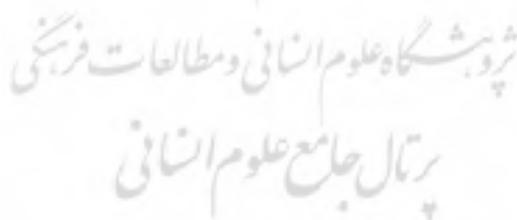
In line with the findings of Siemund and Lechner (2015) and Bardel and Falk (2007) this study indicated, the constraints proposed by some UG-based theories such as RDH, SSH and MSIH were found to be surmountable through instruction. This is based on evidence provided by the results obtained after the instruction on the three features in this study where the beginner learners who had failed to correctly use the features before receiving instruction managed to use them accurately in all three questionnaires at a level of accuracy which was significantly different from that of the pre-instruction phase. Therefore, any predictions about the learning constraints proposed by some UG-based theories, even if valid initially, were countered after the instruction because the beginner learners performed significantly differently.

All in all, the results of this study show that conscious training of L2/L3 features helps learners learn such features more efficiently. Since the L2 or L3 features not instantiated in L1 can be acquired as a result of such factors as exposure to further input and advancing to higher proficiency levels and instruction, they need to be repeatedly processed and restructured so that they would be accurately mapped onto the syntactic representations of the target language (e.g., Siemund & Lechner, 2015; Bardel & Falk, 2007). The findings of this study both before and after the instruction provide support for the DA hypothesis which considers UG parameters to be accessible to non-primary language learners, especially at later stages of L2/L3 acquisition where they are more readily accessible as a result of sufficient exposure to input and higher proficiency levels. The findings also provide support for some of the predictions made by the FTFA and the MSBH.

The findings justify and call for more dynamic and intensive practice and education of marked and even unmarked L2/L3 syntactic features which might vary across primary and non-

primary language development. Material developers should take the language proficiency of prospective learners into consideration and design material in a way that the realization of syntactic features is introduced in a developmental easy-to-difficult manner. They should also consider factors other than language background and language proficiency of learners that may equally affect language learning such as language exposure and use, language typology, learners' sex and age, and the like.

The scope of the present study is limited in a number of ways. The subjects participating in the study were a group of Iranian EFL learners who cannot be a comprehensive representative of learners as a whole population. Hence, this research study can be replicated in other contexts and with other populations. Moreover, when languages come into contact, many factors affect cross-linguistic influence and language transfer. In the present study, however, just small numbers of such factors as language background and language proficiency were taken into accounts. A conclusive study has to be carried out to account for as many factors as possible. Furthermore, the study was done within a generative theory and against a number of UG-based generative models as RDH, FTFA, DA, MSIH, MSBH, and SSH. Therefore, the results can be interpreted and judged within the given framework and also against the given models. Hence, similar studies are required to be carried out to address the acquisition of other syntactic features and against even other generative UG-based theories and models.



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Appendix 1: Scheffe Test Result for Kurdish-Persian Bilinguals

Multiple Comparisons

Scheffe

Dependent Variable	(I) English Level	(J) English Level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Perfective ALL	Beginner	Intermediate	.54777*	.03034	.000	.4719	.6236
		Advanced	.73232*	.02961	.000	.6583	.8064
	Intermediate	Beginner	-.54777*	.03034	.000	-.6236	-.4719
		Advanced	.18456*	.02782	.000	.1150	.2541
	Advanced	Beginner	-.73232*	.02961	.000	-.8064	-.6583
		Intermediate	-.18456*	.02782	.000	-.2541	-.1150
Progressive ALL	Beginner	Intermediate	.35549*	.02058	.000	.3040	.4070
		Advanced	.52047*	.02008	.000	.4702	.5707
	Intermediate	Beginner	-.35549*	.02058	.000	-.4070	-.3040
		Advanced	.16498*	.01888	.000	.1178	.2122
	Advanced	Beginner	-.52047*	.02008	.000	-.5707	-.4702
		Intermediate	-.16498*	.01888	.000	-.2122	-.1178
Infinitive ALL	Beginner	Intermediate	.56582*	.03392	.000	.4810	.6507
		Advanced	.72532*	.03311	.000	.6425	.8081
	Intermediate	Beginner	-.56582*	.03392	.000	-.6507	-.4810
		Advanced	.15951*	.03111	.000	.0817	.2373
	Advanced	Beginner	-.72532*	.03311	.000	-.8081	-.6425
		Intermediate	-.15951*	.03111	.000	-.2373	-.0817

*. The mean difference is significant at the 0.05 level.

Appendix 2: Scheffe Test Result for Persian Monolinguals

Multiple Comparisons

Scheffe

Dependent Variable	(I) English Level	(J) English Level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Perfective ALL	Beginner	Intermediate	.57452*	.05425	.000	.4311	.7179
		Advanced	.74226*	.05425	.000	.5989	.8856
	Intermediate	Beginner	-.57452*	.05425	.000	-.7179	-.4311
		Advanced	.16774*	.05241	.016	.0292	.3063
	Advanced	Beginner	-.74226*	.05425	.000	-.8856	-.5989
		Intermediate	-.16774*	.05241	.016	-.3063	-.0292
Progressive ALL	Beginner	Intermediate	.38127*	.03865	.000	.2791	.4834
		Advanced	.52829*	.03865	.000	.4261	.6304
	Intermediate	Beginner	-.38127*	.03865	.000	-.4834	-.2791
		Advanced	.14702*	.03734	.003	.0483	.2457
	Advanced	Beginner	-.52829*	.03865	.000	-.6304	-.4261
		Intermediate	-.14702*	.03734	.003	-.2457	-.0483
Infinitive ALL	Beginner	Intermediate	.59962*	.06070	.000	.4392	.7600
		Advanced	.73636*	.06070	.000	.5759	.8968
	Intermediate	Beginner	-.59962*	.06070	.000	-.7600	-.4392
		Advanced	.13674	.05864	.040	-.0182	.2917
	Advanced	Beginner	-.73636*	.06070	.000	-.8968	-.5759
		Intermediate	-.13674	.05864	.040	-.2917	.0182

*. The mean difference is significant at the 0.05 level.

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