Syntactic clustering of pro and PRO in L2 acquisition

(خوشه‌ای کردن نحوی پروی کوچک و پروی بزرگ در یادگیری زبان دوم)

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چکیده: این مقاله به بررسی یادگیری فارسی‌زبانان از طریق خوشه‌ای کردن فاعلهای اجباری (پروی کوچک) و پروی بزرگ در عبارات مصدری زبان انگلیسی به عنوان زبان دوم می‌پردازد. تحقیقات آشکار می‌سازند که در فراگیری زبان اول، بین پدیده‌های زبانشناسی که ظاهراً ارتباطی با یکدیگر ندارند، این ارتباط وجود دارد که از آن به تأثیرات خوشه‌ای کردن یکی بر دیگری تعبیر می‌شود. برای مثال در یادگیری زبان آلمانی به عنوان زبان اول شواهدی برای یادگیری از طریق خوشه‌ای کردن مطابقت فعل و فاعل و کاهش فاعلهای ناصحیح وجود دارد (کلاشن‌وهُنگ، ۱۹۹۵). بنابراین، باید روشن کرد که چنین ارتباطی در فراگیری زبان دوم نیز وجود دارد. درنتیجه، تحقیق حاضر، بر اساس تست دستوری (GJT)، بر خوشه‌ای کردن فاعلهای علناً اجباری و عبارات مصدری در ٦٠ فراگیر فارسی‌زبان که زبان انگلیسی را یاد می‌گرفتند می‌پردازد.

فراگیران به دو مقطع، هر مقطع شامل ۱۰ نفر که به تازگی شروع به خواندن آن مقطع کرده بودند و ۱۰ نفر که مدت زمانی بود که به فراگیری در آن مقطع پرداخته بودند تقسیم شده‌اند. یافته‌های ما نشان می‌دهد که هر دو پدیده در فراگیران فارسی‌زبان به همراه یکدیگرند و دلالت بر این دارد که فاعلهای علناً اجباری و عبارات مصدری در زبان دوم در طی فرآیند تأثیرات علناً اجباری جدا از هم نمی‌باشند.

علاوه‌براین، مشاهده کردیم در بین کسانی که تازه شروع به یادگیری کرده‌اند و کسانی که مدتی است که در آن مقطع مطالعه می‌کنند با توجه به یادگیری از طریق خوشه‌ای کردنِ متغیرهای زبان‌شناختی فوق، تفاوتی وجود ندارد.

Introduction

The assumption that L2 acquisition might be similar to L1 acquisition has exerted noticeable impact on SLA research over the last two decades (Schwartz and Sprouse, 1994). Although there has been a consensus on the clustering effects of the linguistic phenomena in L1 in recent years, related issues are more controversial in L2 research (Clahsen and Muysken, 1989). One way to resolve the problem in L2 acquisition proposed by Clahsen and Hong (1995) involves three requirements. First, two syntactic properties connected in a UG parameter must be studied where one of them is the

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trigger for the clustering acquisition of the other. Secondly, research should have indicated that these two phenomena developmentally correlate in L1 acquisition. Finally, these two phenomena must not exist in the mother tongue of the learners in our study. It follows that if under these three conditions, the two syntactic phenomena correlate in that group of L2 learners, then it is logically concluded that the process of clustering effects is also functioning in L2 acquisition. For a group of Persian learners of English, therefore, the following grammatical phenomena would create the above conditions.

Obligatory/Null Subjects

Whereas Persian is a pro-drop language which allows empty subjects in main and embedded clauses, English is a non-pro-drop language in which inflectional possibilities do not license *pro*. These empty arguments can be identified by inflectional suffixes. According to Rizzi's (1986), two parameters are assumed to account for the distribution of null subjects: 1. licensing of *pro,* and 2. identification /recovery of the content of *pro*. The licensing of the null subjects can be accomplished through government by inflection or agreement. In English which is a non-pro-drop language, inflectional resources do not license *pro*; whereas in Persian and Italian it does.

Infinitival Clauses

There are some interesting differences between Persian and English in the realization of non-finite clauses. Whereas English licenses non-finite clauses, Persian complement clauses are all finite. That is, the verb in - Root clauses inflect for Person / Number and Tense. These features are manifested in terms of inflectional suffixes:

1. pro tasmim gereftand pro xaneh qadimi ra be-forooš-and.

They decision took house old-Acc Sub sell they

(They decided to sell the old house.)

Review of the Related Literature

Research indicated that children acquire the syntactic properties of their mother tongue very quickly. According to Hyams "parameters such as V to I, V2 are set very early" (2005, p. 1). One way to explain this success is that children would cluster the parametric properties through the grammatical effects. For instance, there is evidence that children connect root infinitives to null subjects in L1 acquisition. Moreover, certain studies have been carried out on clustering effects of grammatical phenomena in L1 acquisition (Brown, 1973; Bloom *et al.* 1975; Clahsen and Hong, 1995). Whereas evidence from English L1 acquisition confirms an initial stage of omitting subjects and inflections, Brown and Bloom *et al* report developmental relationship between some tense inflections and obligatory subjects. Likewise, Clahsen and Hong also claim that in German L1 acquisition, there is evidence for a clustering appearance of subject-verb agreement and the use of obligatory subjects.

As for L2 acquisition, research has resulted in controversial findings and conflicting suggestions with respect to the clustering effects of syntactic variables. Hilles (1991) found statistically significant correlations between inflectional suffixes and the increase of overt pronominal subjects in some of the Spanish learners of English. The reliability of

Hilles' findings, yet, may be criticized as the role of L1 transfer is not clear in her study. Along the same line, Vainikka and Young-Scholten (1994) carried out a research on developmental clustering effects in the acquisition of German by 6 Korean and 11 Turkish learners. The findings indicate that the acquisition of subject-verb-agreement paradigm is developmentally correlated to the correct obligatory subjects in advanced (stage 3) level. They further conclude that what they found in the acquisition of German as L2 is parallel to what has been found for German child language acquisition. However, since this correlation is what they could observe just in advanced learners, it might be logically argued that the two linguistic structures appeared in the learners as a result of their separate learning rather than developmental clustering effects.

On the other hand, certain studies have suggested counterarguments against the clustering effects in L2 acquisition. Lakshmanan (1991) carried out a longitudinal study on null subjects and subject-verb agreement in the performance of three learners of English with different L1 backgrounds. The results show that the development of correct use of obligatory subjects is not well accompanied by using correct subject-verb-agreement paradigm. Moreover, Clahsen and Hong (1995) constructed a reaction time experiment to evaluate the clustering effects of null subjects and subject-verb agreement in 33 Korean learners of German as L2. The reaction time software records the subjects' grammatical judgments as well as the time spent on each item. The results indicate that 20 subjects did not demonstrate good correlations of the two linguistic phenomena, in fact, they acquired either just one of them or none. Meanwhile, 13 subjects connected the two phenomena indicating that they have acquired both of them. In spite of their findings, the researchers conclude that the correlations of the phenomena do not provide sufficient evidence for the clustering effects. One criticism regarding the reaction time experiment refers to some serious problems for its development and administration by L2 researchers. Thus, one may argue for the replacement of a grammaticality judgment test to be used for L2 learners with different proficiency levels and start age.

Research Questions and Hypotheses

1. Does clustering effects of null and overt obligatory parameters appear in the interlanguage of Persian learners of English?
2. Is the emergence of clustering effects of parameters of null/overt obligatory subjects observed in all levels of L2 proficiency?
3. Is there a significant relationship between the start age of L2 acquisition and the clustering learning of parameters of null/overt obligatory subjects?

Hypothesis 1: There is no significant difference between English natives and Persian L2 learners in terms of linguistic knowledge of parameters of null/obligatory subjects.

Hypothesis 2: There is no relationship between the L2 proficiency levels and the clustering of null/overt obligatory subject parameters.

Hypothesis 3: There is no relationship between the start age of L2 acquisition and the clustering effects of null/overt obligatory subject parameter.

Research Design and Methodology

Participants: The present study includes a total of 60 university freshman students who are majoring in Persian literature, social sciences, management, psychology and law in Guilan University. They were randomly selected based on the information received from the results of a proficiency TOEFL test administered to 750 students in the Faculty of Humanities in Guilan University. Subsequently, based on the results of a questionnaire distributed among the population, 30 students with an early start age and 30 students with a late start age were selected and divided into three main groups. In this study we refer to them as pre-intermediate (TOEFL scores ranging from 350 to 400), intermediate (TOEFL scores ranging from 400 to 450). Each main group is composed of two sub-groups of different start-age of L2 acquisition. The first half, or the early starters, whose start age varies from 5 to 7 were initially exposed to English in a private language institute or in the Primary School. The other half consists of late starters to learn English whose start age varies from 12 to 13. The late starters were first exposed to English in grade 1 or 2 in the Guidance School. Moreover 10 native speakers of English, between 24 to 49 years old, took part in this study as the control group. Furthermore, a one-way ANOVA was computed on the results of the TOEFL test. The value of F observed in the ANOVA equals to 1471 which is significant at probability level of .05.

Materials: A GJT with 32 items was constructed containing 8 grammatical sentences for each possible combination of various types of English obligatory subjects including obligatory referential, quasi and expletive subjects in main/embedded clauses.

Example: Tom says that he usually goes to the students' club.

Considering 8 ungrammatical counterpart items for the above-mentioned structures there would be a total of 16 items with respect to the first syntactic variable, namely overt obligatory subjects.

Example: * Do you have much time to continue or is to late?

Moreover, recall that infinitival clauses in English are non-finite structures without obligatory subject pronouns and tense or agreement inflections. This is in contrast to verb clauses in Persian which are finite structures with overt or inflected subjects. So, eight grammatical English sentences were constructed on infinitival clauses as well as eight ungrammatical counterpart sentences as illustrated by the following sentence pair.

Examples: They told John to invite his classmates.

- They want that change my job.

Moreover, 8 distractor items were also added to the testing items and all of them were randomized.

Results

In this section, the results of the data analyses will be presented and tabulated as an attempt to find answers to our research questions. The results obtained from a TOEFL and the GJ task used for Persian learners and English natives will be presented in summary tables and graphs. The GJT contained 32 testing items representing two different syntactic properties namely obligatory subjects and infinitival clauses. The aim was to

investigate whether the subjects who are from different proficiency levels and start-age have clustering knowledge in both or acquired just one of the phenomena. In the meantime, we administered a TOEFL test to divide the Persian learners into three proficiency levels of pre-intermediate, intermediate and post-intermediate. Moreover, the subjects in each level are composed of equal number of early starters and late starters.

Figure 1: Mean percentage of all groups in grammaticality judgment test

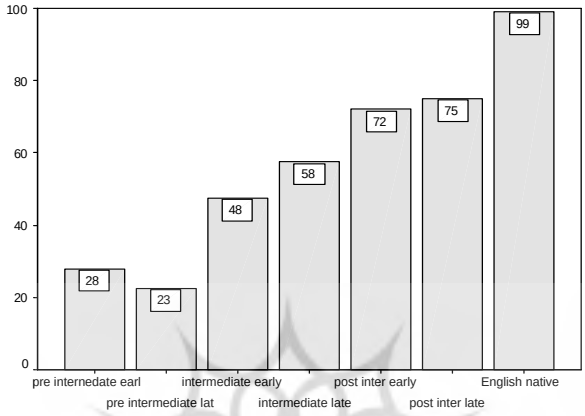

Table 1: The post-hoc Scheffe for the performance of all groups on TOEFL

Multiple Comparisons

Dependent Variable: TOEFL
Scheffe

(I) LEVEL Proficiency level	(J) LEVEL Proficiency level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1.00 Preintermediate	2.00 Intermediate	-8.3000*	1.12048	.000	-11.6114	-4.9886
	3.00 Postintermediate	-18.0000*	1.12048	.000	-21.3114	-14.6886
	4.00 Natives	-67.7000*	1.37231	.000	-71.7556	-63.6444
2.00 Intermediate	1.00 Preintermediate	8.3000*	1.12048	.000	4.9886	11.6114
	3.00 Postintermediate	-9.7000*	1.12048	.000	-13.0114	-6.3886
	4.00 Natives	-59.4000*	1.37231	.000	-63.4556	-55.3444
3.00 Postintermediate	1.00 Preintermediate	18.0000*	1.12048	.000	14.6886	21.3114
	2.00 Intermediate	9.7000*	1.12048	.000	6.3886	13.0114
	4.00 Natives	-49.7000*	1.37231	.000	-53.7556	-45.6444
4.00 Natives	1.00 Preintermediate	67.7000*	1.37231	.000	63.6444	71.7556
	2.00 Intermediate	59.4000*	1.37231	.000	55.3444	63.4556
	3.00 Postintermediate	49.7000*	1.37231	.000	45.6444	53.7556

*. The mean difference is significant at the .05 level.

Figure 1 presents the results of the subjects' performance on GJT in terms of mean percentage. As illustrated, the two start-age groups in each proficiency level demonstrated similar performance on the task. The only exception is observed in the intermediate level. More specifically, the intermediate late starters received a mean percentage of 58, while their early-starter counterparts gained 48. The post-hoc Scheffe test indicates that the difference is significant at the level of .05 probability. As for the pre - intermediate level, the early starters could achieve slightly higher scores (28) than the pre-

intermediate late starters (23). The two sub-groups in the post-intermediate level also performed almost equally with a difference of 3 percentage in the mean scores (72 for early starters vs. 75 for late starters). Another important point illustrated in the figure refers to matching of the mean percentages in GJT to the groups' levels in a hierarchical order. In other words, among the Persian learners the post-intermediate level received the highest mean score while the pre-intermediate level gained the lowest one and the intermediate level falls between.

Figure 2: Mean percentage of all groups in obligatory and null subjects

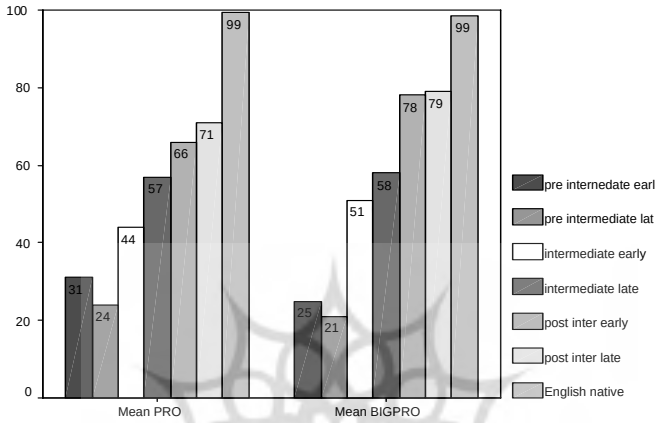

Figure 2 presents the performance of all groups on obligatory and null subjects. In the first place, the results show that the subjects of each proficiency level gained comparatively different scores on both variables. Although the English natives could gain the highest scores on both phenomena, the post-intermediate group received the best scores among the Persian learners. Likewise, the intermediate group could get better result than the pre-intermediate group that gained the lowest scores. The figure also illustrates two symmetric columns representing the subjects' achievements on the two syntactic properties. This will, in turn, serve as a good piece of evidence for clustering appearance of the obligatory and null subjects in our subjects.

Secondly, the achievements of the two start-age sub-groups indicate that there should be positive relationships between the two start-age sub-groups in all three proficiency levels.

More specifically it follows that the early and late starters in pre-intermediate and post-intermediate levels performed almost equally well in GJT. However, in post-intermediate level it is the other way round, that is post-intermediate late starters could perform better than their early counterparts. However, to know whether the difference between the sub-groups in intermediate level is significant we would further need to analyze the data through ANOVA method.

Table 2: The post-hoc Scheffe test for performance of the sub-groups on obligatory and null subjects

Multiple Comparisons

Scheffe

Dependent Variable	(I) start age and level	(J) start age and level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
PRO	pre internedate early	pre intermediate late	7.0000	3.0076	.507	-4.5202	18.5202
		intermediate early	-13.0000*	3.0076	.018	-24.5202	-1.4798
		intermediate late	-26.0000*	3.0076	.000	-37.5202	-14.4798
		post inter early	-35.0000*	3.0076	.000	-46.5202	-23.4798
		post inter late	-40.0000*	3.0076	.000	-51.5202	-28.4798
		English native	-68.4000*	3.0076	.000	-79.9202	-56.8798
	pre intermediate late	pre internedate early	-7.0000	3.0076	.507	-18.5202	4.5202
		intermediate early	-20.0000*	3.0076	.000	-31.5202	-8.4798
		intermediate late	-33.0000*	3.0076	.000	-44.5202	-21.4798
		post inter early	-42.0000*	3.0076	.000	-53.5202	-30.4798
		post inter late	-47.0000*	3.0076	.000	-58.5202	-35.4798
		English native	-75.4000*	3.0076	.000	-86.9202	-63.8798
	intermediate early	pre internedate early	13.0000*	3.0076	.018	1.4798	24.5202
		pre intermediate late	20.0000*	3.0076	.000	8.4798	31.5202
		intermediate late	-13.0000*	3.0076	.018	-24.5202	-1.4798
		post inter early	-22.0000*	3.0076	.000	-33.5202	-10.4798
		post inter late	-27.0000*	3.0076	.000	-38.5202	-15.4798
		English native	-55.4000*	3.0076	.000	-66.9202	-43.8798
	intermediate late	pre internedate early	26.0000*	3.0076	.000	14.4798	37.5202
		pre intermediate late	33.0000*	3.0076	.000	21.4798	44.5202
		intermediate early	13.0000*	3.0076	.018	1.4798	24.5202
		post inter early	-9.0000	3.0076	.217	-20.5202	2.5202
		post inter late	-14.0000*	3.0076	.009	-25.5202	-2.4798
		English native	-42.4000*	3.0076	.000	-53.9202	-30.8798
	post inter early	pre internedate early	35.0000*	3.0076	.000	23.4798	46.5202
		pre intermediate late	42.0000*	3.0076	.000	30.4798	53.5202
		intermediate early	22.0000*	3.0076	.000	10.4798	33.5202
		intermediate late	9.0000	3.0076	.217	-2.5202	20.5202
		post inter late	-5.0000	3.0076	.831	-16.5202	6.5202
		English native	-33.4000*	3.0076	.000	-44.9202	-21.8798
	post inter late	pre internedate early	40.0000*	3.0076	.000	28.4798	51.5202
		pre intermediate late	47.0000*	3.0076	.000	35.4798	58.5202
		intermediate early	27.0000*	3.0076	.000	15.4798	38.5202
		intermediate late	14.0000*	3.0076	.009	2.4798	25.5202
		post inter early	5.0000	3.0076	.831	-6.5202	16.5202
		English native	-28.4000*	3.0076	.000	-39.9202	-16.8798
	English native	pre internedate early	68.4000*	3.0076	.000	56.8798	79.9202
		pre intermediate late	75.4000*	3.0076	.000	63.8798	86.9202
		intermediate early	55.4000*	3.0076	.000	43.8798	66.9202
		intermediate late	42.4000*	3.0076	.000	30.8798	53.9202
		post inter early	33.4000*	3.0076	.000	21.8798	44.9202
		post inter late	28.4000*	3.0076	.000	16.8798	39.9202
BIGPRO	pre internedate early	pre intermediate late	4.0000	2.4646	.846	-5.4403	13.4403
		intermediate early	-26.0000*	2.4646	.000	-35.4403	-16.5597
		intermediate late	-33.0000*	2.4646	.000	-42.4403	-23.5597
		post inter early	-53.0000*	2.4646	.000	-62.4403	-43.5597
		post inter late	-54.0000*	2.4646	.000	-63.4403	-44.5597
		English native	-73.6000*	2.4646	.000	-83.0403	-64.1597
	pre intermediate late	pre internedate early	-4.0000	2.4646	.846	-13.4403	5.4403
		intermediate early	-30.0000*	2.4646	.000	-39.4403	-20.5597
		intermediate late	-37.0000*	2.4646	.000	-46.4403	-27.5597
		post inter early	-57.0000*	2.4646	.000	-66.4403	-47.5597
		post inter late	-58.0000*	2.4646	.000	-67.4403	-48.5597
		English native	-77.6000*	2.4646	.000	-87.0403	-68.1597
	intermediate early	pre internedate early	26.0000*	2.4646	.000	16.5597	35.4403
		pre intermediate late	30.0000*	2.4646	.000	20.5597	39.4403
		intermediate late	-7.0000	2.4646	.271	-16.4403	2.4403
		post inter early	-27.0000*	2.4646	.000	-36.4403	-17.5597
		post inter late	-28.0000*	2.4646	.000	-37.4403	-18.5597
		English native	-47.6000*	2.4646	.000	-57.0403	-38.1597
	intermediate late	pre internedate early	33.0000*	2.4646	.000	23.5597	42.4403
		pre intermediate late	37.0000*	2.4646	.000	27.5597	46.4403
		intermediate early	7.0000	2.4646	.271	-2.4403	16.4403
		post inter early	-20.0000*	2.4646	.000	-29.4403	-10.5597
		post inter late	-21.0000*	2.4646	.000	-30.4403	-11.5597
		English native	-40.6000*	2.4646	.000	-50.0403	-31.1597
	post inter early	pre internedate early	53.0000*	2.4646	.000	43.5597	62.4403
		pre intermediate late	57.0000*	2.4646	.000	47.5597	66.4403
		intermediate early	27.0000*	2.4646	.000	17.5597	36.4403
		intermediate late	20.0000*	2.4646	.000	10.5597	29.4403
		post inter late	-1.0000	2.4646	1.000	-10.4403	8.4403
		English native	-20.6000*	2.4646	.000	-30.0403	-11.1597
	post inter late	pre internedate early	54.0000*	2.4646	.000	44.5597	63.4403
		pre intermediate late	58.0000*	2.4646	.000	48.5597	67.4403
		intermediate early	28.0000*	2.4646	.000	18.5597	37.4403
		intermediate late	21.0000*	2.4646	.000	11.5597	30.4403
		post inter early	1.0000	2.4646	1.000	-8.4403	10.4403
		English native	-19.6000*	2.4646	.000	-29.0403	-10.1597
	English native	pre internedate early	73.6000*	2.4646	.000	64.1597	83.0403
		pre intermediate late	77.6000*	2.4646	.000	68.1597	87.0403
		intermediate early	47.6000*	2.4646	.000	38.1597	57.0403
		intermediate late	40.6000*	2.4646	.000	31.1597	50.0403
		post inter early	20.6000*	2.4646	.000	11.1597	30.0403
		post inter late	19.6000*	2.4646	.000	10.1597	29.0403

*. The mean difference is significant at the .05 level.

Table 1 shows the inter/intra level comparisons on their achievements in obligatory and null subjects. First of all, the results of a one-way ANOVA indicate that our Fs observed equal to 147 and 274 for obligatory subjects and null subjects, respectively. They are both significant at the probability level of .05. In the second phase a post-hoc-Scheffe test (Table 1) revealed that all the start-age sub-groups are significantly different on obligatory subjects except the following pairs:

(a) pre-intermediate early and late starters (.507), (b) intermediate late and post-intermediate early starters (.21), and (c) post-intermediate early and late starters (.831). Likewise, the comparisons of the start-age sub-groups on null subjects indicate that they significantly different except for the following pairs: (a) pre-intermediate early and late starters (.84), (b) intermediate early and late starters (.27) and (c) post-intermediate early and late starters (.1). So, here it would be legitimate to claim that there is a positive relationship between the two start-age sub-groups in each level for based on their achievements for the obligatory subjects, on the one hand, and for the null subjects, on the other hand.

Discussion

The first question of the present research wonders whether there are clustering effects in Persian learners of English as L2. It might be argued that there is no sufficient evidence to claim that there are clustering effects of the two phenomena – "obligatory subjects" and "null subjects" - in L2 acquisition. In other words, a mere connection between two linguistic phenomena by itself does not indicate that one triggered the other one. On the other hand, it may be argued that the cross-sectional comparisons show that these learners have been clustering the two phenomena in a developmental process. In fact, we could observe a connection between the two variables at all levels. This reveals that the learners are going through a continuous process of L2 development by generalizing and transferring what they acquired to similar contexts. In the case that such a connection is observed just in one of the proficiency groups (Vainikka and Young-Scholten, 1994), it should be regarded as insufficient finding to claim for the clustering effects. This is the main reason why we studied three groups of different proficiency levels.

It is interesting to discuss the findings from the perspective of interference theory. English and Persian are different with respect to null subjects and infinitival clauses. Consequently, there would be three possibilities

As for the second research question, according to what we observed in this research, clustering acquisition happened for all three levels of L2 proficiency. The highest clustering was observed in the intermediate level while the lowest one belongs to the post-intermediate level. In the meantime, the

post-intermediate subjects received the highest mean score in GJT among the groups of Persian learners of L2. Accordingly, here we might argue that the post-intermediate subjects have access to other learning strategies as well as to clustering effects. Alternatively, we might argue that some of the post-intermediate subjects may have gone through an earlier stage at which 'obligatory subjects' and 'infinitival clauses' have been fully linked. Moreover, the evidence available from other L2 studies (see review of literature) does support the idea that the L2 learners' acquisition of obligatory subjects is developmentally connected with the correct use of agreement paradigm.

Finally, the third research question concentrates on the significance of age variable on the grammatical effects. Recently some studies (Mayberry and Lock, 2003) have considered the impact of age on certain aspects of SLA and so has the present study. According to the ANOVA data, the early and late starters of L2 acquisition in this study did not manifest significant differences with respect to obligatory subjects and infinitival clauses in the GJT. The only exception was attributed to the intermediate level in which the late starters could perform significantly better than their early-starter counterparts. More analyses indicate that the intermediate late starters gained more scores in both variables compared with the intermediate early starters. One possible justification would be that an early - start age cannot be regarded an advantage in L2 acquisition with respect to clustering acquisition.

Conclusion

We conducted a grammaticality judgment test (GJT) with Persian learners of English in three proficiency levels of pre-intermediate, intermediate and post-intermediate to examine the clustering acquisition of obligatory subjects and infinitival clauses. According to a questionnaire, half of the members in each group were the early-starters who started L2 learning at 5-7 years old and the other half were late-starters who started L2 learning at 12-13 years old. We found that the pre-intermediate learners acquired the two variables in ties and there was not significant difference between the early and late starters. In the intermediate learners, the correlation showed almost perfect connection between the two variables. Moreover, the intermediate late starters gained significantly better achievement than their early-starter counterparts. Finally, the post-intermediate group acquired the obligatory subjects and infinitival clauses fully, and the correlational coefficient between them is almost high. We conclude that our results support the positive transfer hypothesis according to which processes such as generalizing and clustering effects are operative in L2 development.

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Appendix

GJ Test

1. I left without giving an explanation.
2. Mary will remember she locking the door.
3. Sold it at a very good price.
4. John thought was important to discuss the matter.
5. They prefer very much to go on a picnic.
6. They predicted that might snow heavily.
7. Robert wondered what had to say.
8. His daughter is so selfish that cannot admit her mistakes.
9. Susan prefers very much invites Bill.
10. Mary knows should behave herself.
11. He doesn't know whether should work like an amateur.
12. Who do you guess that will be the next President?
13. You buy a newspaper every day is important.
14. I agreed would not be easy to study according to a plan.
15. Which man do you wonder when to meet in the conference?
16. I knew what wanted to do next.
17. To wake up early in the morning it is important.
18. They told Smith to invite his classmates.
19. I remember won the match last year.
20. Who did Bill go to Paris to visit?
21. Mary asked how writes a business letter.
22. This will lead us to decide what follows.
23. People consider Tom is a millionaire.
24. Which book would you recommend reading?
25. To be invited at the party it was a great opportunity.
26. Preparing breakfast in a hurry burned the toast.
27. When ready, take the meat out of the oven immediately.
28. Darkness having come, we stopped for the night.
29. Who do you think that your son will see at school?
30. What day will be tomorrow?
31. Must be fun to play football.
32. Whose horse do you guess that will win the race?
33. Can you imagine is going to be a party next week?
34. What year was when Columbus discovered America?
35. Mary wore a raincoat because was raining.
36. Does John plan he studying in a university?
37. The teacher came to class although was not feeling well.
38. Which long words do you find that are difficult to pronounce?
39. Did the lawyer agree helps the arrested man?
40. Our teacher stayed at home yesterday because had a headache. ■