The Effect of Local and Global Cues on the Comprehension of Pseudoclefts in L2

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Abstract

This study investigated the effect of canonical word order as a global cue and resumption as a local cue on the comprehension of pseudoclefts in second language (L2). Sixteen female Persian speaking L2 learners aged between 15 and 18 years were recruited from a secondary school, using a picture selection task. Consisting of 27 items including 10 object pseudoclefts with resumptive pronoun, 5 object pseudoclefts without resumptive pronoun, 5 subject pseudoclefts and 7 fillers. The obtained data was analyzed by conducting a One-Way Repeated Measure ANOVA. The results showed that resumptive pronoun significantly simplified the comprehension of object pseudoclefts and object pseudoclefts were comprehended more accurately than subject pseudoclefts. The results were also discussed with reference to current theories of sentence processing.

Keywords: pseudocleft, word order, resumption, transfer

INTRODUCTION

The aims of this study are to investigate the effect of canonical and non-canonical word orders as well as resumptive pronoun (RP) *it* on the comprehension of pseudoclefts in L2 specifically by Persian speaking learners of English.

In natural languages of the world some syntactic structures require simpler processes than others while complex structures require further computation. In fact natural languages have different canonical word orders and they vary in the degree of word order (WO) flexibility. Basically, canonical word order indicates the simplest sentence-structure (Erdocia, Laka, Mestres-Misse, & Rodriguez-Fornells, 2009). According to Hakuta (1982, p. 62), "English is a language that relies extensively on word order to signal grammatical roles and meaning of sentences". Unlike English, Persian is a null-subject and head final language and its canonical word order is Subject-Object-Verb (SOV) (Karimi, 2005).

According to Calude (2008) clefts appear when a simple clause becomes cleaved to focus or highlight one of its constituents. As you can see in (1) the clause is cleaved to focus its subject, Mona, in (1a-c) or its object, a break, in (1d-f). English is one of the richest languages in cleft types. You can see three types of clefts (it-clefts, Wh-cleft and reversed Wh-cleft) in 1a-f.

Mona asked for a break.

(1) a. It is Mona who asked for a break.   (it-cleft, focusing on subject)

   b. Who asked for a break is Mona.   (wh-cleft, focusing on subject)

   c. Mona is who asked for a break.   (reversed wh-cleft, focusing on subject)

   d. It is a break that Mona asked for.   (it-cleft, focusing on object)

   e. What Mona asked for is a break.   (wh-cleft, focusing on object)

   f. A break is what Mona asked for.   (reversed wh-cleft, focusing on object)

Resumption is a strategy used in English as in other languages like Irish and Lebanese Arabic. But the difference is in the acceptability of this strategy and the frequency of its utilization. When speakers cannot convey their intended meaning because of syntactic ambiguity they use resumptive pronouns (Heestand, Xiang & Polinsky, 2011).

In general it should be noted that most of the previous studies have supported the facilitating role of resumptives in the comprehension and production of language in adults and children, but this effect is more obvious for children. Also comprehension and production of subject relative clauses (RC) are easier and faster than object ones. The current study investigated the effect of word order and resumption on the comprehension of three kinds of pseudoclefts: 1. Subject pseudoclefts (S) 2. Object pseudoclefts (O) 3. Object pseudoclefts with resumptive pronouns (OP). The participants were 16 L2 learners aged 15-18 years old. They were tested by a picture selection task. Following Sells (1987), Gibson (1998); Rahmany, Marefat and Kidd (2013); Hofmeister and Norcliffe (2013) it was predicted that resumption would be helpful for language acquisition. Following Urosevic, Carello, Savic, Lukatela and Turvey (1986), Langus and Nespor (2010), Rahmany, Marefat and Kidd (2011) and Gavarro, Cunill, Muntane and Reguant (2011) subject word order would be faster and easier to comprehend than object word order.

REVIEW OF LITERATURE

Word order

Although different order of subject (S), verb (V) and object (O) do not affect referential meanings but this variety affects the related contextual meaning. Certain word orders like OS are believed to be perceptually more complex than others like SO (Slobin & Bever,

1982; Greenberg, 1966). Although these two orders are equivalent and their representations are the same but the latter is said to be evaluated faster, and the process to reach this representation is claimed to be different. Variation affects the time needed for lexical decision, and this is apparently dependent on sentential contexts (Urosevic et al. 1986). On the other hand, Erdocia, Laka and Ridriguez-Fornells (in press) found that both word orders SVO and OVS which are derived from the canonical word order SOV in Basque required similar computational resources, with no advantage for the subject-before-object sequence.

Langus and Nespor (2010) studied the relation between observable grammatical diversity of world's languages and individual cognitive system which prefers one kind of structure. They investigated the cognitive reason for preferring one of the two most regular word orders: SOV (Subject Object Verb) and SVO (Subject Verb Object). Some categories like grammaticalization, inflexibility of word order and some theoretical believes can be the cause of syntactic preference for SVO. But no obvious reason for selecting SOV exists. This study through two "gesture-production" experiments and one "gesture comprehension" experiment found that Italian and Turkish participants whose native languages have different word orders prefer SOV structure. They suggested that the computational grammatical system does not play a serious role in regular communication system.

Comprehension

Comprehension is a process during which readers build meaning by integration of previous knowledge and experience and information in the text as well as his/her own attitude about the text. There are some categories which can affect readers' comprehension like (a) readers' cognitive ability which entails different interpretations and judgments (b) readers' culture which may be in agreement with the culture discussed in the text or not and (c) reader's motivation, so that more motivated readers use more strategies and build more powerful meaning than less motivated ones (Pardo, 2004).

Chan, Meints, Lieven and Tomasello (2010) for investigating the comprehension of canonical (SVO) transitive word order with familiar and novel verbs used act-out and intermodal preferential looking (IPL) tasks for 67 English children aged 2:0 to 3:5. Children aged 2:9 and 3:5 apparently comprehended word order in both tasks and both kinds of verbs, but children aged 2:9 performed with familiar verbs better in act-out tasks. Children aged 2:0 did not show any evidence of comprehension of word order in either task with novel verbs, but with familiar verbs, they showed evidence of comprehension in the IPL task rather than in the act-out task. The author has attributed the difference between the performance with familiar and novel verbs in the IPL task by children aged 2:0 and in the act-out task by those aged 2:9, to the hypothesis that first representations of linguistic or cognitive categories are graded based on strength, so that the first representations are very weak and task dependent.

Transfer

Transfer in the field of second language acquisition is the influence of first language on the second language which can facilitate or hinder the process of second language acquisition. This process depends on the similarities or differences of the two languages (Odlin, 1989).

Cross-linguistic transfer in word order has been studied from two perspectives by Isurin (2005): (a) as a barrier in L2 acquisition (b) as a cause of attrition of L1. This study unlike previous studies investigated both fields at the same time in a contact situation, although it was challenging because of the possibility of integration. This study used two experiments and found that the effect of cross-linguistic transfer in L1 forgetting and L2 acquisition entails irregular structures in the target language which may include unmarked structures of L2 or L1 respectively.

Relative clauses

A relative clause is a subordinate clause which modifies a noun or noun phrase in a related main clause. According to research in different languages children substantially interpret subject relatives earlier than object relatives in an adult-like manner (Gavarro et al. 2011).

Clefts and pseudoclefts

According to Lewis (1993, p. 151) "the cleft construction in English is a particular kind of predicate complement construction that serves to focus part of the sentence". Lewis believes there are two kinds of cleft construction and names them *cleft* and *pseudocleft* "the *cleft* has *it* as its subject and something like a relative clause at the end". (12) is a cleft sentence:

(11) The man saw a dog.

(12) It was a dog that the man saw.

On the other hand *pseudo-cleft* is defined as a sentence which has something like a Wh-clause in subject position. (13) is a pseudocleft:

(13) What the man saw was a dog.

Second and fourth graders' comprehension of complex sentences was investigated by Richgels (1983), using a picture selection task. Sentences were clefts and pseudoclefts including relative clauses without markers and auxiliaries. Sentences were either passive or active and their noun-verb-noun relations were either according to children's expectations (typical) or against their expectations (atypical). The results showed that 1. The performance of fourth graders was better than that of second graders. 2. Active sentences were easier than passive sentences. 3. Sentences according to children's expectations were comprehended significantly better than those against their

expectation. 4. No significant difference was found in cleft and pseudocleft comprehension.

Resumptive pronouns

In a study Rahmany et al. (2013) investigated the role of resumption in the interpretation of object relative clauses in Persian-speaking children. Sixty four children aged 3; 2 – 6; 0 completed a referent selection task that tested their comprehension of subject RCs, gapped object RCs, and object RCs containing either a resumptive pronoun or an object clitic. It was found that the presence of a resumptive element (pronoun or clitic) had a facilitative effect on children's processing of object RCs so that object RCs with resumptive elements were interpreted more accurately than gapped subject and object RCs. In other words it was concluded that resumptive elements ease the process of syntactically complex contexts as they provide local cues to thematic role assignment.

The effect of resumptive pronouns on the comprehension of Persian object-pseudoclefts by monolingual Persian speaking children aged between 31 79 months was investigated by Montaseri & Rahmany (2014) and it was found that resumptive pronouns do not have any significant effect on the comprehension of Persian object-pseudoclefts.

- Does word order have any effect on the comprehension of pseudoclefts in L2?
- Does resumption have any effect on the comprehension of pseudoclefts in L2?

METHOD

Participants

In this study 16 Persian-speaking learners of English as a Foreign Language (L2 learners) aged between 15 and 18 years were recruited from a female Secondary School for investigating the effect of pseudocleft type (canonical vs. non-canonical) and resumption on the comprehension of pseudoclefts in L2.

Materials

The test used in this study included 27 items: 10 items were object pseudoclefts with resumptive pronoun (OP), 5 object pseudoclefts without resumptive pronoun (O), 5 subject pseudoclefts (S), and 7 items were fillers which were applied for distracting participants' attention. This test was a standardized test adapted from Rahmany et al. (2011). All of the verbs used in the test were in simple past and included *pull, wash, grab, kiss* and *hit* which are one part verbs in English, they were selected since their comprehension process is more simple than compound verbs. All the noun phrases used in the test were animate including: *dog, bear, cow, elephant, horse* which are very familiar animals, to prevent animacy effects, because according to some researchers like Brandt, Kidd, Lieven and Tomasello, (2009), this factor affects children's comprehension. Another material used in was a booklet including 27 binary pictures, each one related to one item. The participants' task was selecting the appropriate picture matched the

sentence read to them. There was just one experimenter who familiarized the participants with the materials and the procedure of experiment (see appendix for test).

PROCEDURE

The participants were tested one by one in a quiet room. After greeting and some warm up expressions to reduce stress, the experimenter familiarized the participant with the procedure of testing by explaining one example so that the experimenter showed one of the picture tablets to her and she was told that every item would be read out to her and she should listen carefully and select one of the binary pictures on the tablet which matched the read out item, and for certainty she was requested to do one trial. If she did not understand or showed hesitation, the experimenter explained more about the procedure of performance to her. If the participant did not get the sentence at the first time and requested for repetition, it was read to her just one more time. The time needed to test every participant was about twenty minutes. The correct answer was scored 1 and incorrect one 0.

RESULTS

The first and second research questions of the present study asked whether word order and resumption have any effects on the comprehension of pseudoclefts in L2. In order to answer research questions number 1 and 2 of the current study, One-way Repeated Measure ANOVA was performed. Before that, the descriptive statistics of the comprehension of the three pseudo-clefts types was assessed. Table 1 presents the related descriptive statistics. The table manifests that the results are reported in terms of mean number of object with resumption, subject, and object comprehension in different age groups. As can be seen in the table, the average mean score of object with resumption (M = .91) is considerably more than that of both subject (M = .13), and object (M = .77). Figure 1 provides a graphical demonstration of the result.

Table 1. Descriptive Statistics for the Comprehension of Three L2 Pseudo-Cleft Types

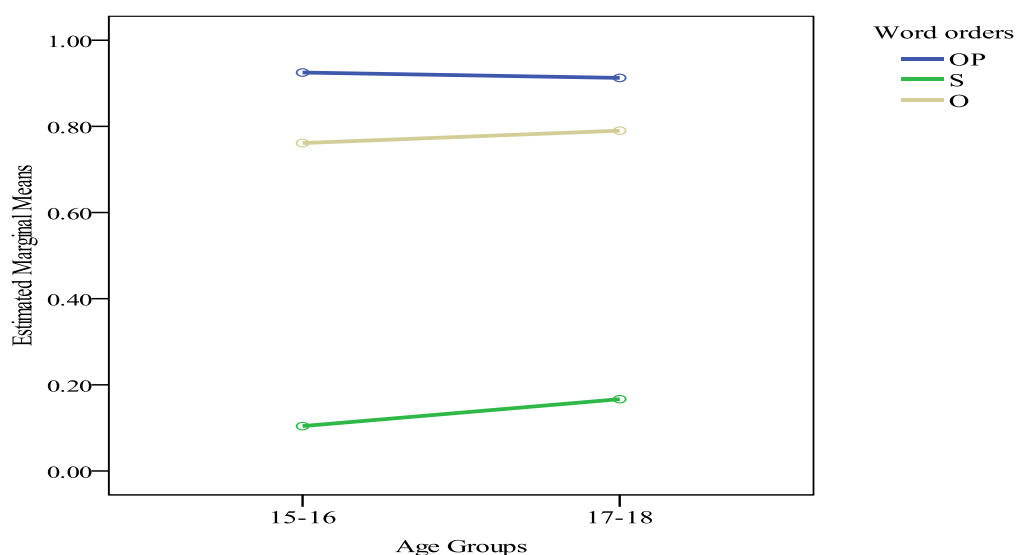| Sentence Types	Age	Mean	Std. Deviation	N
Object with Resumption	15-16 Years	.9250	.11650	8
	17-18 Years	.9125	.11260	8
	Total	.9188	.11087	16
Subject	15-16 Years	.1042	.15269	8
	17-18 Years	.1667	.15430	8
	Total	.1354	.15176	16
Object	15-16 Years	.7613	.21643	8
	17-18 Years	.7900	.16089	8
	Total	.7756	.18482	16

Figure 1. Mean scores of the comprehension of object with resumption, subject, and object pseudo-clefts in L2

In order to examine whether the differences were significant or not, a repeated measure ANOVA was run with word order as a within-subject factor and age as a between-subject factor. ANOVA results in Table 2 indicates that there was a statistically significant difference among the three sets of scores ($F_{(2, 13)}$ = 125.35, p = .000, Effect size = .95); Therefore it can be concluded that word order affects the comprehension of pseudoclefts in L2.

However, the interaction effect of the within and between-subject factors, i.e. word order-age effect was not significant ($F_{(2, 13)}$ = .947. p = .70, Effect size = .05).

Table 2. ANOVA Results for the Comprehension of Three Pseudo-Cleft Types

Effect	Value	F	Hypothesis d.f.	Error d.f.	Sig.	Partial Eta Squared
Word order	.049	125.350	2.000	13.000	.000	.951
Word order * Age	.947	.361	2.000	13.000	.703	.053

Since we have obtained a statistically significant result from the repeated measure ANOVA, this suggests that there is a difference somewhere among the sets. As it does not tell us which groups or set of scores differ from one another, therefore this information is provided in the Pairwise Comparisons (Table 3), which compares each pair of sentence types and indicates whether the difference between them is significant or not.

Post-hoc comparison ANOVA (see Table 3) detected a statistically significant difference between the 'object with resumption' and 'subject' pseudocleft structures (p = .000, p <.05), between 'object with resumption' and 'object' (p = .02, p < .05), and between 'subject' and 'object' (p = .000, p < .05). Thus it can be concluded that resumption with the mean score of .91, which was the easiest, in comparison with subject (M = .13), and object (M = .77) affects the comprehension of pseudoclefts in L2.

Table 3. Post-Hoc Comparison for the Comprehension of Three Types of L2 Pseudo-Clefts

(I) Word order	(J) Word order	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Lower Bound
OP	S	.783*	.048	.000	.652	.915
OP	O	.143*	.047	.025	.016	.270
S	O	-.640*	.066	.000	-.820	-.460

DISCUSSION

Word order

Numerous studies on different languages of the world have shown that every language has a canonical word order and some derived word orders. Canonical word order in English is SVO and OVS is a derived word order. The order of words in pseudoclefts in English is different, if the focus of sentence is on subject it is a subject pseudocleft (VOS) like this example *what grabbed the bear was the elephant* and if the focus is on object it is an object pseudocleft (SVO) like *what the cow washed was the dog* (Kaiser, 2010 and Calude, 2008). The results indicated that word order has significant effect on the comprehension of pseudoclefts in L2 (p= .000 < .05). This result is related to the fact that canonical word order is easier to comprehend than non-canonical word order, since L2 learners learn canonical word order (SVO) before derived word orders (like OVS) therefore they unconsciously do not pay any attention to complex structure of pseudoclefts. In fact they think it is a Wh question and as they have learned in grammatical rules that canonical structure of English sentences is SVO, they omit *What* and *was* in their mind and grab *the cow washed the dog* (SVO) as the main part so they interpret it easily as a canonical order and the complexity of the sentence does not hinder its comprehension. However, in simple RCs the process of subject RC (like *The cow that pulled the bear*) is certainly easier than object RC (like *The bear that the cow pulled*) since the first one is closer to canonical WO. According to this interpretation the findings of Greenberg (1966), Slobin and Bever (1982), Urosevic et al (1986), Erdozia, Rodrigues-Fornells, Mestres and Laka (2005), Hsiao and Gibson (2003) and Rahmany et al (2011) based on the fact that SO order is easier and faster to process than OS is in fact supported.

Resumption

Resumptive pronouns (RPs) are not allowed in English (Sells, 1987) while they are significantly employed in Persian RCs (Rahmany et al., 2011). The effect of resumptive pronoun on the comprehension of pseudoclefts was tested across this study to examine whether the regularity of resumption in Persian as L1 transfer to L2 or not. The results showed that resumption facilitates the comprehension of pseudoclefts. Therefore, object pseudoclefts with resumptive pronouns are better comprehended than subject and object pseudoclefts. The results of this study support the claims of previous studies based on the facilitating effect of resumption on comprehension like McKee and McDaniel

(2001) which exemplifies the role of resumptive elements as a prop which causes the reactivation of the head referent in the process of comprehension. The claim of Rahmany et al (2013) based on facilitating effect of resumptive elements in Persian is also supported. But Friedmann (2007) argument that the presence of RPs does not improve the comprehension of object RCs in Hebrew by individuals with agrammatic aphasia is not attested since RPs facilitate the comprehension of O pseudoclefts. Transfer studies like Barto-Sisamout et al. (2009) and Hui (2010) is also supported by the results of this task because RPs facilitate the comprehension of pseudoclefts by L2 learners as they use them in L1 (Persian) to help them to comprehend more complex sentences.

CONCLUSION

The current study revealed that word order as a global cue significantly affects the comprehension of pseudoclefts in L2 learning for Persian speaking learners so that object pseudoclefts are comprehended more accurately than subject ones.

Resumption is known as a facilitating factor in comprehension in different languages even where they are not allowed or needed like in English (Labelle, 1990; Prince, 1990; Mc Kee & Mc Daniel, 2001; Arnon, 2010). The results of this study indicated that RPs are facilitating and can act as a prop (Mc Kee & Mc Daniel, 2001) so that the comprehension of OP was significantly more than that of O and respectively S. In comprehension RP helps the learner to have enough time to reactivate the referent which may not be otherwise recoverable from working memory (Mc Kee & Mc Daniel, 2001). This result may be due to transfer because some researchers like Taghvaipour (2004) and Rahmany et al (2013) believe that resumptive pronouns have an important role in Persian RCs and this element is transferred to L2.

This study investigated the effect of local and global cues on the learning of English pseudoclefts so replication is suggested in other languages of the world. As well as this study was limited to female L2 learners while gender may be an effective factor in comprehension of pseudoclefts therefore it is suggested this investigation be performed on male students, too. Overall research on pseudoclefts has been limited and they deserve more attention.

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APPENDIX

1. What the dog pulled it was the bear.

2. What the cow washed was the elephant.

3. The bear on the tree

4. What grabbed the bear was the elephant.

5. What the bear kissed it was the horse.

6. What the horse hit was the dog.

7. The elephant near the house

8. What the elephant pulled it was the cow.

9. What washed the bear was the elephant.

10. What the bear grabbed was the dog.

11. What the cow kissed it was the elephant.

12. The brown horse

13. What the cow hit it was the dog.

14. What pulled the dog was the cow.

15. The dog on the table

16. What the cow washed it was the horse.

17. What the elephant grabbed it was the horse.

18. What kissed the dog was the horse.

19. The lying elephant

20. What the horse hit it was the bear.

21. What pulled the bear was the cow.

22. The white cow

23. What the dog washed it was the bear.

24. What the elephant grabbed it was the dog.

25. What the elephant kissed was the horse.

26. The bear in the jungle

27. What hit the cow was the horse.