What is difficult in second language acquisition of syntax

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Abstract

This study investigates the second language (L2) acquisition of Chinese Causative Resulative V-Vs (CR V-Vs) by Portuguese-speaking learners through a Semi-Induced Production Task (SPT) and a Grammaticality Judgment Task (GJT). While the results of the SPT indicate a proficiency effect in the CR V-V production, the results of the GJT are somewhat mixed. Some CR V-V constraints have been successfully acquired by L2 learners at least from the intermediate level, but others remain difficult even for advanced learners. The results show that with more L2 exposure, parameters may be reset by L2 learners, but successful L2 acquisition requires more than that. The bottleneck is beyond the parameter resetting.

Key words: second language acquisition, syntax, resultative, Chinese, Portuguese

Introduction

The Chinese Causative Resultative V-Vs (CR V-Vs), as in (1a), express caused-result events, with the Manner-denoting component (V1) and the result-denoting component (V2) in adjacency. Within the Minimalist Program and Distributed Morphology framework, we claim that Chinese CR V-Vs involve the head v_{CAUSE}. The Manner-denoting root ($\sqrt{1}$) conflates to this head as an adjunct, and the Result-denoting root ($\sqrt{2}$) is incorporated into it as its Complement, as illustrated in (2a). In contrast, Portuguese allows simple resultatives with light verbs but not true resultatives with Manner (1b). We claim that Portuguese simple resultatives involve embedded Small Clause, as illustrated in (2b). However, since Manner Conflation is not allowed, the Manner can only be expressed externally, as in (1c).

(1) a. Ta <u>ti kai</u> le   men.
      he kick   open ASP   door
      'He kicked the door open.'
   b. O João   deixou/*pontapeoua   porta   aberta.
      the John   left/*kicked   the door   open
      'John left/*kicked the door open.'
      O João abriu a porta pontapeando-a.
      the John opened the door kicking it
      'John opened the door (by) kicking it.'

(2)a.
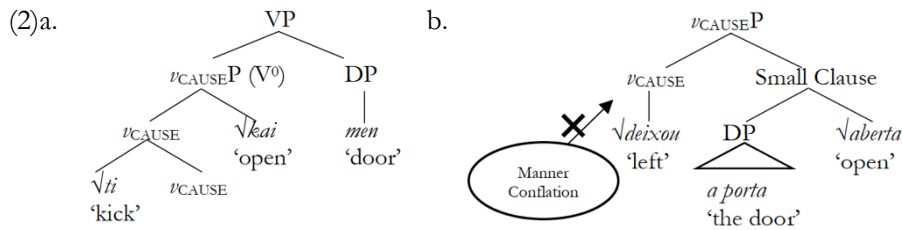
Therefore, for L1 Portuguese learners to acquire L2 Chinese CR V-Vs, parameter resetting will be required. In particular, the L2 learners should allow v_{CAUSE} to directly select a root (instead of Small Clause) and "switch on" the Manner Conflation option.

Our research questions are: Are the L1 Portuguese L2 Chinese learners successful in acquiring Chinese CR V-Vs? What can account for the variation?

Methods and materials

Participants

The participants in our experiment include 27 L1 Portuguese L2 Chinese learners (18 intermediate and 9 advanced learners) and 27 Chinese native controls. All the participants are adults.

Materials and procedures

The experiment includes a Semi-Induced Production Task (SPT) and a Grammaticality Judgment Task (GJT).

The stimulus set in the SPT is composed of 20 target video clips and 10 distracting clips. Each target video clip depicts a caused-result event and is accompanied by a set of keywords as cues. After watching each clip, the participants were asked to say a sentence in Chinese using the provided keywords. All the responses were recorded and transcribed. Notes were taken based on the construction type that was used for each video clip. The frequency of each structure type in each group was calculated.

The GJT includes 35 target items (20 grammatical and 15 ungrammatical) and 17 distracting items. All the target items contain CR V-Vs, including pairs of items that only differ minimally – one is grammatical, and the other violates a particular CR V-V constraint (e.g., the semantic constraint of V2, the transitivity alternation, the V-V adjacency, the V-V integrity, and the "small size" constraint). The participants were asked to rate the sentences focusing on grammaticality by choosing a value on a Likert scale from 1 (completely unacceptable) to 5 (completely acceptable).

All materials were pilot-tested prior to the actual gathering of the data. The items in each task were randomized so that similar items would not be adjacent to each other. All the instructions were given in the participants' mother

tongues. The participants were required to complete the tasks independently. There was no limitation of time for the test completion.

Results

The CR V-V frequency by each group in the SPT is presented in the boxplots in Figure 1. The native controls (M=91.85%) outperformed both L2 learner groups, and the advanced L2 group (M=46.67%) outperformed the intermediate group (M=20.83%). Through Welch's t-tests (see Table 1), we found that the difference is significant between all groups (p<0.05).
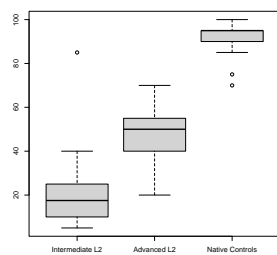

Figure 1 SPT boxplots.

Table 1 CR V-V frequency comparison.

Welch's t-test	t	df	p-value
Inter. × Adv.	-3.8821	20.149	0.0009162
Adv. × Native	-8.8211	9.3054	8.063e-06
Inter. × Native	-3.8821	20.149	0.0009162

Results of the GJT show that the contrast between the acceptable and unacceptable items is the biggest in the native control group and the smallest in the intermediate L2 group (see Figure 2).
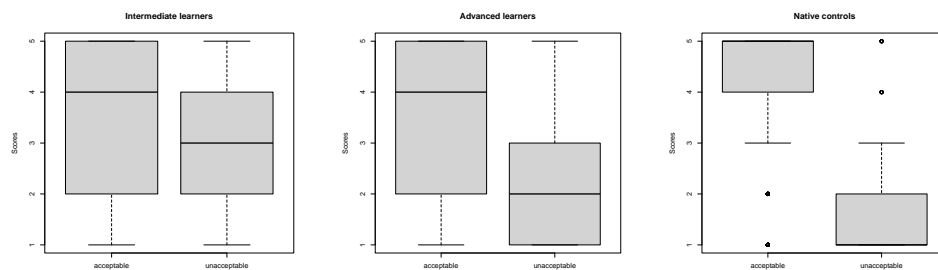

Figure 2 Boxplots of grammatical and ungrammatical items.

We ran Welch's t-tests and found that there was a significant difference between grammatical and ungrammatical items in all groups (Inter: t=6.3025, p=5.839e-10; Adv: t=7.4094, p=1.268e-12; Native: t=45.305, p< 2.2e-16).

Looking at specific constraints, we found that both the intermediate and the advanced L2 groups were sensitive to the semantic constraint of V2 (t=3.3629, p=0.001438; t=4.1626, p=0.0003056), the V-V integrity (t=6.0678, p=6.287e-07; t=4.0817, p=0.0007769), and the transitivity alternation constraints (causative: p=0.006667, 0.006275; anticausative: p=0.009485, 0.01159). As to the "small size" constraint, although neither L2 group showed strong sensitivity (t=-1.1578, p=0.2548; t=0.4165, p=0.6823), there was a weak tendency that the score difference in the acceptable-unacceptable pairs is bigger in the advanced group than in the intermediate group (Inter×Adv: t=-1.0521, p=0.2993). However, neither L2 group showed knowledge of the V-V adjacency (t=0, p≈1; t=-0.10422, p=0.9182), and no proficiency effect was detected (Inter×Adv: t=0.092348, p=0.9271). An interesting result was also found in the Type VIII constraint: while the intermediate L2 group showed sensitivity (t=3.4236, p=0.001592), the advanced group did not (t=0.82328, p=0.4217).

Conclusions

The overall results of our experiment show that there is a general tendency that the L2 learners gained more knowledge of Chinese CR V-Vs as proficiency increased. However, when looking at the results in more depth, we found that different CR V-V constraints were not acquired at the same speed. Some constraints have been acquired successfully at least from the intermediate level (e.g., the semantic constraint on V2), while constraints such as the V-V adjacency seem to impose great difficulty even for advanced L2 learners. Therefore, different aspects of L2 grammar form a hierarchy of acquisition difficulty.

The L2 acquisition process is more complicated than selecting the correct values for parameters. As Lardiere (2008, 2009) hypothesized, the difficulty exists in Feature Assembly, namely, learning how the bundles of features should be realized in L2. While the results of our study showed a generally positive learning curve regarding parameter resetting, they also showed that successful acquisition requires more than that – the bottleneck is beyond parameter resetting.

References

Lardiere, D. 2008. Feature assembly in second language acquisition. In Liceras, J., Zobl, H., Goodluck, H. (eds.) 2008, The Role of Formal Features in Second Language Acquisition, 106–140. New York, Lawrence Erlbaum.

Lardiere, D. 2009. Some thoughts on the contrastive analysis of features in second language acquisition. Second Language Research 25(2), 173–227.