# The production of relative clauses by L1-English learners of Chinese

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In language acquisition and processing, the preference for subject relative clauses (SRCs) over direct object relative clauses (ORCs) is well-attested in languages with postnominal relative clauses like English. The picture is less clear in Mandarin Chinese, in which RCs are prenominal, followed by the relativizer *de* (1). While some studies report an SRC advantage in Chinese (e.g., Hsu et al. 2009), others report an ORC advantage (e.g., Chan et al. 2011; Gibson & Wu 2013), including L2 processing studies (Cui, 2013; Yao, 2018). There are two possible explanations for the ORC advantage. First, in prenominal RCs, the distance between the gap and the head is shorter in ORCs (1b) than in SRCs (1a); thus they require less memory or processing load (Gibson & Wu 2013). Second, in Chinese, ORCs (1b) are similar to canonical SVO sentences (2), while SRCs (1a) are not (Diessel 2007).

(1) a.  SRC                                        b.  ORC
    [ __    zai da  nan-yisheng   de] nühai          [ nanhai    zai da  __ ]   de       nan-yisheng
            ASP hit male-doctor    REL girl            boy       ASP hit         REL      male-doctor
    'the girl that is hitting the male doctor'        'the male doctor that the boy is hitting'

Prior studies on Chinese RCs focus on comprehension. There are some studies on native speakers (Hsu et al. 2009, Lin 2013), but none on L2 production. Data from an elicited production task are important, as such a task would give participants an opportunity to build RCs 'from scratch,' providing a clear test of their knowledge of RCs (Kim & O'Grady 2016; Zukowski 2009). The current study addresses this gap by investigating whether L1-English learners of Chinese show an SRC advantage in production.

Our participants are 30 learners of Chinese enrolled in intermediate Chinese classes at a large Midwest university (of which five were excluded during analysis), and ten native controls. They participated in our elicited production task, in which they were shown a panel of two pictures (Figure 1) and asked to verbally describe the person or object designated by the arrow. The task consisted of 20 items: five of each of the two RC types (SRC, ORC) in two animacy conditions (A-A: animate agent and patient, and A-I: animate agent and inanimate theme). The A-A condition used the verbs *da* 'hit,' *deng* 'wait for,' *jiao* 'teach,' *ti* 'kick,' and *xiang* 'miss.'; the A-I condition used the verbs *chi* 'eat,' *he* 'drink,' *xi* 'wash,' *yong* 'use,' and *zuo* 'make.' There were three practice trials featuring adjectives. The vocabulary in the task was based on Chinese instructional materials, and a separate vocabulary test ensured learners' familiarity with the words used.
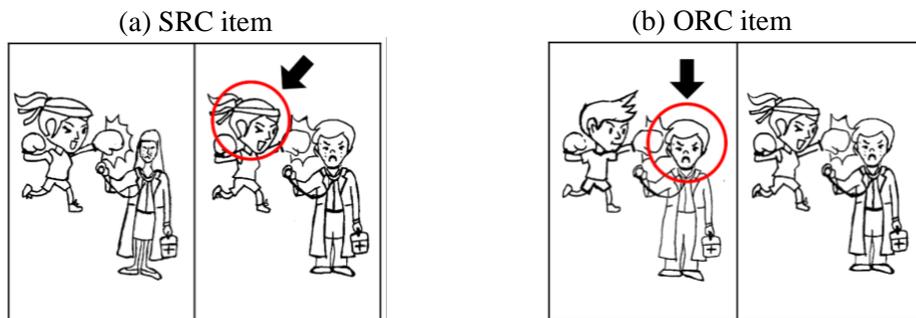
(a) SRC item                                    (b) ORC item



**Figure 1. Sample SRC (a) and ORC (b) items in the animate agent, animate patient (A-A) condition.**

Table 1 presents the breakdown of the responses. Native speakers' results replicated Montag and MacDonald's (2009) findings in English and Japanese: passive RCs like (2) are often produced instead of ORCs with an animate head.

**Table 1. Response patterns by group and condition.**

| | | | A-A | | | | A-I | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | SRC | | ORC | | SRC | | ORC | |
| | | | % | token | % | token | % | token | % | token |
| NS | Acceptable | Target | 94 | 47/50 | 46 | 23/50 | 100 | 50/50 | 88 | 44/50 |
| | | Passive RCs | 2 | 1/50 | 52 | 26/50 | 0 | 0/50 | 10 | 5/50 |
| | | **Subtotal** | **96** | **48/50** | **98** | **49/50** | **100** | **50/50** | **98** | **49/50** |
| | Unacceptable | Errors | 2 | 1/50 | 0 | 0/50 | 0 | 0/50 | 0 | 0/50 |
| | | Non-RCs | 2 | 1/50 | 2 | 1/50 | 0 | 0/50 | 2 | 1/50 |
| | | **Subtotal** | **4** | **2/50** | **2** | **1/50** | **0** | **0/50** | **2** | **2/50** |
| L2 | Acceptable | Target | 57.50 | 69/120 | 45.83 | 55/120 | 79.17 | 95/120 | 65.83 | 79/120 |
| | | Passive RCs | 0 | 0/120 | 3.33 | 4/120 | 0 | 0/120 | 4.17 | 5/120 |
| | | **Subtotal** | **57.50** | **69/120** | **49.17** | **59/120** | **79.17** | **95/120** | **70.00** | **84/120** |
| | Unacceptable | Errors | 2.50 | 3/120 | 5.00 | 6/120 | 3.33 | 4/120 | 10.00 | 12/120 |
| | | Non-RCs | 40.00 | 48/120 | 45.83 | 55/120 | 17.5 | 21/120 | 20.00 | 24/120 |
| | | **Subtotal** | **42.50** | **51/120** | **50.83** | **61/120** | **20.83** | **25/120** | **30.00** | **36/120** |

(2) Passive RCs

*[ __ bei nanhai da ] de nan-yisheng*
     PASS  boy   hit   REL male-doctor
 'the male doctor that was hit by the boy'

Learners produced more target SRCs than ORCs in both conditions, and the difference was statistically significant when their proficiency was taken into account. Learners also made more errors in ORC than in SRC production, mistakenly uttering an SRC in lieu of an ORC. The opposite patter was much less frequent. All things considered, the results point toward an SRC advantage in the production of Chinese RCs.

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