Effects of Pronouns on L2 Relative Clause Processing by Korean Learners

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We present the results of an online self-paced reading task of Korean L2ers of English reading subject and object relative clauses (SRCs, ORCs). We manipulate the kind of nominal inside RCs: lexical NP (1) and pronoun (2), and find that the pronoun significantly improves the processing of ORCs, showing that L2ers, like native adults, are sensitive to discourse accessibility of referents in processing long-distance dependencies.

(1) a. The banker that _ praised the barber climbed the mountain.
   b. The banker that the barber praised _ climbed the mountain.

(2) a. The banker that _ praised you climbed the mountain.
   b. The banker that you praised _ climbed the mountain.

There is a general consensus that ORCs (1b) are more difficult to process than SRCs (1a), when both the head noun (the banker) and the embedded noun (the barber) are lexical NPs (e.g., King & Just, 1991). However, this well-known asymmetry has been shown to be mitigated, or even disappear, when the embedded noun is a pronoun, as in (2) (e.g., Gordon et al., 2001; Warren & Gibson, 2002). As a similar subject-object asymmetry exists in L2 processing of English relative clauses (e.g., Doughty, 1991), we ask whether the same pronoun advantage is observed for L2ers. In particular, we examine whether the second-person pronoun you as the embedded noun phrase inside the ORC produces the same facilitative effect on L2ers’ processing as it does on L1 adults’. While Kim (2016) demonstrated the effect of the first-person pronoun in facilitating the ORC for a subset of Korean-speaking L2 learners of English, he tested only ORCs, which were non-reversible RCs with an inanimate head noun. In the present study, we employed both types of reversible RCs to explore the effect of the pronoun across the RC type.

Our online self-paced reading experiment manipulated two factors: relative clause type (SRC vs. ORC) x embedded NP type (Lexical NP vs. Pronoun) – see Table 1. There were six items per condition, resulting in 24 critical sentences, distributed across 4 lists in a Latin Square design, plus 76 fillers.

Table 1. A sample set of critical sentences

<table>
<thead>
<tr>
<th>RC type</th>
<th>Embedded NP type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRC</td>
<td>Lexical NP</td>
<td>The nurse that ignored the doctor last evening answered the phone quickly.</td>
</tr>
<tr>
<td>SRC</td>
<td>Pronoun</td>
<td>The nurse that ignored you last evening answered the phone quickly.</td>
</tr>
<tr>
<td>ORC</td>
<td>Lexical NP</td>
<td>The nurse that the doctor ignored last evening answered the phone quickly.</td>
</tr>
<tr>
<td>ORC</td>
<td>Pronoun</td>
<td>The nurse that you ignored last evening answered the phone quickly.</td>
</tr>
</tbody>
</table>

Reading-time (RT) results from 66 Korean L2ers of English and 15 native English speakers revealed a clear pronoun advantage for the ORC for both L1 adults and L2 learners (Figures 1 & 2). For the first critical word (red-shaded part; the embedded noun for SRC and the embedded verb for ORC), RTs were longer in the Lexical NP condition than in the Pronoun condition (Natives: $F(1,14)=3.85, p=.07$; L2ers: $F(1,65)=29.18, p<.001$), and there was a significant interaction (Natives: $F(1,14)=5.89, p=.029$; L2ers: $F(1,65)=6.81, p=.01$): the effect of RC type was greater in the Lexical NP condition than in the Pronoun condition. Similarly for the second critical word (blue-shaded part), which is the verb of the main clause, RTs were longer in the Lexical NP condition than in the Pronoun condition (Natives: $F(1,14)=11.69, p=.004$; L2ers: $F(1,65)=4.56, p=.037$). When the Pronoun condition was examined alone, there was no effect of subject versus object for the first critical word or for the second critical word (all $ps>1$ for natives and L2ers).
Taken together, these results demonstrate that having an embedded pronoun inside the ORC significantly reduces the subject-object asymmetry in L2 processing, suggesting that L2ers’ processing cost is influenced by discourse accessibility of the intervening constituent (Gibson, 1998).

Selected References