Natural Acquisition Order vs. Instructional Effects on SLA of Korean Relative Clauses: Examination of Oral Production Data in a Learner Corpus

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Purpose of the Study

- To examine the **L2 development of Korean relative clauses (RCs)** by adult learners through analyzing a learner corpus of oral production data.

- In particular, to compare the L2 developmental stages of Korean RCs with the natural acquisition order of L1.

- To investigate whether the prediction of Noun Phrase Accessibility Hierarchy (NPAH) is met in L2 acquisition of Korean RCs.
Korean Relative Clauses

- Korean RCs are pronominal.

- No relative pronoun (i.e. who, whom, which, whose) is involved in Korean relativization.

- Relativization is marked by a set of adnominal verbal suffixes (i.e. -은, -는, and -을) which also express the tense of the RC.

- Movement and pronominalization are not involved.

- Korean RCs can be divided into head-external RCs and head-internal RCs depending on the position of head noun (Cho, 2003; Jhang, 1994; Lee, K., 1991).
Korean Relative Clauses

- **Head-external RCs (HE RCs)**

  Gap  Head Noun

  $[NP \, t_i \, \text{가기-를 보-는} \, \text{여자}_i]$  
  baby-ACC  see-REL.PRES  woman

  “The woman who looks at a baby.”

- **Head-internal RCs (HI RCs)**

  Head Noun  것

  존-은 $[NP \, \text{책-을 빌린}]$  것-을  돌려 주었다.  
  “John returned the book he borrowed.”
Natural Acquisition Order of Korean RCs (L1)

- RC with a zero head
  - [자전거 타는]

- HI RCs
  - [피아노 탕탕 하는] 것 사 줄래겠지.

- HE RCs with ke(s)+ a lexical head
  - [그리고 아빠 쓰는] 거 안경은…

- HE RCs with a lexical head
  - [아빠가 안경 사 줄] 돈이 없어.

- Cho & O’Grady (2009, p. 169)
Korean RC Development

- Children (age 4-6) comprehended and produced HI RCs more accurately and frequently than HE RCs. (Cho, 2003).

- In addition, the frequency of HE RCs increased as children’s age increased (Cho, 2003; Lee, 1991).

- Jeon and Kim (2007) examined oral production of Korean RCs by adult L2 learners and reported similar developmental sequences with the natural (L1) order.
Noun Phrase Accessibility Hierarchy (NPAH)

- A typological generalization originally proposed by Keenan and Comrie (1977)
- The relativizability of noun phrase is in the order of:
  
  SU > DO > IO > OBL > GEN > OComp

- The NPAH was extended to SLA to predict the difficulty order of acquiring RCs.
The findings of the research on European RC acquisition were consistent with the NPAH. In other words, SU RCs are acquired earlier than DO RCs.


The NPAH has been regarded as a universal hierarchy which predicts L2 developmental order of RCs.
Recent findings on L2 acquisition of East Asian Language (EAL) RCs have challenged the universality of the NPAH.

Studies on Japanese RC acquisition have reported mixed findings.

In contrast, Korean RC acquisition studies have obtained favorable findings.
Two Major Claims

1. The natural developmental sequences of Korean RCs are in the order of headless to head-internal RCs and to head-external RCs.

2. In accordance with the NPAH, Korean learners produce Korean head-external RCs in the order: subject (SU) -> direct object (DO) -> oblique (OBL).
Limitations

- Most of the studies were confined to either listening comprehension (O’Grady, Lee, & Choo, 2003) or rather controlled elicitation of Korean RCs (Jeon & Kim, 2007; O’Grady, Yamashita, Lee, Choo, & Cho, 2000).

- They were mainly focused on the second claim examining head-external RCs only, except Jeon and Kim (2007) who reported supporting evidence for the first claim in the oral production data elicited by adult L2 learners.
Korean RCs Instruction

- Korean RC instruction has been **mainly focused on the acquisition of adnominal verbal suffixes** and accurate use of the suffixes, as they are one of the biggest challenges for L2 learners acquiring Korean RCs (Kim, 2007; Sung, 2002, 김서형 & 홍종선, 2010).

- **Korean RCs in the Korean textbooks** (Kim, 2007)
  - -은/는 (adjectival) -> -은/는 (verbal) -> -을 (prospective)
  - -는 (non-past) -> -은/을 (past, prospective) -> -던 (retrospective)
  - From high-beginning to low-intermediate level

- Mostly **only HE RCs** are introduced in the textbooks, and they are introduced **not in the order of SU, DO and OBL.**
Research Questions

The current study aims to examine whether the two claims on the development of Korean RCs are sustained in more naturally occurring L2 oral production.

1. Is the L2 developmental order of Korean RCs consistent with the natural acquisition order (i.e. Headless -> HI RCs -> HE RCs)?

2. Do L2 learners of Korean acquire the Korean head-external RCs in the order of SU to DO and to OBL in accordance with the prediction of the NPAH?
Methods: Learner Corpus

- A learner corpus containing dyadic oral interactions between a NS interlocutor and a L2 learner of Korean were analyzed using CHILDES (McWhinney, 2000).

- In total, 152 task-based interactions were included, carried out by 38 adult KSL/KFL learners from high-beginning to intermediate level.
  - KSL (13)/ KFL (25)
  - Heritage (15)/ Non-heritage (23)
  - L1: English (20)/ Chinese (7)/ Japanese (7)/ Korean (3)/ Cantonese (1)
Methods: Coding & Analysis

- RCs Developmental Stages
  - Juxtaposition of 2 Sentences
  - Headless RCs
  - HI RCs + φ
  - HI RCs
  - HE RCs w/ kes
  - HE RCs w/ Structural Error
  - HE RCs with Resumptive Noun
  - HE RCs w/ no Relativizer
  - HE RCs


남자가 신문 읽어에 있어요

남자이 아이스크림 먹은

[벤치에 앉은]

[남자 북런드 먹으는] 거

[남자 책 읽은] 것

[보고 있는 나무] 아이

[남자 앉고 있는] 개

[차 운전] 남자

[남자 보는] 신문
Methods: Coding & Analysis

- Head-External RCs
  - Gap Type
    - Subject (SU)/Direct object (DO)/Oblique (OBL)

- Errors:
  - Tense/inflection error (TIE)
  - Case marker error (CME)
  - Argument omission (ARG)
Results

Table 1. Total Number of RCs Produced (Attempted)

<table>
<thead>
<tr>
<th></th>
<th>SU</th>
<th>DO</th>
<th>OBL</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>976</td>
<td>706</td>
<td>50</td>
<td>1,732</td>
</tr>
<tr>
<td>Average</td>
<td>25.68</td>
<td>18.58</td>
<td>1.32</td>
<td>45.58</td>
</tr>
<tr>
<td>(%)</td>
<td>(56.4%)</td>
<td>(40.8%)</td>
<td>(2.9%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

- In total, 1,732 RCs (on average 45.58 RCs per learner) were identified.
- SU RCs ($M = 25.68$) were most frequently produced (or attempted) by learners, followed by DO RCs ($M = 18.58$). OBL RCs were produced the least ($M = 1.32$).
Results: RCs Development

Table 2. Number of RCs Produced for Each Coding Category

<table>
<thead>
<tr>
<th>Category</th>
<th>SU</th>
<th>DO</th>
<th>OBL</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juxtaposition</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Headless RCs</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>HI RCs + $\emptyset$</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>HI RCs</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>HE RCs w/ kes</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>HE RCs w/ SE</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>HE RCs w/ RN</td>
<td>3</td>
<td>26</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>HE RCs w/ no REL</td>
<td>9</td>
<td>24</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>HE RCs</td>
<td>943</td>
<td>629</td>
<td>48</td>
<td>1,620</td>
</tr>
<tr>
<td>Total</td>
<td>976</td>
<td>706</td>
<td>50</td>
<td>1,732</td>
</tr>
</tbody>
</table>
Results: RC Development

- Most of the RCs produced were HE RCs (SU = 98.6%, DO = 96.3%, OBL = 96%).
- HI RCs were only 1.1% of the total RCs produced.
Results: NPAH

Table 2. Frequency of HE RCs

<table>
<thead>
<tr>
<th></th>
<th>SU</th>
<th>DO</th>
<th>OBL</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>943</td>
<td>629</td>
<td>48</td>
<td>1,620</td>
</tr>
<tr>
<td>M</td>
<td>24.82</td>
<td>16.55</td>
<td>1.26</td>
<td>42.63</td>
</tr>
<tr>
<td>(%)</td>
<td>(58.8%)</td>
<td>(38.8%)</td>
<td>(3.0%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>No. of Targets</td>
<td>12</td>
<td>24</td>
<td>4</td>
<td>40</td>
</tr>
</tbody>
</table>

- SU RCs were most frequently produced followed by DO and OBL.

- In comparison to the number of RC targets included, exceedingly greater number of SU RCs was produced (SU = 207%, DO = 69%, OBL = 32%).

- The frequency differences among the three RC were statistically significant according to one-way repeated measures ANOVA ($F(2, 36) = 309.575, p = .000$).
Results: NPAH

Table 3. Accuracy of Head-external RCs

<table>
<thead>
<tr>
<th></th>
<th>SU</th>
<th>DO</th>
<th>OBL</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct HE RCs</td>
<td>691 (73.3%)</td>
<td>312 (49.6%)</td>
<td>28 (58.3%)</td>
<td>1,031 (63.6%)</td>
</tr>
<tr>
<td>Erroneous HE RCs</td>
<td>252 (26.7%)</td>
<td>317 (50.4%)</td>
<td>20 (41.7%)</td>
<td>589 (36.4%)</td>
</tr>
</tbody>
</table>

- Accuracy rate was the highest for SU (73.3%) followed by OBL (58.3%) and DO (49.6%).

- Due to the small number of OBL RCs ($k = 48, M = 1.26$), however, it is hard to say that OBL RCs were more accurately produced than DO RCs.
Unlike L1 children acquiring Korean RCs in a natural context, most of adult learners of Korean examined in this study seemed to produce HE RCs from the outset, rather than going through headless or HI RC stages, which is in accordance with the instruction order of Korean RCs in the classrooms.

Whereas L1 children always produced HI RCs with kes, only seven of the HI RCs produced were true HI RCs containing kes, and most of them (k = 6) were produced by heritage learners, who had previous exposure to Korean in a natural settings.
Discussion: NPAH & Acquisition of HE RCs

- The prediction of the NPAH was supported in general, when both the frequency (SU = 943, DO = 629, and OBL = 48) and the accuracy of each type of RCs (SU = 73.3%, DO = 49.6%, OBL = 58.3%) were considered for HE RCs.

- In other words, SU RCs were more frequently and accurately produced than DO RCs. In addition, DO RCs were more frequently produced than OBL RCs. Although the accuracy rate was higher for OBL than DO RCs, due to small number of OBL RCs produced, it is hard to conclude that OBL RCs were more accurately produced than DO RCs.
Conclusions & Limitations

- It can be concluded that, unlike natural acquisition order of Korean RCs (i.e. headless -> HI RCs -> HE RCs), most of the adult L2 learners of Korean examined in this study produced HE RCs from the outset due to instructional effects (or possible L1 effects). Nevertheless, when it comes to HE RCs, the predicted acquisition order of the NPAH was sustained in general.

- In order to confirm that Korean L2 learners do not go through HI RC stage, there should be the examination of learner’s comprehension of HI RCs as well.

- Examination of RC production in a natural conversation would be more desirable in future studies.