Determinants of relative clause processing in Japanese as a second language
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INTRODUCTION

BACKGROUND

Subject relative clauses (SRs):
The student who saw the teacher...

Object relative clauses (ORs):
The student who the teacher saw...

△ SRs are easier to process than ORs in L1 and L2.
△ Where does this difference come from?

UNIVERSAL HYPOTHESES

Dependency Locality Theory (DLT; Gibson, 1998):
△ The number of discourse elements between RC-head and a gap determines the difficulty of ORs.

Structural Distance Hypothesis (SDH; O’Grady, 1997):
△ The number of syntactic nodes between RC-head and a gap determines the difficulty of ORs.

Frequency (Reali & Christiansen, 2007):
△ Distributions of SRs and ORs determine the processing difficulty of ORs (SRs are more frequent than ORs).

LANGUAGE-SPECIFIC HYPOTHESES

Case Driven Expectation (CDE) for Japanese (Sato et al., 2009):
△ RCs are processed more easily if there is an early expectation for another NP.

SRs: GAP, NP-ACC, RC-verb, RC-head
Early expectation for an NP

ORs: NP-NOM, GAP, RC-verb
Late expectation for an NP

EXPERIMENTS

EXPERIMENT 1

AIM: To examine whether there is a processing asymmetry between SRs and ORs in L2 Japanese.

PARTICIPANTS: 26 higher-intermediate Turkish speaking learners of Japanese at Çanakkale Onsekiz Mart University.

MATERIALS: 24 sets of SRs and ORs + 24 sets of EXP 248 fillers

SRs: Depato-de ryoushin-O sagasitei-takodomo-wa kyuuuni nakidasita dep.store-LOC parents-ACC seek-PAST child-TOP suddenly cried
‘The child who was looking for the parents at department store cried suddenly.’

ORs: Depato-de ryoushin-GA sagasitei-ta kodomo-wa kyuuuni nakidasita dep.store-LOC parents-NOM seek-PAST child-TOP suddenly cried
‘The child who the parents were looking for at department store cried suddenly.’

PREDICTIONS: DLT □ OR < SR
SDH, Frequency, CDE □ SR < OR

RESULTS

ACCURACY: SRs □ 96%; ORs □ 94%

READING TIMES

△ Head-noun of SRs was read faster than ORs □
△ SRs were easier to process than ORs.
△ SDH, frequency and CDE can explain the results, but DLT cannot.

HYPOTHESES

<table>
<thead>
<tr>
<th>Experiment 1</th>
<th>Experiment 2</th>
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<tbody>
<tr>
<td>DLT</td>
<td>□</td>
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<td>SDH</td>
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<td>FREQUENCY</td>
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<td>CDE</td>
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△ Neither distance based accounts nor frequency (universal factors) can explain the entire results (Gibson, 1998; O’Grady, 1997; Reali & Christiansen, 2007).
△ Case driven expectation captures the results (Sato et al., 2009).

GENERAL DISCUSSION & CONCLUSIONS

△ Different cues might influence L2 sentence processing
△ Only difference was case markers of NPs within RCs.
△ Reading times of RCs differ.
△ Turkish speaking learners of Japanese facilitated information from case markers. □ L1’s influence?
△ In addition to universal factors, language specific factors and learners’ L1 should also be taken into consideration.

FUTURE STUDY: Same experiments with different L1 speakers.

PRESENT STUDY

RESEARCH QUESTION:
△ To what extent language-specific factors may affect L2 sentence processing?

AIM OF THE PRESENT STUDY:
△ To explore the possible effects of universal and language specific factors in L2 Japanese RC processing.

METHODOLOGY & PARTICIPANTS:
△ Two self-paced reading experiments with higher-intermediate Turkish speaking learners of Japanese.
△ Turkish is SOV & pro-drop language. NPs bear case markers. Word order of RCs is identical to Japanese.
△ We wanted to make sure that participants can use case mark information.

EXPERIMENT 1:
△ Comparison of processing of SRs and ORs.

EXPERIMENT 2:
△ Comparison of processing of nominative and genitive RCs.

MAJOR FINDINGS

EXPERIMENT 1:
△ SR < OR □ SDH, frequency, CDE capture results, LDH does not.

EXPERIMENT 2:
△ GEN-RC < NOM-RC □ CDE captures the results, but LDH, SDH, frequency do not.

EXPERIMENT 2

AIM: To distinguish among SDH, frequency and CDE, thorough genitive-nominative conversion within RCs.

GENITIVE – NOMINATIVE CONVERSION & PREDICTIONS:
△ Subject NP of ORs bear both nominative and genitive case.
Student-NOM/GEN wrote composition...
‘The composition that the student wrote...’

△ Equal structural distance □ NOM-RCs = GEN-RCs
△ GEN-RCs are less frequent □ NOM-RCs < GEN-RCs
△ Early expectation of NP in GEN-RCs □ GEN-RCs < NOM-RCs

PARTICIPANTS & MATERIALS: Identical to Experiment 1

NOM: Sengestu gakusei-GA kita-sakubun-wa sugoku omosirokatta.
Last month student-NOM wrote composition-TOP very interesting.

GEN: Sengestu gakusei-NOM kita-sakubun-wa sugoku omosirokatta.
Last month student-GEN wrote composition-TOP very interesting.
‘The composition that the student wrote last month was very interesting.’

RESULTS

ACCURACY: NOM-RCs □ 97%; GEN-RCs □ 96%

READING TIMES

△ Head-noun of GEN-RCs was read faster than NOM-RCs □
△ GEN-RCs were easier to process than NOM-RCs.
△ CDE can explain the results, but LDH, SDH and frequency cannot.

△ To what extent language-specific factors may affect L2 sentence processing?
△ To explore the possible effects of universal and language specific factors in L2 Japanese RC processing.
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