CCConsonant CCClusters: Perception of Complex Onsets in Hul'q'umi'num'

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Introduction

About Hul'q'umi'num'

- Indigenous language spoken on Vancouver island by the Nanoose, Nanaimo, Chemainus, Cowichan, Lyackson, Penelakut, and Halalt peoples (Marinakis, 2004).
- Reports vary widely on number of fluent speakers, but limited L1 speakers and many are elderly.
- Language community working hard to actively reclaim and revitalize their language

Figure 1. Core traditional Hul'q'umi'num' territory

Figure 2. Hul'q'umi'num' treaty group and language areas

About This Project

- Aim of this research is to provide small contribution to body of work which will support adults learning Hul'q'umi'num' as a second language
- Hul'q'umi'num' allows many complex consonant clusters which English does not
- Well established in literature that acquiring L2 structures which are impermissible in learner's L1 can provide significant challenge
- Past research shows listeners' knowledge of L1 phonotactics can influence their speech perception (Pitt, 1998)
- In this project, we examine sample of Hul'q'umi'num' onset consonant clusters and how they are perceived by Hul'q'umi'num' learners versus non-Hul'q'umi'num'-learning control group
- **Research Question**: how well can Hul'q'umi'num' and non-Hul'q'umi'num' learning adults perceive complex consonant clusters in Hul'q'umi'num', and what types of perceptual errors occur?

Methods

Participants

- Experimental group consisting of 6 L2 Hul'q'umi'num' speakers
  - 25 to 55 years old
  - L1 English
  - Varying Hul'q'umi'num' proficiency
- Control group consisting of 3 undergraduate students from UVic
  - Minimal experience with Hul'q'umi'num'
  - Phonetics training
  - English as a L1

Stimuli

- 14 Hul'q'umi'num' words chosen by teacher of Hul'q'umi'num' program
- 1 initial consonant cluster in each stimulus
- Read aloud by 2 L1 speakers of Hul'q'umi'num' average of 4 times each

Hul'q'umi'num' words	
(1) tstl'um	(8) ts'qw'alstun
(2) ts'lh hwulmuhw	(9) shxaatth'ustun
(3) lhhwiws	(10) sxt'ekw'
(4) t-hwlhhwiws	(11) hwtth'xwasum
(5) stseelhtun	(12) lhxilush
(6) ts'lhteti	(13) stslhal'we'lh
(7) hwst'ilum	(14) sxlhas

Table 1. Hum'q'umi'num' words used as stimuli.

Procedure

- All participants seated in the same room and subject to test at the same time
- Asked to transcribe entire word
  - Only cluster was judged
- Data analyzed for accuracy and what type of errors were made
  - Data also divided based on glottalization

Results

Figures 3 and 4 show the average accuracy for each word tested, comparing performances of the experimental and control groups.

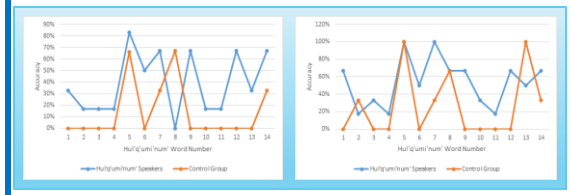

Figure 3. Average cluster perception accuracy including glottalization errors.

Figure 4. Average cluster perception accuracy excluding glottalization errors.

Figure 5 illustrates the overall accuracies of Hul'q'umi'num' speakers compared to the control group, both with and without the inclusion of glottalization errors.

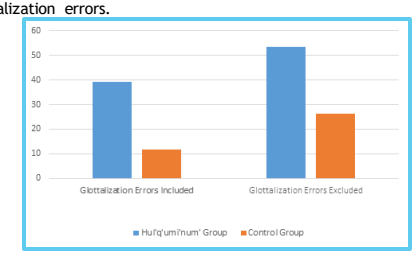

Figure 5. Overall perception accuracy of clusters for experimental and control groups.

Figures 6 and 7 show what types of perception errors were made by the experimental and control groups respectively.

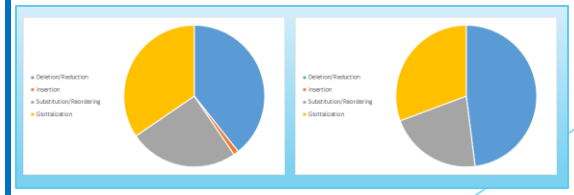

Figure 6. Experimental group perception errors.

Figure 7. Control group perception errors.

Discussion

- As expected, overall Hul'q'umi'num' learners performed better than control group
- Types of errors made were similar between groups
- Deletion/reduction was most common error
- Words with longest consonant clusters produced most deletion/reduction errors (e.g. #4, #11)
- Glottalization, while not the focus of this study, made up substantial proportion of total errors
  - Deserving of further research
- Surprisingly, epenthesis errors were virtually non-existent
  - Could be because participants were aware focus was on clusters
  - Could also be due to knowledge of Hul'q'umi'num' phonotactics

Limitations:

- Logistics of this project were extremely challenging!
- Stimuli words were repeated varying number of times with varying clarity
- No ability to control for participant demographics, proficiency, etc

Future Directions:

- Similar studies performed under more controlled circumstances would be beneficial
- Closer look at which types of clusters are most challenging
- Test training methods to improve perception

References

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