

Exemplar Effects in the Perception and Production of Advanced and Intermediate L2 Korean Wh-Question Intonation

Bonnie J. Fox¹

¹*University of Hawai‘i at Mānoa University (USA)*
foxbonni@hawaii.edu

This research study takes a hybrid exemplar model (Pierrehumbert, 2002; 2016; Tenpenny, 1995) of L2 intonation and test its predictions on Korean L2 advanced and intermediate proficiency users' perception and production of a three-way distinction of the intonation of Korean wh-phrases. Thus, this experiment seeks to answer the following research questions: 1) How accurately do high and low proficiency L2 Korean users interpret three types of wh-phrases? 2) What prosodic cues do high and low proficiency L2 users utilize to interpret three types of wh-phrases? 3) How accurately do high and low proficiency L2 Korean users produce three types of wh-phrases? 4) What prosodic features do high and low proficiency L2 users utilize to produce three types of wh-phrases?

In Korean, wh-phrases are ambiguous because wh-phrases can be interpreted both as wh-question words and as indefinite pronouns. This leads to a three-way ambiguity phenomenon where a phrase such as “nwuka hakkyo-ey kasse-yo” (lit. ‘who school-to go-past-polite’) can be interpreted as a wh-question (‘Who went to school?’) with intermediate phrase focus on the wh-question word, a yes/no-question (‘Did someone go to school?’) with no focus but generally ending with a rising tone, or a statement (‘Someone went to school.’) with no distinct focus and generally no rising boundary tone. Prior work looking at L2 Korean acquisition of wh-phrases is sparse. Results from Choi (2009) and Gil, Marsden & Park (2020) looking at L2 perception of Korean wh-phrases indicate identification of the correct interpretation of the three-way distinction is uniquely difficult for most L2 speakers of Korean. While wh-question interpretation was comparable to natives for advanced speakers, they were misinterpreted as declaratives by high-intermediate speakers, and yes-no wh-phrases was significantly worse than natives at all levels, but almost unidentifiable for below advanced speakers, often being confused for wh-questions. Results for declarative interpretation were not reported. Jun & Oh (2000) conducted a study on the acquisition of L2 Korean question intonation of 4 speakers not specifically focusing on the three-way distinction and determined prosodic grouping improved with proficiency level with less inter-sentential Intonational Phrases (IPs), but surface tone realization of Accentual Phrases (APs) and long boundary tones remained difficult for all L2 speakers.

Based on the foundations of a hybrid exemplar model (Pierrehumbert, 2002; 2016; Tenpenny, 1995) we can expect that the amount of input L2 users have had with wh-phrase intonation to play a significant role in the acquisition of the three-way distinction. Lower proficiency users will have had little exposure to the phenomenon at all and are therefore more likely to substitute in either native intonation patterns or the more familiar Korean wh-question intonation patterns to interpret yes-no and declarative wh-phrases. Higher proficiency users, while having more exposure to the three types, will still have had significantly more exposure to the wh-question interpretations followed by yes-no patterns, leading to a predicted reliance on those wh-question patterns and a dearth of success in the declarative case.

A total of 30 participants (10 L2 advanced and intermediate proficiency speakers and 10 native Korean speakers) were asked to complete a perception task (selecting an appropriate continuation for a given utterance), and a production task (reading wh-phrases from a conversation with surrounding contexts). Experimental materials were hosted on Gorilla Experiment Builder (www.gorilla.sc) (Anwyl-Irvine, Massonnié, Flitton, Kirkham & Evershed, 2018), allowing for remote data collection. After completing a headset check (Woods et al., 2017), participants completed a simple decision task where they listened to target utterances recorded by three Korean native speakers ambiguous between a statement (12 stimuli), a wh-question (12 stimuli), and a yes-no question (12 stimuli) along with filler stimuli, and then choose the appropriate continuing response as fast as they could. Then, in a simple elicitation task, participants were asked to read a

series of randomized simple conversational texts aloud, playing both roles. This task has a total of 5 critical conversations with 3 target wh-phrases per conversation. Finally participants were asked to complete a short oral interview similar to the ACTFL OPIc (Oral Proficiency Interview – computer) to determine their speaking proficiency level.

In the perception task, the advanced group correctly identified over 80% of all wh-phrases. Wh-questions were the most correctly identified, while the yes-no questions and the statements were equally misidentified. The intermediate group identified only 53% of all wh-phrases correctly, but accurately identified most of the wh-questions correctly but misidentified the majority of yes-no and statements as wh-questions. The differences between the two L2 groups here indicate that the amount of time spent in the L2 provides strong advantages to the acquisition of less common intonation patterns. Additionally, comparing the Reaction Times between the groups, while it may be expected that faster RTs should coincide with higher accuracy, this was not the case, and the intermediate group was faster. This can be explained if we understand that the intermediate group is simply unaware of or unable to process the multiple ways of interpreting the phrases based on intonation patterns. They were fast, but inaccurate in their responses, while the advanced group was slower but more accurate.

In the production task, across all four conversations, the wh-question showed the most similar pitch tracks to the native speakers, with focus marking seen on the wh-question word each time and followed by a rising boundary tone. For the yes/no questions, only the intermediate speakers tend to misattribute focus marking on the wh-phrase instead of the subsequent verb. However, even advanced speakers showed difficulty in producing fully accurate intonation patterns especially when combined with a higher processing load from more difficult combinations of segmentals. When looking at the production of wh-statements, all participants unexpectedly showed a similar tune production to the native speaker for each conversation. It is interesting that the production of this distinction seemed more accurate from the lower-level speaker than their perception, indicating that perhaps it might be so that production precedes perception in the case of acquiring this distinction accurately.

References

- [1] Pierrehumbert, J. (2002). Word-specific phonetics. In C. Gussenhoven & N. Warner (Eds.) *Laboratory Phonology*, 6. Mouton de Gruyter.
- [2] Pierrehumbert, J. B. (2016). Phonological representation: beyond abstract versus episodic. *Annual Review of Linguistics*, 2, 33–52.
- [3] Tenpenny, P. L. (1995). Abstractionist versus episodic theories of repetition priming and word identification. *Psychonomic Bulletin & Review*, 2(3), 339-363.
- [4] Choi, M. H. (2009). *The Acquisition of wh-in-situ constructions in second language acquisition*. [Doctoral dissertation, Georgetown University].
- [5] Gil, K.-h., Marsden, H., & Park, S.-y. (2020, September 7-20). Beyond L1-L2 morphological similarities: L2 Korean WH lexical ambiguity [Paper Presentation]. 28th Japanese/Korean Linguistics Conference, Lancaster, UK.
- [6] Jun, S.-a., & Oh, M. (2000). Acquisition of 2nd language intonation. *Proceedings of International Conference on Spoken Language Processing*, 4, 76-79.