

Japanese learners' English intonation patterns in declarative sentences

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Abstract

This study aimed to describe Japanese learners' realization of the nucleus placement and the choice of nuclear tone. The results revealed that they tended to place the nucleus on the last word, whether or not it had to be accented, and to place more nuclei for longer sentences. As for the choice of the nuclear tone, they used a falling tone frequently in any context.

Keywords

Intonation, Japanese learners, nucleus, tone

1 Introduction

Intonation has been less focused on than other phonetic and phonological aspects by both learners and researchers. Therefore, this study aimed to give more descriptions of Japanese learners' phonological realization of English intonation patterns by focusing on the nucleus placement and the choice of nuclear tone.

1.1 Literature review

Joto (1983) claimed that Japanese learners were likely to place the highest peak at the earlier part or the last part of the sentence. Their use of a higher pitch at the beginning was also pointed out by Sato (1999). This suggests that their nucleus placement differs from that of native speakers of English, who likely put the highest peak at the last sentence stress.

Similarly, it has been reported that Japanese learners are different from native speakers concerning the choice of nuclear tone. For instance, Wennerstrom (1994) found a frequent use of a falling tone by Japanese learners. Likewise, Joto (1983) observed that they used a falling tone in declarative sentences, even where a rising tone was preferred.

1.2 Research questions

The present study addressed two research

questions, targeting intonation in declarative sentences, one of the basic sentence patterns. One was whether Japanese learners were able to place the nucleus on the last accented syllable, where native speakers commonly place the nucleus. The other was what tones were difficult for Japanese learners to use in what contexts.

2 Methodology

2.1 Subjects

The subjects consisted of 72 Japanese learners of English (JL), 12 native speakers of British English (BN) and 7 native speakers of American English (AN). The JL's data were compared against those of BN/AN obtained from publicly available databases, the UCL Speaker Database (Markham & Hazan, 2002) for BN and the Audio Archive (Merfert, 1997) for AN.

2.2 Materials

Phonetically-balanced passages were used: *The Story of Arthur the Rat* and *Arthur the Rat*. The former passage was used to collect data of the BN and JL subjects and the latter, of the AN subjects. The following 18 utterances were selected as the target items, considering the pragmatic and syntactic functions of intonation: *There was once a young rat named Arthur, go out with them, he would only answer, said to him, I don't know, This won't do, His aunt Helen, one rainy day, at last, just then, that night, There was a kindly horse named Nelly, a cow, a calf, and a garden with an elm tree, Well, Right about face and March*. The one-word utterances *Well* and *March* were not used for the analysis of the nucleus placement.

2.3 Data collection of JL

All productions of the JL subjects were recorded using a digital recorder, Roland-09, and a condenser microphone, SONY ECM-MS957. The recordings were made in a recording room.

2.4 Data analysis

Each target utterance was provided with the tone labeling by the experimenter, based on the ToBI guideline (Beckman & Elam, 1997) and the Tonic Stress Marks (TSM) system (O'Connor & Arnold, 1973). However, the data were treated only with TMS because there was no critical effect of the different labeling system on the results as far as the above target items were concerned. The whole analyses were conducted with the observation of pitch contour on Praat.

3 Results and discussion

3.1 The nucleus placement

The results showed that while most JL subjects implemented the nucleus placement typical of the BN/AN subjects for some utterances, they did not for others. They tended to place the nucleus on different words from the BN/AN subjects in the following five target utterances: *go out with them, said to him, and a garden with an elm tree, There was once a young rat Arthur and There was a kindly horse named Nelly.*

Furthermore, these utterances were classified into two: those where the nucleus was placed on the unaccented final word and those where additional nuclei were placed at the earlier part of the sentences. The former type consisted of the three target items, which ended with a pronoun or a compound noun. The nucleus was not supposed to be placed there according to the basic rule of the nucleus placement in English. As in Joto's (1983) findings, the JL subjects were likely to place the nucleus on the last word, even if it should not be stressed. By contrast, the latter type of the non-typical target utterances included two of the longest utterances of all, starting with *there was*. This suggests that the JL subjects tended to place more nuclei for longer sentences, or perhaps to lay stress and place nucleus on the phrase *there was*. Whereas more studies are needed to reveal if the phrase *there was* resulted in the additional nuclei, it would be understandable that the JL subjects to slice longer sentences into more intonation phrases.

3.2 The choice of nuclear tone

The tone used by most BN/AN subjects being defined as typical, the number of the JL subjects who used the typical tone varied across the utterances. The results revealed that while nearly all JL subjects successfully used the typical tones for some items, only fewer than 10 out of

72 subjects used the typical nuclear tone for the items, *go out with them, said to him, There was a kindly horse named Nelly, a cow and a calf.*

In the utterances where a falling or level tone was defined as typical, the JL subjects successfully chose it. However, they failed to use the typical tone for the utterances where a falling tone was not a choice. These items were *go out with them, he would only answer, said to him, There was a kindly horse named Nelly, a cow, and a calf.* A fall-rise, level or low-rise tone was used as the typical tone in these items. As reported by Wennerstrom (1994), this would be due to the frequent use of a falling tone characteristic of Japanese learners.

4 Conclusion

Japanese learners' realization of the nucleus placement and the choice of nuclear tone were described in this study. It was found that they tended to place the nucleus on the last word even if it was supposedly unaccented, to place more nuclei for longer sentences, and to use a falling tone frequently in any syntactic and pragmatic context. This gives pedagogical implications as to what to be learned or taught for Japanese learners to realize authentic English intonation.

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