

ASSESSING INTONATION IN THE SPONTANEOUS AND SCRIPTED SPEECH OF NATIVE AND NON-NATIVE SPEAKERS OF ENGLISH

Masaki Taniguchi^a, Jane Setter^b, Sean Fulop^c & Chris Golston^c

^aKochi University, Japan; ^bUniversity of Reading, UK; ^cCalifornia State University Fresno, USA
 tamasaki@kochi-u.ac.jp; j.e.setter@reading.ac.uk; sfulop@csufresno.edu;
 chrisg@csufresno.edu

ABSTRACT

Although there have been a large number of studies on English intonation and intonation teaching there has been little research on intonation assessment other than [1], [3] and [4]. This paper evaluates the intonation of native speakers (NSs) and non-native speakers (NNSs) of English with and without knowledge of intonation theory in spontaneous and scripted speech tasks, and asks whether they can be assessed effectively on both types of task.

The conclusions drawn from this study are that intonation in spontaneous speech is more accurate than in scripted speech, that this is true of both NSs and NNSs, and that teaching of intonation theory can have a positive effect on performance in a scripted speech task. We also conclude that it is unreasonable to assess learners' intonation in a scripted speech task unless they have received training in intonation theory.

Keywords: English, intonation, assessment, spontaneous speech, scripted speech, NS, NNS

1. INTRODUCTION

The intonation we use reflects the meaning that we wish to convey. However, in a pronunciation learning environment, it is not always easy for learners to convey certain aspects of meaning through appropriate use of aspects of English intonation, or for teachers to train them to be able to do so.

Another issue is just how to evaluate intonation. It is common practice to use scripted examples – which should, theoretically, generate different sorts of intonation patterns and contrasts (e.g. narrow or broad focus) – rather than to evaluate spontaneous speech; the former can be quickly marked and compared, whereas the latter can be less easy to evaluate.

According to previous studies [1, 3, 4], Japanese learners have most difficulty with placement of accents, especially that of the nuclear

(tonic) syllable, i.e. tonicity. Since old information is not necessarily deaccented in Japanese, Japanese learners tend to fail to deaccent old information in English. For example, in the question "Would you like sparkling water or still water?" the second *water* is old information and therefore should be deaccented. Japanese learners, however, tend to accent both instances of the word *water*. Without the knowledge of intonation theory, and in some cases even when they have this knowledge, learners often fail to convey their meaning effectively.

The present authors' hypothesis is that learners perform better in spontaneous speech, in which intonation is rarely tested with any thoroughness, than in scripted speech, and that this may also be true of NSs. It is also our contention that intonation cannot be reliably assessed with scripted speech unless the learners have been taught specific aspects of intonation theory and have been trained to perform appropriate patterns with reference to that theory.

2. PURPOSE OF STUDY

The purpose of the study is to examine the following:

1. whether there is a gap between spontaneous speech and scripted speech in terms of intonation among Japanese learners of English, especially in terms of nucleus placement;
2. whether there is a similar tendency with NSs of English; and
3. whether teaching English intonation theory has a positive effect on performance in a scripted speech task.

3. EXPERIMENT

Twenty-nine Japanese learners of English living in Japan and four native speakers of English living in the USA were used as subjects. The Japanese subjects were all taking a 15-week course in English pronunciation and intonation, with 90

minutes of instruction per week, about a third of which was spent on intonation theory and practice. The textbook used was O'Connor and Fletcher [2]. The experiment was conducted towards the end of the course.

In the fourteenth week of the course, they were interviewed in English for about a minute, and what they said was transcribed orthographically. A week later (i.e. in the last week of the course) they were asked to read their own transcript aloud. The speech from their first performance (spontaneous speech) and second performance (scripted speech) were then analyzed in terms of tonality, tone, and tonicity; the results reported here focus on tonicity.

After the two performances were completed, the Japanese learners were given specific, intensive instruction in aspects of intonation theory based on Wells [5], especially on tonicity and how to address Japanese weak points, such as failing to deaccent old information. They were given concrete advice on how to perform their own scripted speech, specifically how to perform unmarked tonicity and marked tonicity, and in the latter how to deaccent old information and accent new information, using some exercises given in [2] and [5]. As additional motivation, they were told that they would not pass the course if they made any mistakes. Following this training, which lasted for 45 minutes in the last week of the course, they were asked to read aloud the same script again to examine if and how knowledge of specific aspects of intonation theory affected their performance.

4. RESULTS

4.1. Comparison of nucleus placement in spontaneous and scripted speech

The following are comparisons of nucleus placement in the spontaneous speech (sp) and scripted speech (sc) of the Japanese subjects before they had the training on intonation theory. Where a syllable is underlined this indicates that it is the nucleus. An intonation phrase (IP) boundary is marked with |.

A speaker is taken to have produced an error if the placement of the nucleus does not occur as predicted by Wells' description [5]. There were two types of error of tonicity. The first was caused by lack of knowledge of accent placement in unmarked tonicity, in which the stressed syllable of final lexical item should bear the nucleus. The second was caused by lack of knowledge of accent placement in marked tonicity, in which old

information should be deaccented. Samples 1 to 4 reveal the first type, and samples 5 to 12, the second.

1. (sp) | What \/kind of | \/movie | do you \/like? |

(sc) | What \/kind of movie | do you \/like? |

This utterance was made at the beginning of an interview, so the word *movie* was new information, and it was correctly accented in spontaneous speech, but not in the scripted speech.

2. (sp) | Where are you \/from? |

(sc) | Where are \/you from? |

This was uttered in a context in which everything was new information, so unmarked tonicity should be used and the nucleus should be on *from*. However, the speaker wrongly accented *you* in the scripted speech.

3. (sp) | What's your favourite \/sport? |

(sc) | What's your \/favourite sport? |

This was also uttered in a context in which everything was new information, so unmarked tonicity should be used, with the nucleus on *sport*. However, the speaker wrongly placed the nucleus on the first syllable of *favourite* in the scripted speech.

4. Following the speaker's own lead-in, "One of my favourite drinks is milk."

(sp) | \/I drink milk | every \/day.|

(sc) | I drink milk \/every day.|

In this context, everything except *milk* is new information, and so the last lexical item should bear the nucleus. The speaker did so correctly in spontaneous speech but not in scripted speech.

5. In response to "What animal do you like the best?"

(sp) | I like \/dogs the best.|

(sc) | I like dogs the \/best.|

In this context, *dogs* is new information and *best* is old information, so a nucleus should be placed on *dogs*, and *best* should be deaccented. The speaker correctly did this in spontaneous speech, but not in scripted speech.

6. In response to “What kind of movie do you like?”

(sp) | I [>]like | Japa[>]nese | \ancient movie. |

(sc) | I [>]like | Japa[>]nese | ancient \movie. |

The word *movie* was old information, and was correctly deaccented in spontaneous speech, but not in scripted speech.

7. In response to “What is your favourite food?”

(sp) | My favourite food is \soba. |

(sc) | My favourite \food | is \soba. |

It could be argued that the speaker has placed an accent on *food* in the second example to mark the topic; see, e.g., Wells [5] pp. 199-201. However, in NS speech this would only be true if the tone used were a fall-rise. In this utterance, a fall was used.

8. In response to “What is your favourite sport?”

(sp) | My favourite sport is \basketball. |

(sc) | My favourite \sport | is \basketball. |

The word *sport* was old information, and was correctly deaccented in spontaneous speech, but not in scripted speech (but see 7).

9. In response to “What is your nickname?”

(sp) | My nickname is \Tomo. |

(sc) | My \nickname | is \Tomo. |

The word *nickname* was old information, and was correctly deaccented in spontaneous speech, but not in scripted speech (but see 7).

10. In response to “What was your position?”

(sp) | My po\√sition | was \post. |

(sc) | My po\sition | was \post. |

The word *position* was old information, but a nucleus was placed there in the spontaneous speech. However, a fall-rise tone was correctly used there to mark the topic, as explained in Wells [5]. In the scripted utterance, however, a fall was used.

11. In response to “I like baseball very much.”

(sp) | Do you like \any other sport? |

(sc) | Do you like any other /sport? |

The word *sport* was old information, because it is a hypernym of baseball. It was correctly deaccented in spontaneous speech, but not in scripted speech. The most likely nucleus

placement is on the first syllable of *other*, however.

12. In response to “Where do you live?”

(sp) | I live in \Kochi now. |

(sc) | I live in Kochi \now. |

The word *now* is a time adverb, and is normally deaccented in unmarked tonicity, and it was correctly deaccented in spontaneous speech, but not in scripted speech.

The following are samples of the NSs' performance.

13. (sp) | I'm learning that there's more in[>]volved

| behind the [>]scenes | ...

(sc) | I'm learning that there's more involved be\hind the scenes | ...

In this context, *scenes* was not old information but new information, so it should be accented, but in the scripted speech, the speaker failed to accent it. Instead he placed the nucleus on the second syllable of *behind*.

14. Following the speaker's own lead-in, “... an Environmental Science class that I took ...”

(sp) | I took /nothing away from that class. |

(sc) | I took nothing away from that \class. |

In this context, *class* is old information; the speaker succeeded in deaccenting it in spontaneous speech, but failed to do so in scripted speech.

15. Following 16,

(sp) | I \never | \ever | [>]went to class, ... |

(sc) | I never ever went to \class, ... |

Again in this context, *class* is old information, so the same explanation as in 14 applies here.

16. Following the speaker's own lead-in, “And thus was created the Porsche 924 model, ...”

(sp) | which I think was first re[>]leased | [>]as | the year 197\7 model. |

(sc) | which I think was first released | as the year 1977 \model. |

In this context, *model* is old information. The speaker succeeded in deaccenting it in spontaneous speech, but not in scripted speech.

17. (sp) | ... for a long \underline{time}. |

(sc) | ... for a \underline{long} time. |

In this context, *time* is new information, and the speaker placed a nucleus there in spontaneous speech, but not in scripted speech.

4.2. Frequency of tonicity errors: comparison of spontaneous speech with scripted speech

The total number of errors in nucleus placement in the Japanese learners' spontaneous and scripted speech before they had the intensive training in specific aspects of intonation theory was 138. 52 (37.68%) of these errors occurred in the spontaneous speech, compared with 86 in their scripted speech (62.32%). For comparison, the number of errors in nucleus placement in the NSs' spontaneous speech, when evaluated using the same parameters as for the learners, was 13, 4 in the spontaneous speech (30.77%), and 9 in their scripted speech (69.23%).

Following the Japanese learners' two performances, and as mentioned above, they were then given further instruction on the theory of intonation, especially on tonicity. Following this training, the number of tonicity errors reduced to 8 in total, which is less than 10% of the number of errors in the first scripted production exercise.

5. CONCLUSION

The number of tonicity errors in the Japanese learners' scripted speech before the intensive training took place in the final week was almost twice that of their spontaneous speech, even though they had been attending an English pronunciation class which covered aspects of intonation.

Although the NSs performed much better, the performance was not flawless in either spontaneous or scripted speech, and it is interesting to note that they produced twice as many errors in their scripted speech as in their spontaneous speech.

After the Japanese learners had been given the intensive instruction in aspects of English intonation theory, focusing on tonicity, their performance improved by more than 90%. This may not be surprising – particularly given the additional motivation provided by the threat of failing the course – but it is a considerable improvement.

This study indicates that:

1. there is a gap between Japanese learners' ability to produce appropriate intonation in scripted and spontaneous speech tasks, with learners performing much better in spontaneous speech, even without training in intonation theory;
2. NSs also performed best in spontaneous speech, but not flawlessly in either condition;
3. teaching specific aspects of intonation theory has a positive effect on performance in a scripted speech task.

We also conclude that the intonation of learners without the knowledge of specific aspects of intonation theory cannot be fairly assessed on scripted speech.

6. REFERENCES

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