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LEARNING TO PRODUCE CONTRASTIVE FOCUS: A STUDY OF ADVANCED LEARNERS OF ENGLISH

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Contrastive focus carries an iconic meaning and is marked in English by changes in pitch and length. Previous studies have shown that nonnative speakers of English can be taught to recognize contrastive focus (Pennington & Ellis, 2000). This study examined the ability of international teaching assistants at a U.S. university to improve their production of contrastive focus. The subjects took a pretest to measure their recognition and oral production of sentences with contrastive focus. They were then taught about contrastive focus and given opportunities to practice, followed by a posttest identical to the pretest. Results showed high initial recognition scores that were sustained in the posttest. Oral reading performance improved significantly. The subjects' improvement indicates that contrastive focus is very learnable and that practice during instruction transfers to greater accuracy in controlled production.

INTRODUCTION

Prosody in English carries meaning beyond the words and phrases of discourse. There is a general consensus that native speakers (NS) and non-native speakers (NNS) alike need to use and understand these suprasegmental aspects of English (Derwing, Munro & Wiebe, 1998; Jenkins, 2000; Pickering, 2001).

One way suprasegmentals carry meaning is to emphasize important information. In normal English phrases, important information is at the ends of phrases and is emphasized with length and pitch changes. This emphasis is called sentence focus or sentence prominence. For example, the last word in (1), *test*, would normally be in focus:

(1) I'm working on the scores for the **test**.

Sometimes, however, sentence focus belongs on words that are not at the end of a phrase. For example, in (2), the word *scores* is old information. That is, it is repeated from the sentence before, so it is de-emphasized and focus shifts to the last content word of new information, *rest*.

(2) Here are the scores that I have finished. Later, I'll get you the **rest** of the scores.

Contrastive Focus

In addition, focus does not necessarily belong on the last word in a phrase when the context contains contrasts. For example, in (3), there is an implicit contrast with *a different exam*, implied by the focus placement.

(3) These are the scores for **this** exam.

The contrast can be implicit as in (3), or explicit, as in (4). The contrast can also be in full words (“this” and “last”) or in a part of the word (“normal” versus “abnormal”).

(4) The scores for **this** test are in **normal** distribution, unlike the **last** test, which were in **abnormal** distribution.

With explicit contrasts, it is possible the speaker has some choice about whether to emphasize both elements of the contrast (e.g., *this* and *last*, *normal* and *ab*) as in (4) or just the second element of the contrast (*last* and *ab*) as in (5).

(5) The scores for this **test** are in normal **distribution**, unlike the **last** test, which were in **abnormal** distribution.

BACKGROUND

Previous research has shown that focus is essential to communicative success. L. Hahn (2004) studied how NS listeners recalled information in three conditions of focus placement: correct placement, incorrect placement, and no focus placement. The same bilingual Korean-English speaker recorded a short lecture in each of the three conditions and groups of NS undergraduate students listened and answered comprehension questions about the content of the lecture. The correct focus placement condition promoted the greatest comprehension, followed by the no focus condition. The weakest performance was in the incorrect focus placement condition.

Other research has shown that focus can be successfully taught, at least for recognition. Pennington and Ellis (2000) examined how Cantonese speaking learners of English distinguished sentences spoken with four types of prosodic distinctions: the iconic intonational distinctions of contrastive focus and tag questions, as well as distinctions in juncture and multi-word constructions. Without training, the learners showed no awareness of any of the prosodic distinctions although their memory for lexical differences was very good. In the second part of the experiment, learners were given instruction in the four prosodic distinctions before being asked to recognize differences again. The only prosodic distinction that showed an effect of instruction was contrastive focus. Pennington and Ellis attributed learners’ progress in recognition to the highly iconic nature of contrastive focus.

Finally, there is also evidence that learners can be taught predictive rules about focus and can extend the rules to spoken production. M. K. Hahn (2002) examined how advanced learners of English improved their spoken production after being taught predictive rules for a wide variety of focus placements. All post-test focus placement scores improved after a semester of instruction, often dramatically so. In addition, Hahn examined delayed improvement rates 1-4 years after the post-test but after no other instruction. Spoken production based on some of the predictive rules continued to show significant improvement over pretest performance.

Because many teaching materials (e.g., Grant, 2009) and professional teacher training books (e.g., Kenworthy, 1987) emphasize the importance of contrastive focus, and because research shows that learners can be taught to recognize the meaning distinctions expressed by contrastive focus (Pennington & Ellis, 2000), we wanted to know whether learners can also learn to produce contrastive focus with instruction. This is the purpose of this study.

Research Hypotheses

We had two research hypotheses for the study. First, we expected that students would improve in their ability to hear focus in controlled contexts. Second, we expected that students would improve in their ability to produce contrastive focus in a sentence reading task.

METHODS

Our goal was to replicate the listening results of Pennington and Ellis (2000) and extend them to production. We wanted to test whether production of contrastive focus improved with explicit, targeted instruction in two contexts: Oral reading (based on a sentence reading task) and free speech (based on impromptu and individual prepared presentations). This paper reports only the results of the sentence reading task.

Our subjects were 18 graduate students from a variety of disciplines in a course for International Teaching Assistants at a Research I university in the US Midwest. All were placed into the course because testing determined they needed language support in order to teach. Our subjects included ten Chinese, four Koreans, two Indians, one Colombian, and one Ugandan. Ten were women, and eight were men.

Data Collection: Listening

All 18 subjects took an identical pretest and posttest (Appendix A) separated by three class days of instruction and two class days of presentations on topics involving contrasts. The pretest and posttest included 15 listening items and 18 reading items. In the listening test, subjects were asked to identify one word that was in focus for each of 10 sentences. For example, in (6), one of the three words would be in focus. Although the same sentences were used in both the pretest and posttest, the focus placements were changed to avoid learners remembering focus placements from the pretest.

(6) You have a new yellow car

Also in the listening test, subjects were asked to identify two focus words for each of five sentences, as in (7). These sentences were included because contrastive focus often includes multiple contrasts within the same sentence.

(7) This week's storm was the very worst of all.

The single focus and double focus sentences had a total of 20 possible identifications $(10*1) + (5*2)$.

Data Collection: Oral Reading

The reading test included 15 sentences with one or more contrasts. It also included three distracters that were not analyzed. For example, the sentences in (8) and (9) exemplify sentences with two or more required or potential focus words.

(8) There isn't much agreement between their view and our view.

(9) This verb is transitive whereas that verb is not.

Each sentence was read out loud two times, one reading immediately following the other. Both readings were recorded and analyzed for focus placement by the researchers. Any

disagreements were resolved through listening again and discussion. The numbers of correct focus placements were calculated for pretest and posttest readings.

Each sentence was selected from a large collection of contrast sentences turned in by students in previous semesters of the class. Sentences were used as is, or were slightly adapted to make the contrasts more evident in reading or to correct minor errors in grammar or word choice.

We also collected oral readings from four native speakers (NS) for a baseline of how NSs would realize the contrasts. The four NSs were all senior undergraduate students in English Education. All had taken some introductory linguistics classes but showed no particular awareness of the purpose of the readings.

Eight of the sentences for the NSs showed great agreement on focus placement (90% or higher), so we analyzed NNS results only for these sentences. All reading sentences were analyzed by both authors. If there were disagreements, we listened again and discussed our findings until we came to consensus.

Instruction

Instruction took place over three class days (4 hours). It included listening practice, production practice, prediction practice, and instruction on non-pronunciation features. Listening practice included listening to read sentences that exemplified contrastive focus and listening to videos with interactive transcripts (e.g., TED: Ideas worth spreading, www.ted.com).

Production practice included instruction on the physical characteristics of contrastive focus, especially work on using pitch change to mark focus placement and practice producing increased syllable length on the focus word. A variety of tools were used to practice these physical characteristics including kazooes for pitch change and stretching rubber bands and using gestures for increased syllable length.

Prediction practice included giving subjects rules and generalizations about focus placement. They were then given opportunities for practice by choosing which words should be in focus in sentences (not included in the pretests and posttests) and interactive transcripts from videos before listening. After listening, subjects discussed why their predictions did or did not match the actual spoken performance.

Instruction on non-pronunciation features was not originally planned for the study, but it became evident that contrasts are often highlighted by discourse markers and that students were not effective at recognizing or constructing discourse that called attention to contrasts. Since the goal of the course was to improve their spoken language, it was felt necessary to also include instruction on the use of such words as *while*, *whereas*, *unlike*, *in contrast*, *but*, *however* and such frames as “there are (*two important characteristics*).” Also important were the use of the words *other*, *another*, and *the other*.

RESULTS

Hypothesis 1 stated that students would improve in their ability to hear focus in controlled contexts. Table 1 shows that the hypothesis was not borne out. Subjects identified focus at a very high rate in the pretest and the rate of identification stayed consistent for the posttest.

Table 1.

Mean identification of focus in sentences (Total Possible = 20)

Pretest	18
Posttest:	18.167

Std. Error, 0.513; t=0.325, p=0.749

Hypothesis 2 predicted that students would improve in their ability to produce contrastive focus in the sentence reading task. The NS readers provided a baseline of performance for the 8 sentences that were analyzed. Both readings for each of the eight sentences were included in the analysis. This meant that there were 176 potential focus placements (2 readings * 22 focus placements * 4 readers). Expected focus placements were realized 147/176 times, for a mean of 36.75/44.

On the pretest, the NNS subjects had a mean of 20.35. They produced 346 out of 748 potential focus placements (2 readings*22 focus placements*17 readers = 748 focus placements). One subject did not read all sentences twice on the pretest and so her results were not included. The same subjects' posttest mean scores increased to 32.94 (560/748). These results are seen in Table 2.

Table 2.

Mean correct focus placements in sentence reading task (Total possible = 44)

Pretest	20.35
Posttest	32.94

Std. Error, 1.92; t=6.57, p<0.0001*

The results indicate that subjects significantly improved in their ability to read sentences with contrastive focus after instruction.

DISCUSSION

Hypothesis 1 was not supported. The subjects were initially able to hear focus at a high level partly because hearing and producing extra length and pitch on normal focus had been an instructional priority already during the course. It also is likely that the listening test focus placements were read in such a way as to make focus more obvious, and that more subtle marking of focus would still be obvious to NS listeners but would show a greater range of variation in performance among NNS listeners. As it happened, the initial high focus identification left little room for improvement.

Hypothesis 2 was supported. It appears that the instructional treatment was effective in helping learners produce contrastive focus on the appropriate words with extra length and pitch movement. This suggests that focus, and contrastive focus in particular, can be taught and students can transfer the teaching to their controlled speaking.

In analyzing the subjects' performance, it is first notable that all students improved from the pretest to the posttest. Closer analysis suggests three patterns of improvement. First, a few students who demonstrated very little initial ability to produce contrastive focus, improved somewhat but continued with the lowest focus scores on the posttest. A second

group of students also demonstrated weak initial ability to produce contrastive focus, yet improved a great deal. In one of the most dramatic improvements, one subject scored 3/44 correct on the pretest and 34/44 on the posttest. Other students improved over 20 points on the posttest. The final group included subjects who started with scores that suggested awareness of the function of contrastive focus (25/44 or higher). All of these subjects also improved, even those who had pretest scores above 35. The maximum score of 44 was achieved by one of the subjects on the posttest. It appears that their initial intuitions about contrasts may have been helped by the instruction. There were no interviews of the subjects, so we cannot be certain what the subjects were thinking, but our impression from recording them was that they were consciously thinking about contrasts on the posttest readings.

The marking of contrastive focus in English depends on several acoustic factors, especially length of the syllables, a pitch change on the focused syllable, and de-stressing of syllables following the focused syllable. These do not all seem to be acquired at equivalent rates. We noticed subjects who lengthened syllables but did not use pitch change, subjects who used pitch changes without length, and/or subjects who used pitch changes and lengthening but did not de-stress following syllables, sometimes making it ambiguous which syllable was in focus. The brief period of instruction did not allow us to determine which of these were easier to learn.

We believe, however, that the de-stressing of following syllables was the most difficult element to learn and also the feature that caused our greatest difficulty in identifying which syllables were in focus. The syllables that stand out as prominent do so because of the acoustics of surrounding syllables as much as because of their own acoustic signals. De-stressed syllables thus serve an important function in the identification of focus (Dickerson, 2011).

The sentences that we used for the reading task were chosen for their multiple contrasts. Nonetheless, some contrasts seem to require both elements to be in focus; others only require the second element. The sentence in (10) was read by all of the NSs and most of the NNSs with focus on all four elements in bold. The *this/that* contrast was expected, but not as consistently as actually occurred. In contrast, the sentence in (11) has an obvious contrast in *left* and *right*, but only the focus on *right* was consistently realized. The focus on the first clause was instead realized on the word *equation* (normal focus placement).

(10) **This** verb is **transitive** whereas **that** verb is **not**.

(11) The quantities on the **(left)**-hand side of the **(equation)** must equal the quantities on the **right**-hand side.

It became clear that some contrast pairs in our sentences were more likely than others to both be realized with focus, but we do not know if there is a clear pattern to the structures that seemed to require all contrasts to be marked.

CONCLUSION

We expected that instruction would have an effect on the production of contrastive focus based on earlier research that showed an impact on the perception of contrastive focus. However, the impact of instruction on controlled production was much greater than we

had anticipated, especially given the relatively short instructional period of three class days. The improvement level clearly indicates that contrastive focus is worth teaching. It would also be worth examining the extent to which the subjects' improvement affects their spoken comprehensibility.

ABOUT THE AUTHORS

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Appendix A

Sentences for Listening Task

PART 1

Listen to the sentences. One of the numbered syllables in each sentence is more strongly emphasized than the others. Circle the number of the most emphasized syllable. Follow the example.

EXAMPLE

1 2 3

You have a new yellow car?

1 2 3

1 Dogs are social animals.

1 2 3

2 She always cries at weddings.

1 2 3

3 I'm certain the answer is right.

1 2 3

4 Did you talk during class?

1 2 3

5 He drives a bus in town.

1 2 3

6 He bought a new jacket.

1 2 3

7. The cat was very unfriendly.

1 2 3

8 The paper is late again.

1 2 3

9 I knew Jane was leaving.

1 2 3

10 The bike is now in the garage.

Part 2

In the next five sentences, two of the numbered syllables in each sentence are more strongly emphasized than the others. Circle the numbers of the most emphasized syllables. Follow the example.

EXAMPLE

1 2 (3) 4 5 (6)

John likes to ski and he likes to travel.

1 2 3 4 5 6

11 I want to know if she made the mess or if he did it.

1 2 3 4 5 6

12 Jim had to go by bus but flying is what he prefers.

1 2 3 4 5 6

13 This week's storm was the very worst of all.

1 2 3 4 5 6

14 I know that you want to hear the story but I can't tell you.

1 2 3 4 5 6

15 Yesterday felt cold but it was nothing like this.

Sentences for Oral Reading Task

(Bolded sentences used for analysis)

1. The advantages are much greater than the disadvantages.
2. **Most elements have two or more isotopes. The isotopes have the same atomic numbers, but they have different mass numbers.**
3. **There isn't much agreement between their view and our view.**
4. Carbon is an element, whereas carbon dioxide is a compound.
5. **It's safer to fly against the wind than with the wind.**
6. The exam scores for this test are in a normal distribution. The distribution of scores for the next test is abnormal.
7. **The quantities on the left-hand side of the equation must equal the quantities on the right-hand side.**
8. **When the price of apples increases, then the demand for apples will decrease.**

- 9. In addition to improving language skills, ITAs should also work on their teaching skills.**
10. OK. Let's build a graph. We'll start with the price. Price goes on the vertical axis. Now we need quantity. Quantity goes on the horizontal axis.
- 11. There are two main types of verbs: transitive verbs and intransitive verbs.**
- 12. For a better understanding of this problem, let's split all forces into two categories: external forces and internal forces.**
13. This verb is transitive whereas that verb is not.
14. The product needs to go in the box not near the box.
- 15. Some organisms are unicellular, which means they consist of a single cell. Other organisms are multi-cellular, which means they consist of many cells.**