# EFL Learners' Speech Production: The Role of the Segmental and Suprasegmental Levels

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## Abstract

Despite the importance of both segmentals and suprasegmentals in the comprehensibility of L2 speech, little research has examined their roles in EFL learners' speech production. This study examines the relationship between EFL learners' perception of segments (phonemes) and suprasegmental features (pause, stress, and intonation) and their L2 speech. A total of 51 EFL learners completed three tasks: segmental and suprasegmental speech perception tasks and a picture description task. The first two tasks were conducted in a pencil and paper paradigm. In one task with 12 items, they heard a segmental sound, and then selected which word of a minimal pair (e.g., *boat* vs. *vote*) contained that sound. In the other task, participants listened to two passages; they were asked to insert a slash (/) for every pause between sentences or phrases, and to circle emphasized words. In the picture description task, each participant described two pictures, producing 102 (2 x 51 participants) speech samples, which were judged by two experienced L2-English raters. The analysis found a significant relationship between learners' suprasegmental feature perception and their oral performance ($F(1,50) = 10.652, p = .002$), but not between learners' segmental sound perception and their oral performance.

## Keywords

suprasegmental features, comprehensibility, L2 speech production

## Introduction

Research interested in how to improve EFL learners' speaking skills tends to focus on suprasegmentals rather than segmentals (e.g., Avery & Ehrlich, 1992; Morley, 1991). Many scholars agree with the claim that practicing suprasegmental features improves L2 oral performance, especially in pronunciation. Moreover, official tests with speaking components such as the TOEIC and TOEFL include assessment of test-takers' production of suprasegmental features. Accordingly, instruction in suprasegmental production is necessary in EFL settings (e.g., Kang, 2010; Kang, Rubin, & Pickering, 2010). This study, therefore, examines the role of individual learners' perception of segments and suprasegmental features in relation to their oral performance. The study contributes to our understanding of the extent to which learners' variables affect their attainment in L2 speech production.

## 1. Experiment

### 1.1 Participants

Fifty-one EFL learners, all undergraduates (women = 14, men = 37), participated in this experiment. All participants were enrolled in a basic level TOEIC speaking course. Their disciplines were Electronic Engineering or Business Administration.

### 1.2 Instruments

#### 1.2.1 Perception tasks: Segmentals and suprasegmentals

The two speech perception tasks were administered in a pencil and paper paradigm. In the segmental speech perception task, participants heard a segmental sound and then selected the word including that sound out of a minimal pair (e.g., *boat* vs. *vote*). The test had 12 items, and the highest possible score was 12 points.

In the suprasegmental speech perception task, participants listened to two passages. They were asked to insert a slash (/) for each pause between a sentence or phrase, and to circle all

emphasized words (13 sentences with 77–79 words in total). Only sentences that were marked entirely correctly, including emphasis and pauses, received a score of 1. No partial credit was given. The highest possible score was 13 points.

### 1.2.2 Production task: Picture description

For the picture description task, participants saw two pictures, which they were asked to describe orally in as much detail as possible. For each picture, they were given 30 seconds of preparation time and 45 seconds to produce a description. All participants' speech productions were recorded for analysis. Two evaluators, both experienced EFL teachers and L2-English speakers, assessed the speech samples based on a seven-point Likert scale (1 = incomprehensible; 7 = highly comprehensible) and according to the guidelines in the *Speaking & Writing Examinee Handbook* (www.ets.org/toeic). They considered the following criteria: pronunciation, intonation and stress, grammar, vocabulary, and cohesion. The evaluators focused on whether the description was generally comprehensible.

## 1.3 Procedures

All participants completed two separate sessions at least one week apart. In one session, they completed the two perception tasks, and in the other session, they completed the picture description task. Each session took approximately 15–25 minutes.

## 2. Results

The means, standard deviations, and number of participants for all tasks are provided in Table 1.

Table 1: Descriptive statistics for three tasks

|  | N | M | SD |
|---|---|---|---|
| Segmentals (Max = 12) | 51 | 10.02 | 1.46 |
| Suprasegmentals (Max = 13) | 51 | 6.65 | 2.54 |
| Picture Description (Max = 6) | 51 | 3.35 | 0.76 |

Table 2 shows correlations among the scores on the three tasks. First, a correlation was found between scores on the suprasegmental speech perception task and the EFL learners' oral performance scores ($r$ = .423), but no correlation was found between scores on the segmental speech perception task and the speech production scores ($r$ = .229). Second, a correlation was found between scores on the two speech perception tasks ($r$ = .378).

Table 2. Correlations among the three tasks

| Tasks | 1 | 2 | 3 |
|---|---|---|---|
| 1 | 1 | | |
| 2 | .229 | 1 | |
| 3 | .423** | .378** | 1 |

*Note*. 1 = picture description task; 2 = segmental perception task; 3 = suprasegmental perception task ** $p$ < .01

To answer the main question, a linear regression analysis was conducted. A significant relationship between scores on the suprasegmental speech perception task and scores on the EFL learners' speech production was found ($F(50,1)$ = 10.652, $p$ = .002, R-squared = .179, adjusted R-squared = .162). This finding suggests that suprasegmental features affect the comprehensibility of EFL learners' speech, supporting the importance of suprasegmental features in their oral performance. The immediate pedagogical implication of this finding is that EFL learners should receive instruction on suprasegmental features in order to improve their English speaking ability.

## References

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