A Comparison of Vowel Nasality between English and Taiwanese Speakers  
Tsai, Ling-ling  
Far East University

Phonemically, in General American English there are 14 or 15 different vowels, and they are all oral vowels. However, Taiwanese vowels include six oral and four nasal vowels. In addition to these ten vowels, there are seven nasal diphthongs and their oral counterparts, with an additional /io/. These discrepancies motivated the researcher to compare the vowel nasality between English and Taiwanese speakers when they are uttering the syllables of CV and CVN. The researcher invited 13 native Taiwanese speakers and 13 English speakers with the equal ratio of genders in the two groups. All the subjects were asked to read 14 Taiwanese word of CV syllable and 11 English word of (C)VN syllable to compare the different performance between the two groups. The sounds were recorded and transferred into digital files. As linguists generally agreed that the values of the amplitude and the frequency will be lowered when the vowels are nasalized. In this study, the software TF32 was employed to extract the values of the amplitudes and the frequencies for each vowel at the onset, 1/4, 1/2, 3/4, and offset points of the vocalic portion. The values were compared by using the Independent-t-test with SPSS 15.0 to display whether the two groups utter the vowels in the two contexts, Taiwanese CV and English (C)VN, distinguishably.

Key Words: Nasality, Nasal vowel, Pronunciation

INTRODUCTION AND BACKGROUND
From the perspective of physiology, a nasal stop sound is produced by stopping the air in the oral cavity and lowering the soft palate to allow for exhalation through the nose (Ladefoged, 2001). From the perspective of phonemics, the different phonemic inventories make different sound patterns, and the discrepancies among the languages result in the complexity in language learning. There are 14 or 15 different vowels in English, but they are all oral vowels without the distinction of nasal vowels from oral vowels. However, Taiwanese vowels include six oral and four nasal vowels. In addition to these ten vowels, there are seven nasal diphthongs and their oral counterparts, with an additional /io/ (Chung, 1996). From the aspect of interlanguage, these different phonemic inventories cause some difficulties in language learning.

Recently, a lot of research has generalized many factors for affecting second language (L2), according to generative grammar (Chomsky, 1965), the native language or first language (L1) phonological templates may be internalized and