



Errors In Word-Final Consonant Pronunciation In Vietnamese English Interlanguage

Hanh Duc Nguyen

Ph.D. Program in English Language Teaching, Graduate School of Human Sciences
Assumption University, Thailand
E-mail: instructorhanh@gmail.com

Abstract

This research investigates errors in word-final consonant production in Vietnamese English interlanguage by Vietnamese learners at a university in the Mekong River Delta, the South of Vietnam. The subjects were the high English language experience group (H-group) and the low English language experience group (L-group) chosen based on the English language experience questionnaire. To collect data, research instruments were the English language experience questionnaire, the wordlist, the reading text, and the picture description. The results show that single word-final consonant errors were comprised of deletion, epenthesis, devoicing, unreleasing, substitution plus epenthesis, rounded vowel plus deletion and substitution. Word-final cluster errors included reduction, omission plus unreleasing, omission plus devoicing, omission plus epenthesis, rounded vowel plus omission plus devoicing, rounded vowel plus omission, rounded vowel plus substitution, substitution plus devoicing, unreleasing, epenthesis, devoicing, substitution plus omission, substitution of all consonants, and substitution of one or more consonants. In addition, the H-group and the L-group had similarities and differences in error types of word-final consonant pronunciation. Finally, this study also has a number of implications to help Vietnamese learners of English avoid as many errors in word-final consonant production as possible.

Keywords: Errors, interlanguage, learners, pronunciation, word-final consonants



1. Introduction

English is an essential tool for people from different countries to communicate with each other and to stimulate international cooperation to develop. English is used around the world and it is regarded as the international language of communication with more than 1.5 billion speakers (Crystal, 2003). In Vietnam, there are more and more English users. However, when they speak English, it is very difficult to understand their pronunciation. Ha (2005) states that foreigners complain about unintelligibility of Vietnamese people's English pronunciation and it is clear that learners of English in Vietnam have a variety of phonetic problems (Cunningham, 2013; Duong, 2009; Ha, 2005; Luu, 2011; Nguyen, 2013). Especially, deviant forms of English word-final consonants are made the most frequently (Clements, 2015; Nguyen, 2007; Pham, 2009) because one of the most challenging issues Vietnamese learners of English face is to pronounce English final consonants accurately (Clements, 2015; Dang, 2000; Ha, 2005; Nguyen, 2007; Nguyen, 2008; Nguyen, 2012; Nguyen, 2013; Osburne, 1996; Pham, 2009).

In English word-final consonant errors, the word-final consonants are not produced in the same way as those by native English speakers. These word-final consonants can be omitted; their features can be changed or an epenthesis can be added. For example, one speaker can utter a sentence as follows:

After having listened to my explanation, he told me that he was satisfied with his... /laI/...

The word 'line' is used, but this speaker does not pronounce the nasal consonant /n/. Therefore, 'line' [lain] becomes [laI] and when a listener hears [laI], he/she can guess that [laI] can be one of the following words, i.e. 'light', 'like', 'line', 'lime', 'life' or 'lie', because each of these words is appropriate as regards meaning and grammar. Consequently, the listener finds it hard to figure out what the speaker wants to say. This erroneous form is the most common in Vietnamese English interlanguage and Clements (2015) regards it as the main error. This study investigates features of Vietnamese English interlanguage with respect to errors in English word-final consonant pronunciation when seeking to answer the following two questions.

1/ What types of errors in word-final consonant pronunciation do Vietnamese learners of English with low and high English language experience make?

2/ What similarities and differences do these two groups have when making errors in word-final consonant pronunciation?



Vietnamese consonants and English consonants

The Vietnamese language has 22 word-initial consonants including /b, m, f, v, t̚, t̚^h, d, n, s, z, l, t̚, ʃ, z̥, c, ɲ, k, ŋ, x, ɣ, ʔ, h / (Dinh and Nguyen, 1998; Duong, 2009). In addition, in Vietnamese, there are such word-final sounds as 6 consonants /m, n, ŋ, p, t, k/ and 2 semi-vowels (/ɨ/ and /ʉ/) or 2 approximants (/j/ and /w/) (Dinh and Nguyen, 1998; Duong, 2009; Kirby, 2011; Schuberg, et. al, 2013). However, in English, there are 24 consonant sounds (Deterding, 2005; Roach, 1991), i.e. /p, b, t, d, k, g, f, v, θ, ð, s, z, ʃ, ʒ, h, tʃ, dʒ, m, n, ŋ, l, w, r, j/, and the English language has a variety of final consonants and final consonant clusters (Schuberg, et. al, 2013). The following tables are the inventory of Vietnamese consonants and that of English consonants.

Table 1.1: *Vietnamese consonants*

(adapted from Dinh and Nguyen, 1998; Kirby, 2011; Tang, 2007)

Place of articulation							
Manner of articulation	Bilabial	Labio-dental	Dental	Alveolar	Palato-alveolar (Post-alveolar)	Velar	Glottal
Plosive	p b		t̚ t̚ ^h	t d t̚	c	k	ʔ
Fricative		f v		s z ʃ z̥		x ɣ	h
Nasal	m			n	ɲ	ŋ	
Lateral				l			

Table 1.2: *English consonants*

(Deterding, 2005; Roach, 1991)

Place of articulation								
Manner of articulation	Bilabial	Labio-dental	Dental	Alveolar	Palato-alveolar (Post-alveolar)	Palatal	Velar	Glottal
Plosive	p b			t d			k g	
Fricative		f v	θ ð	s z	ʃ ʒ			h
Affricate					tʃ dʒ			
Nasal	m			n			ŋ	
Lateral				l				
Approximant	w				r	j		

The following is the comparison of Vietnamese and English consonants adapted from Dinh and Nguyen (1998), Kirby (2011), and Tang (2007).

Table 1.3: *Comparison of Vietnamese and English consonants*

(Adapted from Dinh and Nguyen (1998), Kirby (2011), and Tang (2007))

Position	Vietnamese Only	Shared Sound	English Only
Word-initial	- t̚ (to) - t̚ ^h (thỏ) - t̚ (trời) - c (chơi) - ʔ (à)	- b (bà or bear) - d (đen or doll) - k (kéo or kite) - m (má or me) - n (năm or note)	- t (time) - g (go) - θ (thing) - ð (then) - ʃ (shoe)



	- ʐ (rắn) - ʂ (sáng) - ɣ (gà) - x (không) - ŋ (ngủ) - ɲ (nhỏ)	- f (phở or fire) - v (và or vet) - s (xin or send) - z (da or zip) - h (hết or hair) - l (làm or love)	- ʒ (gigue) - ʃ (chain) - ɟʒ (June) - r (rope) - w (water) - Many clusters
Word-final		- p (lớp or hop) - t (ít or bat) - k (gác or luck) - m (làm or jam) - n (sơn or sun) - ŋ (sông or song)	- b (lab) - d (sod) - g (bag) - θ (bath) - ð (bathe) - f (laugh) - v (love) - s (kiss) - z (buzz) - ʃ (ash) - ʒ (rouge) - ʃ (couch) - ɟʒ (cage) - l (ball) - Many clusters

It is clear that in the word-final position, Vietnamese and English have the following shared consonants: /b, d, k, m, n, f, v, s, z, h, l/. However, there are some Vietnamese-specific consonants, i.e. /ʐ, ʂ, ɣ, x, ŋ, ɲ/ while English has its own consonants including /t, g, θ, ð, ʃ, ʒ, ʃ, ɟʒ, r, w/ and clusters. As to the word-final position, English and Vietnamese have 6 consonants in common and they are /p, t, k, m, n, ŋ/. Nevertheless, the Vietnamese final sounds /p, t, k/ are

unreleased while they can be released in English (Tang, 2007). Among 24 English consonants, there are three approximants /w/, /j/, /r/ and one glottal sound /h/, which can never be word-final consonants (Pham, 2009). Therefore, 20 remaining English consonants and clusters with two or more consonants stand word-finally. Especially, many of them are completely strange to the Vietnamese language, e.g. /θ/, /ð/, affricates /tʃ, dʒ/, clusters and as a result, Vietnamese learners of English struggle with them.

Interlanguage

Corder (1971) states that two languages which share some grammatical rules are dialects. According to him, the learner's language is an idiosyncratic dialect. However, this idiosyncratic dialect is not a social dialect or a language of a social group. Regarding learning a second language, Corder (1971) argues that a learner's idiosyncratic dialect is regular, meaningful, and systematic. As regards grammar, it has a set of rules some of which belong to a set of rules of the target language. More importantly, this idiosyncratic dialect is not stable "and is not, so far as we know, a 'langue' in that its conventions are not shared by a social group..., many of its sentences present problems of interpretation to any native speaker of the target dialect" (Corder, 1971: 151). Selinker (1972) calls L2 learners' idiosyncratic dialect 'interlanguage' (IL) and Corder (1981: 17) regards this IL as a transitional dialect to emphasize its unstable feature and as "a dialect whose rules share characteristics of two social dialects of languages" as shown below.

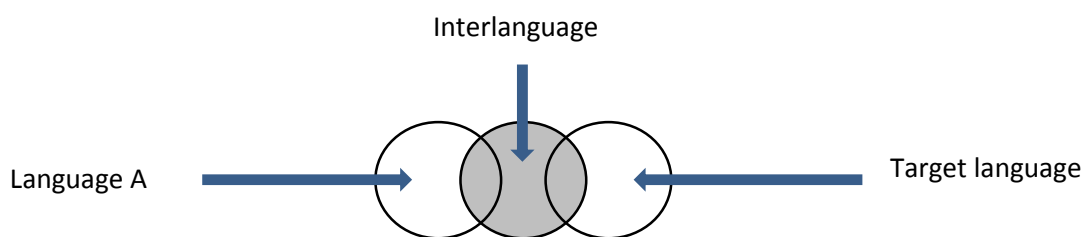


Figure 1.1: Relationship between interlanguage and two social dialects

The interlanguage is the transitional dialect from Language A (a learner's native language) to the target language (the second language). This interlanguage shares some rules with the native language and the second language. In addition, the interlanguage indicates the learner's developmental stages on the road to the target language. The current study investigates two different stages of learners, i.e. the low stage and the high stage regarding English language experience.



Influence of English language experience on English proficiency

There is a relationship between English language experience and English proficiency. The higher the English language experience is, the higher English proficiency is. This has been shown by research as follows.

Sudasna, Luksaneeyanawin, and Burnham (2001) did the experimental research to examine whether Thai-English bilinguals' English language experience influenced the pattern of language processing of the bilingual lexicon. There were 100 native Thai bilinguals participating in this research and they were divided into two groups: high English language experience group of 50 subjects and low English language experience group of 50 subjects. The findings showed that English language experience corresponded with language processing of the bilingual lexicon. Therefore, this study proposes that the participants with low English language experience will have low English proficiency and the subjects with high English language experience will have high English proficiency. Finally, Sudasna, Luksaneeyanawin, and Burnham (2001: 91) confirm that "the proficiency level of L2 can be indirectly inferred in terms of language experience, without language tests."

A study of cross-cultural and interlanguage pragmatics was conducted by Modehiran (2005) to investigate correction making among Thais and Americans and among Thai learners of English. Research participants were 400 female university students. The findings indicated that appropriateness of correction making strategy use directly correlated with length and degree of exposure to English. Sudasna Na Ayudhya (2002) carried out an experimental study of lexical access in bilinguals to look into the lexical and the semantic systems of L1 and L2 languages. There were 100 Thai-English non-balanced pseudo-bilingual speakers joining this research and they were divided into two groups: the high English language experience group (the High group) and the low English language experience group (the Low group). The results indicated that the High group was better than the Low group as to similarities to the Interference Index Score for L1 processing. Sudasna Na Ayudhya (2002: 39) also confirms that "the language experience questionnaire used in this experiment is a good means of determining the language proficiency levels of subjects, without using other language tests, for example, standardized reading tests."

Furthermore, Pongprairat (2011) did research on Thai learners' production of the English intonation and on native English speakers' perceptions of intelligibility and comprehensibility. In the research, there were two studies: the production study and the perception study. In addition, this research had two groups of 15 Thai learners, i.e. the high English language experience group and the low English language experience group. The English language experience questionnaire was used to choose these two groups. The results revealed that the high English language experience group was better than the low English language experience group at tonality, tonicity, and tune patterns. In addition, the high English language experience group was given a higher percentage of correct perceptions than the low English language experience group. What is more,



the high English language experience group received significantly higher ratings for the comprehensibility and the intelligibility than the low English language experience group.

Tarnisarn (2011) conducted a study of the relationship between the English language experience and Thai students' identification ability of English vowel-reduced words. Secondly, Thaworn's (2011) research explored the interpretation of syntactic ambiguities in English sentences. Finally, Wong-aram (2011) did experimental research to investigate how Thai students with low and high English language experience constructed English compound words equivalent to Thai compounds. In these three studies, the high English language experience group performed better than the low one. As a result, there was a correlation between the English language experience and the identification ability of English vowel-reduced words (Tarnisarn, 2011), and the ability to interpret English ambiguous sentences (Thaworn, 2011), and the ability to construct English compound words equivalent to Thai compounds (Wong-aram, 2011).

Error types of English word-final consonant pronunciation

Ha (2005) did research on pronunciation to examine her Vietnamese learners' most common errors in English. She collected the data in the final oral exams in different times. Totally, there were 51 seniors in three different test rooms. These students gave a five-minute talk about a topic and she took notes of pronunciation errors. The results indicated that there were three primary error types: sound omission, sound confusion and sound redundancy, among which, the sound omission was the most frequent. In the sound omission, final sound omission was more than medial sound omission. Moreover, the focus of Duong's (2009) research was on the consonants /ʃ, ʒ, ʒ, dʒ/ and the most common was the sound confusion, e.g. /ʃ/ pronounced as /s/.

Nguyen and Brouha (1998) investigated Overseas Vietnamese's pronunciation of English word-final consonants. There were 15 English final consonants divided into two groups. Group 1 consisted of /θ, ð, ʃ, ʒ, ʒ, dʒ/, which the Vietnamese language does not have. Group 2 was comprised of /b, d, g, f, v, s, z, l, r/, which only stand word-initially in Vietnamese. The research instruments were three tasks to elicit the data, i.e. word repetition, reading sentences, and the carrier phrase ("I say..."). Research participants were eight Overseas Vietnamese living in the United States from one to eight years and two native English speakers serving as a control group. The findings revealed that the participants' production of English word-final consonants was categorized into target (46.5%), deletion (8.3%), devoicing (12.9%), epenthesis (4.8%), unreleasing (16.2%), and substitution (sibilant-frication, /st/ cluster, fronting, stopping, backing, final /n/ and other) (30.9%). Clearly, the substitution error is the most frequent and the second most common is the unreleasing error followed by the devoicing one, deletion and epenthesis.

Nguyen (2007) did research on Vietnamese learners' problems with English word-final consonant production. There were five subjects, i.e. one from Hue, one from the West Highland of Vietnam, one from Hanoi and two from Ho Chi Minh City, and six native English speakers as evaluators. There were two research instruments, i.e. a wordlist (comprising problematic words)



and a short text. The results showed that sound omission was the most common. As to final consonant clusters, deletion (deleting all consonants of a cluster), reduction (deleting one or two consonants of a cluster), and cluster substitution appeared frequently. In addition to this, Pham's (2009) research was on errors in word-final consonant production by freshmen at a university in Hanoi, Vietnam. There were 35 student subjects from four different classes. The researcher used observation and recordings to collect the data. The results indicated that with respect to single word-final consonants, deletion of a final consonant was outstanding in comparison with epenthesis and substitution. As regards final clusters, reduction (deleting one or more consonants, not all, in a cluster) was the most frequent.

Sato (1984) explored syllable structures in Vietnamese English interlanguage. Two Vietnamese learners living in the US took part in this research: one in the sixth grade and one in a mixed third and fourth grade class. The research instruments were recordings of the conversations between the subjects and the researcher in their house for ten months. The focus was on all syllable-initial and syllable-final consonant clusters. Every cluster was categorized into a target form, consonant cluster reduction (omission of a part of the cluster), consonant cluster reduction (vowel epenthesis), consonant cluster deletion (total omission) and articulatory feature change (i.e. a cluster with a change in place or manner of articulation). Regarding syllable-final clusters, the findings showed that the cluster reduction (deletion of one or more consonants, not all) happened more than the cluster deletion and there was almost no articulatory feature change in a cluster. Therefore, Sato (1984: 55) states that "cluster reduction by one segment was favoured over other processes: cluster deletion, vowel epenthesis, and feature change."

All the aforementioned studies describe error kinds of word-final consonant production. This error is committed by Vietnamese learners of English in Vietnam and in the US. However, the current study is carried out in a different context. That is at a university in the Mekong Delta, South of Vietnam. Furthermore, although the present research also mentions error types of word-final consonant pronunciation, it compares two groups which are different in the English language experience in their interlanguage. As a result, learners and teachers of English can know which error types should be focused on and which error types will disappear when learners reach a high level of English proficiency.

2. Method

2.1. Participants

There were 104 students answering the English language experience questionnaire. These students were in four classes: one class of 28 freshmen, one of 19 sophomores, one of 31 juniors, and one of 26 seniors. All of them were English-majored students at a university in the Mekong River Delta, the South of Vietnam. After the English language experience questionnaire had been graded, ten students were chosen based on their grades. Five students with the highest scores belonged to the high English language experience group (**H-group**) and five students with the



lowest scores were in the low English language experience group (**L-group**). In the process of data collection, one member of the H-group refused to do tasks and therefore, another student with the 6th highest score was supplemented. The L-group also had the same situation. The students with the 104th, 103rd, 100th, 99th lowest grades did not agree to join the study. That was why the students with the 98th, 97th, 96th lowest grades were recruited.

2.2. Research instruments

2.2.1. English language experience questionnaire

Pongprairat (2011: 65) confirmed that “it has been proven that learners with different language experience are significantly different in their performances.” As a result, the English language experience questionnaire of the current research was adapted from Pongprairat (2011). This questionnaire had three parts, i.e. respondents’ personal information, their English language experience, and their attitudes toward pronunciation. However, this research tool was primarily used for dividing the respondents into two groups based on their grades of the English language experience. As a result, the main part of the questionnaire is the English language experience, which was graded. This part focused on the following areas, i.e. age of onset, years of learning, formal and informal instruction, experience in English use and amount of current English use. In addition, this questionnaire was translated into Vietnamese so that all the students could understand it clearly.

2.2.2. Wordlist

It has been seen that pronouncing word-final consonants and clusters causes problems for Vietnamese learners of English. Based on the previous studies, the following sounds are problematic.

- Fricatives: /f, v, θ, ð, s, z, ʃ, ʒ/ (Avery and Ehrlich, 1992; Ha, 2005; Nguyen, 2007; Nguyen and Brouha, 1998; Osburne, 1996; Pham, 2009)
- Affricates: /tʃ, dʒ/ (Duong, 2009; Ha, 2005; Luu, 2011; Nguyen and Brouha, 1998; Pham, 2009)
- Voiceless stops: /p, t, k/ (Benson, 1988; Ha, 2005; Nguyen, 2007; Pham, 2009; Tang, 2007)
- Voiced stop: /d/ (Nguyen 2007; Nguyen and Brouha, 1998; Pham, 2009)
- Lateral: /l/ (Ha, 2005; Nguyen, 2007; Nguyen and Brouha, 1998; Pham, 2009)
- Diphthongs ending with /I/ and /ʊ/ (Benson, 1988; Nguyen, 2007; Nguyen, 2008; Osburne, 1996; Pham, 2009)
- One two-member final cluster containing a nasal: /ŋk/ (Nguyen, 2008)



- One two-member final cluster containing a nasal and a voiced stop: /nd/ (Nguyen, 2008)
- One two-member final cluster of voiced obstruent: /vz/ (Nguyen, 2008)
- One two-member final cluster including a lateral /l/: /lp/ (Nguyen, 2007; Nguyen, 2008; Pham, 2009)
- Three-member final clusters ending with /ldz/, /nts/ (Nguyen, 2007)
- Final clusters ending with /sk/, /nst/ (Nguyen, 2007; Nguyen, 2008; Osburne, 1996; Pham, 2009)

Consequently, the following words or key words were included in the wordlist.

Table 2.1: *Key words*

1. leaf (n.)	2. have (v.)	3. path (n.)	4. breathe (v.)	5. mess (n.)
6. boos (n.)	7. ash (n.)	8. rouge (n.)	9. catch (v.)	10. rage (n.)
11. shop (n.)	12. light (n.)	13. bike (n.)	14. pill (n.)	15. rod (n.)
16. coat (n.)	17. couch (n.)	18. whelp (n.)	19. laves (v.)	20. mints (n.)
21. elds (n.)	22. pink (a.)	23. band (n.)	24. mask (n.)	25. minced (v.)

This wordlist had been reviewed by three experts in the field before it was used. The students read these 25 key words aloud once and had three minutes for their preparation. During this period of time, they could ask an examiner for help if they did not know how to pronounce a certain word. Their reading aloud was recorded.

2.2.3. Text reading

A text used for reading aloud was reviewed by three experts in the field before its official use. This text was comprised of 25 key words of the wordlist and other words. All of them were put together in a meaningful context. The students read this text once and their reading aloud was recorded. They also had three minutes to prepare for their reading aloud. If they had any questions, they could ask the examiner.

2.2.4. Picture description

The research participants described a picture with 21 guided questions, which had been reviewed by three experts in the fields. These guided questions helped elicit 25 key words of the wordlist. While the subjects were describing the picture, they were being recorded. They had five minutes to prepare for their description. They could ask an examiner any questions if they did not understand or did not know anything. Before the picture description started, the examiner had talked to a subject about easy and interesting topics such as greetings, personal information, weather, etc. Therefore, the subject could feel comfortable and relaxed and they could get used to the examiner's voice.



2.3. Data collection

The data were collected in March and April, 2018. The researcher had had a short meeting with every subject five minutes before the tasks were done. In this meeting, the subject was provided with specific instructions on each task and he/she could ask any questions related to the current research. However, the main purpose of each task, which was to focus on word-final consonant production, was not mentioned because the subject could not know which areas he/she was tested and so, he/she did not have a bias against pronouncing word-final consonants. Each task was recorded with a microphone and a laptop in a quiet room.

Koren's (1995) framework of pronunciation production continuum was used in this study to collect data from three tasks. The picture description was carried out first followed by the text reading and finally by the wordlist. Therefore, it was hard for a subject to know which areas the research concentrated on. In other words, the subject did not know his/her production of word-final consonants was checked. Moreover, if a student finished three tasks, he/she had to go out of the room and could not talk to other subjects about what he/she had done in each task. So, it was fair to each subject.

2.4. Data analysis

All 25 key words of each task were transcribed. Furthermore, these 25 key words of each task were also co-transcribed by a native English speaker holding the Ph.D. degree in Applied Linguistics. The concurrence rate of the transcriptions was 97.9%. As to word-final consonants only, the concurrence rate of the transcriptions was 98.1%. After the transcriber had discussed the transcriptions with the co-transcriber, the concurrence rate of the transcriptions reached 100% with respect to onsets, nuclei, and codas.

As regards single word-final consonants, the current study adapted Nguyen and Brouha's (1998) framework to classify the subjects' production of word-final consonants into targets and errors. These errors consisted of deletion, epenthesis, devoicing, unreleasing, rounded vowel plus deletion, substitution, and substitution plus epenthesis. All of production categories are defined as follows:

- Target: correct pronunciation compared to standard English
- Deletion (Del): a single word-final consonant is deleted completely.
- Epenthesis (Epen): a sound is added to the end of a word.
- Devoicing (Dev): a voiced word-final consonant is changed to a voiceless one. For instance, /z/ becomes /s/ and /v/ is changed to /f/.
- Unreleasing (Unrel): a word-final consonant is enunciated but it is not released.



- Rounded vowel plus deletion (Ro-Vow+Del): a vowel is rounded and a word-final consonant is deleted. For instance, ‘have’ is pronounced as [hæ] instead of [hæv].

- Substitution (Sub): a word-final consonant is replaced by another consonant.

- Substitution plus epenthesis (Sub+Epen): a word-final consonant is substituted by a consonant and then, a sound is inserted. For example, ‘leaf’ is enunciated as [li:ps] instead of [li:f].

In respect of final clusters, this research adapted Sato’s (1984) framework to categorize the students’ pronunciation of word-final clusters into targets and erroneous forms. The erroneous forms include reduction, omission plus unreleasing, omission plus devoicing, omission plus epenthesis, rounded vowel plus omission plus devoicing, rounded vowel plus omission, rounded vowel plus substitution, substitution plus devoicing, unreleasing, deletion, epenthesis, devoicing, substitution plus omission, substitution, and all-consonant substitution. All of categories of the students’ word-final cluster production were described as follows:

- Target: all the consonants of a word-final cluster are pronounced accurately compared to standard English.

- Reduction (Red): deletion of one or more consonants of a cluster, e.g. ‘mints’ [mInts] pronounced as [mIn_s].

- Omission plus unreleasing (Om+Unrel): in a word-final cluster, one or more consonants are omitted and one consonant is unreleased, e.g. ‘whelp’ [welp] enunciated as [we_p̚].

- Omission plus devoicing (Om+Dev): in a word-final cluster, one or more consonants are omitted and one or more consonants are devoiced or vice versa. For example, ‘laves’ [leIvz] is pronounced [leIv_] or ‘elds’ [eldz] as [el_z̥].

- Omission plus epenthesis (Om+Epen): in a word-final cluster, one or more consonants are omitted and one sound is added to the end of a word. For example, ‘mask’ [ma:sk] is pronounced as [ma:_kə].

- Rounded vowel plus omission plus devoicing (Ro-Vow+Om+Dev): in a rhyme, a vowel is rounded. One or more consonants are omitted and one or more consonants are devoiced or vice versa, e.g. ‘elds’ [eldz] pronounced as [ɛ_z̥] or [ɛ_d̥].

- Rounded vowel plus omission (Ro-Vow+Om): in a rhyme, a vowel is rounded and one or more consonants are omitted. For instance, ‘elds’ [eldz] is pronounced as [ɛ_z].

- Rounded vowel plus substitution (Ro-Vow+Sub): in a rhyme, a vowel is rounded and one or more consonants are substituted. For example, ‘elds’ [eldz] is enunciated as [ɛf].



- Substitution plus devoicing (Sub+Dev): in a word-final cluster, one or more consonants are substituted and one or more consonants are devoiced or vice versa. For example, ‘laves’ [leIvz] is pronounced as [leI**p**z] or [leI**ʔ**t].

- Unreleasing (Unrel): in a word-final cluster, one of the consonants are unreleased, e.g. ‘whelp’ [welp] enunciated as [welp̚].

- Deletion (Del): all the consonants of a cluster are deleted, e.g. ‘wilds’ [waɪldz] produced as [waɪ].

- Epenthesis (Epen): a sound is added to a word-final cluster, e.g. ‘band’ [bænd] pronounced as [’bændə].

- Devoicing (Dev): one of the consonants of a cluster is devoiced, e.g. ‘band’ [bænd] pronounced as [bænd̚].

- Substitution plus omission (Sub+Om): in a word-final cluster, one or more consonants are substituted and one or more consonants are omitted or vice versa. For example, ‘mints’ [mInts] is pronounced as [mIn**θ**_] or as [mIn_**z**].

- Substitution (Sub): substitution of one or more consonants of a cluster, e.g. ‘mints’ [mInts] pronounced as [mIn**st**].

- All-consonant substitution (All-Sub): all the consonants of a final cluster are substituted by different consonants, e.g. ‘band’ [bænd] pronounced as [bæ**ŋk**].

The production of single word-final consonants and word-final clusters was categorized into aforementioned headings. After that, these headings were counted and then, percentage points were calculated. The percentages were used to show how the students produced the word-final consonants (including single word-final consonants and word-final clusters) and to compare the H-group with the L-group.

3. Results

Research question 1: What types of errors in word-final consonant pronunciation do Vietnamese learners of English with low and high English language experience make?

The H-group and the L-group made errors in word-final consonant pronunciation and these errors were classified into types illustrated in the table below.

Table 3.1: *Types of errors in word-final consonant pronunciation*



H-group			L-group		
Single word-final consonants			Single word-final consonants		
Types	Frequency	Percent	Types	Frequency	Percent
Del	5	1.3%	Del	5	1.3%
Epen	5	1.3%	Epen	1	0.3%
Dev	47	12.5%	Dev	45	12%
Unrel	10	2.7%	Unrel	15	4%
Sub+Epen	4	1.1%	Sub+Epen	5	1.3%
Ro-Vow+Del	1	0.3%	Ro-Vow+Del	0	0%
Sub	64	17.1%	Sub	61	16.2%
Word-final clusters			Word-final clusters		
Types	Frequency	Percent	Types	Frequency	Percent
Red	31	8.3%	Red	38	10.1%
Om+Unrel	0	0%	Om+Unrel	2	0.5%
Om+Dev	11	2.9%	Om+Dev	5	1.3%
Om+Epen	1	0.3%	Om+Epen	1	0.3%
Ro-Vow+Om+Dev	3	0.8%	Ro-Vow+Om+Dev	6	1.6%
Ro-Vow+Om	0	0%	Ro-Vow+Om	1	0.3%
Ro-Vow+Sub	0	0%	Ro-Vow+Sub	1	0.3%
Sub+Dev	0	0%	Sub+Dev	1	0.3%
Unrel	0	0%	Unrel	3	0.8%
Del	0	0%	Del	0	0%
Epen	3	0.8%	Epen	1	0.3%
Dev	12	3.2%	Dev	4	1.1%



Sub+Om	5	1.3%	Sub+Om	0	0%
All-sub	6	1.6%	All-sub	12	3.2%
Sub	2	0.5%	Sub	3	0.8%

Regarding the single word-final consonants, the H-group had the error types: deletion, epenthesis, devoicing, unreleasing, substitution plus epenthesis, rounded vowel plus deletion, and substitution. Noticeably, the substitution was the most at 17.1% followed by the devoicing at 12.5%. The rounded vowel plus deletion was the least at 0.3% because the H-group committed this error once. In respect of the word-final clusters, the H-group possessed error categories as follows: reduction, omission plus devoicing, omission plus epenthesis, rounded vowel plus omission plus devoicing, epenthesis, devoicing, substitution plus omission, substitution of all consonants, and substitution of one or more consonants. Among these kinds, the reduction was the most at 8.3% followed by the devoicing at 3.2%. The H-group did not make errors in omission plus unreleasing, rounded vowel plus omission, rounded vowel plus substitution, substitution plus devoicing, unreleasing, and deletion.

In the L-group, concerning the single word-final consonants, there were the following error categories, i.e. deletion, epenthesis, devoicing, unreleasing, substitution plus epenthesis, and substitution. The L-group made the most errors in the substitution at 16.2% followed by the devoicing at 12%. However, no error types of the rounded vowel plus deletion appeared in the L-group. As regards the word-final clusters, the error kinds belonging to the L-group consisted of reduction, omission plus unreleasing, omission plus devoicing, omission plus epenthesis, rounded vowel plus omission plus devoicing, rounded vowel plus omission, rounded vowel plus substitution, substitution plus devoicing, unreleasing, epenthesis, devoicing, substitution of all consonants, and substitution of one or more consonants. Among these error types, the reduction was the most at 10.1% followed by the substitution of all consonants at 3.2%. Furthermore, two types, i.e. deletion and substitution plus omission, did not exist in the L-group.

Research question 2: What similarities and differences do these two groups have when making errors in word-final consonant pronunciation?

Both the H-group and the L-group had the following shared error kinds. As to the single word-final consonants, these two groups had deletion, epenthesis, devoicing, unreleasing, substitution plus epenthesis, and substitution. Among these error types, the substitution was the most; the devoicing the second most; and the unreleasing the third most. Moreover, the L-group and the H-group had the same amount of errors in the deletion at 1.3%. Regarding the word-final clusters, both groups had common error types, i.e. reduction, omission plus devoicing, omission plus epenthesis, rounded vowel plus omission plus devoicing, epenthesis, devoicing, substitution of all consonants, and substitution of one or more consonants. In addition, in two groups, the reduction



errors appeared the most and the deletion errors were not made. Furthermore, both groups had the same number of errors at 0.3% in the omission plus epenthesis. Last but not least, in each group, the text reading had the most errors, the picture description the second most errors, and the wordlist the third most errors.

However, there were some differences between the H-group and the L-group. First, with regard to the word-final clusters, the error types which did not exist in the H-group were omission plus unreleasing, rounded vowel plus omission, rounded vowel plus substitution, substitution plus devoicing, and unreleasing while the L-group had all of them. Secondly, the H-group had more errors than the L-group in the epenthesis, the devoicing, the rounded vowel plus deletion, and the substitution with respect to the single word-final consonants. In addition, with regard to the word-final clusters, the H-group had more errors than the L-group in the omission plus devoicing, the epenthesis, the devoicing, and the substitution plus omission.

On the contrary, there were more errors in the L-group than those in the H-group in the following error types. As to the single word-final consonants, the error types were the unreleasing and the substitution plus epenthesis. What is more, the word-final clusters comprised the reduction, the rounded vowel plus omission plus devoicing, the substitution of all consonants, and the substitution of one or more consonants.

4. Discussion and Conclusion

From the literature, the current research was conducted to examine error types of word-final consonant pronunciation in Vietnamese English interlanguage so that the H-group could be compared with the L-group. As a result, teachers and learners of English can adjust their focus on these error types. The data were collected at a university in the Mekong River Delta, the South of Vietnam. The research instruments were the English language experience questionnaire, the wordlist, the text reading, and the picture description. In the process of the data collection, Koren's (1995) framework of pronunciation production continuum was applied to this study. That means the picture description was performed first followed by the text reading and the wordlist reading. Then, Nguyen and Brouha's (1998) framework and Sato's (1984) were adapted to analyse the data regarding single word-final consonants and word-final clusters, respectively. The results showed that single word-final consonant errors were comprised of deletion, epenthesis, devoicing, unreleasing, substitution plus epenthesis, rounded vowel plus deletion and substitution. Word-final cluster errors included reduction, omission plus unreleasing, omission plus devoicing, omission plus epenthesis, rounded vowel plus omission plus devoicing, rounded vowel plus omission, rounded vowel plus substitution, substitution plus devoicing, unreleasing, epenthesis, devoicing, substitution plus omission, substitution of all consonants, and substitution of one or more consonants. Moreover, there were similarities and differences between the H-group and the L-group with respect to error types of word-final consonant pronunciation.



The current study accords with Nguyen and Brouha's (1998) findings when showing that error types of the single word-final consonants included deletion, epenthesis, devoicing, unreleasing, and substitution. However, this research has two other error types which do not appear in Nguyen and Brouha's (1998) study. They are substitution plus epenthesis and rounded vowel plus deletion. This difference might be explained concerning the subjects. The subjects of the current research lived in Vietnam, where they used Vietnamese every day, while Nguyen and Brouha's (1998) participants were Overseas Vietnamese whose time in the United States averaged four years. Therefore, the subjects of the current study had limited exposure to native English and so, their English proficiency was lower.

With reference to the single word-final consonants, there are similarities in the most common error type between the present study and those described by Duong (2009) and Nguyen and Brouha (1998). This error type is substitution which was the most frequent in the H-group and in the L-group. Especially, the H-group substituted coronals at 87.5% of substitution errors and the L-group at 82%. According to Ultius (2019), the main coronals in English are the sounds /t, d, n, s, z, l/ and Edwards (1992) adds that the sibilants /s, z, ʃ, ʒ, tʃ, dʒ/ are coronals. Nguyen and Brouha (1998: 87) comment that coronals had a special position in the substitution and "coronals are dominant not only in the IL but also in English"; therefore, their subjects' substitutions were almost English coronals.

As regards error types of the word-final clusters, this research is in line with Sato's (1984) error types including substitution of all consonants, substitution of one or more consonants, reduction, and epenthesis. Nevertheless, the subjects of the present study did not commit any errors belonging to the deletion type while Sato's (1984) participants did make complete deletions to consonants. More importantly, the current research has other error kinds as follows: omission plus unreleasing, omission plus devoicing, omission plus epenthesis, rounded vowel plus omission plus devoicing, rounded vowel plus omission, rounded vowel plus substitution, substitution plus devoicing, unreleasing, devoicing, and substitution plus omission. The most likely explanation is that Sato's (1984) subjects lived in the United States and had more exposure to native English. In addition, they were children and so, they could imitate native English well.

The findings in the present study are consistent with the findings of Pham (2009) and Sato (1984). Both the H-group and the L-group had the most errors in reduction of the word-final clusters. Sato (1984) states that reduction by one segment outnumbered other error types, i.e. cluster deletion, feature change, and vowel epenthesis. The explanation for this is that L1 interference plays an important role. Therefore, there is a confirmed hypothesis saying that "because of L1 transfer, Vietnamese-English IL would show a preference for closed rather than open syllables in the modification of English syllable-final (SF) consonant clusters (CCs)" (Sato, 1984: 55).

The final major finding of this study is that both the H-group and the L-group shared many error types. As to the single word-final consonants, there was deletion, epenthesis, devoicing, unreleasing, and substitutions. Moreover, error kinds of the word-final clusters included reduction,



omission plus devoicing, omission plus epenthesis, rounded vowel plus omission plus devoicing, epenthesis, devoicing, substitution of all consonants, and substitution of one or more consonants. Especially, there were some error types of which the H-group had the same number of errors as the L-group, i.e. deletion at 1.3% with regard to the single word-final consonants and omission plus epenthesis at 0.3% in respect of the word-final clusters. Furthermore, the H-group had even more errors than the L-group, i.e. epenthesis, devoicing, and substitution as to the single word-final consonants; and omission plus devoicing, epenthesis, and devoicing as regards the word-final clusters. Noticeably, with respect to the single word-final consonants, while the L-group did not make any errors of rounded vowel plus deletion, the H-group had this error type at 0.3%. The same situation happened to the final clusters when the H-group made 1.3% of errors in substitution plus omission and there were not any errors of this type in the L-group.

Clearly, the H-group made a great deal of errors in word-final consonant production. There are several possible explanations for this result. First, the subjects voluntarily joined this research and their performances were not graded for their academic records. As a result, they did not pay much attention to their correct English. They used English carelessly and made errors although they knew what good English was like and they could use it. Littlewood (1984) calls their errors performance errors. In Pham's (2009) research, her participants also committed many performance errors. Another reason for the H-group's errors is that the H-group could make a great deal of fossilized errors (Littlewood, 1984). Littlewood (1984) gives two main reasons for fossilized errors, which are L1 transfer and learners' realization. However, most of the fossilized errors arise from the learners' realization because those learners think that errors do not prevent them from their satisfaction with communicative needs. The simpler their communicative needs are, the earlier their progress ends. In Nguyen and Brouha's (1998) study, although one of their subjects exposed to English in the United States for the longest time compared to the other subjects, he still made more errors than one of the remaining subjects in unreleasing. That is because he had high levels of fossilization. This supports Pham's (2009) explanation saying that her subjects made errors because of their habits.

This research was limited in the following way. There were only five subjects in each group. As a result, the differences in English proficiency between the H-group and the L-group were not outstanding. However, the findings of this study have some significant implications for pronunciation teaching specifically related to errors in word-final consonant production. First, as to the word-final clusters, both the H-group and the L-group did not make any errors in deletion. It is implied that teachers and learners of English should not pay much attention to this error type, i.e. deletion of all consonants in a word-final cluster. Second, as regards the word-final clusters, the H-group did not make any errors in omission plus unreleasing, rounded vowel plus omission, rounded vowel plus substitution, substitution plus devoicing, and unreleasing while the L-group did have these error types. An implication of these results is that if students with low English language experience (or with low English proficiency) commit errors of these types, they will disappear when the students have high English language experience (or high English proficiency).



Next, both the H-group and the L-group had the most errors in substitution at 17.1% and 16.2%, respectively, and the second most errors in devoicing at 12.5% and 12%, respectively, with regard to single word-final consonants. In addition, in respect of word-final clusters, reduction errors were the most in the H-group at 8.3% and in the L-group at 10.1%. This implies that these three error types should be top priorities in pronunciation teaching related to word-final consonant production and so, teachers and learners of English have to concentrate on them. In addition, concerning the single word-final consonants, deletion, epenthesis, unreleasing, and substitution plus epenthesis need to be considered in pronunciation teaching because both the H-group and the L-group committed many errors and the unreleasing was the third most in both groups. Especially, in the deletion, the H-group and the L-group had the same number of errors, but in the epenthesis, the H-group possessed more errors than the L-group. This finding implies that the H-group pronounced English words more carelessly and they had more deviant forms. More importantly, regarding the word-final clusters, omission plus devoicing, epenthesis, devoicing, substitution plus omission, and substitution of all consonants should be paid attention to because the H-group and the L-group had many errors of these types. Above all, the H-group had more errors than the L-group in the omission plus devoicing, epenthesis, devoicing, and substitution plus omission, which implies that students with high English language experience (or with high English proficiency) should use English carefully to avoid making errors of these kinds. With suggestions provided, it is hoped that teachers, syllabus designers, and learners of English should take account of errors in word-final consonant production so that these errors can gradually decrease or disappear and Vietnamese people's English can be understood easily.

5. References

- Avery, P. & Ehrlich, S. (1992). *Teaching American English pronunciation*. Oxford: Oxford University Press.
- Benson, B. (1988). Universal preference for the open syllable as an independent process in interlanguage phonology. *Language Learning*, 38 (2), 221-242.
- Clements, P. (2015, July 17). Thoughts on teaching Vietnamese learners. Retrieved from <https://eltplanning.com/2015/07/17/thoughts-on-teaching-vietnamese-learners/>
- Corder, S. P. (1971). Idiosyncratic dialects and error analysis. *International Review of Applied Linguistics in Language Teaching*, 9 (2), 147-160.
- Corder, S. P. (1981). *Error analysis and interlanguage*. Oxford: Oxford University Press.
- Crystal, D. (2003). *English as a global language*. Cambridge: Cambridge University Press.
- Cunningham, U. (2013). Teachability and Learnability of English Pronunciation Features for Vietnamese-Speaking Learners. In E. Waniek-Klimczak & L. R. Shockey (ed.), *Teaching*



- and Researching English Accents in Native and Non-native Speakers* (pp. 3-14). Springer Berlin/Heidelberg. Retrieved from http://dx.doi.org/10.1007/978-3-642-24019-5_1
- Dang, M. D. (2000). Pronunciation challenges for Vietnamese learners. *Teacher's Edition*, 4-7.
- Deterding, D. (2005). How Many Consonant Sounds Are There in English? *STETS Language & Communication Review*, 4 (1), 23-26.
- Dinh, T. L. & Nguyen, H. V. (1998). *Co cau ngu am tieng Viet*. Nha xuất bản Giao duc.
- Duong, N. T. (2009). Mistake or Vietnamese English. *Journal of Science- Vietnam National University, Hanoi*, 25, 41-50.
- Edwards, H. T. (1992). *Applied Phonetics: The Sounds of American English*. San Diego, CA: Singular Publishing Group.
- Ha, T. C. (2005). Common pronunciation problems of Vietnamese learners of English. *Journal of Science –Vietnam National University, Ha Noi*, 21 (1). Retrieved from http://tapchi.vnu.edu.vn/Ngoaingu_1/Bai3.pdf
- Kirby, J. P. (2011). Illustration of the IPA: Vietnamese (Hanoi Vietnamese). *Journal of the International Phonetic Association*, 41 (3), 381-392. doi:10.1017/S0025100311000181
- Koren, S. (1995). Foreign language pronunciation testing: a new approach. *System*, 23 (3), 387-400.
- Littlewood, W. (1984). *Foreign and second language learning*. Cambridge: Cambridge University Press.
- Luu, T. T. (2011). Vietnamese EFL learners' Difficulties with English Consonants. *Studies in Literature and Language*, 3 (2), 56-67.
- Modehiran, P. (2005). Correction making among Thais and Americans: A study of cross cultural and interlanguage pragmatics. (*Doctoral Dissertation*). Chulalongkorn University, Thailand.
- Nguyen, A. & Brouha, C. (1998). The production of word final consonants in English by L1 speakers of Vietnamese. *Working Papers in Linguistics*, 5, 73-94. Retrieved from <http://www.gmu.edu/org/lingclub/WP/currentXML.php?Vol=5>
- Nguyen, H. D. (2012). Loi phat am phu am cuoi cua nguoi Viet hoc tieng Anh. *Tap chi Giao chuc Viet Nam*, 60, 14-15-19.
- Nguyen, H. T. (2013). Difficulties of Vietnamese learners with the length of English sounds when they produce and suggested strategies. *Journal of Science and Technology – Thai Nguyen University*, 112 (12/1), 231-235.



- Nguyen, N. (2008). Interlanguage Phonology and the Pronunciation of English Final Consonant Clusters by Native Speakers of Vietnamese. (*Unpublished Master's thesis*). Ohio University.
- Nguyen, T. T. T. (2007). Difficulties for Vietnamese when pronouncing English final consonants. (*Degree of Bachelor*). Dalarna University, Sweden. Retrieved from <http://du.diva-portal.org/smash/get/diva2:518290/FULLTEXT01.pdf>
- Osburne, A. (1996). Final cluster reduction in English L2 speech: A case study of a Vietnamese speaker. *Applied Linguistics*, 17 (2), 164-181.
- Pham, C. T. C. (2009). Errors 1st students at E.D, HULIS, VNU make with ending sounds and strategies to overcome using Communicative Teaching. (*Degree of Bachelor*). Hanoi University of Language and International Studies, Vietnam National University. Retrieved from <https://dichgiacamchi.wordpress.com/2014/03/23/my-thesis-2009-errors-vietnamese-people-make-with-ending-sounds/>
- Pongprairat, R. (2011). A study of interlanguage English intonation in Thai learners, and the degree of intelligibility and comprehensibility in native speakers' judgments. (*Doctoral Dissertation*). Chulalongkorn University, Thailand.
- Roach, P. (1991). *English phonetics and phonology: A practical course* (second edition). Cambridge: Cambridge University Press.
- Sato, C. J. (1984). Phonological processes in second language acquisition: Another look at interlanguage syllable structure. *Language Learning*, 34 (4), 43-58.
- Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics in Language Teaching*, 10 (3), 209-231.
- Schuberg, B., Masciarelli, K., & Nguyen, N.C. (2013). *Influence of Vietnamese Pronunciation on the Production of English Final Consonant Sounds*. Retrieved from https://pdfs.semanticscholar.org/974f/25535d5396af6be443d902821cf746cff92d.pdf?_ga=2.254848577.894052012.1567062819-1788361007.1567062819
- Sudasna Na Ayudhya, P. (2002). Models of mental lexicon in bilinguals with high and low second language experience: An experimental study of lexical access. (*Doctoral Dissertation*). Chulalongkorn University, Thailand.
- Sudasna, P., Luksaneeyanawin, S., Burnham, D. (2001). The influence of second language experience in the pattern of language processing of the bilingual lexicon. *Manusya: Journal of Humanities*, 5 (1), 79-95.
- Tang, G. M. (2007). Cross-Linguistic Analysis of Vietnamese and English with Implications for Vietnamese Language Acquisition and Maintenance in the United States. *Journal of*



Southeast Asian American Education and Advancement, 2 (3), 1-33. DOI:
<http://dx.doi.org/10.7771/2153-8999.1085>

Tarnisarn, K. (2011). The relationship between the English language experience and the identification ability of English words with vowel reduction by Thai students. (*Master Thesis*). Chulalongkorn University, Thailand.

Thaworn, S. (2011). The interpretation of syntactic ambiguity in English sentences by Thai students with high and low English language experience. (*Master Thesis*). Chulalongkorn University, Thailand.

Ultius. (2019). Retrieved September 8, 2019, from
<https://www.ultius.com/glossary/linguistics/coronal.html>

Wong-aram, P. (2011). A comparison of strategies and errors of Thai students with different English language experiences in the formation of English words equivalent to Thai compounds. (*Master Thesis*). Chulalongkorn University, Thailand.