Journal of educational equipment: Education management, Volume 1, Issue 314(June 2024)
ISSN 1859 - 0810

English consonant clusters in the pronunciation of Vietnamese learners: a study on two students at Ha Long university

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Received: 13/03/2024; Accepted: 26/03/2024; Published: 15/5/2024

Abtract: _Pronunciation of English consonant clusters is one of the most difficult for Vietnamese learners to pronounce correctly because of the differences in many phonological features between the two languages. To have a closer look at how speakers of Vietnamese deal with English consonant clusters, this article aims to study on how two Vietnamese learners of English produce English these consonants._
_Keywords__: Consonant, clusters, syllables, production, features, difference…_

I. Introduction

According to Harmer (1991) what should be put at the top of a list of necessary things for a language learner to acquire is pronunciation. Vietnamese learners find English pronunciation difficult since there are many features of English that do not exist or are pronounced differently in Vietnamese. As a result, these features are produced with difficulty by Vietnamese learners.

The article studies at two students who are the first and fourth year at Ha Long university who try to produce English consonant clusters. It hypothesizes that the advanced student will be more successful than the first-year student at pronouncing consonant clusters due to the benefits of training in English phonetics and phonology.

II. Content

1. Theoretical background

In English syllable structure, the basic elements of the syllable are the onset (one or more consonants) and the rhyme that consists of a vowel (normally treated as the nucleus) plus any following consonants, described as the coda. So it is clear that both the onset and the coda can consist of more than one consonant. According to Roach (1983:76), the maximum phonological structure of an English syllable can be described as follows.

	Pre-initial	initial	Post-initial	VOWEL	Pre-final	final	Post-final 1	Post-final 2	Post-final 3
glimpsed		g	l	i		m	p	s	t
	Onset				Coda				

The above structure shows that English allows two or more consonants in a sequence; or, in other words, it permits consonant clusters.

English consonant clusters can be divided into initial clusters and final clusters (Knight 2003, Roach 1983). The initial consonant clusters are classified into two-consonant clusters (initial CC clusters) and initial three-consonant clusters (initial CCC clusters). The features of these cluster types can be seen in Table 1.

Table 1. English initial consonant clusters (Knight 2003)

Initial consonant clusters	Initial CC clusters	• s + p, t, k, f, m, n Examples are *spin, stick, skirt, sphere, smell, and snow.* The /s/ is called the pre-initial consonant and the other is called the initial consonant.
		• Consonant + l, r, w, j Examples are *plate, grin, slip, swim, music, etc*. The first consonant is the initial and the second is the post-initial consonant.
	Initial CCC clusters	• The three consonants are called: the pre-initial, the initial and the post initial. The pre-initial consonant is always ‘s’, the initial is always ‘p, t, k’ and the post initial is always ‘l, r’. Examples are *spring, string, sprout, etc.*

English final consonant clusters are of three main types: final two-consonant clusters (final CC clusters), final three-consonant clusters (final CCC clusters) and final four-consonant clusters (final CCCC clusters). Table 2 below describes these clusters in more detail.

Table 2. English final consonant clusters (Knight 2003)

Final consonant clusters	Final CC clusters	• Pre-final ‘m, n, l, s’ followed by a final consonant. For example: *mailed, tenth, ask, comb, etc*
		• Consonant plus post- final ‘s, z, t, d, θ’. Examples are *bets, beds, backed, eighth, etc*
	Final CCC clusters	• Pre-final plus final plus post-final. Examples are *bonds, banks, twelfth, etc*.
		• Final plus post- final plus post –final ‘s, z, t, d, θ’. For example: *next, lapsed, fifths, etc*
	Final CCCC clusters	• Most final CCCC clusters are pre-final plus final plus post final plus post final e.g. *twelfths, prompts*
		• Occasionally, there is one final and three post final consonants e.g. *sixths, texts*

Thus, there exist various types of consonant clusters in English; they may consist of initial consonant clusters and final ones, which range from possibly two to four consonants as a maximum.

To sum up, the English syllable structure and the Vietnamese syllable structure are not the same. English permits consonant clusters whereas Vietnamese does not. This explains why English consonant clusters are alien to pronounce, as a result, difficult for Vietnamese learners to produce.

2. Methodology and data

30 consonant clusters were chosen. They include different types of initial and final consonant clusters in English. These are some examples of onset; st- stick, sp- speak, sf-sphere, spl- splay, spr- spring, skr- screen... and the coda ones; sks-tasks, rts- skirts, kst-mixed…and a list of eight sentences containing 16 out of 30 example words. They are to highlight the differences in consonant clusters as produced in words and sentences.

1. They often **speak** to her that **snow** has **smell**.
2. Don't **stick** too rigidly to your ideas.
3. They **want** to **ask** for **help**.
4. You can **drink** a **glass** of beer for **free** here.
5. We have him **spray** the car **blue**.
6. Women there like wearing **skirts**.
7. The **tasks** are not easy.
8. I find it hard to write "**twelfths**" than "**sixths**".

The two students were asked to read 30 words containing 30 consonant clusters. They then read eight sentences including 16 out of these 30 words. Both of their readings were recorded using Wave surfer and then analysed and compared. The recorded data were then evaluated by a native speaker of English from the USA. He first listened to the sound files (four in total) and then briefly wrote out his assessments on the quality of each word that he heard.

3. Data analysis and results

The following two sections will illustrate Student A's and Student B's performance and the third section is to bring the two students' performance into comparison.

3.1. Student A's production

The number of words that Student A pronounced correctly (according to the English native speaker's evaluation) in the word and sentence lists can be summarized as following:

Student A did not produce English consonant clusters with high accuracy. Her accurate production of consonant clusters in the word list made up for only 40%. Noticeably, student A had great difficulty in producing final consonant clusters, especially when the clusters consisted of more than two consonants. The accuracy rate for final two-consonant, three-consonant and four-consonant clusters decreased remarkably from 29% to 20% and 0% respectively. This result was consistent with Wong's research (2006), which claimed that foreign learners' accurate production of final consonant clusters deteriorated as the number of consonants in clusters increased. For most of the cases of the final two-consonant clusters like *-nd, -st, -sk, -nt*, Student A either produced the pre-final in those clusters too soft (as in *-nd, -st, -sk*) or completely deleted them (as in *-nt*)]. Student A's mistakes may be strongly influenced by her mother tongue. Therefore, it is not surprising to find that Student A produced *bl-, dr-* and *gl-* in a Vietnamese-like way.

In brief, English consonant clusters were difficult for Student A, who is a freshmen and has no or very little knowledge of English phonetics and phonology. She was most successful at initial consonant clusters, but failed to produce final consonant clusters, especially 3 or 4-consonant clusters in the word and sentence lists. To simplify these clusters, Student A applied the strategies of deletion, feature change, and insertion, or a combination of these strategies, which more or less bear the influence from her native language.

3.2. Student B's production

Student B read the consonant clusters in the word list quite well. The overall accuracy rate is 50%. She especially performed well on the initial clusters. She only had problems producing *dr-, fr- str-* and *spl-*; and as a result, she had to change these clusters into *[vr], [Ꭲr], [st]* and *[sbl]* respectively to ease her pronunciation. at the same time, final consonant clusters were not produced as successfully as initial ones. In reality, the accuracy of the final consonant clusters in Student B's pronunciation was in inverse ratio to the number of consonants in the clusters. The accuracy of initial two-consonant cluster was high (71%) while that of three and four- consonant clusters was 0%. This result agrees with Wong (2006)'s findings. That she left out one or even three sounds within a cluster and thus changed the clusters' features accounted for Student B's poor performance on these last-mentioned clusters. The evidence can be found in *twelfths* and *prompts*. Student B deleted /f/, /θ/ and /s/ to make the former sound like [twel]; and changed

/p/, a voiceless stop in *–mpts* into /b/, a voiced one to produce the latter as [prɔmbts].

In brief, although Student B accurately produced 50% of the consonant clusters in the word list and 56% in the sentence list, they were not easy for her. Final three and four-consonant clusters caused the greatest difficulty to Student B while the rest caused fewer. The most favored strategies were deletion and feature change as exemplified in *string* and *splay*. These words were wrongly read as [stiŋ] (/r/ was deleted) and [sblei] (/p/ was changed into /b/). In addition, the insertion strategy was also found in 'skirts' and 'first' when /t/ and an unidentified sound were added in to *-rts* and *-rst* respectively. There was one case of *sixths* (/siksθs/) when Student B applied the feature change and deletion strategics to produce it as [sikʃ].

3.3. A comparison of Student A and Student B's performance

Overall, Student B (the fourth-year student of English) was better than Student A (the first-year one) at producing English consonant clusters. The knowledge that the senior gained from the linguistic training at the college might have a considerable impact on her pronunciation; she could correctly produce 16 out of 30 consonant clusters in the word list (the accuracy rate was over 50%); whereas the number of consonant clusters produced correctly by the freshman was only 12 out of 30 (accounting for 40%). More specifically, the senior seemed to be more excellent in producing initial two-consonant clusters and produced them better than the freshman did. She was also more successful at pronouncing final two-consonant clusters. She got five correct pronunciations in comparison with two by the freshman. However, that the senior did not always produce all the types of consonant clusters under study better than the freshman was interesting.

4. Conclusion

When learning English, non-native speakers of English need to acquire its pronunciation. Nevertheless, it is not easy for foreign learners to master English pronunciation, especially when their native languages do not share the same phonological features in fundamental aspects with English. An example illustrating this point is, in English, there exist consonant clusters but many languages in the world including Vietnamese do not permit consonant clusters. This very difference causes problems for Vietnamese learners of English when they try to produce such important elements of English pronunciation as consonant clusters.

In order to better understand how Vietnamese learners produce English consonant clusters as well as what factors affect their pronunciation, this article was conducted as study on the pronunciation of two students of English with the focus on differences in their consonant cluster production. The students participating in the study were of different language proficiency. They, however, were asked to read the same lists of 30 words and 8 sentences containing 16 consonant clusters under study. When their recorded readings were analysed and compared, the author was able to find out the following. First, in line with other studies (Tran 2007, Nunan 1991), it was found that English consonant clusters were difficult for these two Vietnamese students. They did not produce the consonant clusters with high accuracy rates (only 50% and 40%) Secondly, the advanced student did not always produce all types of consonant clusters better than the beginner. She had a higher overall accuracy rate, but this was because she was better at producing initial two-consonant clusters which took up nearly 37% of the total tested clusters. In reality, compared to the freshman, the senior only produced initial two-consonant and final two-consonant clusters better while she produced initial three-consonant and final three-consonant clusters worse. (The final four-consonant clusters could not be pronounced correctly by either of the students). The advanced student was only better than the beginner at certain types of consonant clusters; and therefore, it cannot be concluded that the better performance for consonant clusters is due to the linguistic awareness of the students.

The results of the study are applicable to those two participants only. The research can be made more significant by extending the number of participants as well as number of consonant clusters.

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