Consonant Clusters

Objective (s): This lesson aims to help learners identify the probable number of consonants preceding or following a peak in a given syllable of the English language.

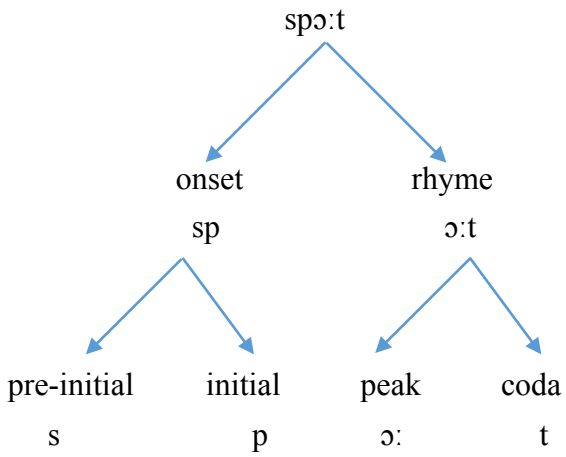
1. Definition:

Consonant clusters refer to the sequence of consonant phonemes with no intervening vowel between them. We usually talk about consonant clusters as arrangements or sequences of two or more consonants within the same syllable. For example, in the syllable strikes /straiks/, we can see a sequence of three consonants at the beginning of the syllable /str/, and two consonants /ks/at the end. The word sixth sɪksθs begins with one consonant /s/ and ends in a sequence of four consonants /ksθs/. Any single consonant can occur as the onset of an English word except /ŋ/ and /ʒ/.

2. Initial Consonants Clusters

2.1. Syllables beginning with two Consonants (CCV)

Two types of initial two-consonant clusters can be identified in English language. One type is composed by /s/ followed by ,m **s**mell /smel/, n **s**now /snʊə/, k skill /skɪl/, f sphere /sfɪə/, l slot /slɒt/, p sport /spɔ:t/; /sr/ is also possible as in /srnɪʤ/, **s**tay /steɪ/, sw suite /swɪt/, sj sewer /sjʊə/ . In these syllables, we call the first phoneme of the cluster /s/ as the ***pre-initial*** and the consonant phonemes that follow the /s/ as the ***initial*** consonants. However, Roach (2009) signals that clusters formed by s+ l, r w, "can be analysed *either* as **pre-initial** s plus **initial** l, w, j, r *or* **initial** s plus **post-initial** l, r, w, j,. There is no clear answer to the question of which analysis is better" (p. 69).



The other set begins with one of the following sounds (p b t d k g f v θ s ʃ h l m n) followed by /l, w, j, r/. The first consonant of this set is called initial, while the second is identified as post-

initial.

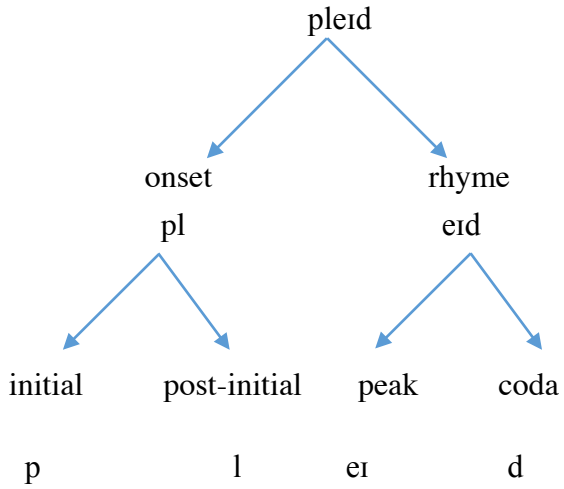


Table 1 : Two-consonant clusters with pre-initial s

p	t	k	b	d	g	f	θ	s	ʃ	h	v	ð	z	ʒ	m	n	ŋ
spɪn	stɪk	skɪn	–	–	–	sfɪə	–	–	–	–	–	–	–	–	smel	snəʊ	–

Source : Roach, P, 2009, p. 69

Table 2 : Two-consonant clusters with post-initial l, r, w, j

POST-INITIAL	p	t	k	b	d	g	f	θ	s	ʃ	h	v	ð	z	ʒ	m	n	ŋ	l	r	w	j
l	pleɪ	–	kleɪ	blæk	–	gluː	flaɪ	–	slɪp	–	–	–	–	–	–	–	–	–	–	–	–	–
r	preɪ	treɪ	kraɪ	brɪŋ	drɪp	grɪn	fraɪ	θrəʊ	ʔ[1]	ʃruː	–	–	–	–	–	–	–	–	–	–	–	–
w	–	twɪn	kwɪk	–	dwel	ʔ[2]	–	θweɪt	swɪm	ʔ[3]	–	–	–	–	–	–	–	–	–	–	–	–
j	pjɔː	tjuːn	kjuː	bjuːti	djuː	ʔ[4]	fjuː	ʔ[5]	sjuː	–	hjuːdʒ	vjuː	–	–	–	mjuːz	njuːz	–	ljuːd	–	–	–

Notes in doubtful cases:

1. Some people pronounce the word 'syringe' as ; there are no other cases of sr unless one counts foreign names (e.g. Sri Lanka).

2. Many Welsh names (including some well known outside Wales) - such as girls' names like Gwen and place names like the county of Gwent - have initial gw and English speakers seem to find them perfectly easy to pronounce.

3. Two cases make seem familiar: the vowel name 'schwa', and the name of the soft drinks brand Schweppes.This is, however, a very infrequent cluster for English.

4. The only possible occurrence of gj would be in the archaic (heraldic) word 'gules', which is in very few people's vocabulary.

5. occurs in the archaic word 'thew' only.

Source : Roach, P, 2009, p. 69

2.2. Syllables beginning with three Consonants (CCCV)

In the case of three-consonant clusters, we can recognize a clear relationship between them and the two cases of two-consonant clusters described above. Examples of three-consonant initial clusters include 'spray' /spreɪ / , 'stream' /stri:m/, 'square' /skweə/, 'split' /splɪt/. The s is the pre-initial consonant, the second consonants; the p, t, k, and p in the examples, are the initial while the third consonants; r, r, w and l, are the post-initial consonants. The number of possible initial three-consonant clusters is quite small and they can be set out in full (Roach, P., 1991,p. 71)

	p	l, r, j
s +	t +	r, j
	k	l, r, j, w

Table 3: Three initial-consonant clusters (CCCV)

		Post-initial			
		l	r	w	j
S plus initial	p	spleɪ	spreɪ	/	spju:
	t	/	strɪŋ	/	stju:
	k	sklə'rəʊsɪs	skri:n	skwi:k	'skju:ə

Source: Roach, P., 1991, p. 71

3. Final Consonant Clusters

Final consonant clusters can range up to four consonants (sixth sɪksθs). When a syllable ends in one consonant only. We call that phoneme as final consonants. Of course any consonant can be a final except for the following (h, r, w, j).

Two-consonant final cluster can be organized into two sets. The first set includes a final consonant preceded by a pre-final consonant. In the second set, we can notice the final consonant which is followed by a post-final consonant. The pre-final consonants encompass the following: (m n ŋ l s), for example, 'bump' /bʌmp/, 'bent' /bent/, 'bank' /bænk/ , 'belt' /belt/ (Roach, P., 1991, p. 71). The post-final consonants also form a small set: (s z t d θ) such as bets /bets/, beds /beds/, backed /bækt/, bagged /bægd/.

Table 4 : Final VCC clusters

Final VCC Clusters	
p + t , θ , s	ŋ + k , d , z

t+ θ, s	l+ p, t, k, b, d, ʧ, ʤ, m, n, f, v, θ, s, z
k+ t, θ, s	f+ t, θ, s
b+ d, z	v+ d, z
d+ z	θ+ t, s
g+ d, z	ð+ d, z
ʧ+ t	s+ p, t, k,
ʤ+ d	z+ d
m+ p, d, f, θ, z	ʃ+ t
n+ t, d, ʧ, ʤ, θ, s, z	ʒ+ d

Source : Gimson, 1980 cited in Naoua, 2017/2018, p. 38

According to Roach, P. (2009), there are two types of final three-consonant cluster; the first is pre-final plus final plus post-final, as set out in the following table:

Table 5 :

	pre-final	final	Post-final
Helped	l	p	t
Banks	ŋ	k	s
Bonds	n	d	z
Twelfth	l	f	θ

The second type shows how more than one post-final consonant can occur in a final cluster: final plus post-final l plus post-final 2. Post-final 2 is again one of s, z, t, d, .

Table 6 :

	Pre-final	final	Post-final 1	Post-final 2
Fifths	/	f	θ	s
Next	/	k	s	t
Lapsed	/	p	s	t

Table 7 : Possible cases of final VCCC clusters

Final VCCC clusters			
p+t, θ	+ s	p+ s	+ t
t+ θ	+ s	t+s	+ t

k+ t	+ s	k+s	+ t
m+p , f	+ s	d+s	+ t
n+ t, θ	+ s	m+ p	+ t
ŋ+ k	+ s	n+s, ʧ	+ t
l+p,t, k, f, θ	+ s	ŋ+s k	+ t
f+t, θ	+ s	l+s, p, t, k ʧ	+ t
s+p, t, k,	+ s	s+p, k	+ t
n+ d	+ z	k+ s	+ θ
l+b, d, m,n,v	+z	n+ t	+ θ
		ŋ+ k	+ θ
		l+ f	+ θ

Source : Gimson, 1980 cited in Naoua, p. 39

Most four-consonant clusters can be analysed as consisting of a final consonant preceded by a pre-final and followed by post-final 1 and post-final 2, as shown below:

Table 8:

	Pre-final	final	post-final 1	Post-final 2
twelfths	l	f	θ	s
prompts	m	p	t	s

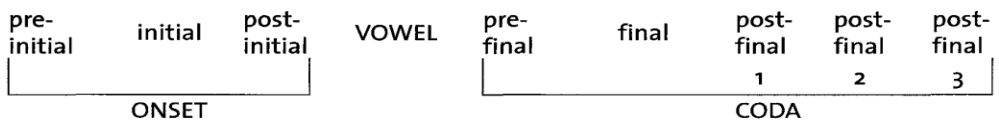
A small number of cases seem to require a different analysis, as consisting of a final consonant with no pre-final but three post-final consonant

Table 9 :

	Pre-final	final	Post-final 1	Post-final 2	Post-final 3
sixths	/	k	s	θ	s
texts	/	k	s	t	s

Summary :

To sum up, according to Roach, P., (2009, p. 71)we may describe the English syllable as having the following maximum phonological structure:



Practice: Provide the appropriate analysis of the following one-syllable words.

Squeezed - scratched - strengths – screams - proud – teaches – cramped - splashed – Sings – sinks- prompted - scrambles – sixths – jinxed – tempts

syllable	**Pre-initial**	**initial**	**Post-initial**	**vowel**	**Pre-final**	**final**	**Post-final 1**	**PF 2**	**PF 3**

References :

Naoua, M. (1017/2018). *Practical Lessons in Phonetics* : Courses designed for first year students

Roach, P. (1991). *English Phonetics and phonology: A practical course*. (2nd ed). Cambridge: Cambridge University Press.

Roach, P. (2009). *English phonetics and phonology*: *A practical course*. (4th ed). Cambridge: Cambridge University Press